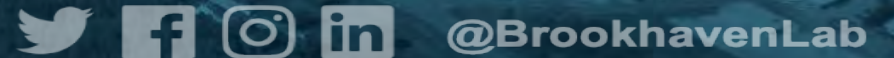




2025 Site Environmental Report: An Overview

Jason Remien
Manager, Environmental Protection Division

Community Advisory Council
September 24, 2026



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- Groundwater Status Report
 - Groundwater Protection Group



Subject Matter Experts & Authors



Field Sampling Team

About This Year's Cover

- **This year's cover features the federally endangered northern long-eared bat (*Myotis septentrionalis*),** photographed during BNL's on-site bat monitoring program.
- **Bats provide important ecological benefits** by naturally controlling insect populations, reducing crop and forest pests and contribute an estimated **\$23 billion annually in savings** to U.S. agriculture through reduced pesticide use.
- **The cover highlights Brookhaven's commitment to wildlife conservation.** Continued monitoring and habitat management support recovery of the northern long-eared bat and help inform conservation efforts at the Laboratory and throughout the region.



Chapter 2: Environmental Management System



The system remains fully integrated and effective.

Supports continual improvement and efficiency through monitoring, corrective actions, and periodic management review.



Continuous collaboration and improvement.

6 National Laboratories participated in BNL Peer Review.

Self-assessments, and program improvements continue.



- ✓ The Laboratory engaged stakeholders through transparent communication about its environmental impacts and stewardship of Long Island's limited resources

Chapter 2: EMS Performance Highlights

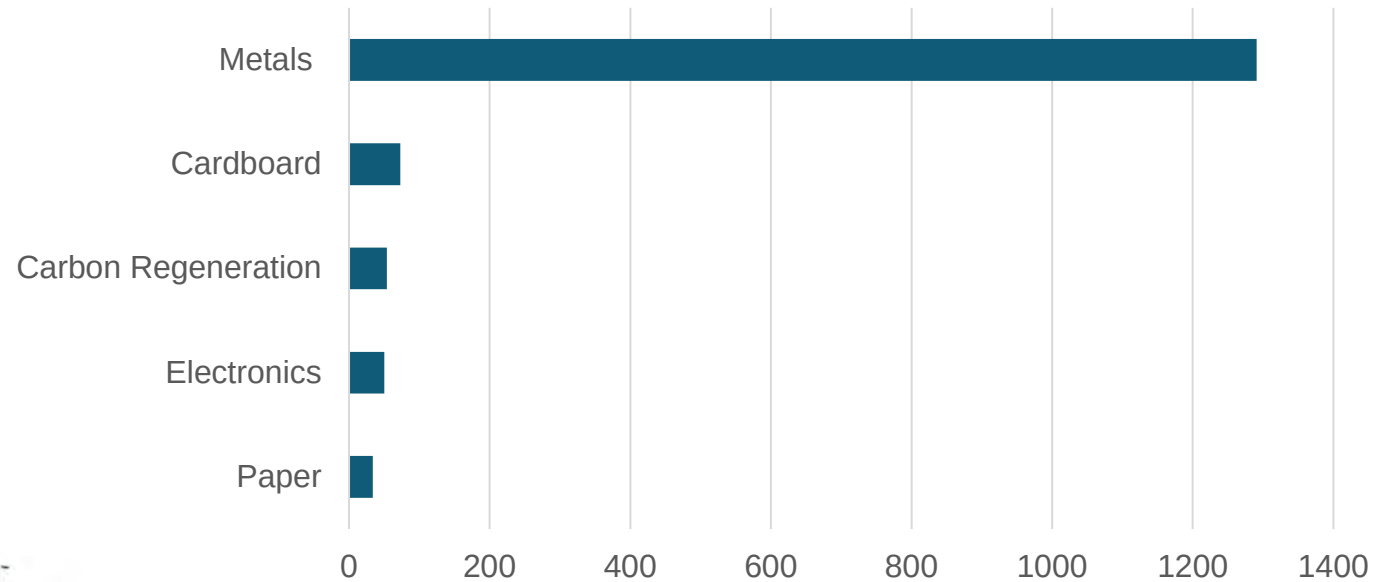
83%
Waste
Diversion

1,861
Tons
Recycled

Green
Electronics
EPEAT
Award

\$1.5M
Cost
Avoidance

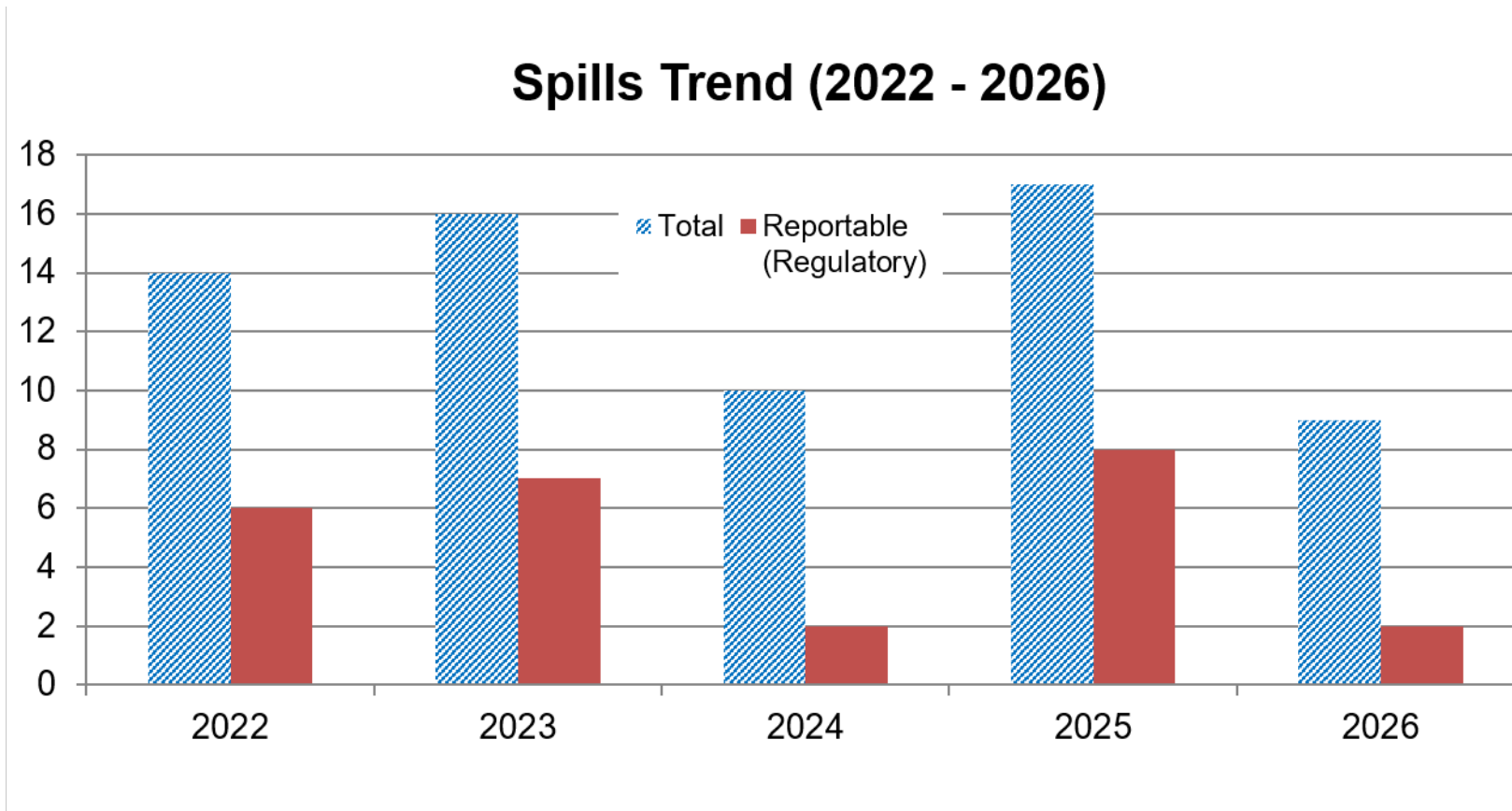
Materials Recycled or Reused in Tons, 2025



Chapter 3: Compliance Status Overview



Chapter 3: Spills & Reportable Incidents



17 total spills in 2025

Increase reflects construction activity, nine were reportable

✓ No long-term effects from the releases

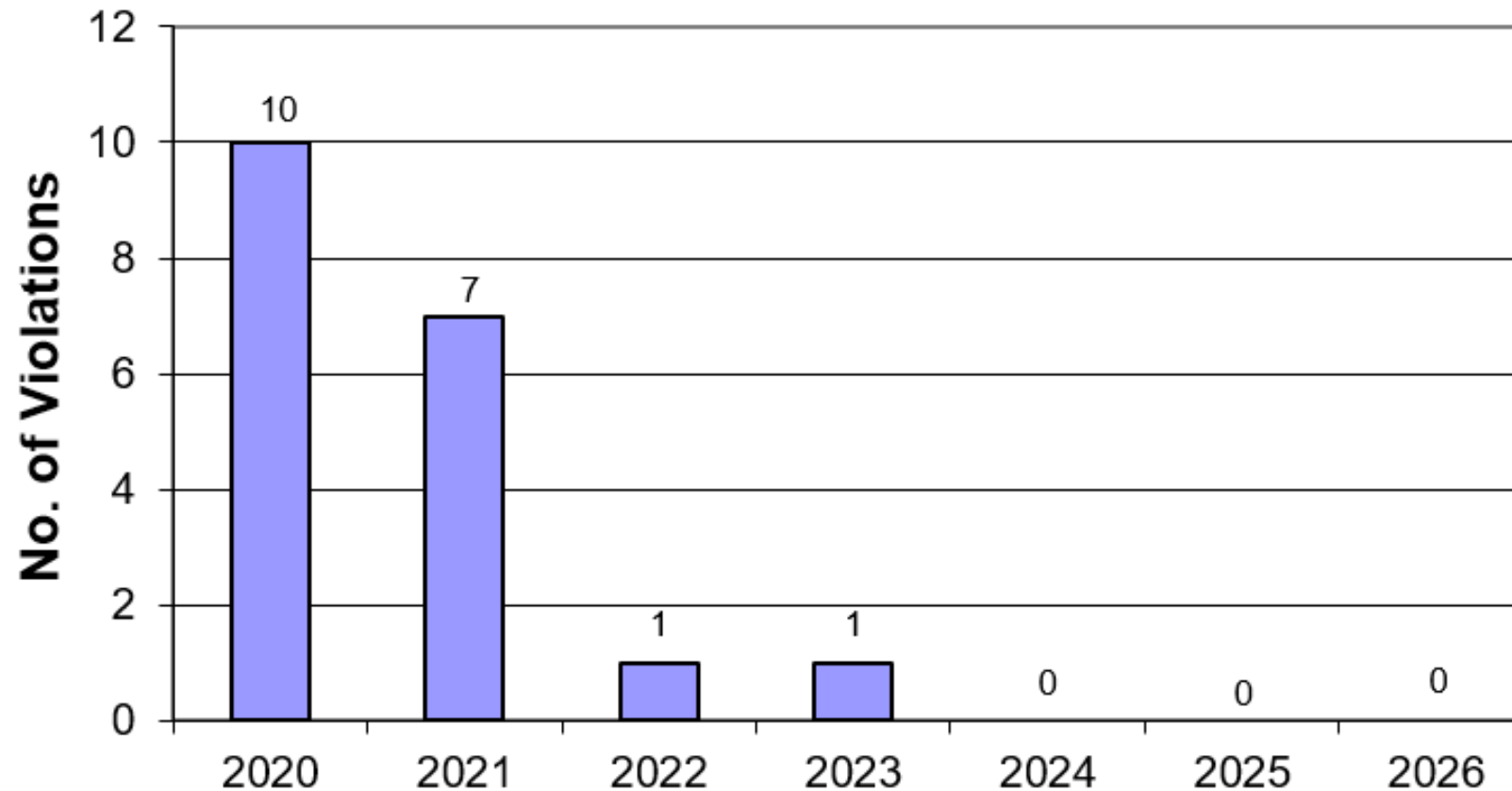
Chapter 3: Safe Drinking Water, Storage & NEPA

Potable Water	Tank Storage	NEPA
Full compliance with county, state, and federal drinking water requirements Six supply wells total, four were active in 2025 292 cross-connection control devices inspected	56 active petroleum bulk storage facilities 1.9 million gallons of fuel oil storage Six active chemical bulk storage facilities	175 NEPA reviews completed 171 were considered minor actions requiring no additional documentation Four projects required submittal of notification forms to DOE and determined to be covered by existing "Categorical Exclusions" or fell within scope of a previous EA
Full compliance	No concerns	No concerns

Zero Notices of Violation

Chapter 3: SPDES Overview

SPDES Limit Violations (2020 - 2026)



Chapter 3: Inspections & Assessments

2025 Regulatory Inspection Results

 Title V air compliance inspection RCRA compliance inspection: hazardous waste management activities Petroleum & Chemical Bulk Storage inspection No concerns or violations	 Annual potable-water survey: identified minor deficiencies. Corrective actions in place and being addressed by Energy & Utilities Division Quarterly SCDHS inspections evaluated operations and SPDES compliance. No operational issues identified Corrective actions in place	Permits Title V renewal review continued. BNL operating under existing permit conditions with NYSDEC RCRA modification request approved by NYSDEC 11 SPDES equivalency permits under CERCLA No concerns or violations
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Chapter 3: Inspections and Assessments

Regulatory Oversight and Internal Assessments



U.S. DEPARTMENT
of **ENERGY**

Waste Management surveillance: One minor finding plus opportunities for improvement; procedure revised

BHSO observed the groundwater LUIC inspection and BSA environmental compliance assessment

Minor findings addressed



Brookhaven™
National Laboratory

Spill Response:
Administrative opportunities for improvement identified & addressed

Integrated Pest Management:
Overall strong program.
Improvement opportunities identified

Environmental Monitoring:
One Level 2 finding regarding QA Record Reviews

Improvements identified and addressed

Independent EMS Assessment

Auditors from SRNL and LANL assessed ISO 14001 conformance

Three noteworthy practices identified

No major or minor nonconformances

✓ **Strong EMS performance**

Chapter 4: Air Quality (Non-Radiological)

Boilers 6 & 7

Continuous Emissions Monitoring Systems track compliance with air permit requirements

NO_x (2)

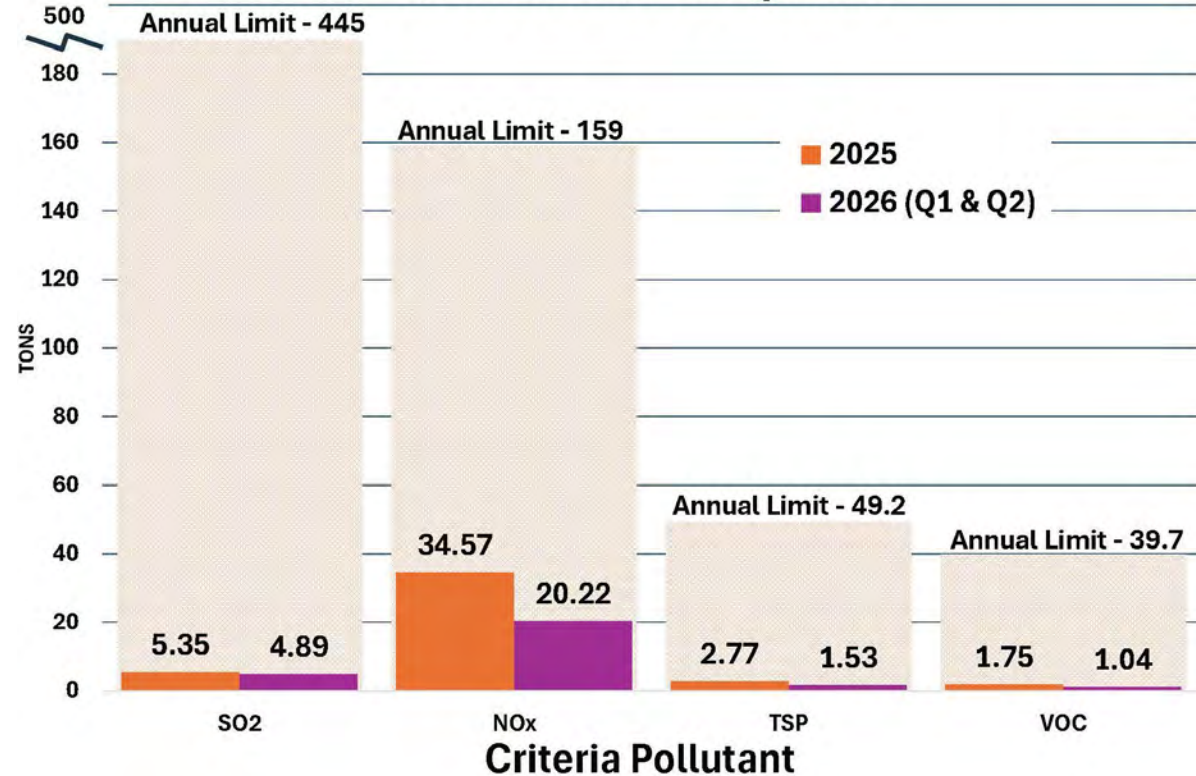
Limit exceedances at Boiler 6; two 6-minute opacity exceedances at Boiler 7

2025 Fuel use

1,291 gal. distillate #2 oil
57,312 gal. residual #4 oil
421 MMcf of natural gas

Central Steam Facility used natural gas to meet 91% of heating and cooling needs

Central Steam Facility Annual Air Emission Total vs Emission Limit Comparison



SO₂, NO_x, TSP, and VOC emissions remained well below annual permit limits.

Chapter 4: Wastewater & Surface Water Monitoring (Non-Radiological)

Sewage Treatment Plant (STP)

Treats an average of
200,000 GPD of
wastewater before
discharge to Recharge
Basins

No instances where
influent water quality
required diversion of
wastewater to
holding ponds

No SPDES effluent
limit exceedances

**100 %
compliance**

Peconic River

Surface-water monitoring
continues to assess for
potential site impacts

No off-site flow occurred

Some metals present in
unfiltered samples

Applicable water-quality
data were within NYS
standards

**No
VOCs detected**

Recharge Basins

Receive “clean”
wastewater,
cooling water and
stormwater

Monitored for
VOCs, metals,
anions, and field
water-quality
parameters

Overall water
quality remained
within standards

**100 %
compliance**

✓ BNL's controls continues to protect surface and ground water
in 2025

Chapter 5: Air Quality (Radiological)

4

Perimeter Ambient Air Monitoring Stations

Results consistent with natural
background or less than method
detectable concentrations

3

Facilities Monitored

BLIP, RRPL & HFBR

2025

Total Emissions

7,512 Ci released
(22,040 Ci in 2024)



✓ Radiological air monitoring showed no impact to air quality

Chapter 5: Radiological Dose Assessment

Direct Radiation

64 mrem | 62 mrem

On-site vs Off-site

No external dose contribution
from BNL operations

Air Pathway

0.61 mrem

Dose to Maximally Exposed Offsite Individual (MEOSI)

7% of the EPA standard limit
of 10 mrem/year

Ingestion

1.39 mrem

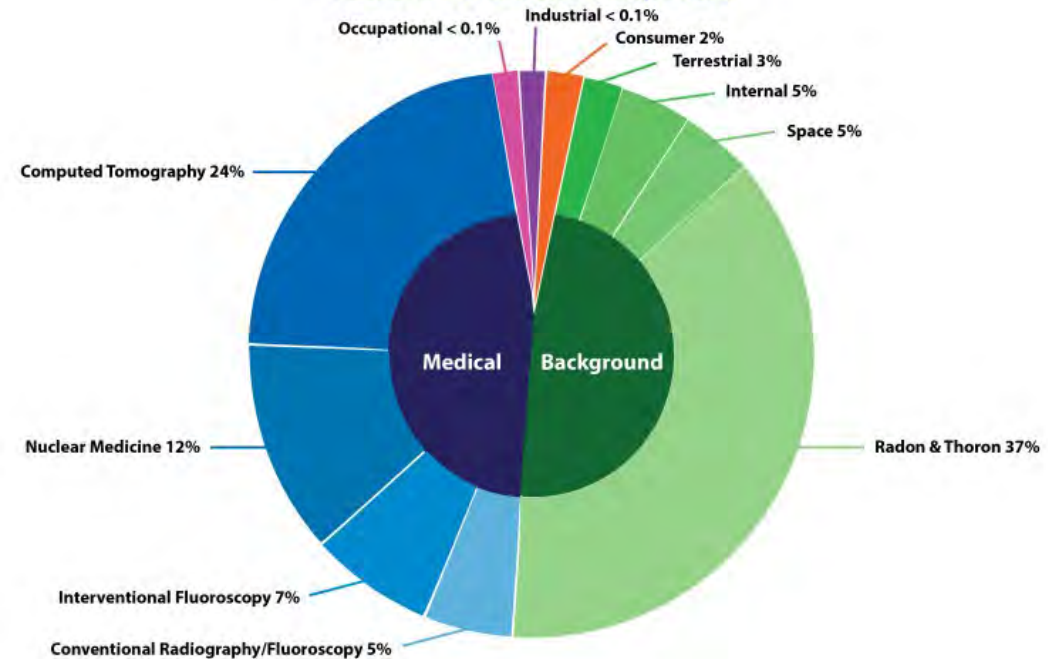
Deer consumption

Below the NYSDOH 10
mrem/year limit

**Total effective dose to the
MEOSI (2.0 mrem)**

✓ Radiological impacts remained well below
regulatory limits

Sources of Radiation Exposure



Average dose to individual is 620 mrem/year

From NCRP Report No. 160, "Non-Occupational Ionizing
Radiation Exposure of the Population of the United States"
(2009)

Chapter 6: Natural Resources Management

32 acres
Mechanically
Treated

23 acres
Prescribed
Fire

43
Deer removed
Cs-137 results
consistent with
previous years

80
Bird Species
Identified during
2025 surveys



Active habitat and wildlife management continued, with monitoring results consistent with previous years

Chapter 6: Cultural Resources Management

2025

Highlights

Historical kiosks
installed
Discovery Park
MOA completed

34

**National Register
Eligible
Structures &
Sites**

Phase I

Archaeological Survey

Completed for
the EIC project

No Impact

Resource Protection

Historic &
archaeological
significance
preserved



✓ BNL completed all projects while protecting resources

Chapter 6: Education, Outreach & Research

Day in the Life of a River

1,800+ students and 100 teachers across local schools participated in collecting and analyzing environmental data from 11 Long Island rivers.

Natural Resource Research

Nine undergraduate and one graduate intern worked on projects involving forest management, birds, fire effects on soils, ticks, wildlife camera trapping, and the impacts of forest microclimates on tick populations.

SUNY-ESF Partnership

A Memorandum of Understanding with SUNY College of Environmental Science and Forestry expands research opportunities. E.g., PhD research examining the effects of fire on tick populations completed in 2025.

SULI Interns

Two SULI students examined WWI uniforms, soldiers' experiences, and 19th century life in the Pine Barrens through archeology. One project was presented at the Council for Northeast Historical Archeology.

BNL gives students, researchers, and the community hands-on learning opportunities to explore the sites natural environment and rich cultural history

Chapter 6: Education, Outreach & Research



