The U. S. Department of Energy (DOE) Office of Legacy Management's (LM) 12th annual community meeting on the Fernald Preserve was held on Tuesday, October 6, 2015, at the Fernald Preserve Visitors Center. The 15 people who attended the meeting received an update on site activities.

Community meeting agenda.

Fernald Preserve

Legacy Management Mission

To fulfill the Department's post-closure responsibilities and ensure the future protection of human health and the environment.

9007.03 10/15

DOE Office of Legacy Management's mission at the Fernald Preserve.

Worker Health and Safety

OSHA Recordable Cases

Industry (Remediation Services)	DOE Complex	LM
2.7	1.1	1.2

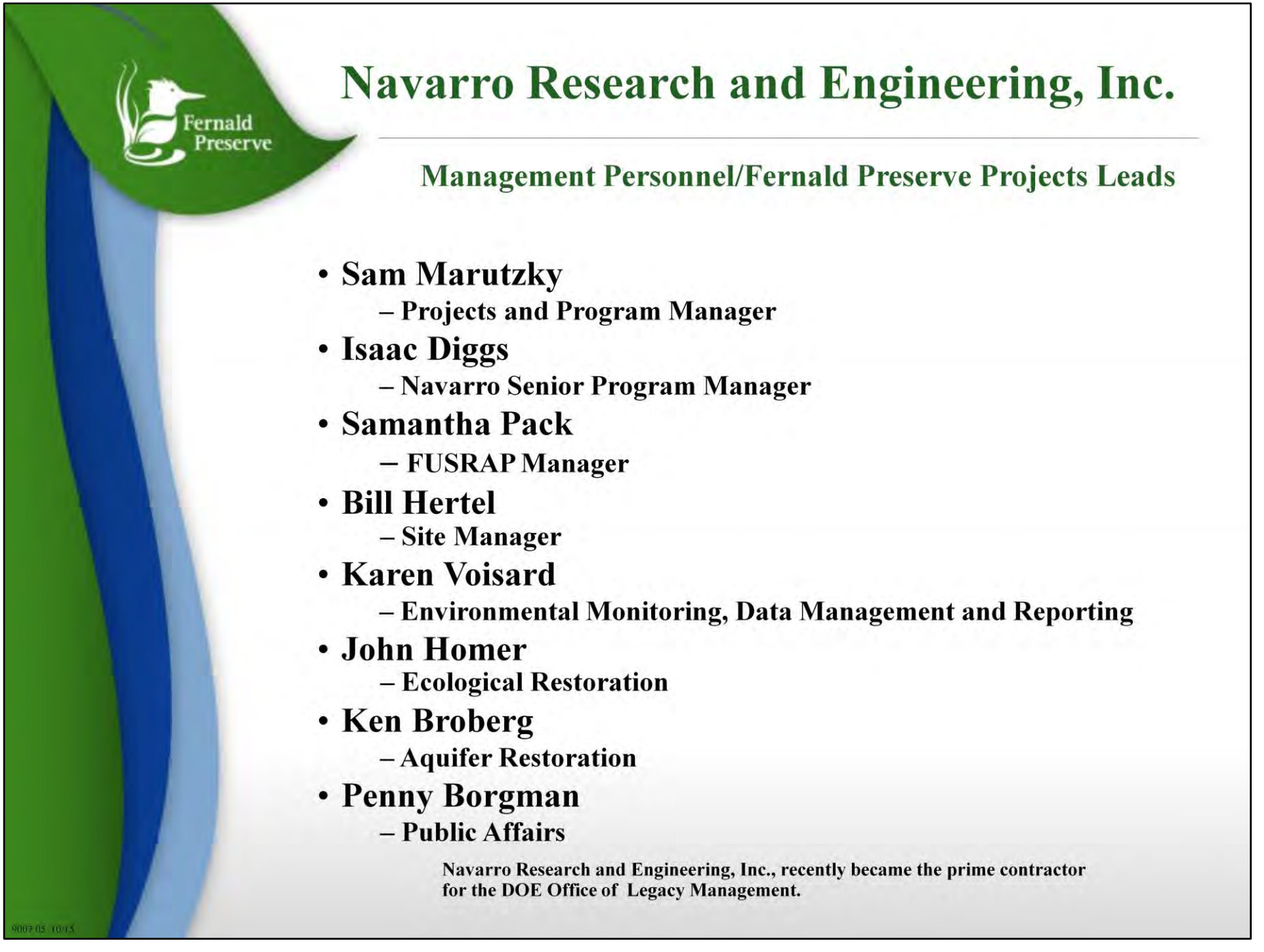
Fernald Preserve

Restricted Days	First Aid
1	0

Department of Energy VPP

9007.04 10/15

Safety records at the Fernald Preserve and in the nationwide Office of Legacy Management program continue to surpass industry standards.



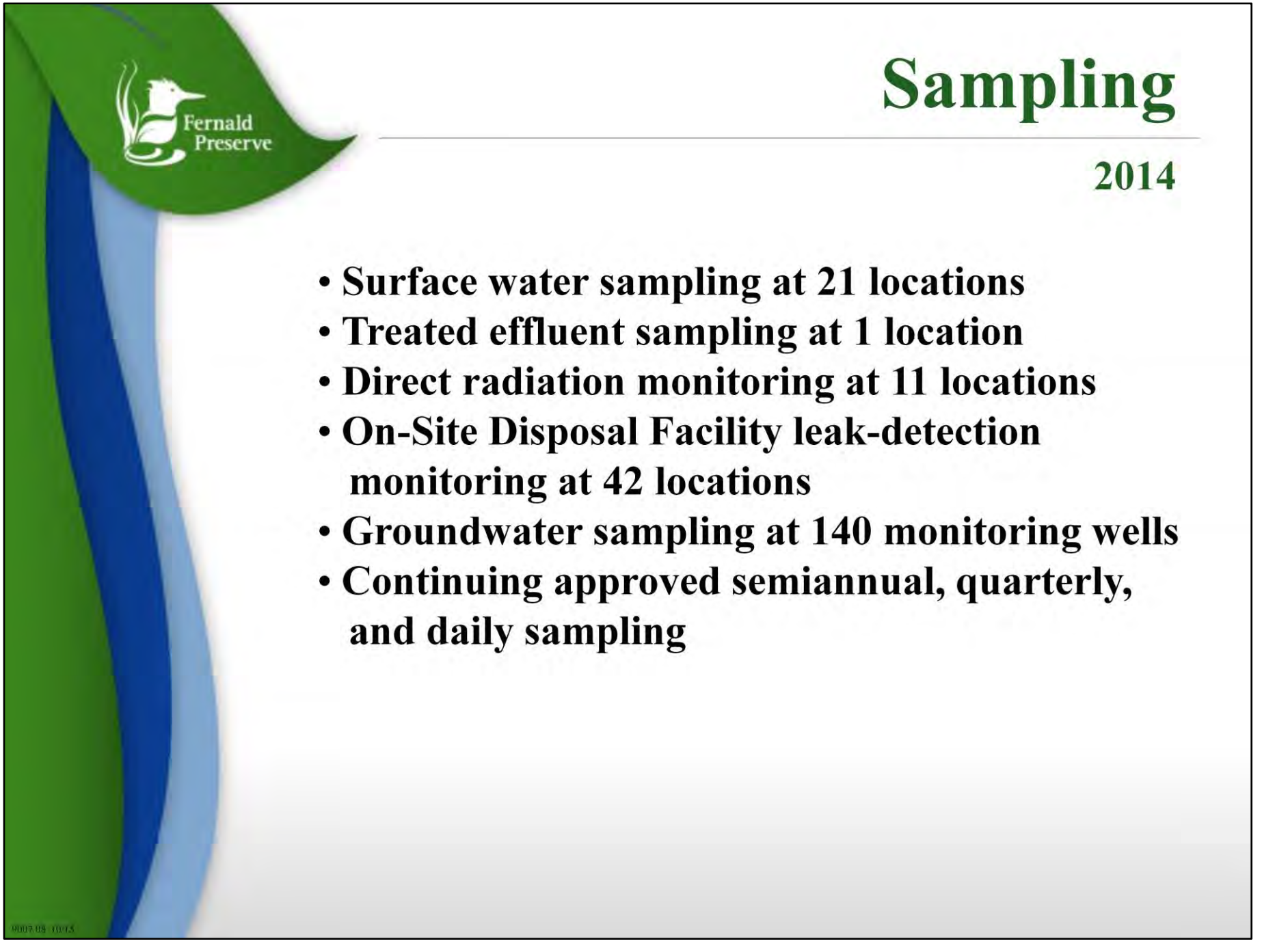
Fernald Preserve Navarro Research and Engineering, Inc. management and project leads.

The *Comprehensive Legacy Management and Institutional Controls Plan* documents the requirements for the Fernald Preserve's long-term care. It is reviewed and updated yearly, and the latest version is available on the Office of Legacy Management website: www.lm.doe.gov.

CERCLA Five-Year Review

- **The purpose is to determine whether the remedy remains protective of human health and the environment.**
- **Draft report due to the U.S. EPA by April 1, 2016.**
- **Five-Year Review process:**
  - **Community involvement**
  - **Community notification**
  - **Document review**
  - **Data review and analysis**
  - **Site inspection**
  - **Interviews (i.e., questionnaire)**
  - **Assess protectiveness**
- **www.lm.doe.gov**

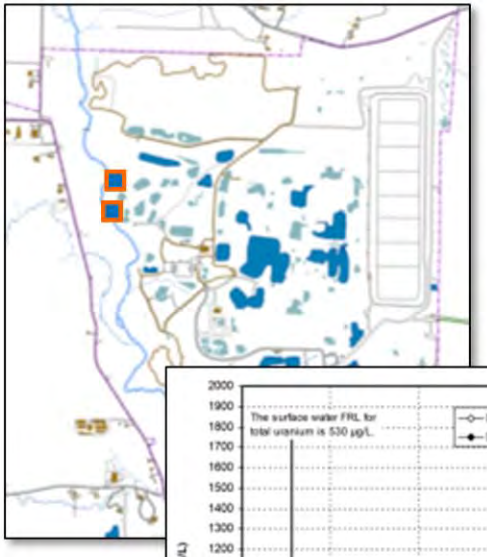
The Comprehensive Environmental Response, Compensation, and Liability Act requires a five-year review. The public will be able to comment on the results of the five-year review when it is released in 2016.



Routine environmental monitoring is conducted to ensure continued effectiveness of the site's cleanup. The current monitoring regimen includes sampling groundwater, surface water, treated effluent, and direct radiation.

Monitoring

Surface Water and Treated Effluent Results



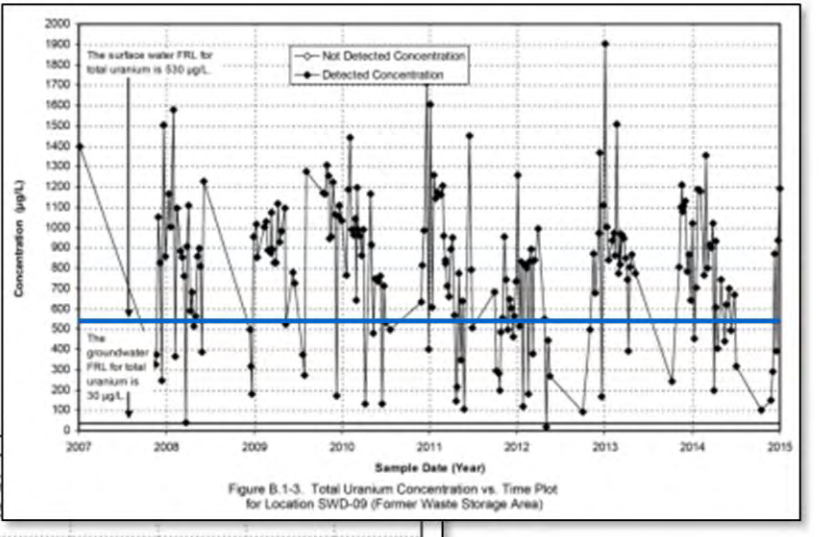


Figure B.1-3. Total Uranium Concentration vs. Time Plot for Location SWD-09 (Former Waste Storage Area)

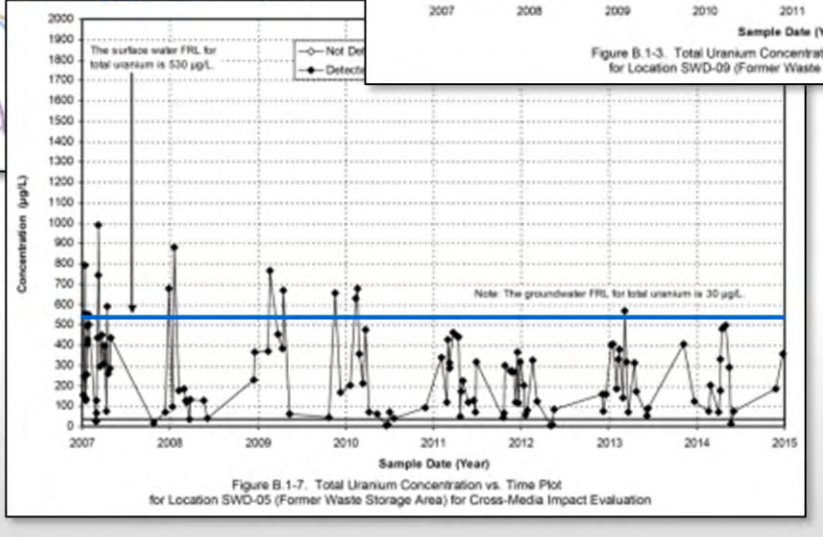


Figure B.1-7. Total Uranium Concentration vs. Time Plot for Location SWD-05 (Former Waste Storage Area) for Cross-Media Impact Evaluation

9007.09 10/15

Surface water continues to be monitored at numerous locations onsite and offsite.

Ecological Restoration

- Restoration projects
- Restored area maintenance
- Ecological monitoring
- Site and On-Site Disposal Facility inspections

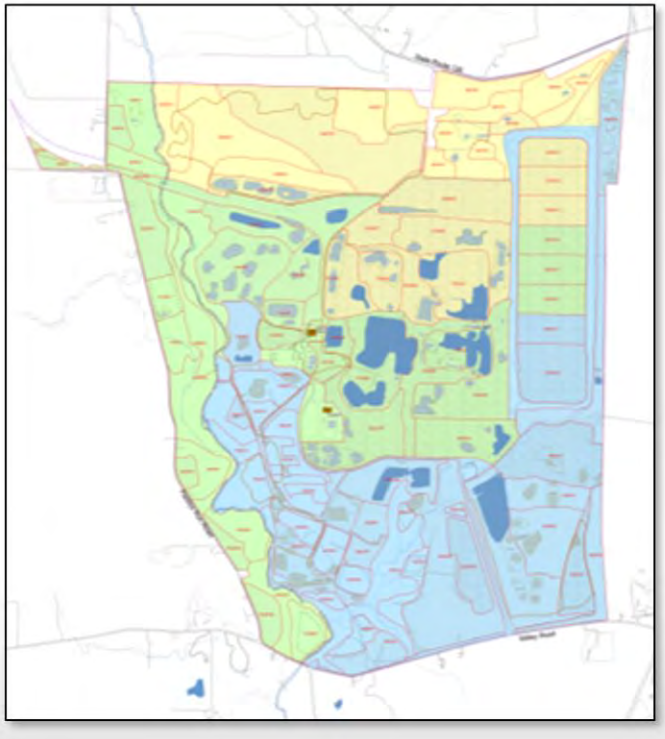
9007.10 10/15

Ecological restoration work includes maintenance, monitoring, and inspections.

Ecological Restoration

Prairie Management

- **Priority grassland areas**
- **Management areas**



9007.11 10/15

Prairie management activities include a three-year rotation of prescribed burns and mowing.

Ecological Restoration

Monitoring

- **Functional**
- **Implementation**

9007.12 10/15

Monitoring programs help personnel evaluate the status of ecologically restored areas at the Fernald Preserve.

Ecological Restoration

Inspections

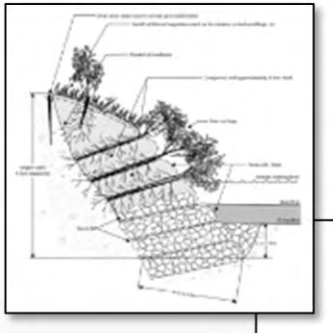
- **Site**
- **On-Site Disposal Facility**
- **Trails**

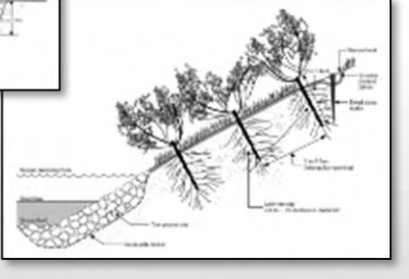
9007.13 10/15

The inspection process continues in compliance with the Fernald Preserve *Comprehensive Legacy Management and Institutional Controls Plan.*

Ecological Restoration

Streambank Stabilization





9007.14 10/15

Construction of the Paddys Run Streambank Stabilization Project began September 2014.

Ecological Restoration

Streambank Stabilization

9007.15 10/15

Construction of the Paddys Run Streambank Stabilization Project began September 2014.

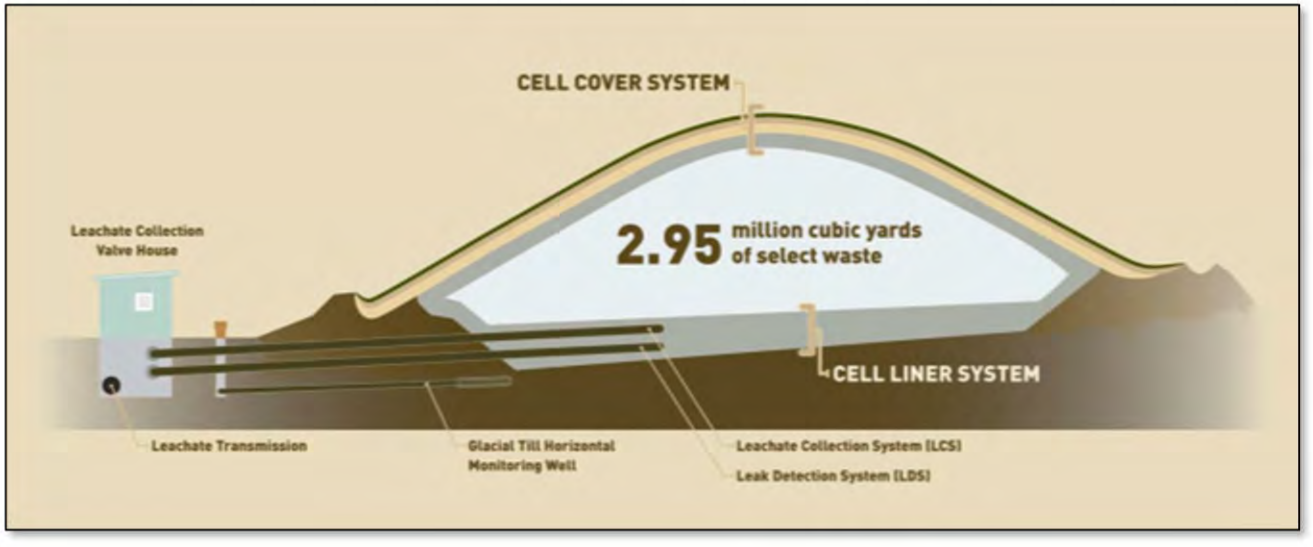
On-Site Disposal Facility

9007.16 10/15

The On-Site Disposal Facility is an engineered waste-storage area that holds 2.95 million cubic yards of waste.

On-Site Disposal Facility

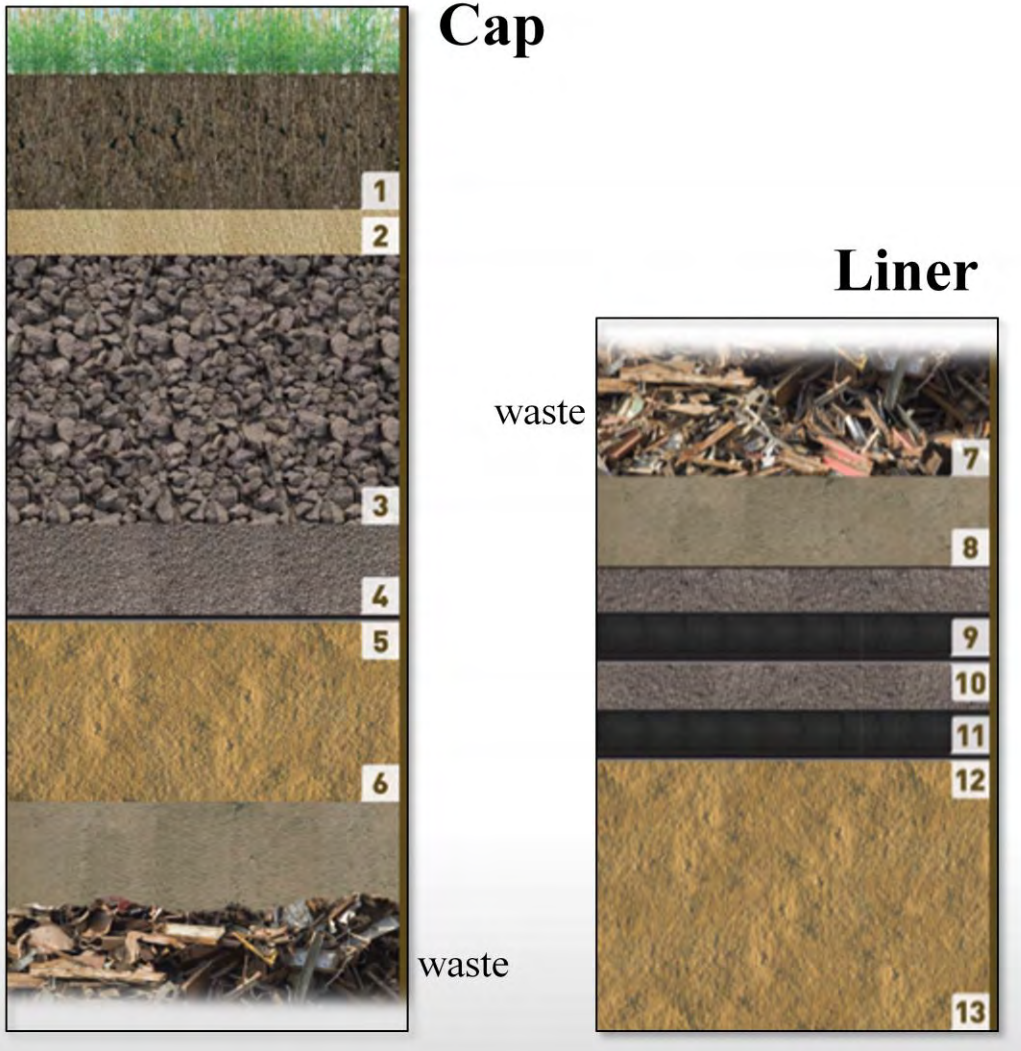
Leachate Collection System



9007.17 10/15

The On-Site Disposal Facility was constructed with an engineered liner and cover system.

On-Site Disposal Facility

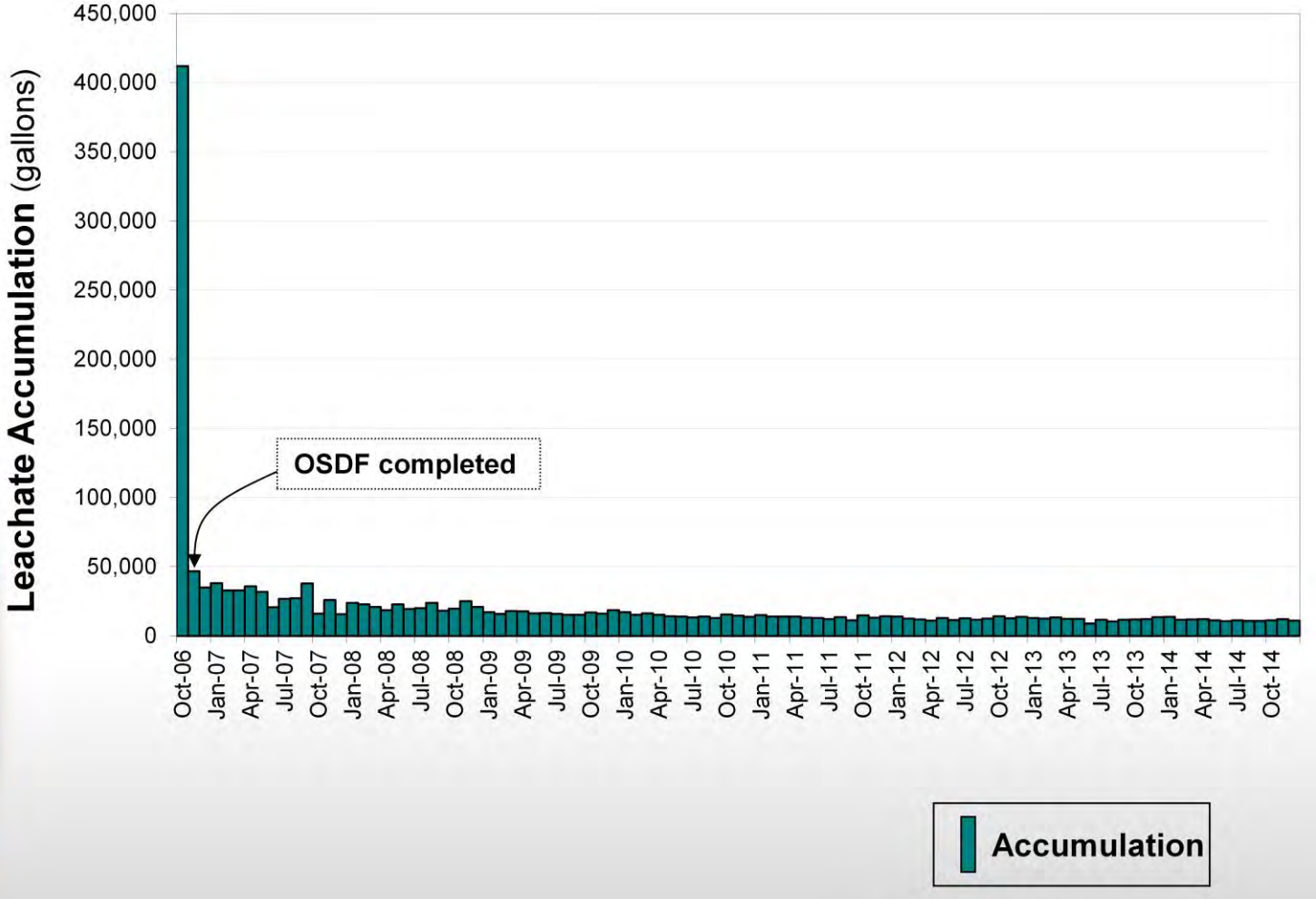


9007.18 10/15

Waste is safely encapsulated between a 9-foot cap and a 6-foot liner within the On-Site Disposal Facility.

On-Site Disposal Facility

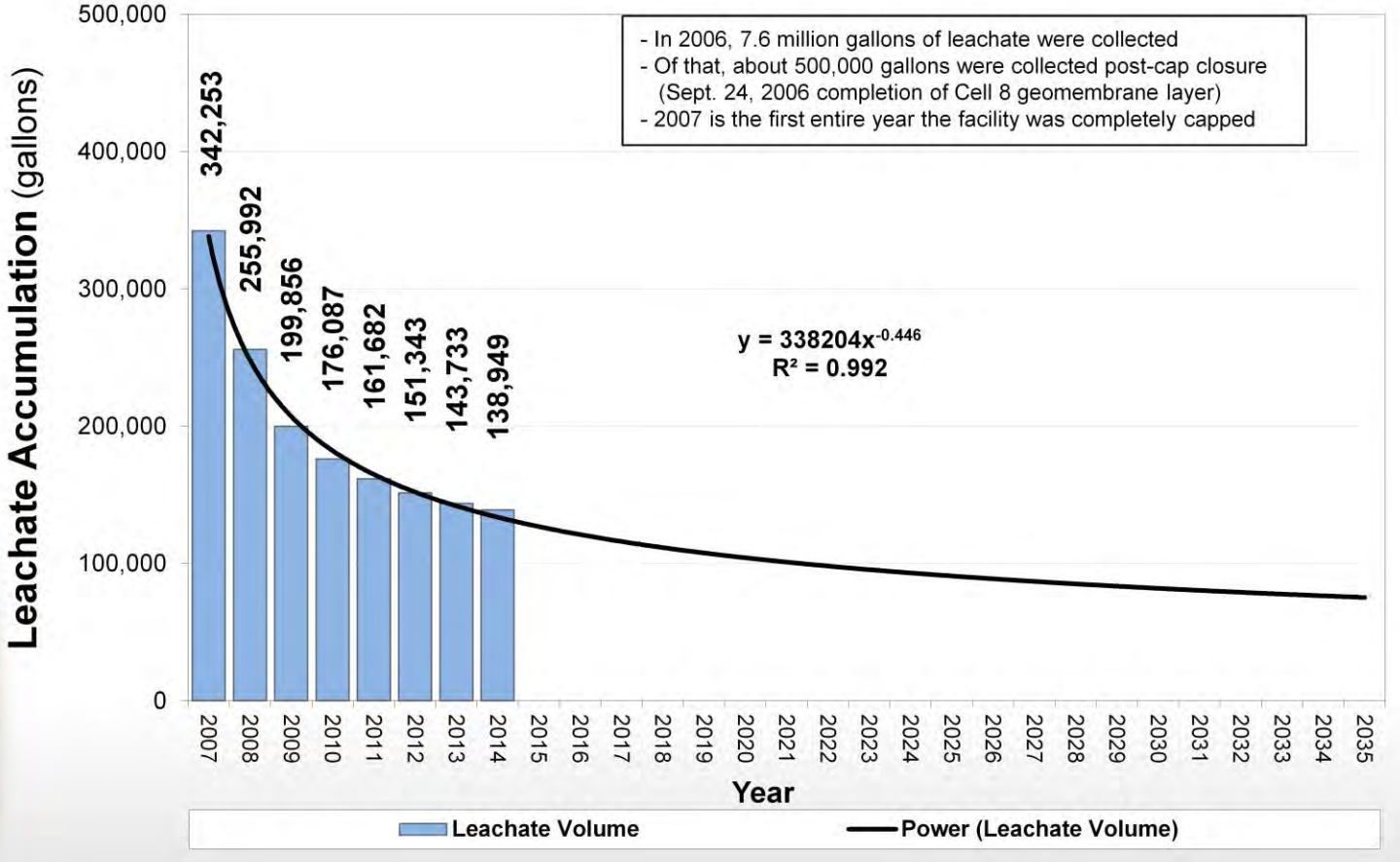
Leachate Collection System



Leachate is the moisture in the waste within the On-Site Disposal Facility. The leachate is collected and transferred to a treatment facility. Before the cover system was completed in October 2006, hundreds of thousands of gallons of leachate flowed each month. By 2014, leachate flows decreased to a monthly average of 11,579 gallons.

On-Site Disposal Facility

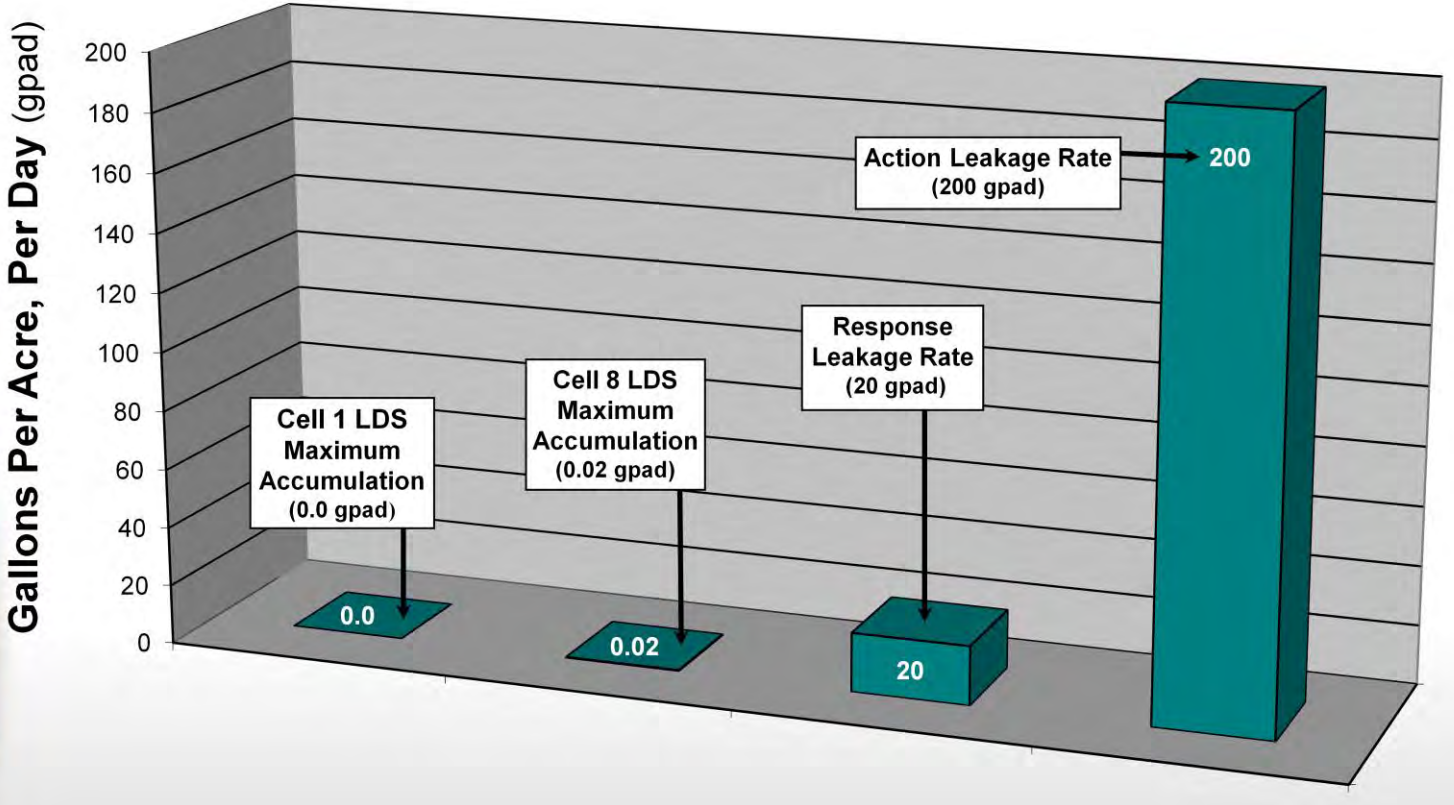
Leachate Collection System



Leachate is the moisture in the waste within the On-Site Disposal Facility. The leachate is collected and transferred to a treatment facility. Annual leachate flow continues to decline.

On-Site Disposal Facility

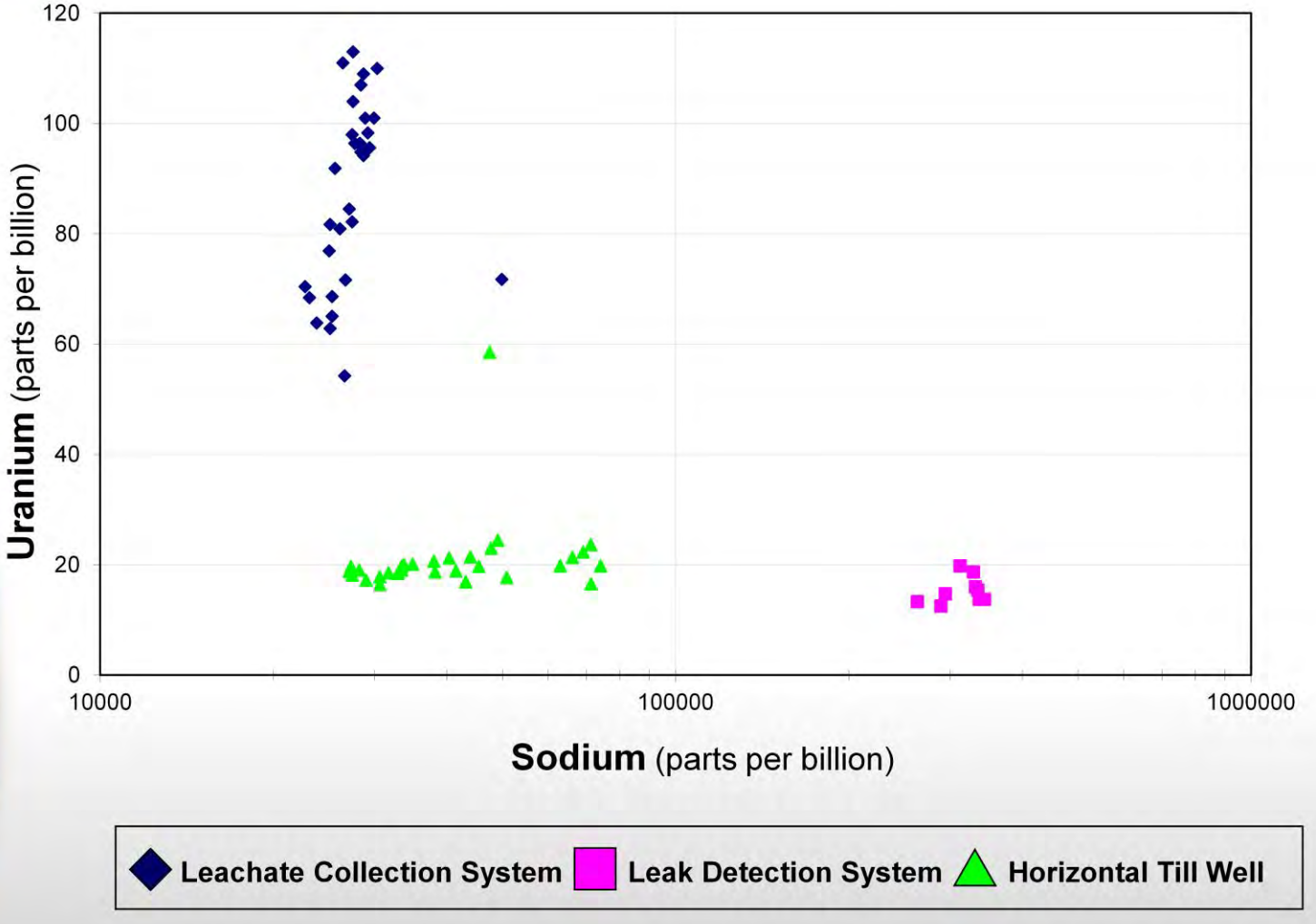
Cells 1 and 8 in 2014: Leak Detection System Accumulation, Response, and Action Leakage Rates



Leak Detection System accumulation rates in Cells 1 and 8 were very small compared to the Response Leakage Rate, which is 20 gallons per acre, per day. By comparison, the Action Leakage Rate is 200 gallons per day.

On-Site Disposal Facility

Uranium vs. Sodium Concentrations: Cell 3 (Bivariate Plot)

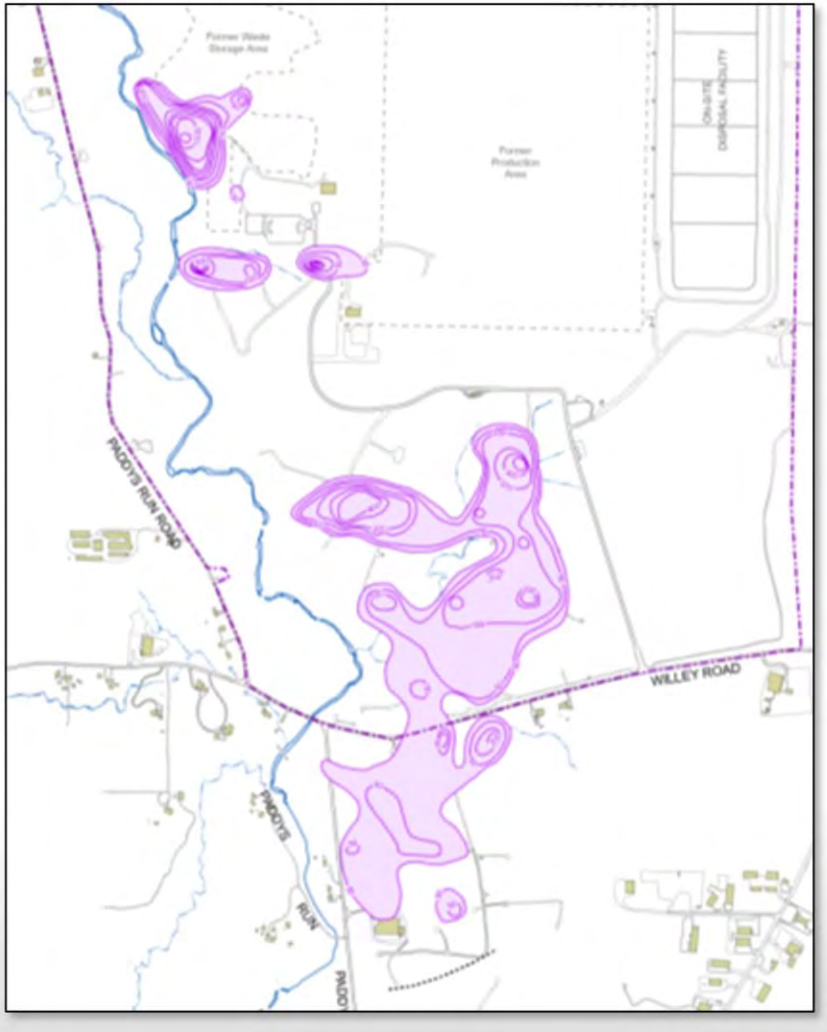


9007.22 10/15

A comparison of uranium concentrations and sodium concentrations in and below Cell 3 of the On-Site Disposal Facility is an example of a method used to demonstrate that the liner system is working as designed.

The On-Site Disposal Facility cap and liner systems are performing as designed.

Aquifer Restoration

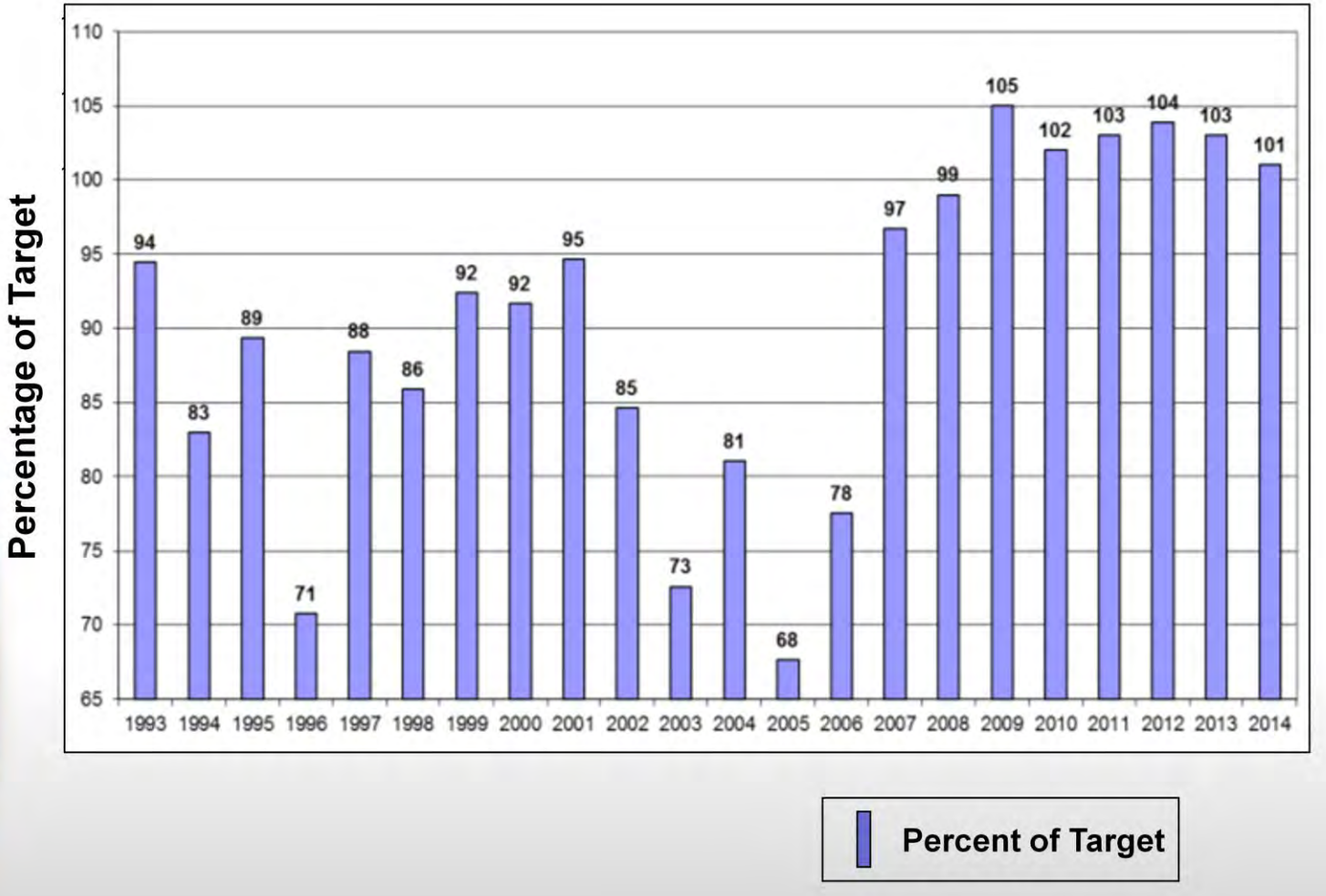


9007.24 10/15

Groundwater cleanup continues at the Fernald Preserve.

Aquifer Restoration

Pumping: Percentage of Target Achieved

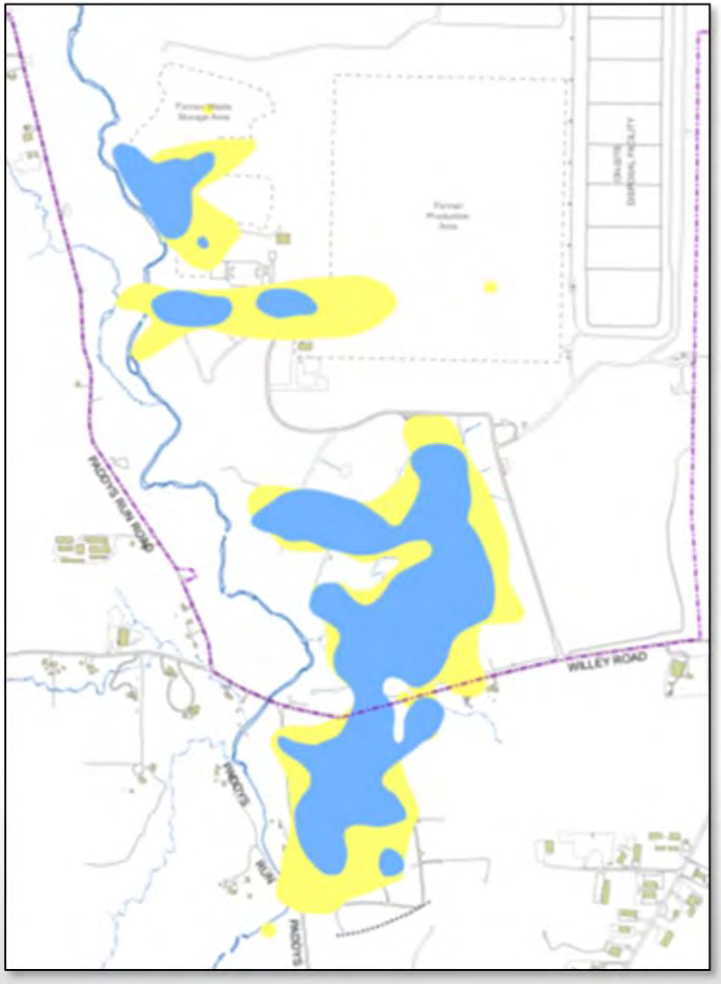


9007.25 10/15

Since site closure in 2006, operations have annually achieved at least 97 percent of the planned operation targets.

Aquifer Restoration

Maximum Plume: 2006 and 2014



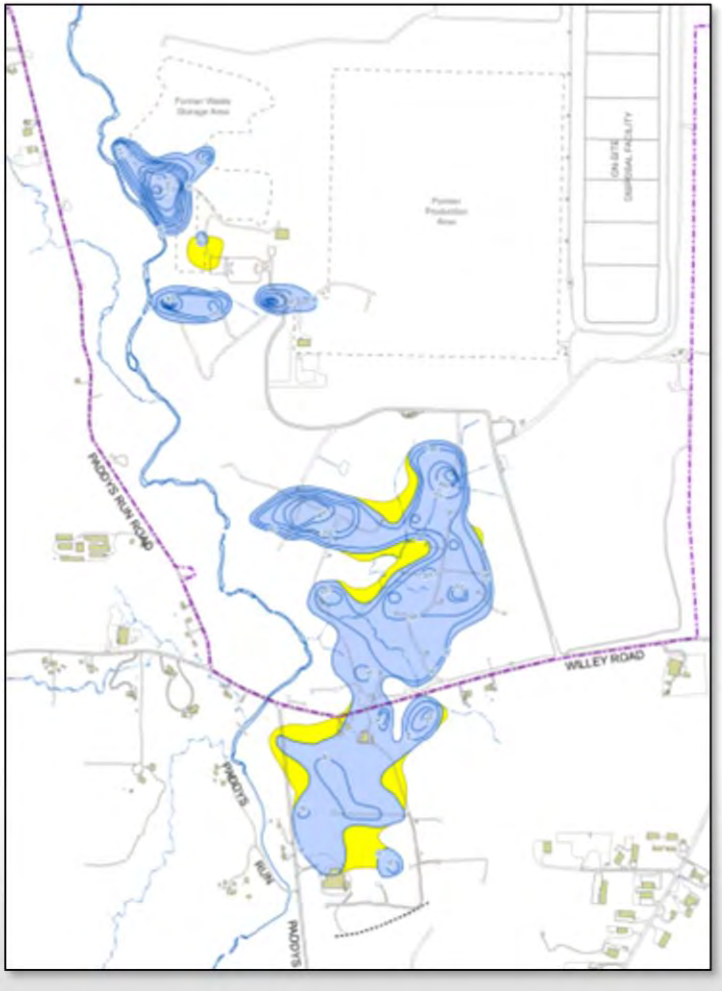
2006
2014

9007.26 10/15

Maximum size of uranium plume footprint was 189.3 acres in 2006.
Maximum size of uranium plume footprint was 110.9 acres in 2014.

Aquifer Restoration

Maximum Plume: 2013 and 2014

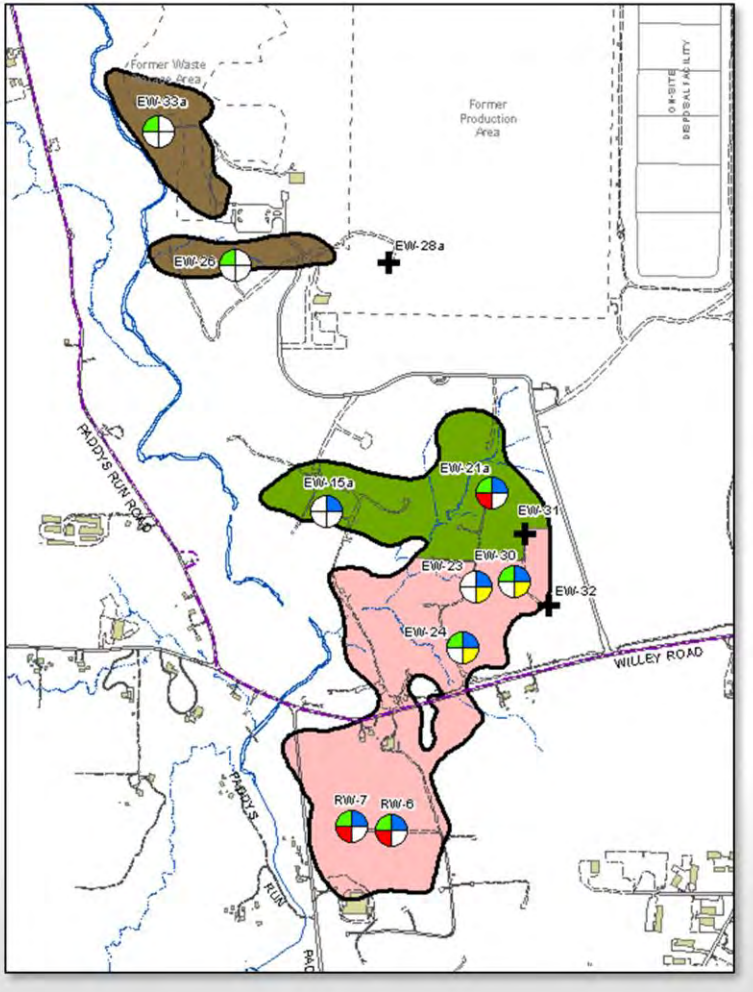


9007.27 10/15

The maximum uranium plume footprint decreased by 16.4 acres from 2013 to 2014.

Aquifer Restoration

Operational Adjustments: 2014

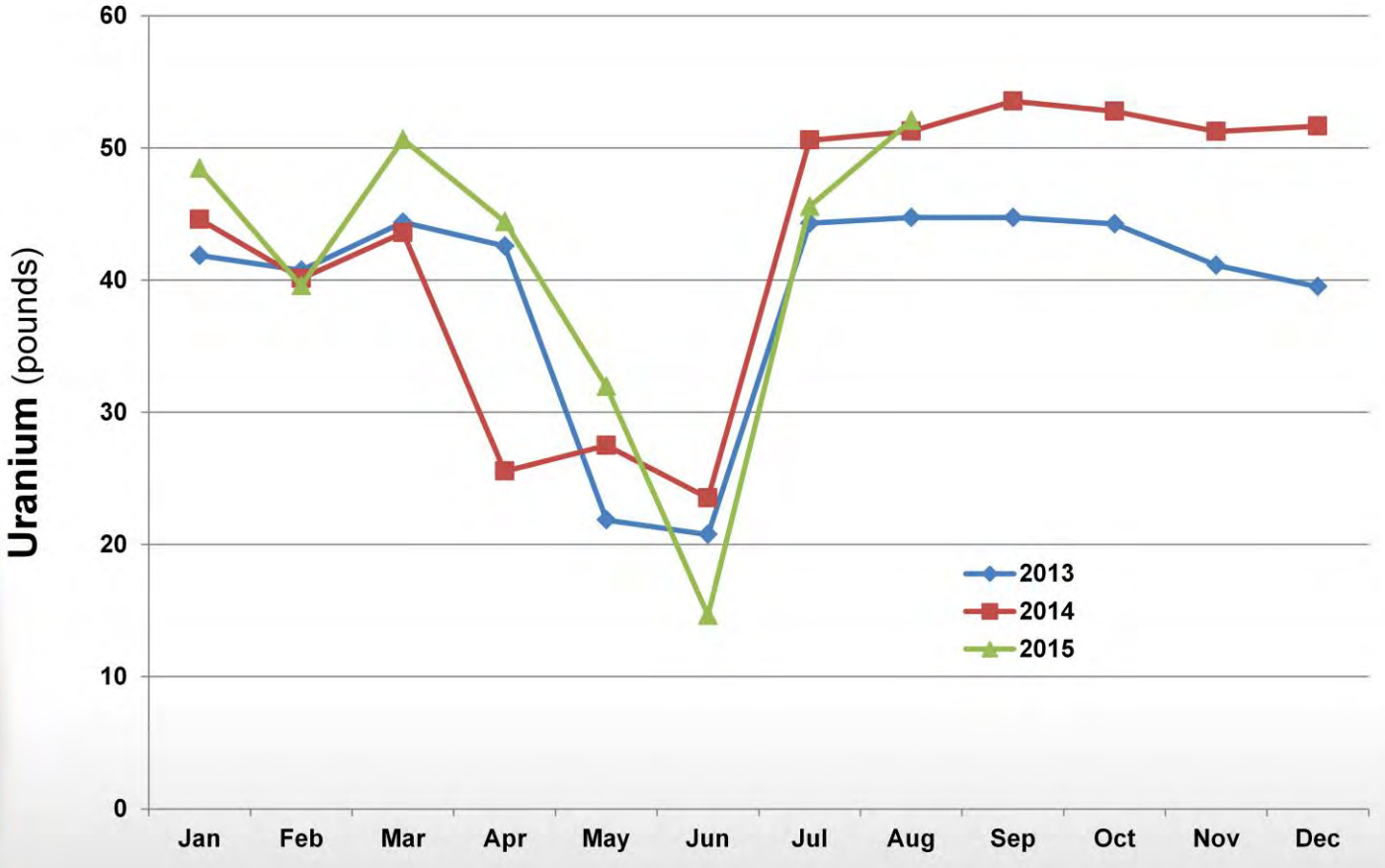


9007.28 10/15

Groundwater operational changes were implemented in 2014.

Aquifer Restoration

Operational Adjustments: Current Status

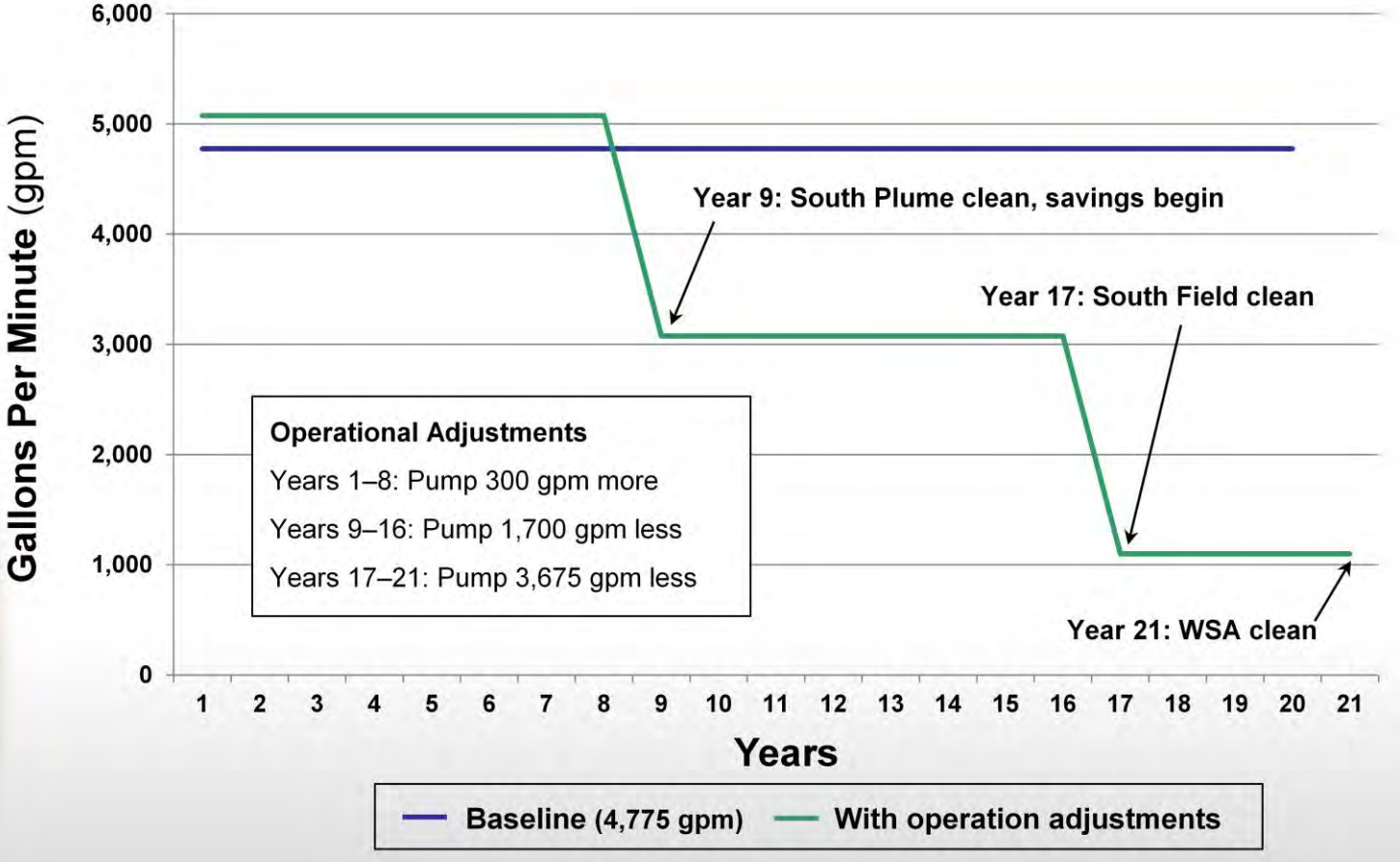


9007.29 10/15

More uranium is being removed from the aquifer as a result of operational adjustments implemented in 2014.

Aquifer Restoration

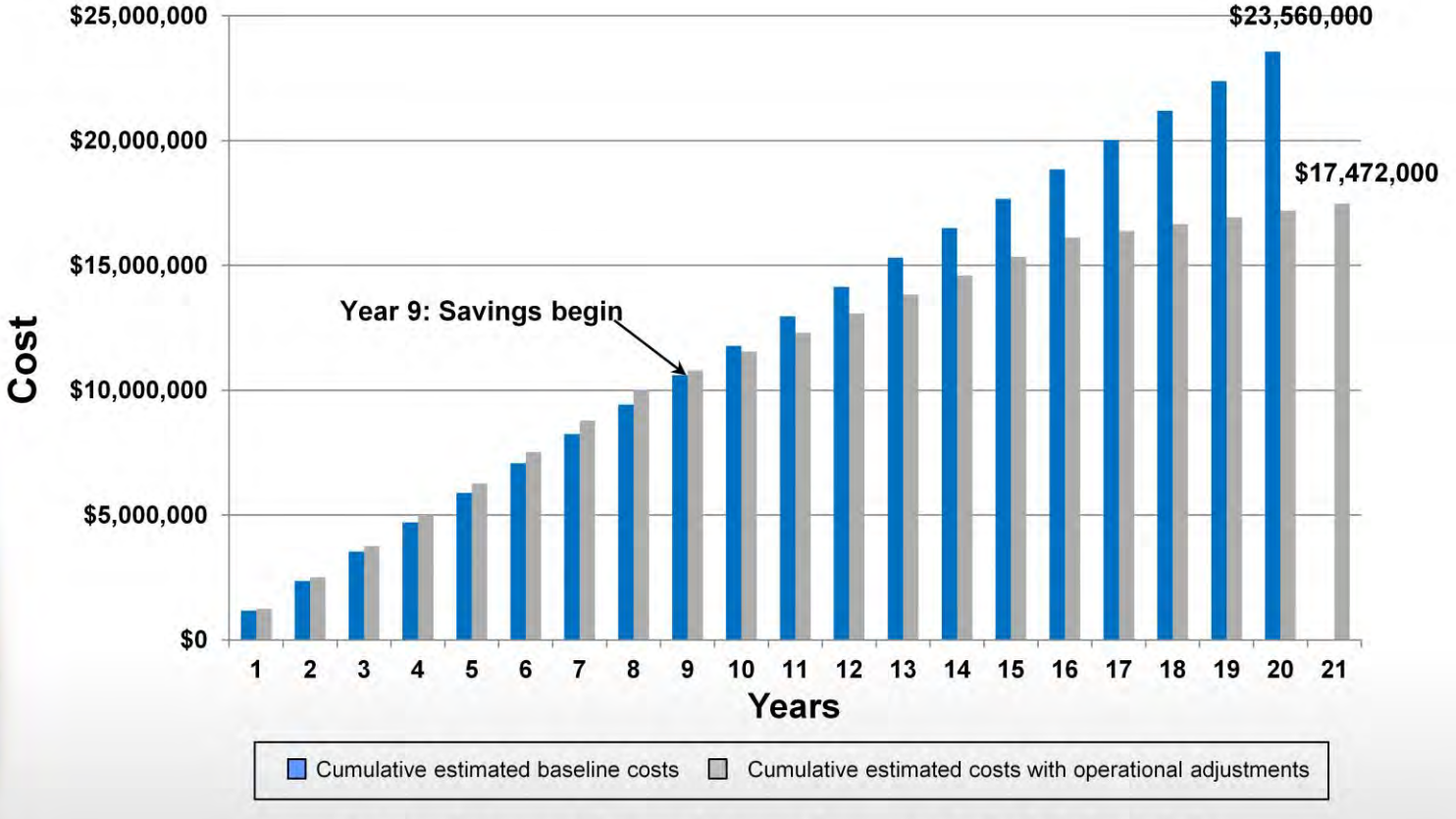
Well Field Pumping Schedule



The model predicts that pumping at slightly higher rates now will allow pumping rates to be reduced in the future.

Aquifer Restoration

Operational Adjustments: Predicted Costs



Total Predicted Savings: $6,088,000

The model predicts that amplified pumping will reduce future costs.

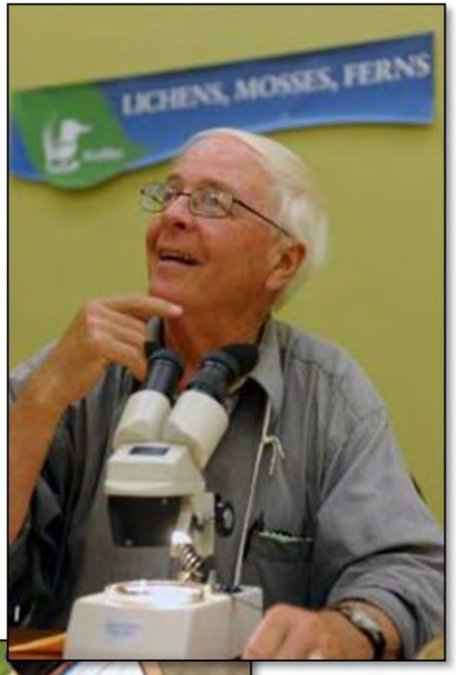
Aquifer Restoration

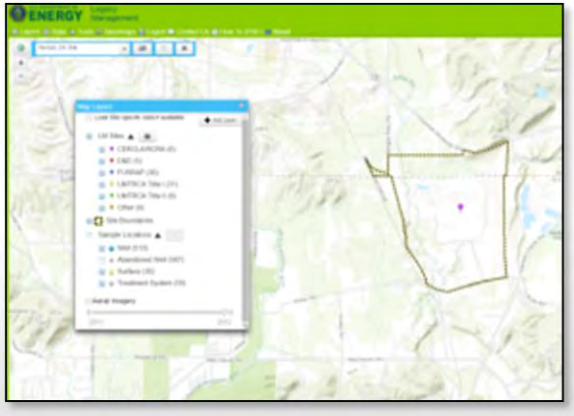
9007.32 10/15

Six wells were rehabilitated this summer to address iron plugging. Iron plugging decreases the pumping efficiency of the well.

Public Activities

- **Site use**
- **Events**





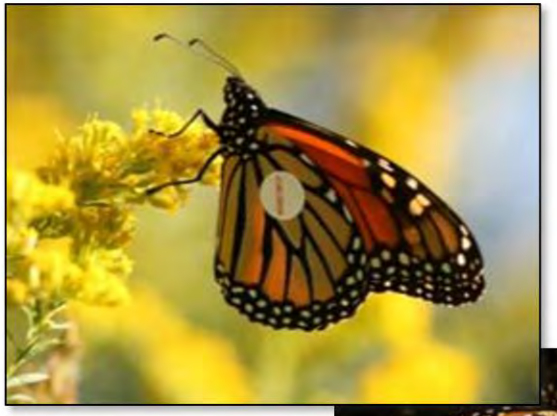
9007.33 10/15

During 2014, a wide variety of groups—including students, birders, scouts, and seniors—visited and used the Fernald Preserve and its facilities. Since the site opened to the public in 2008, schools, conservation organizations, former workers, hikers, cyclists, and many others have used the site, the Visitors Center, and the reservable spaces.

Public Activities

Monarch Butterflies

- **Population rebounding**

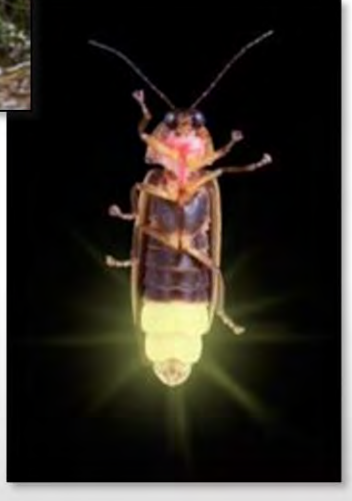


9007.34 10/15

A regular feature of the community meeting is the Nature section, which highlights flora and fauna at the Fernald Preserve.

Public Activities

Night Hikes



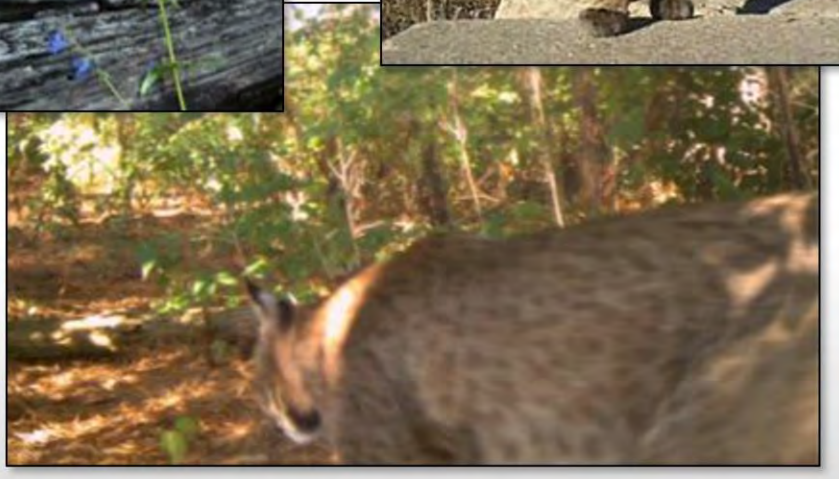
9007.35 10/15

Nature at night captures community interest.

A regular feature of the community meeting is the Nature section, which highlights flora and fauna at the Fernald Preserve.

Public Activities

Bobcats



9007.37 10/15

A regular feature of the community meeting is the Nature section, which highlights flora and fauna at the Fernald Preserve.

Site Projects

OSDF Piping Camera Survey

2010
Pre-cleaning

2011
Post-cleaning

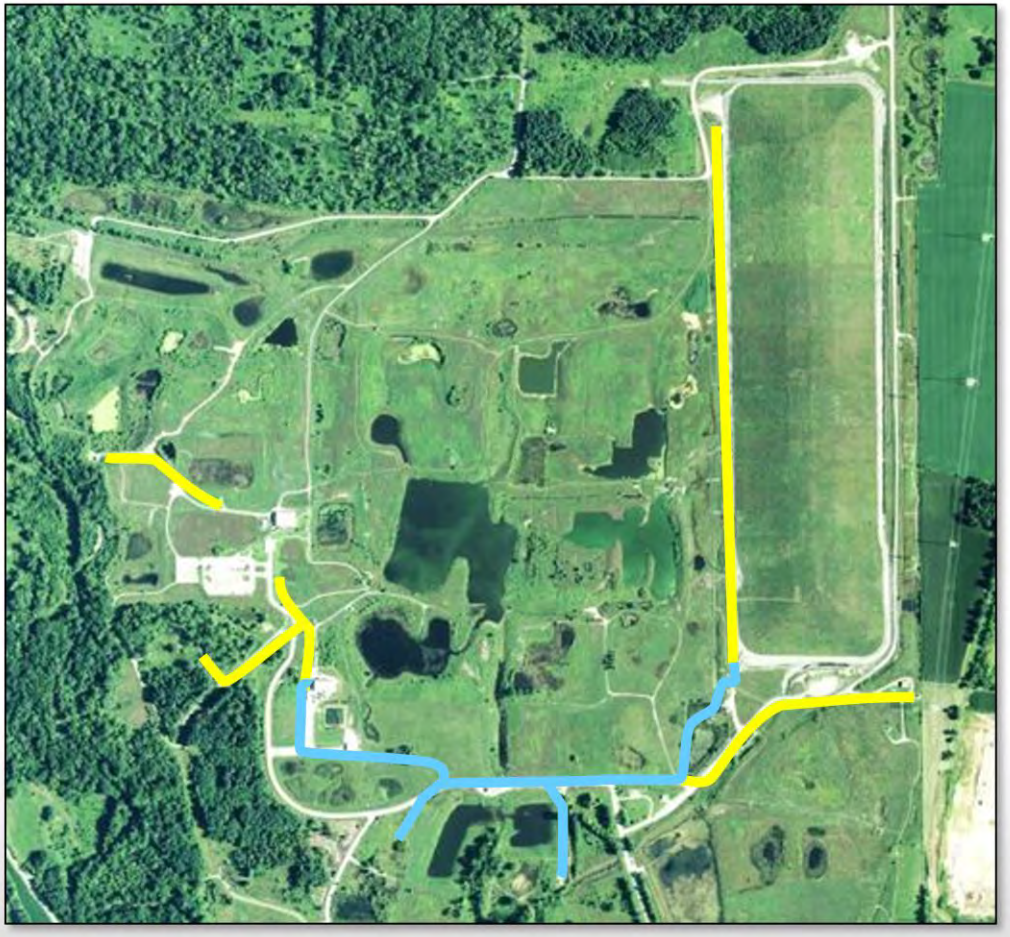
2015

9007.38 10/15

On-Site Disposal Facility leachate lines are routinely inspected using a camera.

Site Projects

Electrical Upgrades Phase I and II



9007.39 10/15

The electrical and communication lines from the On-Site Disposal Facility to the wastewater treatment facility have been installed underground.

Site Projects

Electrical Upgrades Phase II

9007.40 10/15

The electrical and communication lines from the On-Site Disposal Facility to the wastewater treatment facility have been installed underground.

Site Projects

Erosion Repair and Well Access Improvements

- **Repaired erosion**
- **Improved vehicle access to monitoring wells**





9007.41 10/15

Erosion repair and access improvements have been conducted at several locations onsite.

Site Projects

Asphalt Paving

- **Lodge Pond trailhead parking lot**
- **Valve House turnout**

9007.42 10/15

The paving of several gravel areas onsite will make it easier for visitors to access the Lodge Pond trail and an observation area.

Site Projects

Main Drainage Corridor Culvert

9007.43 10/15

Recent beaver activity at the MDC culvert required the installation of exclosure fencing.

Site Projects

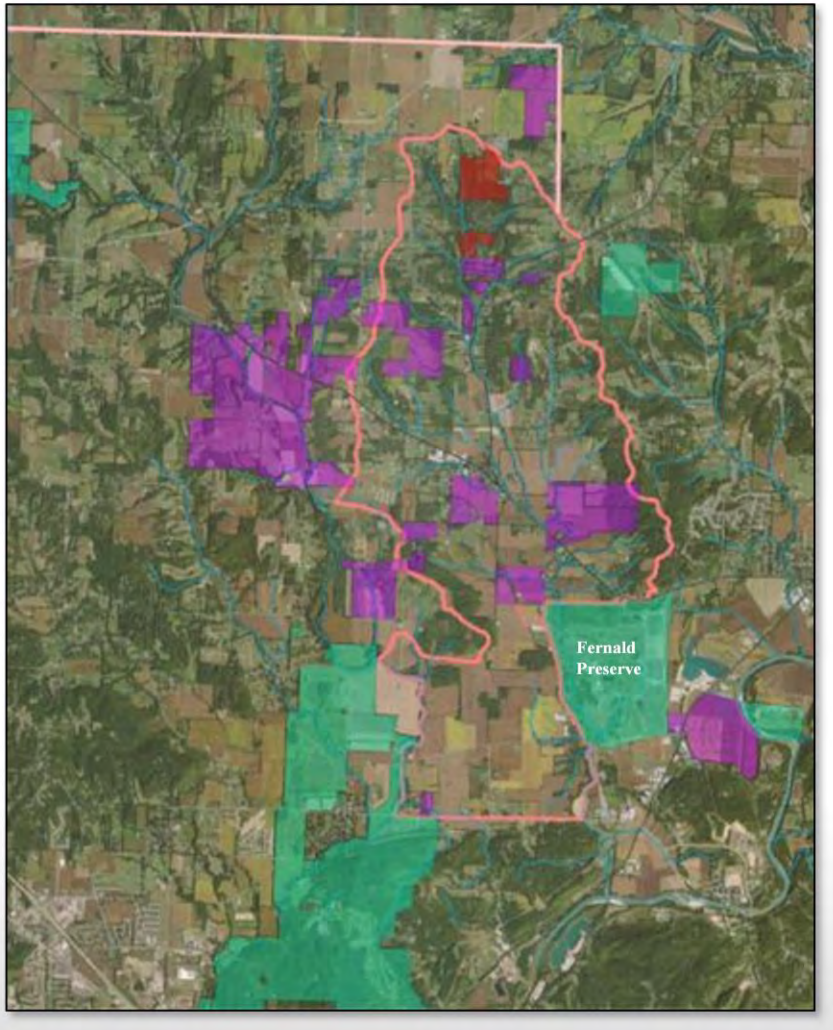
- Extraction well maintenance
- OSDF environmental monitoring analysis
- LM All-hands meeting
- LM visitors centers
- Waste disposal cell design group visit

9007.44 10/15

Numerous additional site activities have been completed at the Fernald Preserve.

Natural Resource Trusteeship

June 2015



9007.45 10/15

Natural Resource Trusteeship activities continue in the Paddys Run watershed.

Natural Resource Trusteeship

Restoration Projects

- **Paddys Run west restoration**
- **North woodlot enhancement**

9007.46 10/15

The Paddys Run West restoration project involved wetland creation in a former pasture.

Look Ahead

- Continue aquifer restoration
- Continue sampling
- Continue site and OSDF monitoring and maintenance
- Continue restored area monitoring and maintenance
- Continue unique educational programs
- Repair dams in the Wetland Mitigation 1 area
- Complete the Paddys Run Streambank Stabilization project (NRT)
- Complete the North Woodlot Enhancement project (NRT)
- Optimize the Converted Advanced Wastewater Treatment facility

Numerous work activities are planned for the coming year.

Look Ahead

CAWWT Optimization

- **March 2015: CAWWT Condition Assessment Report was finalized**
- **May 2015: LM management concurred with optimization proposal**
- **July 2015: EPA and Ohio EPA concurred with optimization proposal**
- **August 2015: Fernald Community Alliance/key public concurred with optimization proposal**
- **September 2015: Initiated project planning**
- **2017: Anticipated project completion**

Wastewater treatment facility optimization plans are being developed to more accurately align with groundwater remediation and other site needs.

Questions and Contacts

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www.lm.doe.gov

The next annual Fernald Preserve community meeting will be in the fall of 2016.