1 National Life Drive
Davis 2
Montpelier, VT 05620-3901

Tel: (802) 828-1294
Fax: (802) 828-1250

www.anr.vermont.gov

State of Vermont
Agency of Natural Resources

Julia S. Moore
Agency Secretary

Lynne Hamjian
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

March 7, 2018

Re: 2018 Vermont Lake Champlain Phosphorus Total Maximum Daily Loads (TMDL) Accountability Framework Report

Dear Lynne:

I am pleased to transmit to you on behalf of the State of Vermont agencies of Natural Resources, Agriculture, Food and Markets and Transportation the 2018 Vermont Lake Champlain Phosphorus Total Maximum Daily Loads (TMDL) Accountability Framework Report. This report addresses Vermont's progress under the Phosphorus TMDLs for Vermont Segments of Lake Champlain (the Vermont Lake Champlain TMDL), issued on June 17, 2016.

The Vermont Lake Champlain TMDLs' Accountability Framework lists key milestones identified in the TMDL that are determined to be crucial to the TMDL's long-term success. The Accountability Framework is also referenced in the Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan (the Phase I Plan, Chapter 9, p. 168).

I would also like to bring to your attention some proactive steps the State of Vermont has taken in the implementation of the Lake Champlain TMDL regarding municipal wastewater treatment projects, a new "Municipal Roads Grant-in-Aid funding project and two reports that describe the performance of DEC's enforcement programs:

- Municipal Wastewater Treatment: The State of Vermont has continued to implement planning, design and construction for municipal wastewater systems using a combination of EPA and State funds through the Clean Water State Revolving Fund Program. Since promulgation of the Lake Champlain TMDL, DEC has distributed $26.7 million in loan and grant awards to support refurbishments, remediation of Combined Sewer Overflow (CSO) systems, or wastewater treatment facility phosphorus upgrades. Notable projects among others accomplished by Vermont's municipalities using these funds include: (a) in 2016: the Williamstown upgrade, Waterbury WWTF phosphorus removal, and Rutland NW Neighborhood CSO projects; (b) in 2017: Design for Burlington and Rutland City CSO elimination; 2018) City of Winooski system

refurbishments; St. Albans City WWTF phosphorus removal, and the Montpelier Northfield Street CSO elimination. Please see the attachment that lists these projects entitled, "Lake Champlain Basin Wastewater Funding 2016-2018."

- Municipal Roads Grant-in-Aid: The State of Vermont has awarded more than $2.5 million to 186 municipalities statewide to support early adoption of the forthcoming Municipal Roads General Permit (MRGP) Standards. These standards were developed to reduce road-related stormwater erosion and associated phosphorus pollution and are part of the State's Lake Champlain Phosphrus TMDL. Regional Planning Commissions are helping to administer the program. DEC anticipated that more than 40 miles of roads will be brought up to MRGP Standards in the first year of this program. For more information, see: http://dec.vermont.gov/watershed/cwi/grants#Municipal Roads Grants-in-Aid Pilot Project.

- Two Reports on DEC Enforcement:
  (a) Progress Report on the Outcomes of the State Auditor of Account's Performance Audit of Vermont Department of Environmental Conservation's Compliance and Enforcement Activities, Act 108 of 2014 §3, dated February 1, 2018; and
  (b) Report of the Vermont State Auditor on Environmental Compliance, dated September 29, 2017, Rpt. No. 17-05.

If you have questions regarding this report, please feel free to contact Emily Boedecker, Commissioner, Vermont Department of Environmental Conservation or the Vermont Clean Water Initiative Program Manager, Kari Dolan (802-490-6113, kari.dolan@vermont.gov) for assistance.

Sincerely,

Emily Boedecker, Commissioner, Vermont Department of Environmental Conservation

CC: Alexandra Dunn, Region 1 Administrator, U.S. Environmental Protection Agency
Julia Moore, Secretary, Vermont Agency of Natural Resources
Anson Tebbetts, Secretary, Vermont Agency of Agriculture
Pete LaFlamme, Director, Watershed Management Division
Mary Borg, Deputy Director, Watershed Management Division
Kari Dolan, Manager, Ecosystem Restoration Program

2018

Vermont Lake Champlain
Phosphorus Total Maximum Daily Loads (TMDL)
Accountability Framework Report

Prepared by:
Vermont Agency of Natural Resources (ANR)
Vermont Agency of Agriculture, Food and Markets (AAFM)
Vermont Agency of Transportation (VTrans)

Submitted to the U.S. Environmental Protection Agency, Region 1,
in accordance with the
Vermont Lake Champlain TMDL Accountability Framework

March 7, 2018

2018 Vermont Lake Champlain TMDL Accountability Framework Report

March 7, 2018

The purpose of this report is to describe how Vermont is meeting the milestones described in the Accountability Framework of the Phosphorus Total Maximum Daily Loads (TMDLs) for Vermont Segments of Lake Champlain (i.e., Lake Champlain Phosphorus TMDL), issued by the U.S. Environmental Protection (EPA) in June 2016.[1]

The purpose of the Accountability Framework is to guide, track and assess the state's progress in implementing the Lake Champlain Phosphorus TMDL. The EPA also relies on the Accountability Framework to provide a "sufficient backstop to ensure a high likelihood that implementation of the nonpoint source measures will occur."[2] Monitoring the state's progress in implementing the TMDL is also an essential step in keeping the public informed about the state's progress in meeting its commitments and ultimately achieving a healthy Lake Champlain.

The Accountability Framework lists key milestones that are determined to be "crucial to the long-term success" of the Lake Champlain Phosphorus TMDL.[3] Those milestones are further described in the Vermont Lake Champlain Phosphorus TMDL Phase 1 Implementation Plan (Lake Champlain TMDL Phase 1 Plan)[4] and implementation actions described in the Phase 2 Plans – the state's Tactical Basin Plans.

The milestones are organized into successive two-year milestone periods.[5] The first milestone period covers years 2015 to 2017. This milestone period targets completion of milestones that fundamentally focus on the establishment of new programs and permits described in the Lake Champlain TMDL Phase 1 Plan and the implementation and enforcement of programs already in place. The first year of this two-year milestone period includes 16 milestones that were to be completed by December 30, 2016; the second year contains 12 additional milestones that were to be completed by December 30, 2017.

EPA evaluated the 16 milestones and provided a satisfactory interim report-card in early 2017.[6] It is Vermont's understanding that by early 2018, EPA will review the complete set of milestones and make a

---

[1] Phosphorus TMDLs for Vermont Segments of Lake Champlain, June 17, 2016, Chapter 7.3, pp. 54-59; link: https://ofmpub.epa.gov/waters10/attains_impaired_waters.show_tmdl_document?p_tmdl_doc_blobs_id=79000.

[2] *Id.* at 50.

[3] *Id.* at 55-57.

[4] Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan, September 15, 2016; link: http://dec.vermont.gov/watershed/cwi/restoring/champlain.

[5] Stephen Perkins, EPA, Lake Champlain Total Maximum Daily Loads (TMDLs) presentation at the public outreach meetings, August 2015.

[6] See link: http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/2017-02-15%20Champlain%20TMDLs%20Accountability%20Framework%20Milestones.pdf

final determination on the degree to which the State of Vermont is meeting expectations under the first milestone period.

The Accountability Framework's second milestone period, post 2017, involves monitoring progress in implementing the TMDL over the 20-year implementation schedule. Vermont understands that EPA will monitor the state's progress in implementing the TMDL at the watershed scale, tied to the five-year Phase 2, Tactical Basin Planning cycles and those plans' implementation tables.[7] Vermont expects EPA to conduct a check-in point halfway through each five-year Phase 2 planning cycle, and a major evaluation of progress at the end of each five-year cycle.

The tables, below, provide a summary of the efforts undertaken to complete Accountability Framework's first milestone period. Table 1 summarizes accomplishments as part of the Year 1 (2016) milestones. Table 2 summarizes accomplishments as part of the Year 2 (2017) milestones. The information pertaining to the agriculture sector-based milestones (Table 1, Milestones 1-7 and Table 2, Milestones 1-3, 9, 11-12) was provided by the Agency of Agriculture, Food and Markets (AAFM). The Agency of Natural Resources Department of Environmental Conservation (DEC) provided the information for the remaining milestones.

[7] Tactical Basin Plan Implementation Tables contain clean water improvement and protection projects, identified through basin planning, monitoring, and assessments, and housed in the Department of Environmental Conservation's Watershed Projects Database. Refer to DEC's first phase of its Clean Water Initiative Projects Dashboard – a new online, searchable list of FY2016 and FY2017 project summaries (http://dec.vermont.gov/watershed/cwi/projects) and DEC's Watershed Projects Database (https://anrweb.vt.gov/DEC/IWIS/ARK/ProjectSearch.aspx).

Table 1. Lake Champlain Phosphorus TMDL Accountability Framework: Year 1 (December 30, 2016) of the First Milestone Period, 2015 to 2017

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
1	Required Agricultural Practices (RAP) revisions adopted (with expected elements)	-Act 64 (2015), Sec. 4 -Champlain TMDL Phase 1 Plan at 11, 62	AAFM	-Built on Accepted Agricultural Practices (AAPs), RAPs are to improve water quality in the state by controlling and reducing agricultural pollution and nutrient losses from farm fields. -RAPs are available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf	-RAPs completed; -Revised RAPs adopted using the state administrative rule-making process; -RAPs effective date: 12/05/2016
2	Small Farm Operation Certification program rule adopted	Act 64 (2015), Sec. 3	AAFM	Program is part of RAPs (Section 4), available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf	-RAPs completed and includes a Small Farm Operation Certification Program; -RAPs adopted using the state administrative rule-making process; -RAPs effective date: 12/05/2016; -CSFOs to file self-certifications by 1/31/2018; -Annual recertification; -Over 250 farms have self-certified to date
3	Livestock exclusion incentive program in place	Act 64 (2015), Sec. 4	AAFM	Program is part of RAPs, available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf	-RAPs contain requirements for livestock exclusion in production areas and where erosion persists (Section 7); -RAPs completed and adopted through the RAP rule-making process; -RAPs effective date: 12/05/2016; -AAFM contracted with University of Vermont Center for Sustainable Agriculture Pasture Program to implement a declining cost-share program. The program is in place and field work is set to begin during the 2018 field season; - Declining cost share program offers 90% of the cost of installing livestock exclusion system in the first year, and declines by 5% each subsequent year to a minimum of 75%, with the intent of incentivizing early adoption

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
4	Develop matrix and small farm template for nutrient management planning	Champlain TMDL Phase 1 Plan	AAFM	Nutrient management requirements for small farms are part of RAPs (Section 6.03), available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf	-RAPs completed and adopted through rule-making process; -RAPs effective date: 12/05/2016; - AAFM developed a matrix of NMP requirements for small, medium, and large farm operations. -Large, medium, and certified small farm operations are required to implement a US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Nutrient Management Practice Code 590-standard nutrient management plan (NMP); -Farms that are smaller than certified small farm operations must meet the nutrient management planning requirements in the RAPs; - AAFM has also developed a small non-dairy farm operation draft template for NMPs, containing a matrix for evaluating water quality impact risks and determining nutrient management planning requirements. The small non-dairy farm operation draft template is being tested in 2018
5	Develop Environmental Stewardship Incentive Program in priority watersheds	Champlain TMDL Phase 1 Plan, at 104, 159-160	AAFM	Pilot is to incentivize additional practice adoption; Information is available at: http://agriculture.vermont.gov/vesp	-Pilot program created in 2016, offering additional incentives and recognition to farmers implementing agricultural conservation practices in addition to the RAPs; -Enrollment open; -13 farms have applied to date; -Field work set to begin during the 2018 field season

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
6	Mandate certification of custom manure applicators	Act 64 (2015), Sec. 16	AAFM	-Part of RAPs (Section 10), available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf; -Authority under Act 64 (2015): https://legislature.vermont.gov/assets/Documents/2016/Docs/ACTS/ACT064/ACT064%20As%20Enacted.pdf; See also state statute: 6 V.S.A. Chapter 215, subchapter 9: https://legislature.vermont.gov/statutes/chapter/06/215	-RAPs completed and adopted through rule-making process; -RAPs effective date: 12/05/2016; -Certification trainings held; -Annual certification required; -AAFM obtained authority under Act 64 to create a custom manure applicator certification, and worked with the UVM Extension Service to run a certification program for custom manure applicators, began in 2016 and continues
7	Develop requirements for farmer training programs	Act 64 (2015), Sec. 15	AAFM	-Part of RAPs, available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf; -Agriview can be viewed at:http://agriculture.vermont.gov/news_media/agriview	-RAPs completed and adopted through rule-making process; -RAPs effective date: 12/05/2016; - Farmers are required to obtain 4 educational credits every 8 years; - Process created for partner organizations to have their programs approved for educational credit eligibility, and approved programs are advertised through the Agriview publication
8	Issue Final Transportation Separate Storm Sewer System (TS4) permit	Champlain TMDL Phase 1 Plan, at 55-56	ANR	-Issued TS4 Permit for VT Transportation Agency (VTrans) State roads and VTrans non-road developed lands; -TS4 permit is available at: http://dec.vermont.gov/watershed/stormwater/transportation-general-permit;	-Completed and adopted on 12/28/2016; -Effective date: 12/28/2016; -The TS4 permit was appealed; ANR settled the appeal, and reissued the TS4 permit, incorporating revisions agreed to pursuant to the settlement. The revised TS4 permit was adopted November 29, 2017.
9	Adopt final Vermont Stormwater Management Manual	Champlain TMDL Phase 1 Plan, at 57-58	ANR	Updated Vermont Stormwater Management Manual, which is available at: http://dec.vermont.gov/watershed/stormwater/permit-information-applications-fees/operational-stormwater-discharge-permit-application-materials	-Completed and adopted through the state administrative rule-making process on December 28, 2016; -Manual became effective on 7/1/2017

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
10	Forestry Acceptable Management Practices (AMP) for Maintaining Water Quality on Logging Jobs revisions completed	Act 64 (2015), Sec. 49	ANR	-Revising AMPs by state administrative rule; -AMPs are available at: http://fpr.vermont.gov/sites/fpr/files/Forest_and_Forestry/Forest_Management/Library/AMP%20Adopted%20Rule%20Clean%2010-6-16.pdf	-Rule complete and adopted through the state administrative rule-making process; -AMPs took effect on 10/22/2016; -Undergoing second rule-making process for minor modifications; -Those revisions are to close a regulatory gap that was discovered after most recent revisions to the AMPs; -Revisions include provisions for permanent bridges and culverts on intermittent streams; -The current AMPs remain in effect until the revised version is formally adopted through the state administrative rule-making process; -Target Completion Date: 7/1/2018; -Target Completion Date for publishing AMP guide: 8/31/2017
11	Legislature establishes Clean Water Improvement Fund	- Act 64 (2015), Sec. 37, -Champlain TMDL Phase 1 Plan at. 129, 131-132	AoA, ANR, AAFM, ACCD, VTrans	Establish long-term revenue source to support water quality improvement via the Clean Water Fund (CWF)	The Clean Water Fund was established through the passage of Act 64 (2015), signed on 6/16/2015
12	Tactical Basin Plans (Phase 2) complete for Lamoille and Missisquoi basins	Schedule for issuance of Tactical Basin Plans in Champlain TMDL Phase 1 Plan at 83	ANR	-The Lamoille Tactical Basin Plan is available at http://dec.vermont.gov/watershed/map/basin-planning/basin7; -The Missisquoi Tactical Basin Plan is available at http://dec.vermont.gov/watershed/map/basin-planning/basin6.	The Plans were developed by ANR Department of Environmental Conservation Watershed Coordinators with input from multiple programs, agencies, partners, and the public. The Plans were approved on December 28, 2016
13	Updated Report to the U.S. Environmental Protection Agency (EPA) with spending plan capacity	Champlain TMDL Phase 1 Plan at 19	ANR	Report is available at: http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/2016%20Final%20Funding%20Capacity%20Report.pdf	- The report addressed the State's investments made in clean water projects, state agencies' staffing capacity and water quality budgets; -Filed with EPA on December 30, 2016; -Next report due December 30, 2021
14	Issue new Combined Sewer Overflow (CSO Rule), replacing 1990 CSO Control Policy	Champlain TMDL Phase 1	ANR	The CSO Rule is available at: http://dec.vermont.gov/sites/dec/files/documents/wsmd_Combined_Sewer_Overflow_Rule_2016-08-26.pdf	-Rule was adopted through the state administrative rule-making process on August 25, 2016 and took effect on September 15, 2016

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
15	Develop TMDL implementation tracking and reporting system	Act 64 (2015), Sec. 36 10 V.S.A. § 1386(b)	ANR	Developed tracking system with capability to estimate phosphorus load reductions achieved by TMDL implementation activities	-Developed a TMDL implementation tracking and reporting system in collaboration with AAFM and VTrans; -The system is housed in a database and contains the "Best Management Practice (BMP) Accounting and Tracking Tool" (BATT) used to estimate pollutant reductions achieved by clean water projects; - Developed by June 30, 2016.
16	Revise ANR/AAFM Memorandum of Understanding (MOU) for agricultural nonpoint source program	- Act 64 (2015), 7/1/2016 -Enforcement: 6 V.S.A. Ch. 215	ANR, AAFM	MOU Report (MOU attached to report) is available at: https://legislature.vermont.gov/assets/Legislative-Reports/2018-01-15-Annual-Report-on-AAFM-ANR-MOU-revised.pdf	-MOU completed on 3/17/2017; -Integrated three MOUs: (1) CAFO and relationship with state large, medium and small farm operations (LFO, MFO and SFO, respectively, (2) enforcement, and (3) nonpoint source pollution) into one MOU

Table 2. Lake Champlain Phosphorus TMDL Accountability Framework: Year 2 (December 30, 2017) of the First Milestone Period, 2015 to 2017

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
1	Nutrient Management Plan (NMP) milestones completed	Champlain TMDL Phase 1 at 12, 100-101	AAFM	-Develop trainings and schedule for farmers; -Funding to develop and offer NMP training programs for technical service providers (TSP); -Mandate certification of custom manure applicators -Part of RAPs, available at: http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/RAP/Final/Required-Agricultural-Practices-Regulations-11172016-CLEAN.pdf	-RAPs completed; -RAP adopted by the state administrative rule-making process; -RAPs effective date: 12/05/2016; - AAFM, DEC, VT Association of Conservation Districts (VACD), the University of VT Extension (UVM Ext.) and NRCS meet regularly to discus NMP workloads and strategize ways to address workload bottlenecks; - See previous updates relating to NMP matrix milestone (no. 4 in previous table), farmer trainings (no. 7) and custom manure applicator certification (no. 6); -AAFM has supported the development of GoCrop NMP development software and the courses for farmers through the Clean Water Fund grants program
2	Targeted funding for agricultural BMP and Nutrient Management Plan implementation provided in Missisquoi Bay, St. Albans Bay and South Lake Champlain basin	Champlain TMDL deadline to begin work: 12/30/2017	AAFM	-Link to NRCS strategic watershed planning documents: https://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/water/watersheds/ -Newly announced additions of East Creek and Hungerford Brook to the National Water Quality Initiative: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/initiatives/?cid=nrcseprd1371822 -Information on the Revised Secretary's Decision is available at: http://agriculture.vermont.gov/water-quality/news-events/clf-petition	-Inspections, Revised Secretary's Decision (RSD) and federal priorities have led to increase in conservation practice enrollment through cost-share programs; -AAFM contracted with three partners to provide case management in these watersheds; -AAFM has given priority to these watersheds in the new Agriculture Clean Water Initiative Grant Program; -USDA-NRCS Strategic Watershed Planning effort has focused on sub-watersheds within these priority areas, resulting in increased program sign- up and implementation; -Work ongoing

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
3	Report to Legislature on recommendations for tile drains	Act 64 (2015), Sec. 5	AAFM	Report available at: http://agriculture.vermont.gov/tile-drainage or http://agriculture.vermont.gov/sites/ag/files/pdf/water_quality/Research/TD-Report/Vermont-Subsurface-Agricultural-Tile-Drain-Report-01312017.pdf	Report completed on 1/31/2017
4	Issue Final Municipal Roads General Permit	- Act 64 (2015), Sec. 31; -Champlain TMDL Phase 1 at 52; -10 V.S.A. § 1264(c)(6)	ANR	Statewide permit is available at: http://dec.vermont.gov/watershed/stormwater/permit-information-applications-fees/municipal-roads-program	-Permit signed by DEC Commissioner and effective on 1/26/2018; -Notice of Intent for municipalities to seek permit coverage by 7/31/18
5	Issue Final Developed Lands General Permit	Act 64 (2015), Sec. 31	ANR	-Issue stormwater general permit for impervious surfaces equal to or greater than three acres: http://dec.vermont.gov/watershed/stormwater/stormwater-rule-2017-update; -H576, draft legislation, is available at: https://legislature.vermont.gov/bill/status/2018/H.576	-Under development and to follow stormwater state administrative rule-making; - Rule will include the standards necessary for adoption and implementation of the General Permit; -Draft legislation to file for administrative rule-making in April 1, 2018 has passed House and is in Senate Committee; -Rule-making process is expected to begin in Spring 2018 and usually takes six to eight months; -Upon rule adoption, the draft permit will be noticed for public comment; -Per draft legislation, ANR is to issue the general permit within 120 days following the completion of the rule

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
6	Tactical Basin Plans (Phase 2) completed for) South Lake (includes Poultney-Mettawee and Lower Lake Champlain basins)	Schedule for issuance of Tactical Basin Plans; Champlain TMDL Phase 1 Plan at 83	ANR	-Link to State Tactical Basin Planning: http://dec.vermont.gov/watershed/map/basin-planning; -The Plan for the South Lake is available at: http://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/mp_TacticalBasinPlan_Basin02-04_SouthLakeChamplain_FINAL_2017-12-31.pdf; -The Plan for the North Lake Champlain is available at: http://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/mp_TacticalBasinPlan_Basin05_NothernLakeChamplain_Phase-II-Update_Final_2017-12-28.pdf	-Completed Tactical Basin Plans scheduled for 2017 (South Lake Champlain as well as North Lake Champlain); -The Plans were developed by the ANR Department of Environmental Conservation Watershed Coordinator with input from multiple programs, agencies, partners, and the public. -The Plans were approved on December 31, 2017

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
7	Establish long-term revenue source to support water quality improvements via CWF	- Act 64 (2015), Sec. 40; -Champlain TMDL Phase 1 at 19, 128-131	AoA, ANR, AAFM, ACCD, VTrans	-See Table 1, Number 11 above that describes the establishment of the Clean Water Fund; -CWF Board's State Fiscal Year (SFY)2019 allocation is available at: (http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/2017-11-06_FINAL_FY19_CWF_Capital_Allocations.pdf); -Office of the State Treasurer's Clean Water Report is available at: http://dec.vermont.gov/sites/dec/files/wsm/erp/docs/_FINAL_CleanWaterReport_2017.pdf; -2017 Act 73 Working Group on Water Quality Funding Report is available at: https://legislature.vermont.gov/assets/Legislative-Reports/2017-11-15-FINAL-act-73-water-quality-funding-report.pdf	-The Clean Water Fund was established through the passage of Act 64 (2015), signed on 6/16/2015; -The Fund's revenue source is a property transfer tax surcharge; -Governor Scott and Vermont Legislature directed an additional $48 million above baseline spending in state fiscal years (SFY) 2018-2019 to support water quality improvement costs identified in the Office of the State Treasurer's Clean Water Report; -The $48 million appropriated above baseline spending is associated with: (a) Act 85 of 2017 (Relating to making appropriations for the support of government) extended the property transfer tax surcharge repeal from July 1, 2018 to July 1, 2027 to provide $8 million in SFY 2018-2019 ($4 million annually); (b) Act 84 of 2017 (Relating to capital construction and State bonding) appropriated $25 million additional capital dollars in SFY 2018-2019; (c) Act 38 of 2017 (Relating to the Transportation Program and miscellaneous changes to transportation-related law) appropriated $13 million additional transportation fund dollars in SFY 2018-2019; (d) Capital Construction and State Bonding Adjustment Bill for SFY 2018-2019 proposes $2 million additional bond premium funds from bond sale; -Legislative Report by State Treasurer on clean water funding options completed (1/15/2017); -Legislative Report of the Working Group on Water Quality Funding 2017 Act 73, Section 26 completed 11/15/2017, identified that sufficient funding is in place to support water quality improvement through state fiscal year (SFY) 2021; - The General Assembly is continuing to pursue options for establishing long-term revenue sources to support water quality improvement beyond SFY 2021, which will require legislation

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
8	Revise Municipal Separate Storm Sewer System (MS4) General Permit to require existing regulated small municipalities to control discharges consistent with the TMDLs' wasteload allocations	Champlain TMDL Phase 1 at 10, 54-55	ANR	Revise the permit to include Phosphorus Control Plan requirements that are consistent with the TMDLs' targets	-Under development; -Stakeholder process held in 2017; -ANR released the draft MS4 General Permit for a 30-day public comment period on February 14, 2018; -ANR intends to issue the permit as soon as possible after the close of the public comment period; -New Target Completion Date: 4/13/2018
9	Propose amendments to RAPs to include requirements for reducing nutrient contributions from subsurface tile drainage	Act 64 (2015), Sec. 4	AAFM	-Revisions to RAPs to address subsurface tile drains; -The proposal for rule-making is available at: http://agriculture.vermont.gov/rap-tile-rule; -Minutes approving the draft rule available at: http://aoa.vermont.gov/sites/aoa/files/ICAR/2-12-18%20ICAR%20Minutes.pdf.	-AAFM proposed amendments to Required Agricultural Practices to include requirements for reducing nutrient contributions from subsurface tile drainage; -AAFM pre-filed their proposal for rule-making with the Interagency Committee on Administrative Rules (ICAR) on January 16, 2018; -ICAR approved the draft rule on February 12, 2018; - AAFM formally filed the rule on 2/16/2018; -Public Hearings on proposed rule set for 3/30, 4/2, and 4/5/2018; -Filed rule includes management requirements for fields with tile drains installed, and additional requirements for new tile drain installation
10	Update the Vermont Water Quality Standards, including anti-degradation, by adding a new tier that will allow for an upward reclassification of designated uses to a new, more protective class	- Act 64 (2015), Sec. 30 -Champlain TMDL Phase 1 at 20	ANR	The Vermont Water Quality Standards are available at: http://dec.vermont.gov/sites/dec/files/documents/wsmd_water_quality_standards_2016.pdf	-VT Water Quality Standards rule completed and approved on 11/17/2016; -Added a new tier that will allow for an upward reclassification of designated uses to a new, more protective class, and made clarifying changes to the Anti-Degradation Policy; -Vermont Water Quality Standards were updated through the state administrative rule-making process and took effect January 15, 2017;

No.	MILESTONE	REFERENCE	AGENCY	ELEMENTS	UPDATE
11	Complete education, outreach and compliance activities with farms in the Missisquoi Bay watershed, as detailed in Section III, 6 in the Secretary of AAFM February 3, 2016 Decision (RSD)	-Champlain TMDL Deadline: 12/30/2017 -RSD regarding Conservation Law Foundation Settlement for Best Management Practices	AAFM	The Revised Secretary's Decision is available at: http://agriculture.vermont.gov/water-quality/news-events/clf-petition	-Completed education, outreach, and compliance activities with each livestock operation in the Missisquoi Bay watershed in 2015 and 2016 as detailed in Section III, 6 in the Secretary of Agriculture, Food and Markets February 3, 2016 decision; -AAFM visited every livestock operation in the Missisquoi Bay watershed in 2015 and 2016 to help them understand their farm assessment needs, the pending RAPs and CLF petition; -AAFM is working with the Conservation Law Foundation to ensure the effort is aligned with the Revised Secretary's Decision (RSD); - Education, outreach, and inspections are ongoing to ensure farms comply with the RAPs and achieve the goals of the RSD
12	Commence notification of affected farms about the Assessment and Plan process as detailed in Section III, 7 in the Secretary of AAFM February 3, 2016 Decision (RSD)	-Champlain TMDL Deadline: 12/30/2017 -RSD regarding Conservation Law Foundation Settlement for Best Management Practices	AAFM	The Revised Secretary's Decision is available at: http://agriculture.vermont.gov/water-quality/news-events/clf-petition	- AAFM commenced notification of affected farms about the Assessment and Plan process within one year of the February 3, 2016 decision, as detailed in Section III of the RSD; AAFM sent letters out to all farms in Franklin County to let them know about the RSD; -Included RSD in nearly all presentations in the Franklin County (RAP, custom manure applicator, tile drainage, etc.)

Acronym Key

AAFM: Agency of Agriculture, Food and Markets

ACCD: Agency of Commerce and Community Development

ANR: Agency of Natural Resources

AoA: Agency of Administration

BMP: Best Management Practices used to reduce pollution loading into surface waters

CAFO: Concentrated animal feeding operation

CLF: Conservation Law Foundation

DEC: Department of Environmental Conservation at ANR

FPR: Forests, Parks and Recreation Department at ANR

LFO: Large Farm Operations Program at AAFM

MFO: Medium Farm Operations Program at AAFM

MOU: Memorandum of Understanding

RAPs: Formerly Accepted Agricultural Practices; now referred to as Required Agricultural Practices

RSD: Revised Secretary's Decision, the AAFM Secretary's decision regarding Conservation Law Foundation Settlement for Best Management Practice implementation in the Missisquoi Bay watershed

SFO: Small Farm Operations Program at AAFM

TMDL: Total Maximum Daily Load

TS4: Transportation Separate Storm Sewer System General Permit, Issued by ANR/DEC

VTrans: Vermont Agency of Transportation

Vermont Project Funding, Consisting of Clean Water State Revolving Fund (CWSRF) Loans Unless Otherwise Noted.

TABLE 1			
CWSRF PROJECTS FUNDED DURING STATE FISCAL YEAR 2016			
Award Date	**Loan Recipient**	**Project Description**	**Loan Amount**
1/25/2016	Town of Castleton, RF1-181-1	Planning - preliminary engineering for 10-year planning study	21,500
3/1/2016	Williamstown Town, RF1-183-2	Final design - WWTF refurbishment	135,900
5/15/2016	Williston, RF1-179-3	Construction – 2A Gravity Sewer	135,100
5/15/2016	Shelburne Town, RF1-186-1	Planning – preliminary engineering for sewer collection, pump stations and wastewater plants	37,800
Ongoing	Waterbury	Phosphorus Improvements & Misc. WWTF Upgrades	$6.4M VT PC Grant $0.15M Loan $0.8M STAG
Ongoing	Rutland City	NW Neighborhood CSO	$1.3M VT PC Grant $3.9M Loan

TABLE 2			
CWSRF PROJECTS FUNDED DURING STATE FISCAL YEAR 2017			
Award Date	**Loan Recipient**	**Project Description**	**Loan Amount**
7/5/16	Montpelier, City of, RF1-191-1.0	Planning – WWTF Refurbishment	51,300
7/15/16	Montpelier, City of, RF1-190-1.0	Planning – East State St. CSO	29,616
7/25/16	Proctor, Town of, RF1-194-1.0	Planning – Willow St. Pump Station	20,300
8/1/16	Shelburne Town, RF1-186-1.0	Planning – Collection System Evaluation and Improvements	37,800
8/15/16	Rutland, City of, RF1-193-1.0	Planning – H&H CSO Modeling	251,022
9/1/16	Addison, Town of, RF1-195-2.0	Final Design – Community Wastewater System Development	50,000
10/1/2016	Montpelier, RF1-192-1.0	Planning – Northfield St. Sewer Improvements	36,680
1/24/17	Williston, Town of, RF1-179-3.2	Construction (Amendment) – Rte. 2A Gravity Sewer Pipe Replacement	132,292
1/24/17	Burlington, City of, RF1-187-1.0	Planning – Gravity Pipe Assessment	997,204
4/3/17	Castleton, Town of, RF1-201-2.0	Final Design – Rte. 30 Sewer Improvements	17,800
4/10/17	Jeffersonville, Village of, RF1-199-1.0	Planning – WWTF Evaluation	24,800
6/8/17	Hyde Park, Village of, RF1-200-1.0	Planning – Wastewater System Evaluation and Planning	42,700
6/9/17	Burlington, City of, RF1-196-1.0	Planning – Integrated Stormwater and Wastewater Planning and Early Implementation	600,000

6/13/17	Shelburne, Town of, RF1-186-2.0	Final Design – Collection System Evaluation	94,000

TABLE 3			
CWSRF PROJECTS FUNDED & PENDING DURING STATE FISCAL YEAR 2018			
Award Date	**Loan Recipient**	**Project Description**	**Loan Amount**
8/23/17	Montpelier, City of, RF1-192-3.0	Construction, Northfield St. Sewer Improvements	1,813,475
10/23/17	Waitsfield, Town of RF1-208-3.0	Construction - Waitsfield Decentralized Wastewater Construction Program	234,184
PENDING	Castleton, Town of, RF1-201-3.0	Construction - Rte. 30 Sewer Improvements	522,200
PENDING	Shelburne, Town of, RF1-186-3.0	Construction – Collection System Evaluation and Improvements	1,699,353
PENDING	Winooski, City of, RF1-213-1.0	Planning – WWTF Headworks Upgrade	12,800
PENDING	Winooski, City of, RF1-212-1.0	Planning – Main St. Revitalization Project	212,000
PENDING	Proctor, Town of, RF1-209-2.0	Final Design – Ormsbee Ave.	62,000
PENDING	South Burlington, City of, RF1-210-2.0	Final Design – Hadley Rd Sewer Service Area Refurbishment	264,000
PENDING	St. Albans, City of, RF1-170-3.0	Construction – WWTF Refurbishment & TP Upgrade	$6.0M Loan $1.3M VT PC Grant

Progress Report on the Outcomes of the State Auditor of Account's Performance Audit of Vermont Department of Environmental Conservation's Compliance and Enforcement Activities

Act 108 of 2014 §3

February 1, 2018

Submitted to:

House Committee on Appropriations and Senate Committee on Appropriations

Table of Contents

Statutory Reference: 1
Introduction 1
Recommendations of the Audit Report, DEC's Response, and Current Status and Plan. 1
Recommendation 1 – Underground Storage Tank Inspections 1
Recommendation 2 – Wastewater Treatment Facility Inspections 2
Recommendation 3 – Wetlands Program Complaint Investigation Guidance 2
Recommendation 4 – Return to Compliance 2
Recommendation 5 – Usage of Wetlands Program Tracking Database 3
Recommendation 6 – Department-wide Compliance Procedure 4
Recommendation 7 – Annual Reporting 4

Statutory Reference:

2007 Act 65 Sec 42(a), as amended by 2014 Act 108 Sec. 3 states: "By February 15 of each calendar year, those agencies and departments that have outstanding audit recommendations shall submit plans to the House and Senate Committees on Appropriations for addressing these issues."

Introduction

During the period 2016 to 2017 the Department of Environmental Conservation (Department, or DEC) engaged with the Office of State Auditor to assess the performance of the Department's Environmental Compliance efforts. The resulting performance audit report (report) was issued on September 29, 2017 and is entitled *Environmental Compliance: The Department of Environmental Conservation Conducts a Wide Variety of Activities to Identify Violations But Could Improve Resolution Follow-Up.* The auditor's report presented a series of findings and recommendations designed to improve DEC's performance in the area of environmental compliance and enforcement.

Recommendations of the Audit Report, DEC's Response, and Current Status and Plan.

The report issued a series of findings that were addressed by DEC in the Department's Management Response. The seven recommendations in the auditor's report, along with DEC's response, are replicated below. The current status of DECs efforts are noted, as are DEC's plans to address unresolved recommendations in fulfillment of the statutory requirement of this report.

Recommendation 1 – Underground Storage Tank Inspections

1. *Direct Waste Management and Prevention Division (WMPD) to require the Underground Storage Tank (UST) Program to immediately inspect all facilities with underground storage tanks that have not been inspected in the last three years and amend their process to ensure that the inspection mandate is followed.*

Response

The Department notes the very high rate of UST inspections conducted in a timely manner (~99%) and acknowledges the need for follow-up on the outstanding eight UST inspections. As of this writing, these inspections have been completed and documented by the Program. The Department inspects approximately 350 UST facilities per year and will continue to pursue timely completion of all UST inspections.

Current Status

The eight outstanding UST inspections were completed prior to October 1, 2017. The Department continues to pursue timely implementation of all UST inspections.

Recommendation 2 – Wastewater Treatment Facility Inspections

2. *Direct Watershed Management Division (WSMD) to require the Wastewater Program to immediately inspect all facilities approved for inspection by the Environmental Protection Agency that were not inspected and to develop a process to ensure that the agreed-upon type of inspection is conducted.*

Response and Plan

The Department notes that three of the 41 scheduled facility inspections were not completed in a timely manner, which is a direct result of uncommonly high staff turnover (50% of the program staff) during the compliance period. The Wastewater Program works annually with the EPA to select facilities to be inspected, and the type of inspection. This coordination is a requirement for eligibility of the Department's federal funding for the wastewater program. In its Management Response to the Auditor, the Department committed to inspecting the three outstanding facilities before the end of this calendar year.

Current Status

The three outstanding facilities were inspected prior to December 31, 2017.

Recommendation 3 – Wetlands Program Complaint Investigation Guidance

3. *Direct WSMD to require the Wetlands Program to develop guidance as to when it is, and is not, appropriate to investigate a complaint.*

Response and Plan

The Commissioner has directed the Watershed Management Division to require the Wetlands Program to develop a guidance on when, and when not, it is appropriate to investigate a complaint.

Current Status

Written guidance has been drafted and is under review. The guidance is expected to be finalized spring 2018.

Recommendation 4 – Return to Compliance

4. *Require each division to have management controls in place to ensure that follow-up on violations occur and that return to compliance is confirmed.*

Response and Plan

DEC is taking action to address management of complaints, enforcement of violations, and return to compliance.

- Complaints: Prior to the commencement of the Audit, DEC recognized a backlog of open complaints, and since October of 2016 has closed over 1000 open complaints. Programs have seen a reduction in the number of open complaints of 35% - 55% during that time frame. A systematic process has been instituted to work towards closing these open investigations. Also prior to the commencement of the audit, the Environmental Compliance Division (ECD) had implemented a monthly check-in process across all

programs to evaluate open complaints, identify opportunities to advance investigations towards closure and to discuss open investigations. Collectively these efforts are helping to clean up the database so that complaints identified as "open" reflect only those investigations that are currently underway.

- Enforcement of Violations: Monitoring open complaints and closing complaints on a regular schedule enables DEC to track what violations were found and to confirm that the violations were addressed.

- Return to Compliance: In conjunction with the review of compliance procedures identified in recommendation #6, DEC will develop procedural controls that ensure that the return to compliance is timely and documented.

Current Status

DEC has invested extensive program staff and management time to (a) systematize a review of open complaints; (b) identify barriers to closing specific complaints and (c) ensure that the backlog of open complaints is not repeated by instituting monthly check-ins with each program.

Recommendation 5 – Usage of Wetlands Program Tracking Database

5. *Direct WSMD to have the Wetlands Program develop a protocol that ensures the use of its tracking database.*

Response and Plan

The Wetlands Program tracking system was developed in 2016, at which time an updated database usage document was issued, and a protocol established for usage of the wetlands tracking database. However, this recommendation also speaks to a larger systematic need underscored by the Audit: to incorporate individual program tracking databases into the DEC-wide Compliance and Enforcement database (now known as BEAR) currently used by ECD, or an alternative shared system. Prior to the commencement of the Audit, DEC drafted a DEC Compliance Procedure that, in concurrence with the recommendation in the Audit report, directs the use of BEAR by ECD and all DEC divisions. This endeavor will require comprehensive business analysis to tie numerous program-level tracking systems to BEAR. This will be a high-value but complex information technology (IT) undertaking that will need to be staged along with the ongoing work within DEC's compliance and enforcement efforts and account for available staff and IT resources. For the wetlands database specifically, this work has already been initiated.

Current Status

The Department has initiated an information technology project to integrate the wetlands enforcement database with DEC's Environmental Compliance Division's database. DEC has conducted user requirements evaluation and business analysis to support the integration of these databases. Required new data attributes and field needs have been identified and IT staff have invested approximately 200 hours into this project as of this writing.

Recommendation 6 – Department-wide Compliance Procedure

6. *Ensure that (1) all programs have compliance procedures that include all attributes in the 2001 DEC procedures document or any requirements that supersedes this document and (2) ECD's [Environmental Compliance Division] enforcement section have a process or procedure in place so that violations are handled in a manner consistent with that of the programs.*

Response and Plan

The Department agrees with this recommendation and had already initiated a suite of supporting actions prior to the report. The Enforcement Workgroup (a group of DEC directors, managers and staff who conduct or interact with enforcement activities) and ECD have identified a complete update to the 2001 DEC Compliance Procedure document as a priority for the year ahead. The Audit underscores this need.

The comprehensive update to the 2001 Procedure will address several other suggestions identified in the Audit; notably in Table 7, *"Summary of Whether Compliance Procedures Include All Expected Attributes, by DEC Program Division."* ECD has collected and reviewed all Program compliance procedures and guidance documents for commonalities. ECD has provided the Enforcement Workgroup with a summary of these procedures and, as an appendix to the Compliance Procedures, will provide a template for each Division and program to modify to meet their needs. The template will contain the basic elements of the revised DEC Compliance Procedure, resulting in all program-level compliance procedures being aligned to the updated DEC compliance procedure.

Current Status

An initial revision of the 2001 DEC Compliance Procedure has been reviewed by the Enforcement Workgroup. In January 2018, the draft was distributed for comment to all DEC programs. The revised Procedure is on schedule for adoption in 2018.

Recommendation 7 – Annual Reporting

7. *Create a process by which all complaint data is accurately and completely reported to the legislature, as required by 10 V.S.A. §8017, as well as in performance reports.*

Response and Plan

DEC's Environmental Compliance Division tracks enforcement activity in its BEAR database. While the BEAR database is an excellent tool to provide metrics of enforcement activities conducted by ECD, the Audit correctly identifies an opportunity for DEC to more fully comply with 10 V.S.A. §8017 by incorporating programmatic enforcement information that exists outside of BEAR. To address this, ECD has initiated a new process to solicit from Programs required information for the annual enforcement report, such that the report reflects the full breadth of DEC's compliance and enforcement activities. While in the near term, this approach could potentially "double count" some activities that are carried out jointly by ECD and the programs, this approach will produce more complete reporting. Achieving this goal will require

the completion of the business analysis and information technology solutions suggested for BEAR in recommendation #5.

Current Status

Title 10 V.S.A. §8017 requires that the Secretary report annually, by January 15th, on the environmental compliance and enforcement activities of DEC for the calendar year. In the 2017 report, DEC's Environmental Compliance Division will report data from the BEAR database as well as from enforcement databases maintained by media programs outside of BEAR.

Furthermore, DEC notes that the deadline of January 15th is a difficult date to meet, in that only two weeks will have elapsed between the close of the calendar year and the report deadline. Accordingly, DEC has recommended to the General Assembly that the submission date for this annually-required report be amended to February 15th.

Report of the Vermont State Auditor

DOUGLAS R. HOFFER
Vermont State Auditor

Environmental Compliance

The Department of Environmental Conservation Conducts a Wide Variety of Activities to Identify Violations But Could Improve Resolution Follow-Up

September 29, 2017

Rpt. No 17-05

Report of the Vermont State Auditor

DOUGLAS R. HOFFER
Vermont State Auditor

Mission Statement

The mission of the Auditor's Office is to hold state government accountable.

This means ensuring that taxpayer funds are used effectively and efficiently, and that we foster the prevention of waste, fraud, and abuse.

This report is a work of the Office of the State Auditor, State of Vermont, and is not subject to copyright protection in the United States. It may be reproduced and distributed in its entirety without further permission from the State of Vermont or the Office of the State Auditor. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately. Please contact the Office of the State Auditor if you have questions about reproducing this report

September 29, 2017

Rpt. No 17-05

DOUGLAS R. HOFFER
Vermont State Auditor

132 STATE STREET • MONTPELIER, VERMONT 05633-5101
(802) 828-2281 • TOLL-FREE IN VT: (877) 290-1400 • FAX: (802) 828-2198
AUDITOR@VERMONT.GOV • WWW.AUDITOR.VERMONT.GOV

Dear Colleagues,

The Agency of Natural Resources' (ANR) Department of Environmental Conservation (DEC) works to limit the impact of activities that adversely affect the environment by identifying environmental violations and taking actions against violators, among other things. Examples of environmental damages are destruction of wetlands, pollutants discharged into waterways, fuel oil leaking from underground tanks, and burning waste that releases toxins into the air.

We chose to audit how DEC manages its compliance responsibilities because of their importance to ensuring that Vermonters enjoy clean air, clean water, and healthy and safe communities. Our objectives were to (1) assess the extent to which DEC identifies incidents of environmental non-compliance (violations), and (2) determine whether and how DEC ensures that incidents of environmental non-compliance are appropriately resolved. We focused our audit on four DEC divisions that regulate 23 programs as well as the environmental compliance division (ECD), which investigates and responds to complaints related to all programs. We performed procedures pertinent to each of the divisions but focused our tests on the underground storage tank, solid waste, wetlands, and wastewater programs and ECD.

DEC's divisions reported that they use a wide variety of methods to identify environmental violations. These methods are both proactive, such as conducting inspections of permitted facilities or requiring periodic reporting, and reactive, such as responding to complaints made by the public. Our review of data for a one-year period (October 1, 2015 – September 20, 2016) pertaining to identification methods used by ECD and the underground storage tank, solid waste, wetlands, and wastewater programs, indicated that, of the 8,536 monitoring activities conducted, 8,061, or 94 percent, were completed. Of the completed cases, 13 percent had violations.

Violations can take many forms, such as missing a deadline to submit a report or fee, damage to wetlands, sewage overflows, or trash dumped on the side of the road. When DEC finds violations, it uses a progressive approach to obtain compliance, which ranges from seeking voluntary corrective actions on the part of the violators to seeking a court order requiring remediation and/or penalties.

We reviewed 20 cases with violations in each of the underground storage tank, solid waste, wetlands, and wastewater programs and ECD to determine whether there was evidence that the violator had complied with DEC's compliance directives or had otherwise returned to compliance. Of the 100 violation test cases: (1) there was independent evidence in DEC's files that 66 had completed required actions or had otherwise come into compliance, and (2) the required action by the violator was pending in 10 cases.

In 18 of the 100 test cases[1] there was no documentation that the violation or

[1] There were also six cases in which DEC later determined that there was no violation or in which no corrective action was deemed necessary.

DOUGLAS R. HOFFER
Vermont State Auditor

132 STATE STREET • MONTPELIER, VERMONT 05633-5101
(802) 828-2281 • TOLL-FREE IN VT: (877) 290-1400 • FAX: (802) 828-2198
AUDITOR@VERMONT.GOV • WWW.AUDITOR.VERMONT.GOV

required corrective action had been followed up on by DEC or that DEC had confirmed that the violator's reported action had been undertaken. Without such information, DEC cannot be certain whether environmental violations remain on-going or have been addressed. For example, in one case, the wetlands program had not required the violator to correct a violation caused by excessive rutting and removal of vegetation more than a year after the May 2016 anonymous complaint that initiated the case.

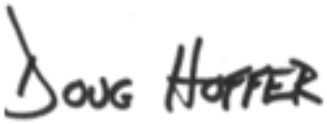
To address violations, DEC may pursue a formal enforcement action via an assurance of discontinuance, administrative order, or civil citation. This option was not often taken, as the four programs reviewed and ECD sought an enforcement action in no more than 28 cases during the audit period (3 percent of the 1,041 cases with violations).

Enforcement actions can result in the imposition of penalties. Between January 1, 2011 and March 20, 2017, violators owed $1.81 million in penalties and DEC collected 71 percent of these penalties, totaling $1.28 million. DEC utilized the tools available to it to collect overdue penalties, such as referring unpaid debt to a collection agent. There is one action that DEC could have taken that may have resulted in additional collection of overdue penalties. DEC's collection policy did not explicitly include the requirement of 10 V.S.A. §8014 (in place since 2008), that pending permit applications or renewals shall not be processed if penalties are not paid in full. After we brought this to their attention, DEC changed this policy to be in line with the statute, effective September 1, 2017. In 2017, DEC also established a department-wide debarment list of responsible parties that had accounts written off, forwarded to a collection agency or the Vermont income tax refund offset program, or had another collection action taken.

During the audit, we also noted that DEC's programs often did not have complete procedures for identifying and resolving environmental violations. In 2001, the DEC Commissioner required its program divisions to develop compliance procedures that include certain attributes, such as defining when a violation is significant. Only 3 of the 23 regulatory programs in the four program divisions in our scope had compliance procedures that included each of the attributes contained in the 2001 document. Compliance procedures are an important mechanism for ensuring consistency.

I would like to thank the management and staff at DEC for their cooperation and professionalism throughout the course of this audit. This report is available on the state auditor's website, http://auditor.vermont.gov/.

Sincerely,



DOUGLAS R. HOFFER
State Auditor

DOUGLAS R. HOFFER
Vermont State Auditor

132 STATE STREET • MONTPELIER, VERMONT 05633-5101
(802) 828-2281 • TOLL-FREE IN VT: (877) 290-1400 • FAX: (802) 828-2198
AUDITOR@VERMONT.GOV • WWW.AUDITOR.VERMONT.GOV

ADDRESSEES

The Honorable Mitzi Johnson
Speaker of the House of Representatives

The Honorable Tim Ashe
President Pro Tempore of the Senate

The Honorable Phil Scott
Governor

Ms. Susanne Young
Secretary, Agency of Administration

Mr. Adam Greshin
Commissioner, Department of Finance and Management

Ms. Julie Moore
Secretary, Agency of Natural Resources

Ms. Emily Boedecker
Commissioner, Department of Environmental Conservation

Contents

	Page
Introduction	5
Highlights	6
Background	9
Objective 1: DEC Uses a Myriad of Methods to Identify Environmental Violations	10
Methods to Identify Violations	11
Extent Identification Methods Used	13
Objective 2: Most Cases Resolved, but Follow-Up and Tracking Could Improve	16
Resolution of Violations	17
Formal Enforcement	22
Penalties	25
Other Matters for Consideration	26
Compliance Procedures	26
Reports on Compliance Activities	28
Conclusions	29
Recommendations	30
Management's Comments	31
Appendix I: Scope and Methodology	32
Appendix II: Abbreviations	34
Appendix III: Reprint of Management's Comments and SAO's Evaluation	35

Introduction

The Agency of Natural Resources' (ANR) Department of Environmental Conservation's (DEC) mission is to preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health for the benefit of this and future generations. DEC works to limit the impact of activities that adversely affect the environment by issuing permits, performing compliance inspections, and taking enforcement actions against violators, among other things. Examples of environmental damages are destruction of wetlands, pollutants discharged into waterways, fuel oil leaking from underground tanks, and burning waste that releases toxins into the air. Identifying environmental violations[2] and acting to ensure that they are remediated can enhance the protection of environmental and human health and prevent unfair economic advantage obtained by persons who violate environmental laws.

We chose to audit how DEC manages its compliance responsibilities because of their importance to ensuring that Vermonters enjoy clean air, clean water, and healthy and safe communities. Our objectives were to (1) assess the extent to which DEC identifies incidents of environmental non-compliance (violations), and (2) determine whether and how DEC ensures that incidents of environmental non-compliance (violations) are appropriately resolved.

Five of DEC's seven divisions[3] were within our scope: (1) air quality and climate division (AQCD), (2) waste management and prevention division (WMPD), (3) watershed management division (WSMD), (4) drinking water and groundwater protection division (DWGWPD), and (5) environmental compliance division (ECD). The first four of these divisions regulate 23 programs, while the environmental compliance division investigates and responds to complaints related to all of the programs. We performed procedures pertinent to each of the five divisions but focused our tests on four programs: (1) the underground storage tank (UST) and solid waste programs in WMPD and (2) the wetlands and wastewater programs in WSMD. We also looked at how the enforcement section within ECD investigated complaints. Appendix I contains detail on our scope and methodology. Appendix II contains a list of abbreviations used in this report.

[2] 10 V.S.A. §8002 defines a violation as a non-compliance with one or more statutory references specified in section 8003 of title 10 or any related rules, permits, assurances, or orders.

[3] Our scope did not include DEC's administration and innovation division or facilities engineering division.

Highlights

Because of the importance of DEC's compliance efforts on Vermont's air and water quality as well as the health and well-being of Vermonters, our objectives were to (1) assess the extent to which DEC identifies incidents of environmental non-compliance (violations) and (2) determine whether and how DEC ensures that incidents of environmental non-compliance (violations) are appropriately resolved. We focused our tests on four programs: (1) the underground storage tank (UST) and solid waste programs in the waste management and prevention division (WMPD) and (2) the wetlands and wastewater programs in the watershed management division (WSMD). We also looked at how the enforcement section within DEC's environmental compliance division (ECD) investigated complaints pertaining to these four programs.

Objective 1 Finding

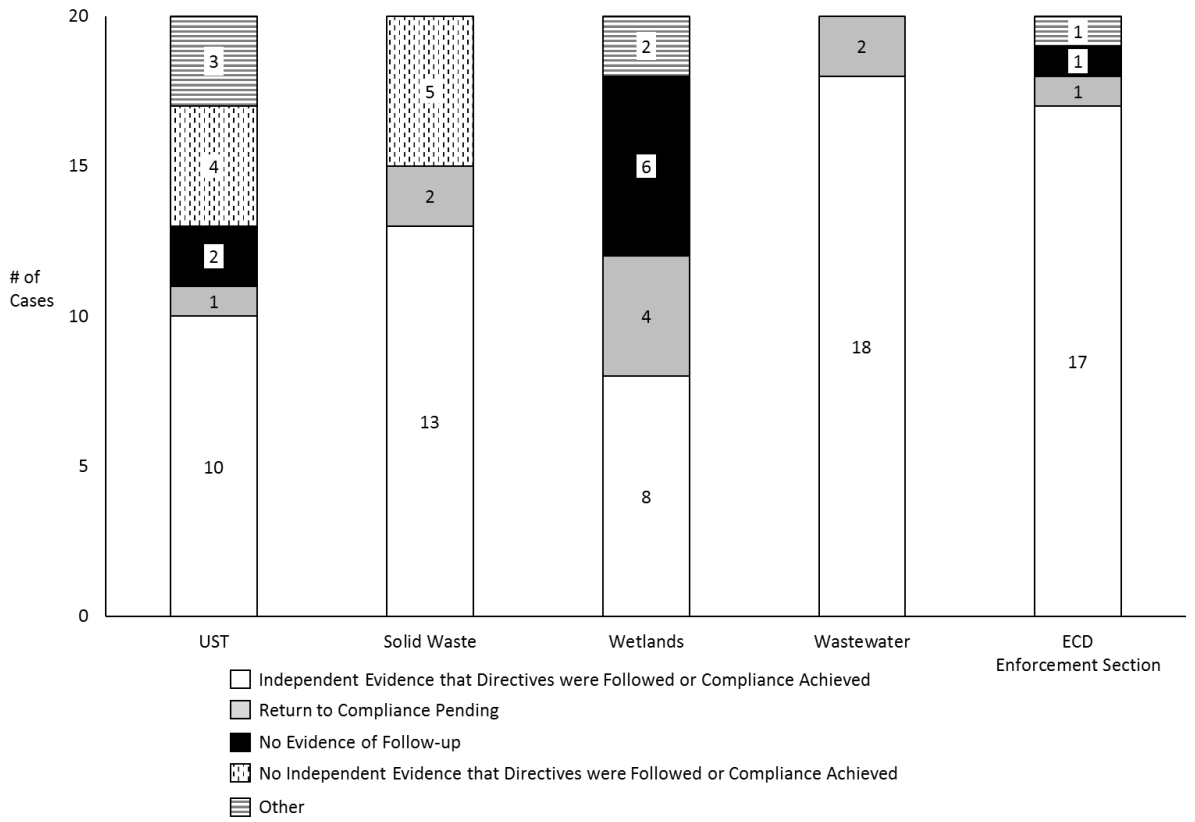
DEC reported that it performed a myriad of activities to identify incidents of environmental non-compliance (i.e., violations), including inspecting permitted facilities, investigating complaints, and tracking required monitoring reports from permittees. Of the activities that were conducted by the five DEC entities tested (four program areas and ECD's enforcement section) between October 1, 2015 and September 30, 2016, 1,041 of 8,061 completed cases (13 percent) resulted in DEC identifying environmental violations. In addition, of 1,516 complaint investigations assigned to ECD's enforcement section between October 1, 2015 and September 30, 2016, 385 (25 percent) remained open as of January 13, 2017. The ECD director explained that there was a large backlog of open complaints because cases are not always closed in a timely manner once the investigation has been completed. The director believes many of these open ECD cases have been investigated but was not able to produce documentation to support this assertion. The director added that DEC's staff have been working on this backlog.

Objective 2 Finding

When DEC finds incidents of environmental non-compliance (i.e., violations), it uses a progressive approach to obtain compliance, which ranges from seeking voluntary corrective actions on the part of the violators to seeking a court order requiring remediation and/or penalties. Violations can take many forms, such as

missing a deadline to submit a report or fee, damage to wetlands, sewage overflows, or trash dumped on the side of the road. In the 100 violation cases for the five entities in which we performed detailed testing (20 cases of reported violations in each program and ECD's enforcement section): (1) there was independent evidence in DEC's files that 66 had completed required actions or had otherwise come into compliance, and (2) the required action by the violator was pending in 10 cases. DEC's files did not include evidence that violations had been addressed in 18 of the 100 test cases.[4] For example, in nine of these cases, DEC's files lacked evidence that the program had followed up on the violation or the required corrective action. This was due to reasons such as the ineffective use of a tracking system and oversights by the program. Figure 1 summarizes the resolution of the cases tested, by program.

Figure 1: Summary of Resolution of Violation Test Cases, by Program



DEC may pursue formal enforcement action when it is unable to obtain voluntary compliance, or if the violations warrant formal enforcement action (e.g., if the violation is considered egregious). This option was not often taken, as the four programs reviewed and ECD's enforcement section sought an enforcement action in no more than 28 cases during the audit period (3 percent of the 1,041

[4] There were also six cases in which the program or ECD's enforcement section later determined that there was no violation or in which no corrective action was deemed necessary.

cases with violations), as of December 29, 2016. In addition to correcting environmental violations, a violator may also be required to pay a monetary penalty. Between January 1, 2011 and March 20, 2017, violators owed $1.81 million in penalties. DEC collected 71 percent of these penalties, totaling $1.28 million.

Other Matters

During the audit, we came across two additional noteworthy matters. First, DEC's programs often did not have complete procedures for identifying and resolving environmental violations. In 2001, the DEC Commissioner required its divisions to develop compliance procedures that include certain attributes, such as defining when a violation is significant (this did not apply to ECD, since at that time the enforcement division was part of ANR, not DEC). Only 3 of the 23 regulatory programs in the four program divisions in our scope had compliance procedures that included each of the attributes contained in the 2001 document. In particular, the air quality and climate division had draft division-wide procedures, but they were not used, according to the applicable manager in this division. Compliance procedures are an important mechanism for ensuring that DEC takes consistent action. This is particularly important since ECD's enforcement section investigates allegations of non-compliance across all DEC program areas. According to the ECD director, there is currently no way to ensure that investigations are conducted and violations are handled in a consistent manner, regardless of whether they are handled by an environmental enforcement officer in ECD or program division staff.

Second, 10 V.S.A. §8017 requires DEC to report on its annual activity to the legislature on enforcement actions taken and the status of citizen complaints about environmental problems in the state. This annual report is required to include data on violations, actions taken, disposition of cases and the amount of penalties. While DEC reports the aggregate total of formal enforcement actions and penalties collected, the information on complaints is incomplete as DEC only reports what is recorded in ECD's complaint tracking system and not those contained in the program divisions' systems. As a result, DEC reports incomplete data to the legislature because it does not have a system or process that captures data on its activities to identify environmental non-compliance and their results.

Recommendations

We recommend that DEC take various actions to improve its compliance monitoring processes, including developing controls to ensure follow-up on all violations and that compliance procedures contain required attributes.

Background

The four DEC program divisions in our scope manage programs for which they evaluate environmental compliance.[5]

- *Waste Management and Prevention Division (WMPD).* WMPD issues permits for federal and state programs; regulates hazardous waste, solid waste, and underground storage tanks; performs emergency response for hazardous materials spills; and manages cleanup at hazardous sites under state and federal authorities.

- *Watershed Management Division (WSMD).* WSMD administers the federally delegated permitting programs for municipal and industrial wastewater discharges. It also provides regulatory oversight and technical assistance to ensure proper design and construction of storm water treatment and control practices as well as construction-related erosion prevention and sediment control practices. WSMD is also responsible for protecting wetlands, lakes, river systems, and floodplains.

- *Air Quality and Climate Division (AQCD).* AQCD monitors ambient air quality and air pollution emissions from sources, proposes regulations to improve existing air quality, ensures compliance with the regulations, and issues permits to control pollution from sources of air contaminants across the state.

- *Drinking Water and Groundwater Protection Division (DWGWPD).* DWGWPD issues permits for all aspects of source water[6] development, construction and operation. DWGWPD also performs sanitary survey inspections, provides technical and compliance assistance, certifies public water systems operators, and implements the Environmental Protection Agency's regulations of the Safe Drinking Water Act. DWGWPD also administers the indirect discharge and wastewater system and potable water supply rules that regulate soil-based wastewater systems and on-site water supplies and issues underground injection control permits that regulate the discharge of non-sanitary wastewater into the ground.

10 V.S.A. §8020(j) mandates investigations of all complaints related to a federally authorized or delegated program.[7] Complaint investigations are

[5] DEC has one other program division, the facilities engineering division, which is focused on dam safety. This division was not included in our scope as it did not appear to have as much of a focus on environmental compliance as the other program offices.

[6] Source water refers to groundwater and surface waters that are used as the source of a drinking water supply.

[7] According to ECD management, it aims to investigate all complaints and does not consider whether the complaint involves a federal or state program as a factor in determining the prioritization of investigations.

generally conducted by the Environmental Compliance Division's (ECD) enforcement section. ECD's enforcement section is staffed by a chief environmental enforcement officer and seven environmental enforcement officers.

Vermont statutes provide mechanisms for DEC programs and ECD to enforce State and federally delegated environmental laws and regulations. These mechanisms are described in Table 1.

Table 1: DEC Enforcement Methods

Statute	Enforcement Method	Description
10 V.S.A. §8007	Assurance of Discontinuance (AOD)	An alternative to administrative or judicial proceedings, an AOD is a written settlement agreement for corrective actions, signed by the ANR Secretary and the respondent and can include prevention, abatement, alleviation, or restoration schedules, a settlement amount and/or a penalty. AODs are filed with the Environmental Court and, when signed by the court, become a judicial order.
10 V.S.A. §8008	Administrative Order (AO)	The Secretary of ANR can issue an AO if a violation exists. The order can include actions necessary to achieve compliance, abate potential or existing health hazards, and to restore the environment to the condition existing before the violations. An AO may include a "stop work" order if a permit has not yet been issued, a stay of the effective date or processing of a permit, and/or a proposed penalty or penalty structure. AOs may be appealed to the Environmental Court.
10 V.S.A. §8009	Emergency AO	This is a type of AO that the Secretary of ANR can issue when (1) a violation presents an immediate threat of substantial harm to the environment or public health, (2) an activity will or is likely to result in a violation that presents immediate threat of substantial harm to the environment or public health, or (3) an activity requiring a permit has commenced and is continuing without a permit.
10 V.S.A. §8019	Civil Citation	The Secretary of ANR can issue a civil citation for violations of statutes or rules adopted under those statutes. Civil citations include a monetary penalty of up to a maximum of $3,000 exclusive of court fees. Civil citations may be appealed to the Environmental Court.

Objective 1: DEC Uses a Myriad of Methods to Identify Environmental Violations

DEC's divisions use a wide variety of methods to identify environmental violations. These methods are both proactive, such as conducting inspections or requiring periodic reporting, and reactive, such as responding to complaints made by the public. Our review of data related to activities of the

wastewater,[8] wetlands,[9] solid waste,[10] and underground storage tank (UST)[11] programs, along with those of ECD's enforcement section, indicated that violations were found in 13 percent of the 8,061 cases completed during a one-year period (October 1, 2015 – September 30, 2016). As of early 2017, 5 percent of the cases in our audit period were still on-going. These on-going cases were almost all ECD cases. The ECD director explained that there is a large backlog of open complaints because cases are not always closed in a timely manner once the investigation has been completed. The director believes many of these open cases have been investigated but was unable to produce documentation to support this assertion.

Methods to Identify Violations

Four of DEC's divisions reported that they collectively regulate 23 programs. These divisions used a variety of methods to monitor compliance with environmental regulations. The methods varied by the specific regulatory program, as allowed or required in applicable state or federal statutes. In addition, these methods range from proactively confirming that regulations are being followed, such as through regularly scheduled inspections, and reactive methods like responding to a public complaint. ECD's enforcement section follows-up on complaints from internal and external sources pertaining to each of DEC's regulatory programs. A complete list of the methods that DEC's divisions/programs reported that they used to identify violations may be seen in Table 2.

8 Municipal wastewater originates from domestic, commercial, and industrial activities and is conveyed to centralized wastewater treatment facilities and treated to established standards before discharge into a receiving waterway. The wastewater program provides regulatory oversight of Vermont's wastewater treatment facilities.

9 Wetlands means those areas of the state that are inundated by surface or ground water with a frequency to support significant vegetation or aquatic life that depends on saturated or seasonally saturated soil conditions for growth and reproduction.

10 Solid waste means any discarded garbage, refuse, septage, sludge from a waste treatment plant, water supply plant, or pollution control facility and other discarded material including solid, liquid, semi-solid, or contained gaseous materials resulting from industrial, commercial, mining, or agricultural operations and from community activities.

11 Underground storage tanks are defined as any one or combination of tanks, including underground pipes and secondary containment components connected to it or them, which is or has been used to contain an accumulation of regulated substances, and the volume of which, including the volume of the underground pipes connected to it or them, is 10 percent or more beneath the surface of the ground. A regulated substance means all petroleum and toxic, corrosive, or other chemicals and related sludge.

Table 2: Environmental Non-Compliance (Violation) Identification Methods

Division	Program	Identification Method: Inspections[a]	Complaint Investigations[b]	DEC Environmental Assistance Office[c]	Compliance Self-certification[d]	Testing Observation[e]	Self-reporting by Permitted Facilities[f]	Failure to Report[g]	Other Ad Hoc Methods[h]
Waste Management and Prevention	Hazardous Waste Management	✓	✓						
	Salvage Yards	✓	✓						✓
	Underground Storage Tanks	✓	✓		✓		✓	✓	
	Solid Waste Management	✓	✓	✓			✓	✓	✓
Watershed Management	Stormwater/Operations	✓	✓		✓				✓
	Stormwater/National Pollutant Discharge Elimination System (NPDES)	✓	✓					✓	
	Wetlands		✓		✓			✓	✓
	Lakes and Ponds	✓	✓					✓	✓
	Rivers	✓	✓				✓		
	Illicit Discharge Detection and Elimination	✓	✓		✓	✓	✓		
	Wastewater NPDES	✓	✓				✓	✓	
Air Quality and Climate	Clean Air Act Stationary Source	✓	✓		✓	✓	✓	✓	✓
	Continuous Emissions Monitoring System		✓		✓	✓	✓	✓	✓
	Outdoor Wood Boiler	✓	✓				✓	✓	✓
	Open Burning		✓				✓		✓
	Perchloroethylene Dry Cleaning	✓	✓				✓		
	Fire Training	✓	✓		✓				✓
	Vapor Recovery	✓	✓			✓	✓	✓	
	Bulk Gasoline Plant	✓	✓				✓		
Drinking Water and Groundwater Protection	Public Drinking Water Supply	✓	✓		✓		✓	✓	✓
	Wastewater and Potable Water Supplies	✓	✓		✓		✓	✓	✓
	Underground Injection Control		✓		✓		✓	✓	
	Indirect Discharge	✓	✓		✓		✓	✓	

Division	Program	Identification Method: Inspections[a]	Complaint Investigations[b]	DEC Environmental Assistance Office[c]	Compliance Self-certification[d]	Testing Observation[e]	Self-reporting by Permitted Facilities[f]	Failure to Report[g]	Other Ad Hoc Methods[h]
Environmental Compliance	Enforcement Section		✓						

[a] Inspections: Site visits by DEC staff or others to conduct inspections based on pre-defined criteria and regulations. Inspections may be conducted at regular intervals, based on a target number to be performed within a specific timeframe, or ad hoc.
[b] Complaint investigations: Potential violations reported to DEC by the public by phone, email, or other means, or submitted by a DEC employee.
[c] DEC Environmental Assistance Office: On-site assessments requested by business owners.
[d] Compliance self-certification: Documentation submitted by a permitted entity attesting to its compliance with regulations or the terms of its permit.
[e] Testing observation: Monitoring of tests in which DEC staff are on site at a facility to witness the test performance.
[f] Self-reporting by permitted facilities: Violations identified by DEC staff review of monitoring reports required to be submitted. For example, wastewater facilities are required to submit reports of effluent levels, which are tracked by wastewater program staff.
[g] Failure to report: Required reporting not submitted to DEC by a regulated entity.
[h] Other ad hoc methods: This entails methods such as web searches and visual observation from driving by a location.

Extent Identification Methods Used

At our request, DEC's four program divisions in our scope provided worksheets indicating the number of times each identification method was used by each program.[12] We obtained similar information from ECD via a download from its tracking system.

As Table 3 shows, the entities we tested performed thousands of activities during a one-year period to identify environmental violations. For example: (1) the UST program conducted both scheduled (every three years) and ad hoc inspections of permitted facilities, (2) the solid waste and wastewater programs required facilities to submit periodic reports that are used to monitor compliance with permits, and (3) ECD's enforcement section and the wetlands program investigated complaints from the public and others.

[12] While performing this work we asked for supporting documentation on the information provided in the worksheets for the four programs reviewed and found that the numbers in the worksheets were not always correct. Table 3 reflects the corrected numbers. Because we found errors in the worksheets provided by the four programs tested, we are not reporting on the number of activities conducted that were provided to us by the other programs because we do not know whether they are reliable.

Table 3: Number of Each Type of Identification Method Reported by the Five DEC Entities Reviewed to Identify Environmental Violations, October 1, 2015 – September 30, 2016

Division	Program	Total	Number of Activities Using Each Identification Method							
			Inspections	Complaint investigations	DEC Environmental Assistance Office	Compliance Self-certification	Testing Observation	Self-reporting by Permitted Facilities	Failure to Report	Other Ad Hoc Methods
WMPD	UST	2,903	351	0[a]		0[a]		845	1,707[b]	
	Solid Waste	1,246	94	73	6			655	417[c]	1
WSMD	Wetlands	94		27		0[a]			0[a]	67[d]
	Wastewater	2,777	58	0[a]				2,696[e]	23	
ECD	Enforcement Section	1,516		1,516[f]						
Total		**8,536**	**503**	**1,616**	**6**	**0**	**0[g]**	**4,196**	**2,147**	**68**
			6%	**19%**	**<1%**	**n/a**	**n/a**	**49%**	**25%**	**1%**

a The program did not report usage of this method between October 1, 2015 and September 30, 2016.
b This represents the number of facilities that owed annual fees for the UST program during the audit period. Failure to pay these fees would be considered a violation.
c This is comprised of facility certification expirations and fees due in an upcoming period.
d This number includes cases in which the wetland program's documentation did not clearly indicate their origin.
e This number includes 32 reports of sewage overflow unauthorized by permits and investigated by the wastewater program. The remainder represents the number of analyses the wastewater program reported conducting (which we did not verify) as part of its twice-a-year analyses of monitoring reports of effluent flow that wastewater treatment facilities must submit as required by their permits (e.g., weekly, monthly, annually). The wastewater program did not conduct about half of these analyses until 2017, but since the wastewater treatment facilities submitted the reports with data as of September 30, 2016, we included these amounts in our analysis.
f ECD's enforcement section handles complaint investigations for all DEC programs.
g None of the four programs or ECD's enforcement section reported using testing observation as an identification method. Inspections in the wastewater program can include such observations.

Two programs—UST and wastewater—did not conduct all the activities required to be performed during the period of our audit. While it does not appear that these were material differences, the two programs were not compliant with Federal requirements.

- Federal requirements and UST compliance procedures specify that every facility must be inspected at least once every three years to determine operational compliance. However, 9 of the 888 facilities (1 percent) were not inspected in the three-year period. According to the manager of this program, these inspections were not conducted because of flaws in the UST program's tracking process.

- Federal regulations require the wastewater program to conduct annual sampling of effluent from all significant pre-treaters,[13] which is generally taken during inspections. The Environmental Protection Agency approves the number of facilities to be inspected. Subsequently, each year the wastewater program provides the Environmental Protection Agency a list of facilities that it intends to inspect over the next year as well as the type of inspection it intends to perform. The wastewater program did not conduct 3 of the 41 inspections approved (7 percent), postponing them until 2017. The wastewater program cited staff turnover as the reason the inspections were not completed. The wastewater program also did not perform the agreed-upon type of inspection for five facilities (12 percent). Specifically, the wastewater program inspector did not take a required sample of the effluent for the five facilities to test its chemical content. The program manager stated that when a problem occurs that precludes sample collection on the day of inspection, an attempt is made to obtain it later if logistically possible. The manager cited staff resources as impediments to ensuring that this was done.

Of the 8,536 activities that were conducted by the four programs and ECD's enforcement section, 8,061, or 94 percent, were completed (see Table 4). Of the completed cases, 13 percent (1,041 of 8,061) had violations. The vast majority of the uncompleted cases were assigned to ECD. Specifically, of 1,516 complaint investigations assigned to ECD's enforcement section between October 1, 2015 and September 30, 2016, 385 (25 percent) remained open as of January 13, 2017. The reason for this, according to the ECD director, is that cases are not always closed in a timely manner once the investigation has been completed. She explained that there is a large backlog of open complaints that she believes have been investigated, but she did not have the documentation to support this assertion. The director added that DEC's staff have been working on the backlog.

[13] The term "pretreatment" means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a system used in the treatment of municipal sewage or industrial wastes.

Table 4: Results of Compliance Activities Reported by Five DEC Entities Between October 1, 2015 – September 30, 2016

Division	Program	Completed Cases		On-going Cases[a]	Case Transferred to Another Program	Case Not Pursued	Total
		Violation Found	No Violation Found				
WMPD	UST	42	2,861	0	0	0	2,903
	Solid Waste	199	1,024	22	0	1	1,246
WSMD	Wetlands	55	30	1	1	7	94
	Wastewater	432	2,345	0	0	0	2,777[b]
ECD	Enforcement Section	313	760	385	58	0	1,516
Total		**1,041** **12%**	**7,020** **82%**	**408** **5%**	**59** **1%**	**8** **<1%**	**8,536**

[a] For the solid waste program, the number in this column was as of February 24, 2017; for the wetlands program it was as of February 21, 2017; for ECD it was as of January 13, 2017.

[b] The wastewater program did not conduct about half of these analyses until 2017, but since the wastewater treatment facilities submitted the reports with data as of September 30, 2016, we included these amounts in our analysis.

With respect to the wetlands program, investigations were not pursued in 7 of 94 cases of possible violations (7 percent) between October 1, 2015 and September 30, 2016, as of February 21, 2017. A reason was not always given for not pursuing the cases. According to DEC officials, the wetlands program is not a federal program subject to 10 V.S.A. §8020(j), and there is no requirement that all complaints be addressed. The wetlands program has not provided its ecologists with guidance as to when it is, and is not, appropriate to investigate a case.

Objective 2: Most Cases Resolved but Follow-Up and Tracking Could Improve

For the four DEC programs and ECD's enforcement division in which we focused our work, most violations were resolved. However, in 18 percent of 100 test cases with violations, there was no documentation that the violation or required corrective action had been followed up on or that DEC had confirmed the violator's reported action had been taken. Without such information, DEC cannot be certain if environmental violations remain on-going or have been addressed. DEC may also elect to pursue an enforcement action against violators via AODs, AOs, and civil citations. The four programs and ECD's enforcement section did not initiate such enforcement actions often. Of the 1,041 violations found by the five entities, DEC sought to utilize one of these formal enforcement methods in no more than 28 cases (3

percent). DEC has collected 71 percent of the penalties due since 2011. However, as of March 20, 2017, DEC's balance of penalties due was about $570,000, of which $409,000 (72 percent) was past due. In general, DEC has utilized the collection tools available to it, although it has only recently implemented a process to establish a debarment list that would stop violators who are past due in paying penalties from obtaining or renewing permits.

Resolution of Violations

Violations can take many forms—missing a deadline to submit a report or fee, sewage overflows, damage to wetlands, or trash dumped on the side of the road. DEC's response to a violation also varies. DEC's 2001 compliance procedure recommends that programs adopt a progressive approach, which generally begins with efforts to obtain voluntary compliance and progresses to formal enforcement actions available in statute.

When DEC personnel determine that a violation has or may have occurred, they generally issue compliance directives.[14] These directives may be communicated informally (e.g., verbally, via email) or in a formal written document. Regarding the latter, 10 V.S.A. §8006 allows DEC to issue (1) a written warning if it determines that a violation will or is likely to occur, or (2) a Notice of Alleged Violation if it determines that a violation exists. Directives and/or penalties may also be contained in enforcement actions issued by or agreed upon by DEC—namely AODs, AOs, and civil citations.

We reviewed 20 cases with violations in each of the five entities tested to determine whether there was evidence that the violator had complied with DEC's compliance directives or had otherwise returned to compliance. For example, Figure 2 shows the before and after pictures that illustrate that a transfer station inspected by the solid waste program had corrected a violation pertaining to cardboard storage.

[14] An exception would be if a violation is self-reported and the action to return to compliance is taken by the violator before DEC becomes involved.

Figure 2: Violator Returned to Compliance in the Solid Waste Program

As of December 3, 2015

As of January 20, 2016

As shown in Table 5, of our 100 test cases,[15] (1) there was independent evidence[16] in DEC's files that 66 had completed required actions or had otherwise come into compliance, and (2) in 10 cases, the required action by the violator was pending.[17] However, DEC's files did not include evidence that violations had been addressed in 18 of the 100 test cases. In nine of these cases, DEC's files did not include evidence that the program had followed up on the violation or the required corrective action. In the other nine cases, the DEC files included assertions by the violator that the program's compliance directive had been addressed, but there was no independent evidence that an action had been taken, such as on-site visits by DEC personnel, pictures, or receipts. Without such information, DEC cannot be certain whether environmental violations remain on-going or have been addressed.

[15] These cases were judgmentally selected so our results cannot be projected to the universe of cases with violations. Appendix I explains our selection criteria.

[16] Examples of independent evidence included receipt of fees, invoices received from service providers (e.g., solid waste haulers), on-site visits by DEC personnel, pictures submitted by the violator, or the results in subsequent monitoring reports. In addition, in some cases, the violator achieved compliance when DEC renewed a permit or granted an adjusted permit or an after-the-fact permit.

[17] Examples of pending future activity were a permit adjustment that was pending approval and re-vegetation of disturbed land.

Table 5: Resolution of Violations for Test Cases[a]

Program	Independent Evidence that Directives were Followed or Compliance Achieved	Return to Compliance Pending	No Evidence of Follow-up[b]	No Independent Evidence that Directives were Followed or Compliance Achieved	Other[c]
UST	10	1	2	4	3
Solid Waste	13	2	0	5	0
Wetlands	8	4	6	0	2
Wastewater	18	2	0	0	0
ECD's Enforcement Section	17	1	1	0	1
Total	**66**	**10**	**9**	**9**	**6**

[a] For cases with multiple directives, they were included in the Return to Compliance Pending, No Evidence of Follow-up, or No Independent Evidence that Directives were Followed or Compliance Achieved columns if at least one directive fell into these categories.

[b] Cases in this column include one in which no compliance directive was issued and cases in which DEC issued compliance directives but there was no follow-up to check whether the directives were followed.

[c] This category includes cases in which the program or ECD's enforcement section later determined that there was no violation and in which no corrective action was deemed necessary.

The wetlands program accounted for two-thirds of the cases in which there was no evidence of follow-up, and this program did not have an effective tracking system. In the case of the other programs, there was a variety of reasons why there was no evidence of the violation being resolved.

Wetlands

Six of the 20 wetlands violation cases (30 percent) had no evidence that the program followed up on a violation or the violator's corrective action. Figure 3 is a picture from one of the wetland cases without such follow-up. In this case, as of July 10, 2017—more than a year after the May 2016 anonymous complaint that initiated the case—the wetlands program had not required that the violator correct the environmental non-compliance caused by excessive rutting and removal of vegetation. Although the wetlands program requested that ECD issue a Notice of Alleged Violation,[18] ECD disagreed with the wetland program's assessment and declined to issue the notice. According to the wetlands program manager, she did not realize that ECD did not plan to issue a Notice of Alleged Violation. On July 10, 2017, she stated the wetlands program planned to conduct another site visit to determine current conditions.

[18] Although the wetlands program has the authority to issue Notices of Alleged Violations, it typically relied on ECD to issue such notices.

Figure 3: Picture of Wetlands Violation Taken on May 25, 2016 and Not Addressed as of July 10, 2017

We attribute the lack of follow-up in the wetlands program to the ineffective use of its tracking system, which was only recently implemented.[19] DEC requires every division to have a system in place that documents the ultimate resolution of any significant violation that comes to the attention of the division. However, when we requested a list of wetland cases that had been investigated between October 1, 2015 and September 30, 2016, the wetlands program manager manually developed the list by obtaining input from her staff because she could not rely on the information in the program's database. In addition, we found the wetlands program's tracking system was (1) missing investigations, (2) did not always include the most recent results of cases that had been previously investigated, and (3) did not always include data in the screen that recorded whether follow-up was needed. The wetland's program director attributed the problems we found to two causes: (1) the wetlands program does not have a protocol that directs staff on use of the system, and (2) the follow-up screen is a new feature in the system and staff were not asked to record this information for cases that had been closed. By not recording the information related to cases in a timely manner,

[19] In its response to a draft of this report, DEC stated that they believe that the lack of follow-up in the particular case cited as an example in Figure 3 should also be attributed to other factors, specifically the need for more robust connections between program databases and the ECD tracking system.

wetlands management has failed to maintain a history that can serve as justification for subsequent actions and decisions.

Other Programs

The other programs in our scope and ECD's enforcement section had a total of 12 cases in which DEC's files did not include evidence that the program had followed up on the violation or for which there was no independent evidence that the violation had been addressed (e.g., DEC relied on assertions by the violator that the program's compliance directive had been addressed).

There was no single reason for this lack of follow-up or confirmation. In some cases, the entity decided that confirmation was not needed. For example, the solid waste compliance chief explained that there is judgement used regarding the evidence required when determining that a violation has been addressed. She explained that for a low-level violation, it can be more time-efficient and strategic not to require proof of correction. The solid waste compliance chief added that most of the violations are at facilities that are inspected on an on-going basis, so if there is a repeat violation it is given a higher priority and more formal action taken.

In other cases, the lack of follow-up or confirmation was due to an oversight. For example, Figure 4 shows a picture from a UST case in which two spill containment manholes (spill buckets) were so corroded they could no longer hold liquid tightly. According to the UST program manager, any gasoline spilled into one of these buckets would quickly leak into the surrounding soil. The violations in this case were found during a UST inspection conducted on April 8, 2016 and a Notice of Alleged Violation was issued about a week later. The program manager attributed not following up on this case to an oversight.[20]

[20] After we brought this to the attention of the UST program in August 2017, UST sought and received confirmation that the spill buckets were replaced.

Figure 4: Picture of a Corroded Spill Bucket UST Found in April 2016 For Which Follow-Up to Determine if the Violation was Corrected Was Not Performed

Formal Enforcement

DEC may also pursue enforcement action via AODs, AOs, and civil citations. Such actions are pursued if voluntary compliance is not achieved or if DEC believes that formal enforcement is warranted (e.g., in cases in which the violation is considered egregious). According to DEC's fiscal year 2017 performance measure report, the proportion between violations found and formal enforcement action is a critical relationship to track effectiveness.[21] However, the five entities tested did not initiate such enforcement actions often. Of the 1,041 violations found by the five entities reviewed during the period October 1, 2015 to September 30, 2016, they sought to utilize one of these formal enforcement methods in no more than 28 cases (3 percent), as of December 29, 2016.[22] These 28 cases included those in which an AOD, AO,

[21] This statement was not in the fiscal year 2018 performance measures report.

[22] During this timeframe, there were other cases referred for formal enforcement, but these cases were initiated by ECD or the programs prior to October 1, 2015.

or civil citation was issued or pending as well as those in which the case was still on-going.

In 2015, ANR created a committee to review requests for enforcement actions called the Enforcement Referral Review Committee (ERRC). The ERRC is chaired by the chief of litigation and enforcement section and its vice-chair is the ECD director. Other members are the chief environmental enforcement officer, ANR general counsel, and others representing the entity[23] involved in the enforcement matter. The first meeting of this committee was held in October 2015. DEC regulatory programs and ECD's enforcement section that wish to pursue an AOD or AO must submit a referral to DEC's ERRC to initiate the process. Referrals are reviewed by the ERRC to ensure documentation is complete prior to assigning a litigation attorney.

From its inception until November 15, 2016, 71 cases from the four program divisions in our audit scope and ECD were referred to the ERRC and assigned to an attorney. According to the ANR enforcement and litigation section chief, 29 of these cases (41 percent) were referred by the ECD enforcement section (mostly related to program violations). In addition, 14 cases involved multiple programs. Table 6 shows the number of referred cases processed by the ERRC by program and how they were resolved or were in the process of being resolved.

[23] The ERRC also handles cases from ANR departments other than DEC, such as the Department of Fish and Wildlife. DEC had by far the largest number of cases submitted to this committee.

Table 6: Number and Status of Cases Referred to the ERRC by Program from Its Inception until November 15, 2016, as of December 29, 2016

Division	Program	Total Referred	AO		AOD		On-going Cases	Withdrawn by Program
			Pending	Final	Pending	Final		
WMPD	Hazardous Waste Management	14	0	0	1	6	6	1
	Salvage Yards	9	0	0	2	1	6	0
	UST	9	0	0	1	4	4	0
	Solid Waste Management	12	2	0	3	2	4	1
WSMD	Stormwater/Operations	1	0	0	0	0	1	0
	Stormwater/NPDES	1	0	0	0	0	1	0
	Wetlands	7	0	0	1	1	5	0
	Lakes & Ponds	3	1	0	0	1	1	0
	Rivers	1	0	0	0	0	1	0
	Illicit Discharge Detection and Elimination	None						
	Wastewater NPDES	5	0	0	0	0	2	3
AQCD	Field Services[a]	6	2	0	0	2	2	0
DWGWPD	Public Drinking Water Supply	10	0	1	1	4	4	0
	Wastewater and Potable Water Supplies	5	0	0	1	0	4	0
	Underground Injection Control	None						
	Indirect Discharge	None						
ECD	Enforcement Section[b]	9	1	0	0	3	4	1
Total DEC		**92**[c]	**6**	**1**	**10**	**24**	**45**	**6**

[a] AQCD's field services section performs all compliance-related activities for the eight regulatory programs in this division.
[b] These cases pertain to substances not regulated by a DEC permit program that are discharged into state waters and are a violation of 10 V.S.A. §1259, which is a universal prohibition against discharging any substance into state waters without a permit. The other cases referred by ECD's enforcement section are contained in the individual program rows in the table.
[c] This figure is higher than the number of cases referred to the ERRC (71) because some referred cases involve multiple regulatory programs.

In addition to formal enforcement cases that are reviewed by the ERRC, DEC can also issue civil citations.[24] For citations, the violator may elect to pay a fine and waive their right to a court hearing to resolve the violation. Citations must be approved by ECD along with relevant division directors and program managers and are issued by ECD. ECD issued nine civil citations during the audit period.

[24] ECD issued two citations based on its own cases. The other programs for which citations were issued were (1) AQCD's field services, (2) WMPD's hazardous waste management and solid waste management programs, and (3) WSMD's stormwater/NPDES program.

Penalties

An enforcement action may result in the violator being assessed a penalty. Between January 1, 2011 and March 20, 2017, violators owed $1.81 million in penalties[25] and DEC collected 71 percent of these penalties, totaling $1.28 million. As of March 20, 2017, DEC's account balance for penalties was about $570,000, of which $409,000 was past due (72 percent).

When a violator does not pay the penalty, DEC has various means at its disposal to pursue collection. For example, Vermont statute allows DEC to refer overdue penalties to collection agents, file property liens, offset income tax refunds, and submit contempt filings. DEC utilized all of these tools to collect overdue penalties.

There is one action that DEC could have taken that may have spurred the collection of overdue penalties, namely, prohibiting approval of permit applications or renewals if penalties are past due. 10 V.S.A. §8014 states: "when a respondent, except for a municipality, fails to pay an assessed penalty … the secretary … shall stay the effective date or the processing of any pending permit application or renewal application in which the respondent is involved until payment in full of all outstanding penalties has been received" (added to statute in 2008 by Act 191). DEC issued a collections policy effective January 1, 2017 that included a department-wide debarment list.[26] In accordance with this policy, DEC's financial operations section established a debarment list in 2017—nine years after Act 191 was approved.

The collections policy states that the financial operations group is to add the party responsible for the penalty to the debarment list if the account is written off, forwarded to a collection agency or the Vermont income tax refund offset program, or another collection action is taken. However, according to the new policy, if a permittee is on the debarment list it <u>may</u> lead to a denial of a new permit. The policy does not explicitly include the requirement of 10 V.S.A. §8014, which states that pending permit applications or renewals <u>shall</u> not be processed if penalties are not paid in full. An ANR attorney did not know why this statute had not been implemented earlier but thought that it may have been due to an overlapping

[25] This amount only includes payments that were due to DEC no later than March 20, 2017 and does not include amounts or installment payments due after this date.

[26] *Accounts Receivable Collections Policy* (ANR/DEC policy no. 15-01, December 28, 2016). This policy replaced a prior policy on an allowance for uncollectible receivables that was effective September 1, 2008. The prior policy did not include procedures that linked the payment of penalties to the approval of permit applications or renewals.

process found in a different section of the statute. After we brought this to their attention, DEC revised its collections policy effective September 1, 2017.

Other Matters for Consideration

During the audit we came across other issues related to DEC compliance procedures and the completeness of reports on DEC's environmental compliance activities.

Compliance Procedures

One of DEC's guiding principles is to consistently and fairly apply and enforce environmental laws and standards. In 2001, the DEC Commissioner issued a compliance procedure that was intended to result in the department being more consistent, predictable, and accountable in its compliance activities.[27] Within the procedure was a directive by the DEC Commissioner for each division to develop compliance guidance documents, such as criteria for staff to use when determining whether a violation is significant and that would guide staff in the handling of violations. The 2001 document did not apply to ECD, as this enforcement division was then a part of ANR, not DEC.

The 2001 compliance procedure document included a list of attributes that individual program divisions were expected to incorporate into their compliance procedures. Only 3 of the 23 programs in our scope (13 percent) included each of these attributes (solid waste, indirect discharge, and public drinking water supply). Nine of the 23 programs (39 percent) did not have compliance procedures. Eight of the nine programs missing compliance procedures were in AQCD, which had draft division-wide procedures, but the applicable manager stated that they were incomplete and not used. The manager added that the procedures were not finalized due, in part, to time constraints, noting that there were other issues to address since he had taken the position a few years ago. In addition, one program in WSMD did not have a compliance procedure (wetlands[28]), and others in this division had procedures that pertained to only parts of the programs. Table 7 summarizes the extent to which each program division had compliance procedures or related documents that included expected attributes.

[27] Even though this document is over 16 years old it has not been superseded.

[28] Although the wetlands program did not have a compliance procedure, it had a document called the Enforcement/Response Matrix that we considered in our analysis. This document provided criteria on the type of situations that would cause the program to request that a civil citation be issued or formal enforcement action pursued.

Table 7: Summary of Whether Compliance Procedures[a] Include All Expected Attributes, by DEC Program Division

Attribute in DEC's 2001 Compliance Procedure	WMPD (4 Programs)	WSMD (7 Programs)[b]	AQCD (8 Programs)	DWGWPD (4 Programs)[b]
Description of compliance efforts to ensure timely review for compliance of all required reporting.	Yes = 2 programs Partially = 2 programs	Yes = 2 programs Partially = 2 programs No = 3 programs	No procedures in use	Yes = 3 programs No = 1 program
Description of compliance efforts to ensure timely follow-up by the division to any non-compliance found during reviews.	Yes = 4 programs	Yes = 3 programs Partially = 3 programs No = 1 program		Yes = 3 programs Partially = 1 program
Description of efforts to ensure a record of the compliance tracking performed for any known violation of a permit, permit by rule, Notice of Alleged Violation or enforcement document. This tracking documents efforts taken by both the division and the entity to regain compliance.	Yes = 4 programs	Yes = 4 programs Partially = 1 program No = 2 programs		Yes = 3 programs Partially = 1 program
An explanation of the priority system(s) or set rationale(s) that the division's programs use for scheduling inspections.	Yes = 4 programs	Yes = 1 program Partially = 2 programs No = 3 programs Not applicable = 1 program		Yes = 2 programs Not applicable = 2 programs
The criteria used by the division's programs to determine whether inspections will be announced or unannounced.	Yes = 4 programs	Yes = 1 program Partially = 1 program No = 3 programs Not applicable = 2 programs		Yes = 2 programs Not applicable = 2 programs
The criteria used by the division's programs to target or prioritize criminal investigations.	Yes = 3 programs No = 1 program	Yes = 1 program Partially = 1 program No = 5 programs		Yes = 3 programs No = 1 program
A "significant non-compliance" policy that enables program staff to evaluate the significance of existing violations and that guides the staff in handling violations.	Yes = 2 programs No = 2 programs	Yes = 2 programs Partially = 4 programs No = 1 program		Yes = 4 programs
A discussion of the approaches used by the division's programs in assuring compliance.	Yes = 4 programs	Yes = 4 programs Partially = 2 programs No = 1 program		Yes = 4 programs
Specific discussion of assistance efforts (how these efforts are targeted and the types of assistance used).	Yes = 4 programs	Yes = 3 programs Partially = 1 program No= 3 programs		Yes = 2 programs No = 2 programs
Specific discussion of triggers for issuing Notices of Alleged Violations.	Yes = 4 programs	Yes = 1 program Partially = 2 programs No = 4 programs		Yes = 4 programs

[a] In this analysis, we also considered whether the attributes were covered in other documents, such as program rules.
[b] The procedures for the rivers program in WSMD and wastewater and potable water supplies program in DWGWPD were draft.

Without guidance, it is more difficult to ensure consistency within the divisions and with ECD's enforcement section. This is important because ECD's enforcement section investigates allegations of non-compliance across all DEC program areas. According to the ECD director, there is currently no way to ensure that investigations are conducted and violations are handled in a consistent manner, regardless of whether they are handled by an ECD investigator or divisional program staff. Establishing compliance procedures that cover the types of attributes in the 2001 DEC compliance procedure and followed by the program divisions and ECD's enforcement section would help DEC meet its guiding principles of fairness and consistency.

Reports on Compliance Activities

10 V.S.A. §8017 requires DEC to report to the legislature on its annual activity on enforcement actions taken and the status of citizen complaints about environmental problems in the state, specifically, violations, actions taken, disposition of cases, and the amount of penalties. DEC reports the aggregate total of formal enforcement actions and penalties collected, but the status of citizen complaints is incomplete as DEC only reports what is recorded in ECD's tracking database and not in the systems used by the program divisions to record their activities.[29] Additionally, DEC had no systematic or routine checks for duplicate data, which may lead to inaccurate reporting. SAO estimates that the number of investigations in the tracking system as counted by ECD could be overstated by 100 or more.

Similarly, DEC's performance measure related to violations in its most recent performance report, entitled "Improving Response to Citizen Complaints," contains data that is a mixture of ECD-only and program division data.[30] Specifically, this measure includes a bar chart that compares the number of investigations that resulted in (1) no violations found, (2) violations found with no formal action taken, and (3) violations found with formal action taken.[31] The vast majority of the cases in the first two categories are ECD-only cases, whereas the cases that make up the third category are from ECD plus the programs. As a result, because the basis of the universe of cases in the third category is larger than that of the first two categories, the bar chart's comparison misleads the user by implying that formal action is taken proportionally more often than it is. According to the chief of ECD's

[29] In its latest report, *2016 Report to the Legislature Regarding Act 98 (1989) Uniform Environmental Enforcement Act*, February 24, 2017, DEC acknowledged that its programs may have complaints that were not reflected in the report.

[30] *Department Performance Report* (Department of Environmental Conservation, Fiscal Year 2018).

[31] According to the chief of ECD's enforcement section, the term "formal action" was comprised of (1) AODs, AOs, and civil citations for all DEC programs and ECD and (2) Notices of Alleged Violations issued by ECD (but not the programs) that did not result in formal enforcement.

enforcement section, the data in the performance report is limited to that contained in the ECD tracking system, which is an incomplete data set.

DEC reports incomplete data because it does not have a system or process that captures data on the activities it performs to identify environmental non-compliance and their results. We did not assess whether it is practical or cost effective for DEC to implement a department-wide tracking system. Even in the absence of such a system, DEC could capture this data annually by requesting the program divisions provide summary data from their tracking systems to be added to the data in the ECD tracking system. Since there are cases that are captured in both the ECD tracking system and the program divisions' systems, it would be important to include definitions or controls to ensure that duplicate cases are not reported multiple times.

Conclusions

DEC reported that it performed a wide variety of actions to check compliance with environmental regulations. Some of these actions were proactive, such as scheduled inspections, and some reactive, such as investigating complaints. Most of DEC's actions used to assess environmental compliance did not result in violations, but those that did were generally addressed through voluntary actions on the part of the violator. In our test of 100 violation cases, the violator had taken required actions, which DEC had verified, or had otherwise returned to compliance 66 percent of the time. However, in 18 percent of the cases there was no documentation that the violation or required corrective action had been followed up on or that DEC had confirmed the violator's reported action had been taken (e.g., the program relied on an assertion by the violator). This percentage could be reduced if each of the program areas had compliance procedures that addressed how violations are to be handled, such as criteria for what constitutes a significant violation and how the program area is going to ensure that the violation is corrected. However, although each program division is supposed to have compliance procedures that address such issues, nine of 23 programs did not and many of the other programs' existing procedures were incomplete. To ensure that similar violations are addressed fairly, it is important that the programs and ECD's enforcement division handle violations in a consistent manner.

Recommendations

We make the recommendations in Table 8 to the Commissioner of DEC.

Table 8: Recommendations and Related Issues

Recommendation	Report Pages	Issue
1. Direct WMPD to require the UST program to immediately inspect all facilities with underground storage tanks that have not been inspected in the last three years and amend their process to ensure that the inspection mandate is followed.	14	Federal requirements and UST compliance procedures specify that every facility must be inspected at least once every three years to determine operational compliance. However, 9 of the 888 facilities (1 percent) were not inspected in the three-year period.
2. Direct WSMD to require the wastewater program to immediately inspect all facilities it identified for inspection to the Environmental Protection Agency that were not inspected and to develop a process to ensure that the agreed-upon type of inspection is conducted.	15	Federal regulations require the wastewater program to conduct annual sampling of effluent from all significant pre-treaters, which is generally taken during inspections. The Environmental Protection Agency approves the number of facilities to be inspected. Subsequently, each year the wastewater program provides the Environmental Protection Agency a list of facilities that it intends to inspect over the next year as well as the type of inspection it intends to perform. The wastewater program did not conduct 3 of the 41 inspections approved (7 percent), postponing them until 2017.
3. Direct WSMD to require the wetlands program to develop guidance as to when it is, and is not, appropriate to investigate cases of possible violations.	16	With respect to the wetlands program, investigations were not pursued in 7 of 94 cases of possible violations between October 1, 2015 and September 30, 2016, as of March 17, 2017. The wetlands program has not provided its ecologists with guidance as to when it is, and is not, appropriate to investigate a case.
4. Require each division to have management controls in place to ensure that follow-up on violations occur and that return to compliance is confirmed.	18-19	DEC's files did not include evidence that violations had been addressed in 18 of 100 test cases. In nine of these cases, DEC's files did not include evidence that the program had followed up on the violation or the required corrective action. In the other nine cases, the DEC files included assertions by the violator that the program's compliance directive had been addressed, but there was no independent evidence that an action had been taken.
5. Direct WSMD to have the wetlands program develop a protocol that ensures the use of its tracking database.	19-20	Six of the 20 wetlands violation cases (30 percent) had no evidence that the program followed up on a violation or its corrective action. The wetlands program's tracking system was (1) missing investigations, (2) did not always include the most recent results of cases that had been previously investigated, and (3) did not always include data in the screen that recorded whether follow-up was needed. In addition, the wetlands program does not have a protocol that directs staff on use of the system.

Recommendation	Report Pages	Issue
6. Ensure that (1) all programs have compliance procedures that include all attributes in the 2001 DEC procedures document or any requirements that supersedes this document and (2) ECD's enforcement section have a process or procedure in place so that violations are handled in a manner consistent with that of the programs.	26-28	In 2001, the then DEC Commissioner issued a DEC compliance procedure that was intended to result in the department being more consistent, predictable, and accountable in its compliance activities. Within the procedure was a directive by the DEC Commissioner for each DEC program division to develop divisional compliance guidance documents. However, only 3 of the 23 programs in our scope (13 percent) included each of these attributes. Moreover, 9 of the 23 programs (39 percent) did not have compliance procedures. Further, according to the ECD director, there is currently no way to ensure that investigations are conducted and violations are handled in a consistent manner, regardless of whether they are handled by an ECD investigator or divisional program staff.
7. Create a process by which all complaint data is accurately and completely reported to the legislature, as required by 10 V.S.A. §8017, as well as in performance reports.	28-29	DEC reported incomplete data in its annual compliance report to the legislature and fiscal year 2018 performance report because it does not have a system or process that captures data on all activities it performs to identify environmental non-compliance and their results.

Management's Comments and Our Evaluation

The Commissioner of DEC provided written comments on a draft of this report dated September 21, 2017. These comments are reprinted in Appendix III along with our evaluation and response. In general, the Commissioner outlined actions that the department intends to take in response to our recommendations. In addition, the Commissioner provided clarifications or explanations regarding some of our findings as well as technical comments.

To address our first objective, we gained an understanding of the work of the ECD and the system it uses to track its investigations. We also identified DEC's four program divisions that deal primarily with regulatory issues. We met with representatives of each of the program divisions to (1) obtain an overview of each of their regulatory programs, (2) determine how each program evaluates environmental compliance and identifies violations, and (3) obtained rules, regulations, policies, and compliance procedures. We requested that each program division provide a worksheet summarizing the number of times each identification method was used by each program and the number of (1) violations, (2) Notices of Alleged Violations, (3) civil citations, and (4) referrals for formal enforcement.

Based on a review of these worksheets, we decided to perform detailed test work at ECD's enforcement section and four programs in two program divisions: WMPD's solid waste and UST programs and WSMD's wetlands and wastewater programs. We chose ECD because this is DEC's primary enforcement entity. We chose the four programs to get a mixture of programs that (1) included federal and state requirements, (2) regulated different types of entities (e.g., businesses, public agencies, individuals), and (3) utilized a variety of processes to identify violations.

We requested each of the four programs to provide backup documentation to the summary worksheets previously provided. We reviewed the backup documentation and, working with program personnel, adjusted the numbers previously provided in the worksheets to reflect the supporting material.[32]

For objective 2, we judgmentally chose 20 cases that had reported violations[33] from each of the four programs and ECD's enforcement section.[34] We chose these cases to obtain cases with a mixture of types of documentation of the violation (e.g., warnings or Notices of Alleged Violations) and resolutions (i.e., voluntary compliance or formal enforcement action). For each of the 100 violation test cases chosen, we performed file reviews and reviewed tracking system excerpts to determine (1) the nature of the violation, (2) the compliance directives provided to the violator, and (3) whether follow-up was completed to determine if the violator had completed the directives or otherwise returned to compliance. We also obtained any warning letters, Notices of Alleged Violations, Assurances of Discontinuance, Administrative Orders, and civil citations that were issued in

[32] Because we found errors in the worksheets provided by the four programs tested, we are not reporting on the numbers of activities conducted that were provided to us by the other programs because we do not know whether they are reliable.

[33] We also chose 10 cases that reportedly had no violations to confirm that there were no violations.

[34] Because these cases were judgmentally chosen, they cannot be projected to the universe. We also limited our selection of cases from ECD's enforcement section to those pertaining to the four programs reviewed.

these cases. We also discussed cases with ECD and program managers to obtain explanations of anomalies.

In addition, we obtained information on the workings of ANR's ERRC as well as data on the number of cases that were referred to this committee and their disposition. We also obtained the spreadsheet that DEC uses to track penalties and their payment. We summarized the results of the ERRC and penalty tracking data, but did not validate this information.

We performed our audit work between October 2016 and September 2017 at DEC's headquarters in Montpelier. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II
Abbreviations

ANR	Agency of Natural Resources
AO	Administrative Order
AOD	Assurance of Discontinuance
AQCD	Air Quality and Climate Division
DEC	Department of Environmental Conservation
DWGWPD	Drinking Water and Groundwater Protection Division
ECD	Environmental Compliance Division
ERRC	Enforcement Referral Review Committee
NPDES	National Pollutant Discharge Elimination System
UST	Underground Storage Tank
V.S.A.	Vermont Statutes Annotated
WMPD	Waste Management and Prevention Division
WSMD	Watershed Management Division

The report page numbers cited in the DEC Commissioner's comments do not correspond with the page numbers in the final report.

VERMONT

Vermont Department of Environmental Conservation
Commissioner's Office
One National Life Drive, Main 2 [phone] 802-828-1556
Montpelier, VT 05620-3520 [fax] 802-828-1541

Agency of Natural Resources

September 21, 2017

Douglas R. Hoffer, Vermont State Auditor
132 State St.
Montpelier, VT 05633-5101

Dear Mr. Hoffer:

The Department of Environmental Conservation (Department, or DEC) has reviewed the results of the Auditor's draft and, in consultation with all relevant Divisions, offers the following Management Response. The Department thanks the Auditor for the content of the findings, and the professionalism and thoroughness of the staff who conducted the audit analysis and reporting.

With the guidance of this audit, DEC notes an opportunity to improve upon the Department's successful environmental compliance and enforcement efforts through implementation of the recommendations provided by the audit. In the remainder of this response, DEC offers: 1) the Department's response to the recommendations of the Auditor; 2) clarifications or explanations regarding certain findings; and, 3) suggestions for minor edits to the final report to promote additional accuracy.

Management Response to Recommendations

1. *Direct Waste Management and Prevention Division (WMPD) to require the Underground Storage Tank (UST) Program to immediately inspect all facilities with underground storage tanks that have not been inspected in the last three years and amend their process to ensure that the inspection mandate is followed.*

See SAO comment 1 on page 41.

The Department notes the very high rate of UST inspections conducted in a timely manner (~99%), and acknowledges the need for follow-up on the outstanding eight UST inspections. As of this writing, these inspections have been completed by the Program, and documented. The Department inspects approximately 350 UST facilities per year and will continue to pursue completion of all UST inspections in a timely manner.

2. *Direct Watershed Management Division (WSMD) to require the Wastewater Program to immediately inspect all facilities approved for inspection by the Environmental Protection Agency that were not inspected and to develop a process to ensure that the agreed-upon type of inspection is conducted.*

The Department notes that three of the 41 scheduled facility inspections were not completed in a timely manner, which is a direct result of uncommonly high staff turnover (50% of the program staff) during the compliance period. The Wastewater Program does have in-place a process with EPA for the selection of facilities and type of inspection each year. This process is implemented in conjunction with negotiations for

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

the Federal funding partnership that supports these activities. The three outstanding facilities will be inspected before the end of this calendar year. The first is scheduled for September 22, 2017.

3. *Direct WSMD to require the Wetlands Program to develop guidance as to when it is, and is not, appropriate to investigate a complaint.*

The Auditor is correct that there is currently no formally-adopted written guidance on when it is appropriate to investigate a wetlands complaint. However, Wetlands staff do receive guidance from the Wetlands Program manager in several ways. WSMD and DEC is committed to developing formal written guidance this coming year. This outcome relates to DEC's activities under recommendation #6 as well.

4. *Require each division to have management controls in place to ensure that follow-up on violations occur and that return to compliance is confirmed.*

This is an important and broad recommendation that relates to activity tracking as well as return to compliance. Recognizing the backlog of open complaints with no investigation, and beginning in October of 2016, DEC has closed almost 1000 open complaints by implementing a monthly check-in process across all programs. The goal of these efforts is twofold: 1) to have a record of what was investigated and what was found, and 2) to have a database where complaints identified as "open" reflect only those investigations that are currently underway.

The assessment of return to compliance is equally important, and DEC's performance in this area reflects the limits in the Department's overall staffing capacity and the direction of that capacity to the highest-value compliance and enforcement activities. In conjunction with the review of compliance procedures identified in recommendation #6, DEC will develop procedural controls that address return to compliance.

5. *Direct WSMD to have the Wetlands Program develop a protocol that ensures the use of its tracking database.*

See SAO comment 2 on page 41.

The Wetlands Program tracking system was developed in 2016, at which time an updated database usage document was issued, and a protocol established for usage of the wetlands tracking database. However, this recommendation also speaks to a larger systematic need underscored by the Audit: to incorporate individual Program tracking databases into the DEC-wide BEAR system currently used by ECD, or an alternative shared system. Following on this Audit, the Department will consider development of a procedure for the use of BEAR by ECD and all DEC Divisions. This endeavor will require comprehensive business analysis to tie numerous program-level tracking systems to BEAR. This will be a high-value but complex information technology (IT) undertaking, which will need to be staged along with the ongoing work within DEC's compliance and enforcement efforts, and take into account available staff and IT resources. For the wetlands database specifically, this work has already been initiated.

6. *Ensure that (1) all programs have compliance procedures that include all attributes in the 2001 DEC procedures document or any requirements that supersedes this document and (2) ECD's [Enforcement and Compliance Division] enforcement section have a process or procedure in place so that violations are handled in a manner consistent with that of the programs.*

The Department agrees with this recommendation, and over the course of the Audit process already initiated a suite of supporting actions. The Enforcement Workgroup (a group of senior DEC managers and staff whom conduct or interact with compliance and enforcement activities) and ECD have identified a complete update to

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

the 2001 DEC Compliance Procedure document as a priority for the year ahead, and this Audit confirms this need. A comprehensive update to the 2001 Procedure will address several other suggestions identified in the Audit; notably in Table 7, Summary of Whether Compliance Procedures Include All Expected Attributes, by DEC Program Division. ECD is currently reviewing all Program compliance procedures and guidance documents for commonalities. ECD plans to provide the Enforcement Workgroup with a summary of these procedures and, using the Environmental Assistance Office, provide a template for each Division and Program to modify to meet their needs. The template will contain the basic elements of the revised DEC Compliance Procedure, resulting in all Program-level compliance procedures being aligned to a new, modernized DEC compliance procedure.

7. *Create a process by which all complaint data is accurately and completely reported to the legislature, as required by 10 V.S.A. §8017, as well as in performance reports.*

While BEAR is an excellent tool to provide metrics of compliance and enforcement activities conducted by ECD, the Audit correctly identifies an opportunity for DEC to more fully comply with 10 V.S.A. §8017 by incorporating programmatic compliance and enforcement information that exists outside of BEAR. To address this, ECD will initiate a new process to solicit from Programs required information for the annual enforcement report, such that the report reflects the full breadth of DEC's compliance and enforcement activities. While in the near term, this approach could potentially "double count" some activities that are carried jointly by ECD and the programs, this approach will produce more complete reporting. Achieving this goal will require the completion of the business analysis and information technology solutions suggested for BEAR in recommendation #5.

Management's Clarifications to Findings

The Department has identified certain topics addressed by the Audit that merit additional context.

1. In Table 3, DEC notes that the type of identification method utilized by a DEC program depends on the specific regulatory program and the type of media it regulates. The areas of Table 3 where there are blank spaces or that include a value of 0 should be understood considering the methods each program identified in Table 2. Where the table denotes a blank or zero, it simply means the program does not utilize that identification method as part of its regulatory activities, and should not be viewed as a failure to use that method.

2. Regarding the resolution of violations found in Table 5 for the Wetlands Program, six incidents were identified in the "no evidence of follow up" category. Wetlands compliance follow-up can take longer than some other DEC programs. Given that wetland restoration often cannot take place when the ground is frozen, program staff need to wait for follow-up until the appropriate season. Further, in two of the cases noted, another federal or municipal entity was taking the lead on compliance, so the program was waiting for news before taking any next steps.

See SAO comment 3 on page 41.

3. On Page 15, regarding the collection of penalties, the Department notes that in addition to having collected 71% of penalties due since 2011, ECD is actively pursuing collections for $403,000 of the outstanding balance, and has implemented the debarment listing process that would stop violators who are past due in paying penalties from obtaining or renewing permits.

4. On Page 18, with respect to the wetlands incident, DEC contends that the lack of follow-up in the wetlands program relates to additional factors beyond ineffective use of the wetlands tracking system.

See SAO comment 4 on page 41.

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

This is a good example of where an incident was tracked independently by the Wetlands Program in a database which was under active development, and by ECD in BEAR. This particular case highlights the need for more robust connections between the program databases and BEAR, which the Department addresses in the discussion of recommendation #5, above. As an interim step, to prevent this issue from happening in the future, the program will send a quarterly inquiry to ECD to request the status of open wetland cases which are assigned to an EEO. Relatedly, because much of the information that programs seek is in BEAR, ECD will provide monthly updates and instructions to each division on how to run the report that allows programs to access the information they seek.

5. Also on page 18, the maturity of the Wetlands Program database is discussed. The Department notes substantial recent improvements have been made to the Wetlands Program tracking system, which has been in use for just over a year at this point. The tracking system will be updated with additional improvements based on the Audit Report and staff feedback. The updates are anticipated to take place throughout this winter and spring of 2018. Improvements will include mandatory entry items; entry time requirements; regular check-in meetings between manager and staff on list progress; and, indicating on the list the project type (complaint, violation, permit) and any associated BEAR number. This work is also part of that contemplated by recommendation #5, above.

6. Lastly on page 18, DEC notes that the tracking of historical compliance and enforcement actions of the Wetlands Program is discussed by the Auditor. While the newly developed tracking system does not contain historical incidents, the history of actions and decisions can always be found in staff notes, emails and other records. The Wetlands Program is considering how to make the transfer of information simpler and will adjust the developing compliance procedure and the database accordingly.

See SAO comment 5 on page 41.

7. On Page 24, The draft report states that ECD approves citations. In fact, ECD issues citations, but they are approved at multiple levels. While citations are issued by ECD, they must be approved by ECD, the relevant Division Directors, and their relevant program managers.

8. On page 24, it is noted that the Wetlands Program has no formal compliance procedure. For clarification, the program uses a written matrix to decide the program's compliance actions based on the circumstances. The program also regularly meets to discusses compliance incidents, to select the action most consistent with past decisions and the matrix. Recognizing that the program could have more guidance for staff, the program has initiated development of a step-wise procedure for investigations and compliance. Similarly, the Audit identifies that none of the Air Quality and Climate Division (AQCD) programs have compliance procedures in place. DEC notes that while AQCD did initiate drafting of compliance procedures, this progress was stopped to await updates to the 2001 DEC Compliance Procedure. The Department is committed to updating and finalizing the DEC and related program compliance procedures as outlined in recommendation #6, above.

9. The Department notes that extensive annual reporting of compliance with environmental rules and laws occurs on multiple database platforms across nearly all DEC's programs. Some level of integration of these reporting platforms is integral to achievement of recommendations #5 and #7, above. DEC is committed to integrating our compliance reporting to the extent possible, recognizing that it is a long-term work process involving staff and IT resources that must consider all Department priorities.

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

Management's Requests for Edits

The following edits are recommended to promote additional clarity and accuracy in the final audit report.

See SAO comment 6 on page 41.

Throughout the Audit, the Enforcement section, or the office of the EEO's [Environmental Enforcement Officers] is referred to as the enforcement section. Because many programs have an enforcement section, all references to ECD's [Enforcement and Compliance Division's] Enforcement Section should be capitalized.

See SAO comment 7 on page 41.

On Page 4, the draft Audit states that the "division's staff have been working on this backlog". At ECD's request, the programs have also been working to close open complaints. Please amend the last sentence to read "The director added that the *DEC* staff have been working on this backlog." We offer the same recommendation for the last line of Page 13, where ECD should be replaced by DEC.

See SAO comment 7 on page 41.

On Page 5, the draft states that when DEC is unable to obtain voluntary return to compliance, it may pursue formal action. We sometimes elect to pursue formal action even when voluntary compliance is achieved, especially when the violations are egregious. DEC therefore recommends amending the sentence to read: "DEC may pursue formal enforcement action when it is unable to obtain voluntary return to compliance, or if the violations warrant formal enforcement action."

See SAO comment 7 on page 41.

On Page 7, in the Drinking Water and Groundwater Protection Division paragraph, please add: "DWGWPD also administers the indirect discharge and wastewater system and potable water supply rules that regulate soil-based wastewater systems and on-site water supplies and issues underground injection control permits that regulate the discharge of non-sanitary wastewater into the ground.

See SAO comment 7 on page 41.

On Page 8, under "Civil Citations," the draft states that there are statutes that are enforceable in ECD. In fact, the statutes do not reside or correlate with ECD. Please strike "The Secretary of ANR can issue a civil citation for violations of statutes ~~that are enforceable in the environmental compliance division~~ or rules adopted under those statutes.".

Table 2

See SAO comment 8 on page 41.

- DEC suggests including check marks for the Wastewater NPDES Program for "Compliance Self-certification," "Testing Observation," and "Self-reporting by Permitted Facilities" as all are performed. In addition, for the IDDE program, please check box "h" other ad hoc methods.

See SAO comment 7 on page 41.

- DEC suggests striking "Public Drinking Water Supply/~~Monitoring~~" as the DWGWPD frequently refers public water systems for a wide variety of operating permit violations that are not limited to monitoring.

See SAO comment 7 on page 41.

- For footnote c, DEC notes that Environmental Assistance Office assessments are requested by businesses, not landowners. Please change "landowners" to "business owners."

Table 3

See SAO comment 8 on page 41.

- DEC suggests inserting an entry of "0" within "Testing Observation" with a footnote stating: "Eleven cases in which DEC observed testing were performed in conjunction with an on-site inspection and are included in the number of inspections conducted."

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

See SAO comment 9 on page 41

- Regarding footnote d, the case referenced was one in which a solid waste staffer observed a truck spewing trash as she was driving. The incident resulted in a citation being issued and fine being paid. Please eliminate footnote d, and change the 0 to a 1 in the "other ad hoc methods" for the Solid Waste Program.

See SAO comment 10 on page 41.

Page 13, paragraph 1 - the statement "Each year the Wastewater Program provides the EPA a "list of facilities" it intends to inspect over the next year as well as the type of inspections it intends to perform" is inaccurate. The statement should read "number of facilities," as that is what EPA has authority to approve. The actual list of facilities is provided to EPA as a courtesy, once the number of facilities is approved.

See SAO comment 6 on page 41.

Page 13: In referencing the sentence "The Wastewater Program cited staff turnover as the reason the inspections were not completed.," it should be stated that the Wastewater NPDES Program experienced a 50% turnover in the Program during the Audit period.

Table 4

See SAO comment 7 on page 41.

- Regarding footnote b, please add "End-of-Month reports for September are not received until October 15th, with the goal of completing data entry November 15th."

See SAO comment 6 on page 41.

- Please change the heading "Completed Cases" to "Completed Incidents." Cases are violations that are confirmed. We suggest the same edit to the first paragraph of Page 23.

See SAO comment 7 on page 41.

On Page 21, first paragraph, the Audit states that the ECD Director is a member of the ERRC. Please amend the sentence to read "The ERRC is chaired by the chief of the litigation and enforcement section and the Vice Chair is the Director of ECD".

See SAO comment 7 on page 41.

On Page 25, in Table 7, footnote b – please add "The following programs' procedures were drafts (1) rivers and (2) wastewater and potable water supplies of the Drinking Water and Groundwater Protection Division."

Please do not hesitate to reach out to my office with additional questions or concerns.

Sincerely,

Emily Boedecker
Commissioner

To preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health, for the benefit of this and future generations.

SAO Evaluation of Management's Comments

The following presents our evaluation of comments made by the DEC Commissioner.

Comment 1.	There were nine required inspections that were not completed during 2014 – 2016 (not eight as cited in the letter). We requested copies of the completed inspections cited in the Commissioner's comments. The UST program manager provided evidence that the underground storage tanks of six of the nine facilities were inspected in July and August 2017 and stated that the remaining three facilities are scheduled for inspection later in 2017. Because not all of the inspections were completed, we did not change the report or remove our recommendation.
Comment 2.	Based on a subsequent discussion with the wetlands program manager, the protocol cited in the Commissioner's comments is a database usage guide. This guide provides technical instructions on how to use the database (e.g., explanations of the fields used to enter data) but does not include directives for program personnel to ensure its use. Ineffective use of the database by program personnel created problems related to tracking and following up on violations. We found the wetlands program's tracking system was (1) missing investigations, (2) did not always include the most recent results of cases that had been previously investigated, and (3) did not always include data in the screen that recorded whether follow-up was needed.
Comment 3.	Those cases in which completion of a corrective action of a violation in the wetlands program was awaiting revegetation or a future action by the violator were included in the "Return to Compliance Pending" category in Table 5, not the "No Evidence of Follow-Up" category.
Comment 4.	Our report provides our assessment of the overall cause of the lack of follow-up by the wetland's program for all six applicable cases, namely incomplete and inaccurate records in the wetlands program's tracking system. This does not mean that there may not be other contributing factors pertaining to an individual case. We added a footnote to the report to acknowledge DEC's view that other factors also played a role in the wetland program's failure to follow-up on the specifically cited example.
Comment 5.	The report was changed to clarify responsibilities for approving and issuing civil citations.
Comment 6.	No change was made to the report as these comments are of an editorial nature and we do not believe them needed.
Comment 7.	Change to report was made to address comment.
Comment 8.	Based on subsequent discussions with a WSMD official, these changes were not made.
Comment 9.	In our draft report, we reported this case as a complaint investigation in Table 3. Based on the information provided by the Commissioner, we modified Table 3 to reduce the number of solid waste program complaint investigations by one and added one to the ad hoc methods column.
Comment 10.	We revised the order in which the activities occurred in the report to clarify the role the Environmental Protection Agency takes in approving the wastewater program's activities related to inspections.