The U. S. Department of Energy (DOE) Office of Legacy Management's (LM) 13th annual community meeting on the Fernald Preserve was held October 18, 2016, at the Fernald Preserve Visitors Center. The 12 guests in attendance received a summary of the *2015 Site Environmental Report* and an update on site activities.

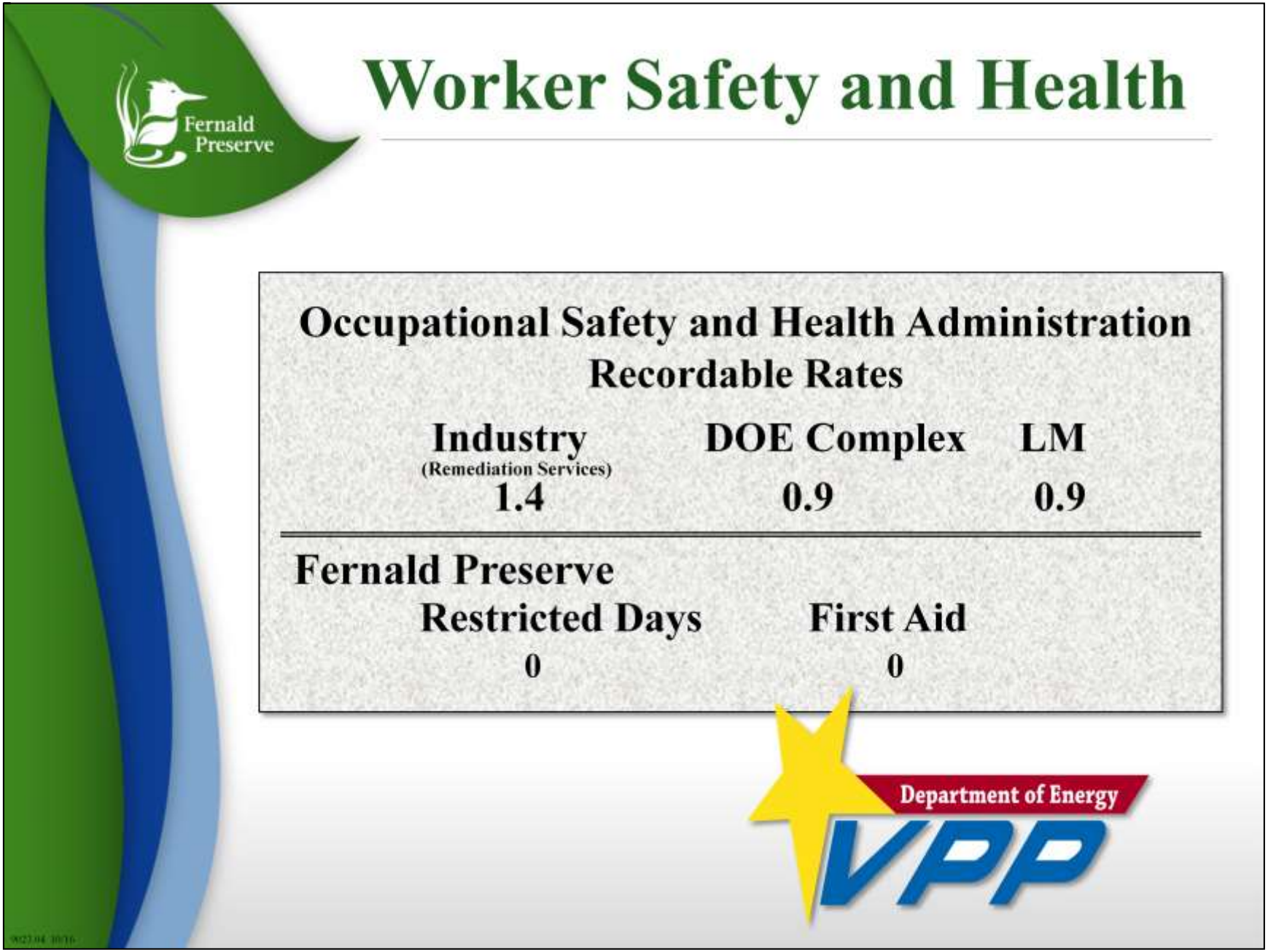
Community meeting agenda.

Fernald Preserve

U.S. Department of Energy
Office of Legacy Management Mission

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

LM’s mission at the Fernald Preserve.



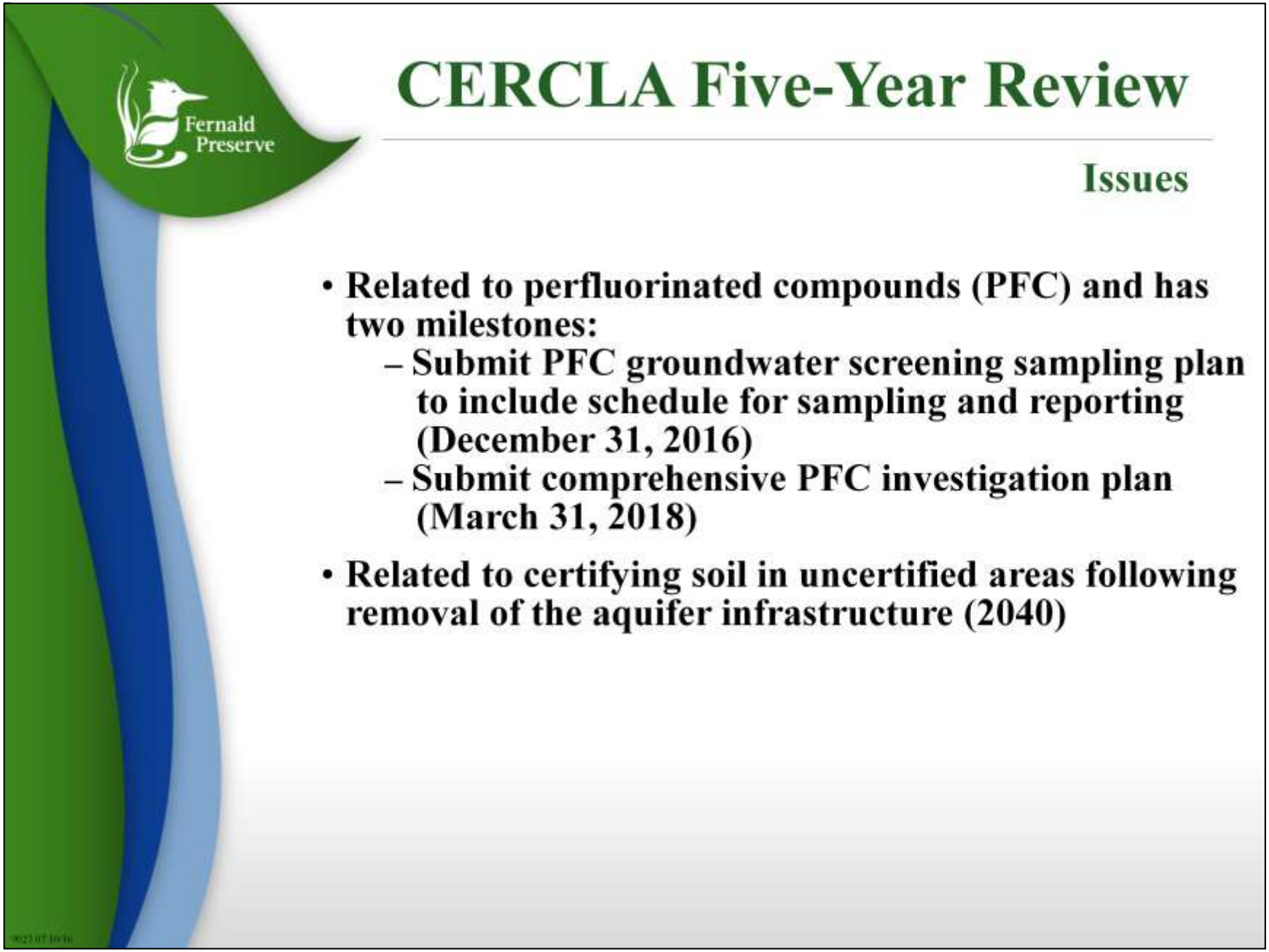
Safety records at the Fernald Preserve and in the nationwide LM program continue to surpass industry standards.

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

CERCLA Five-Year Review

- CERCLA requirement
- Determines whether the remedy remains protective of human health and the environment
- Community input received during review process
- Approved by regulators September 9, 2016
- http://energy.gov/lm

The Comprehensive Environmental Response, Compensation, and Liability Act requires a five-year review.



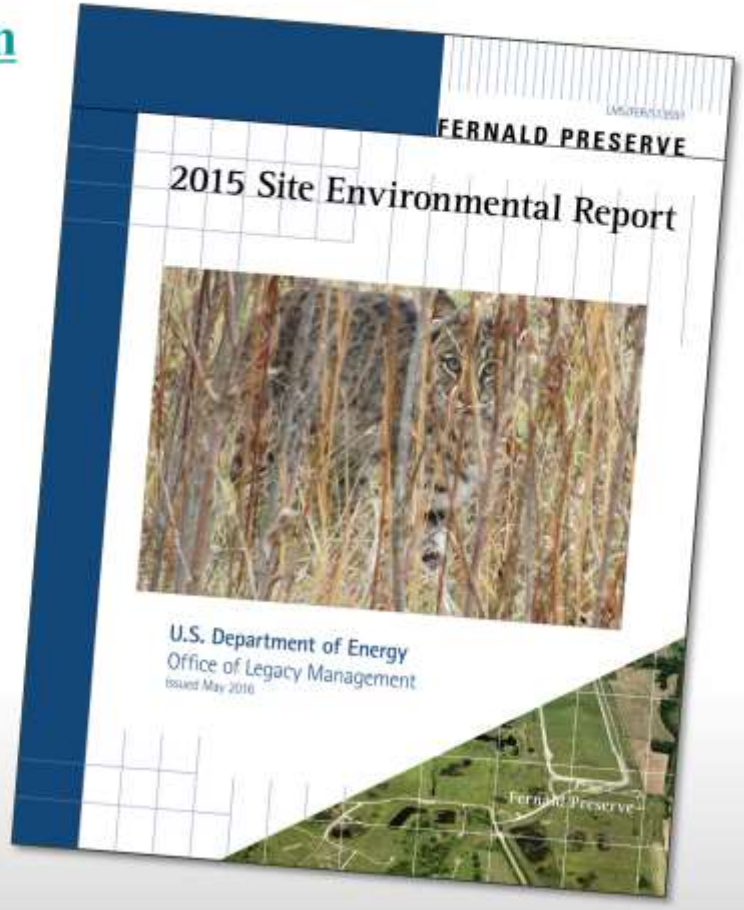
Perfluorinated compounds are emerging contaminants per U.S. Environmental Protection Agency (EPA) and the site groundwater will be evaluated to confirm their presence or absence. The compounds are associated with foam firefighting agents like those used at the site's Fire Training Facility in the 1960s and 1970s. LM will be investigating to see if these compounds have migrated to the groundwater.

The *Comprehensive Legacy Management and Institutional Controls Plan* documents the requirements for Fernald Preserve's long-term care. It is reviewed and updated yearly and the latest version is available on the LM website.

Site Environmental Report

SER

- http://energy.gov/lm



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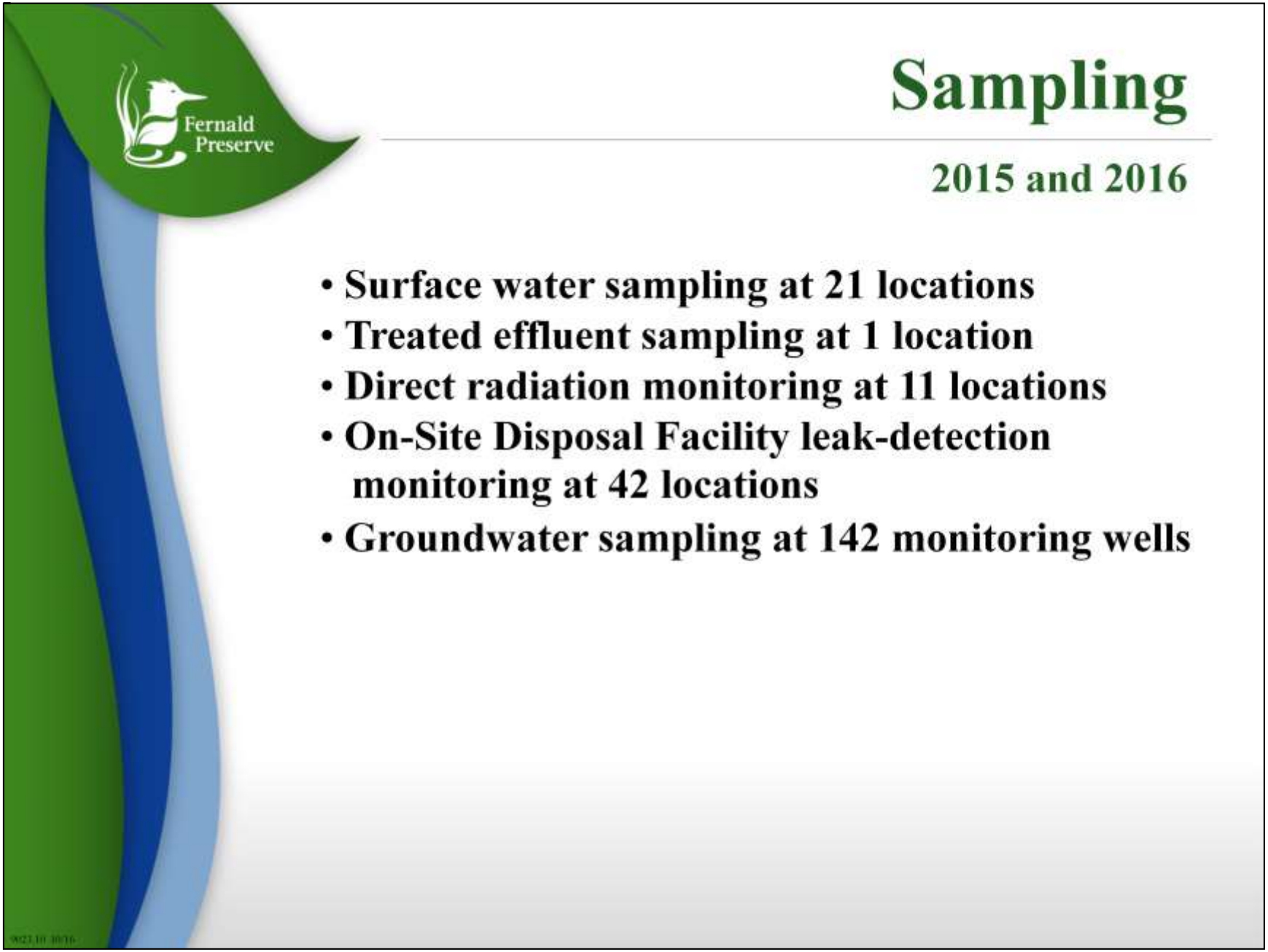
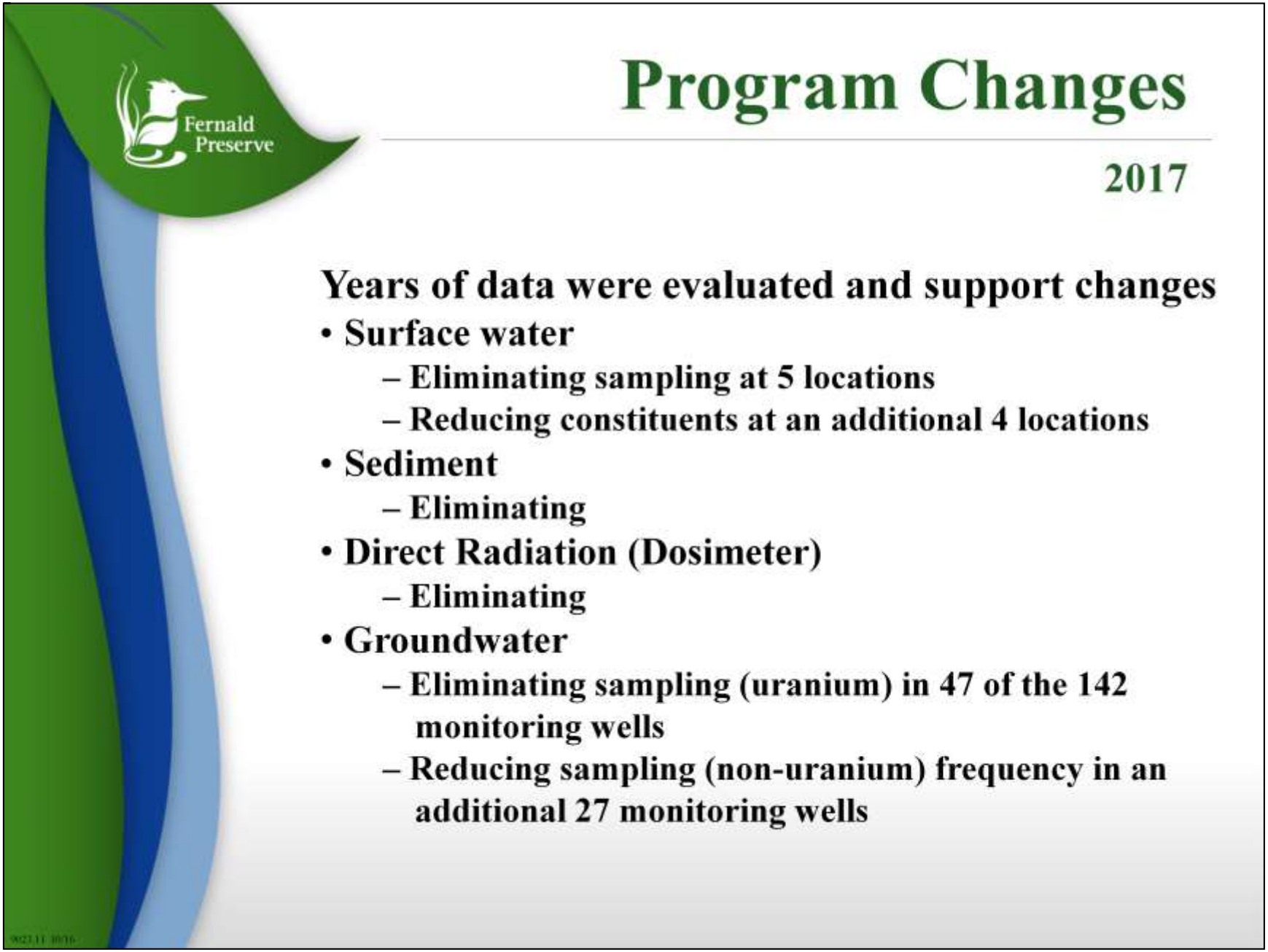
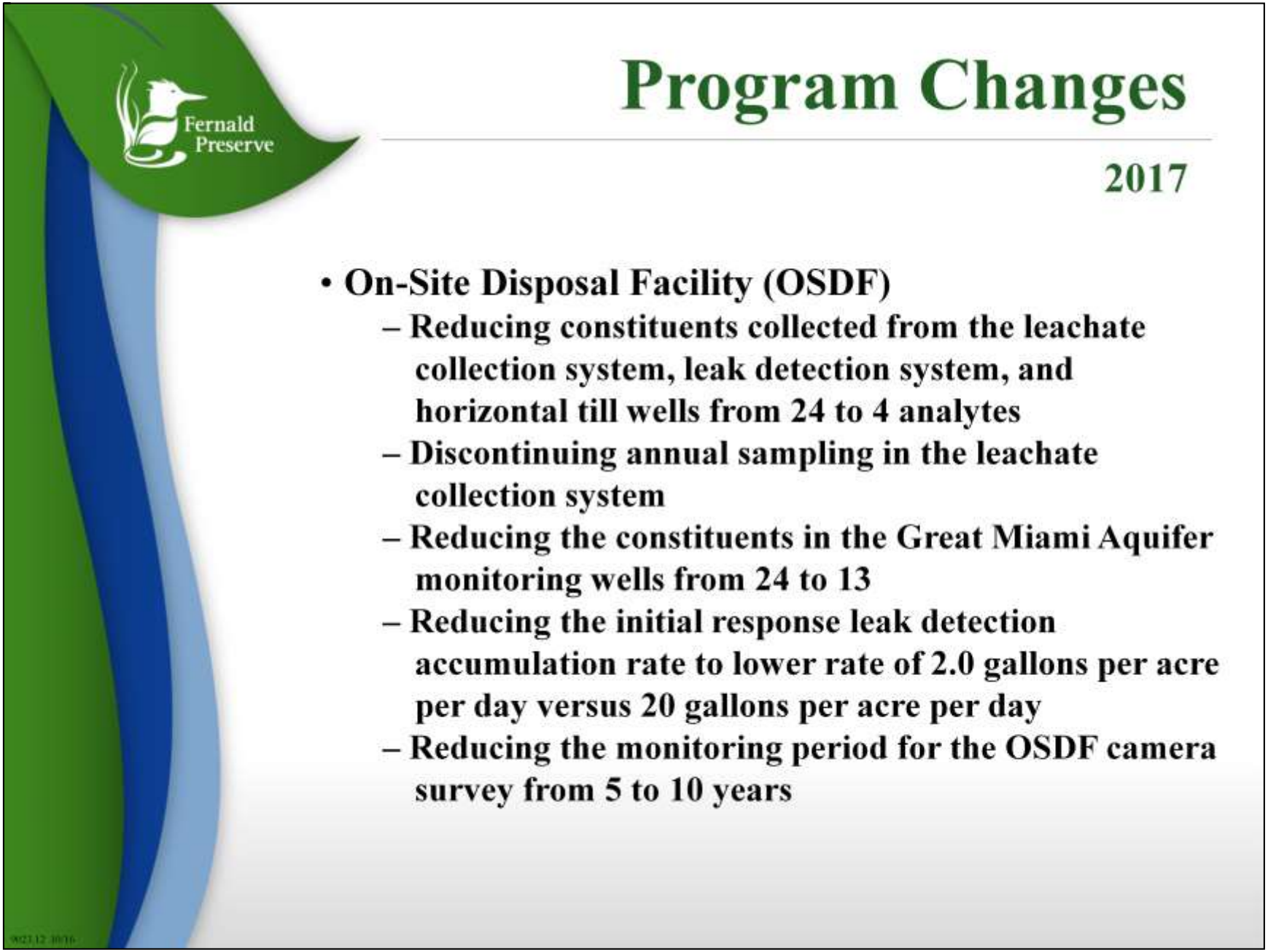


Routine environmental monitoring is conducted to ensure continued effectiveness of the site's cleanup. The current monitoring regimen includes sampling groundwater, surface water, treated effluent, and direct radiation.



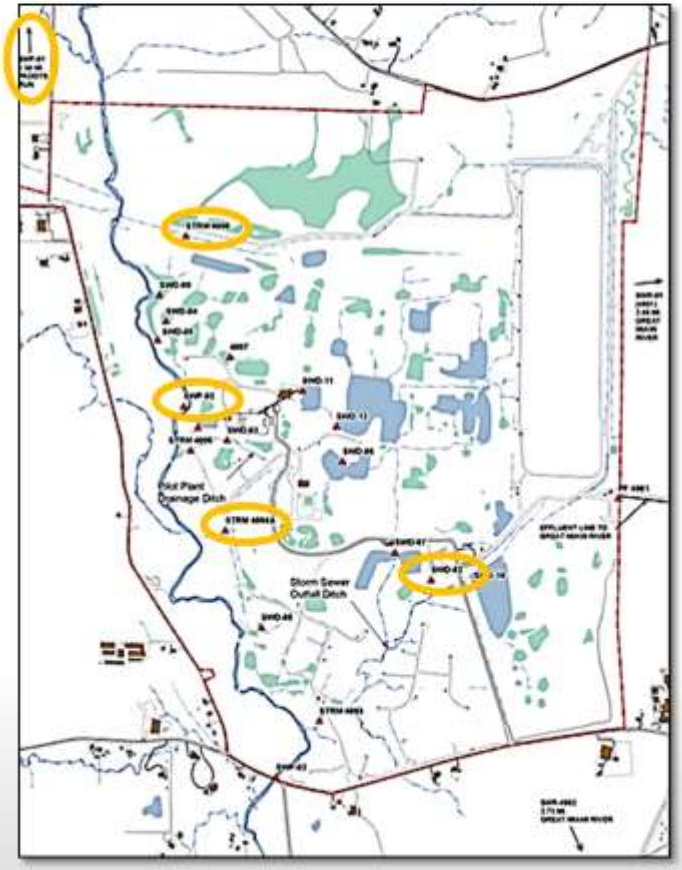
Years of data were evaluated and support changes to the environmental monitoring program. Changes are presented in *Comprehensive Legacy Management and Institutional Controls Plan*.



Changes are summarized at the end of the discussion on each component.

Monitoring

Surface Water and Treated Effluent



Stop monitoring

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

Monitoring

Dosimetry

- Direct radiation monitoring completed at 11 locations
- On-property results are indistinguishable from off-property
- Monitoring will be discontinued in 2017

Dosimeter monitoring results for 2015 are similar to historical results.

Ecological Restoration

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

Ecological restoration work includes maintenance, monitoring, and inspections.

Ecological Restoration

Restored-Area Maintenance

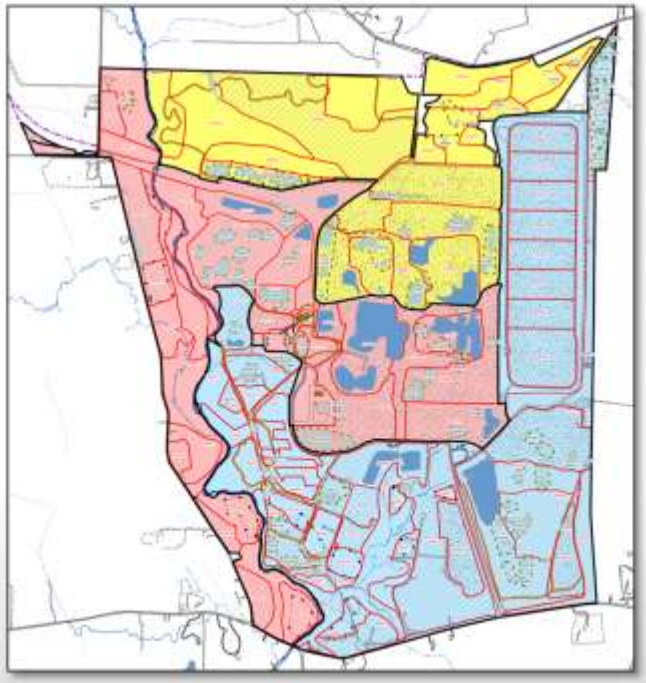
- Vegetation management
- Inspection follow-up

Restored area maintenance includes vegetation management and follow-up from site inspections.

Ecological Restoration

Monitoring

- **Wetland mitigation**
- **Functional**
- **Implementation**



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

Ecological Restoration

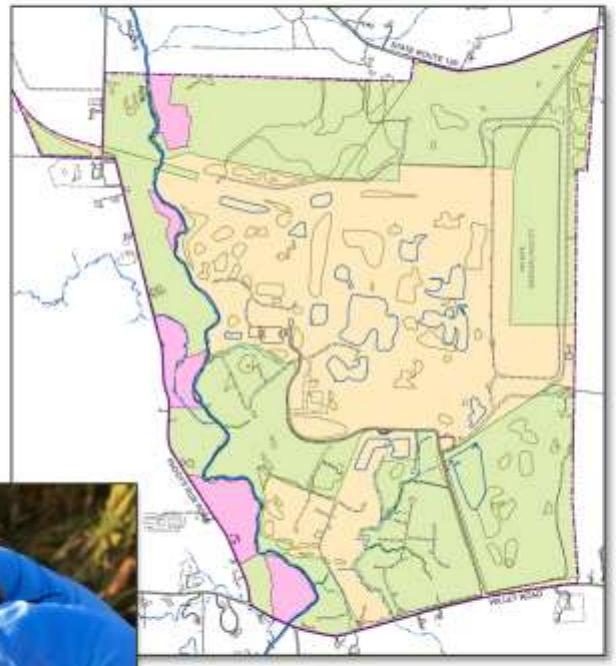
Inspections

- Site
- On-Site Disposal Facility
- Trails

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

Ecological Restoration

Endangered Species and Cultural-Resources Surveys

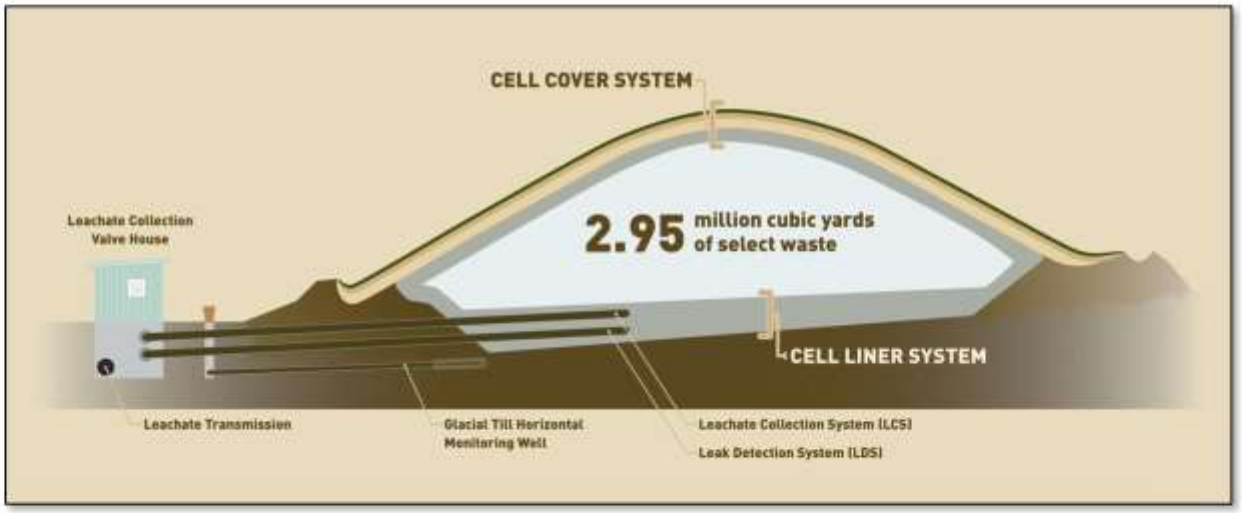


Endangered species and cultural resource surveys are conducted prior to field activities.

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

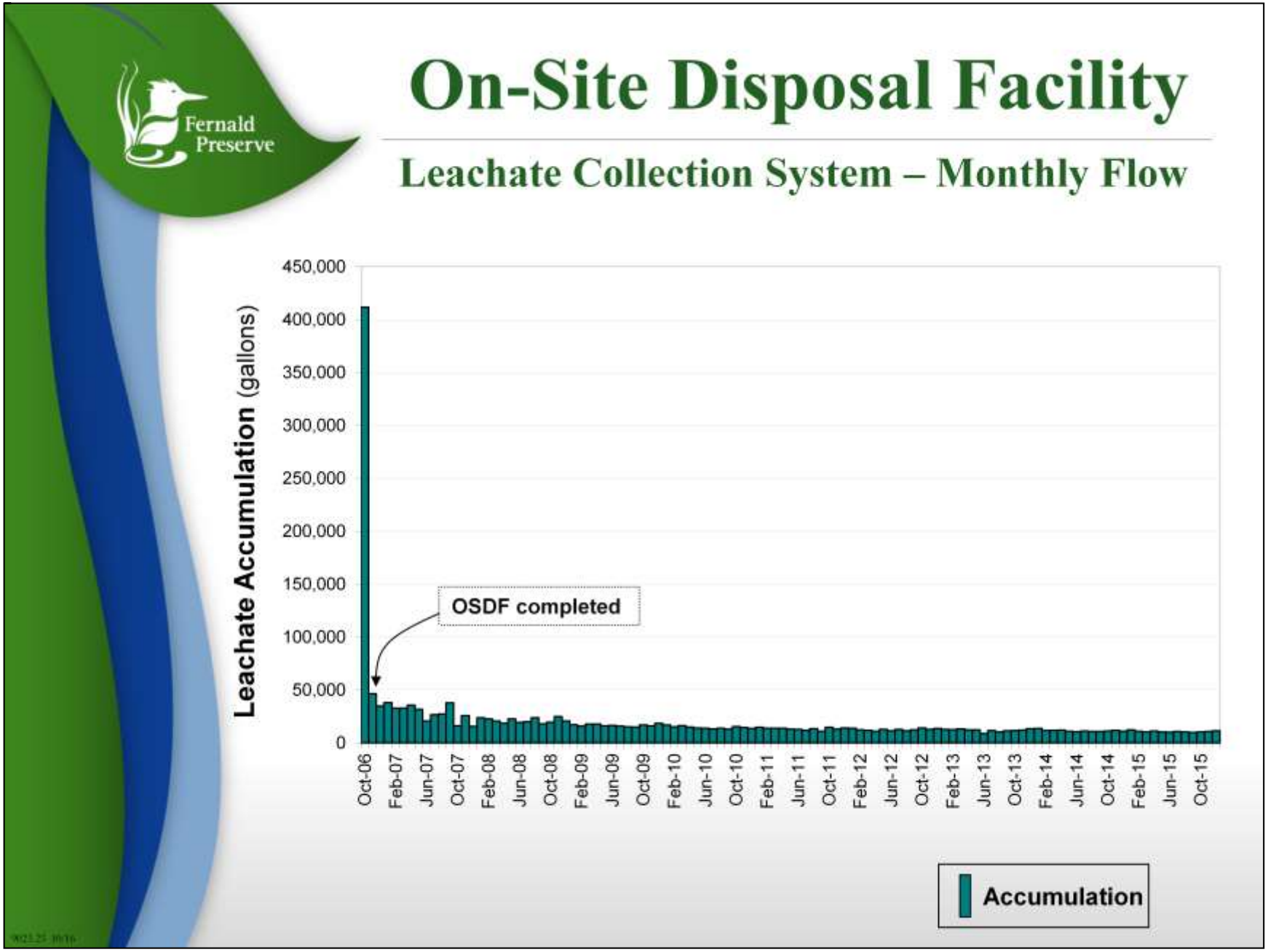
On-Site Disposal Facility

Leachate Collection System

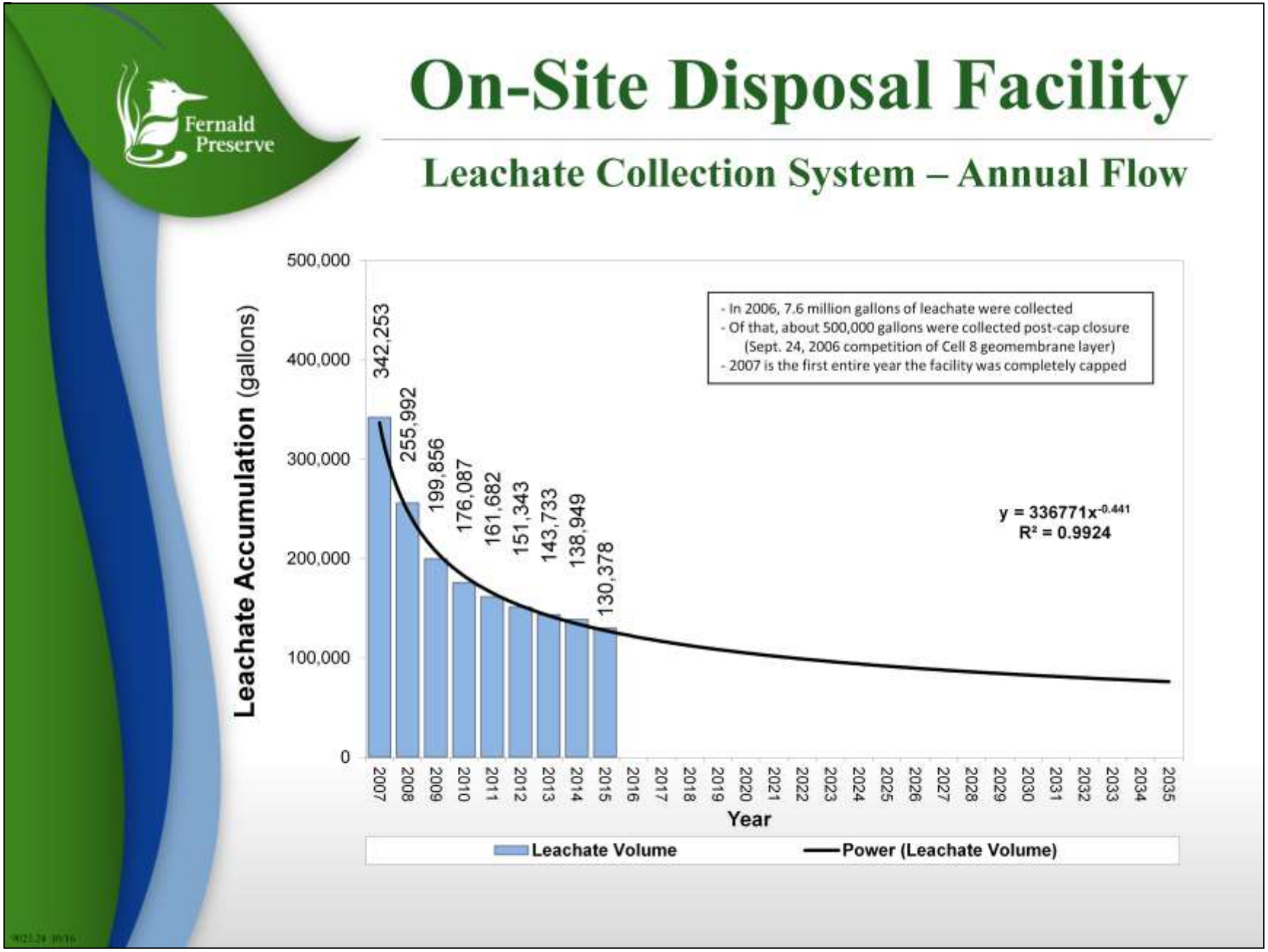


The On-Site Disposal Facility was constructed with an engineered liner and cover system that serves to isolate the entombed waste from the environment.

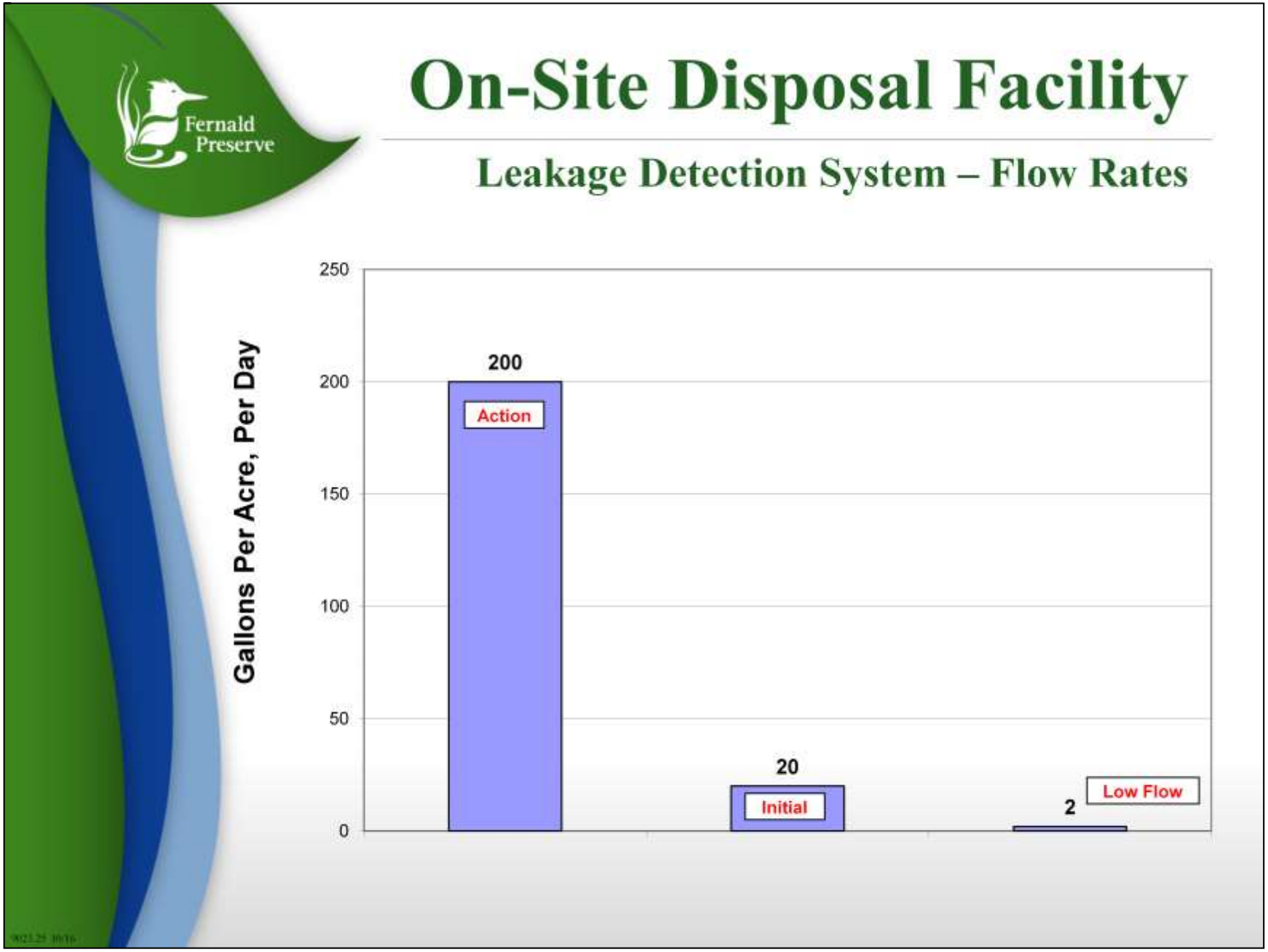
Waste is safely encapsulated between a 9-foot cap and a 6-foot liner within the On-Site Disposal Facility.



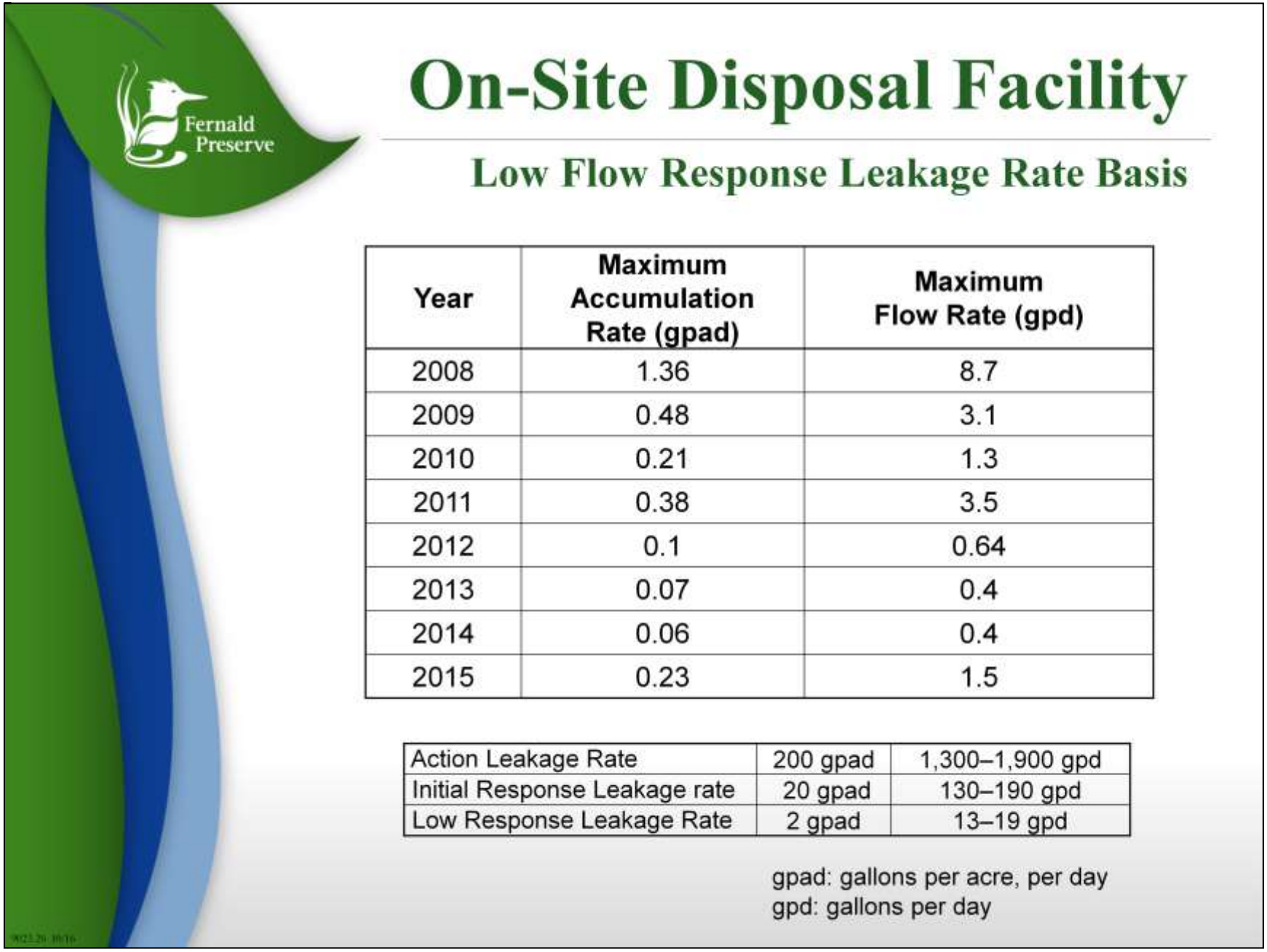
Leachate is the moisture in the waste within the On-Site Disposal Facility. The leachate is collected and transferred to a treatment facility. Before the cover system was completed in October 2006, hundreds of thousands of gallons of leachate flowed each month. By 2015, leachate flows decreased to a monthly average of 10,865 gallons.



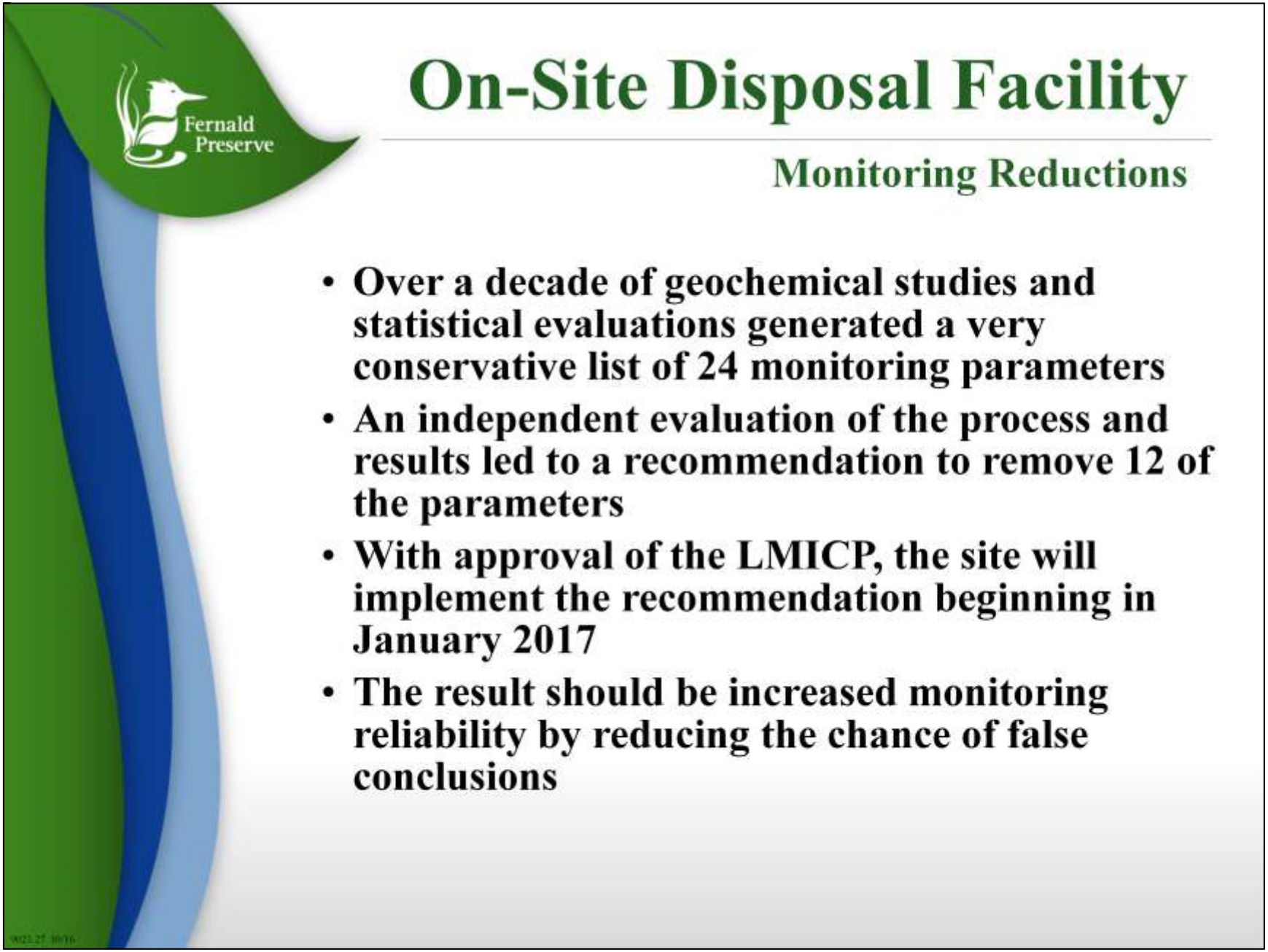
Leachate is the moisture in the waste within the On-Site Disposal Facility. The leachate is collected and transferred to a treatment facility. Annual leachate flow continues to decline.



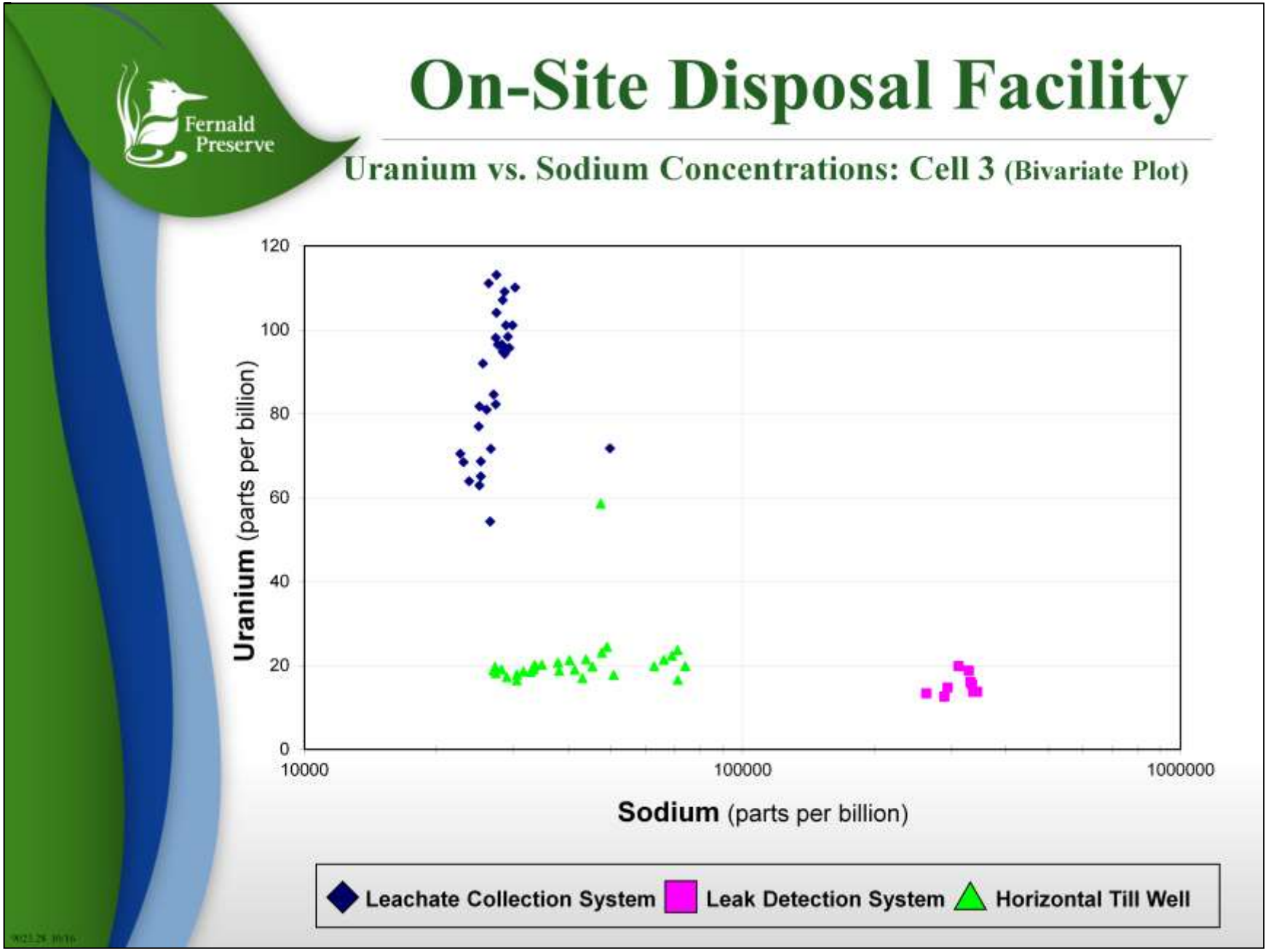
By design, monitoring flow from the Leak Detection System is one of the main indicators of whether or not the facility is operating as designed.



Leak Detection System accumulation rates in Cells 1 and 8 are so low that a new low-flow response leakage rate of 2 gallons per acre per day has been defined. By comparison the Response Leakage Rate is 20 gallons per acre per day, and the Action Leakage Rate is 200 gallons per acre per day.



With the EPA, Ohio EPA, and stakeholder approval, the list of parameters being monitored in the On-Site Disposal Facility will be reduced beginning in January 2017.



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.

On-Site Disposal Facility

Piping Camera Survey

2010
Pre-cleaning

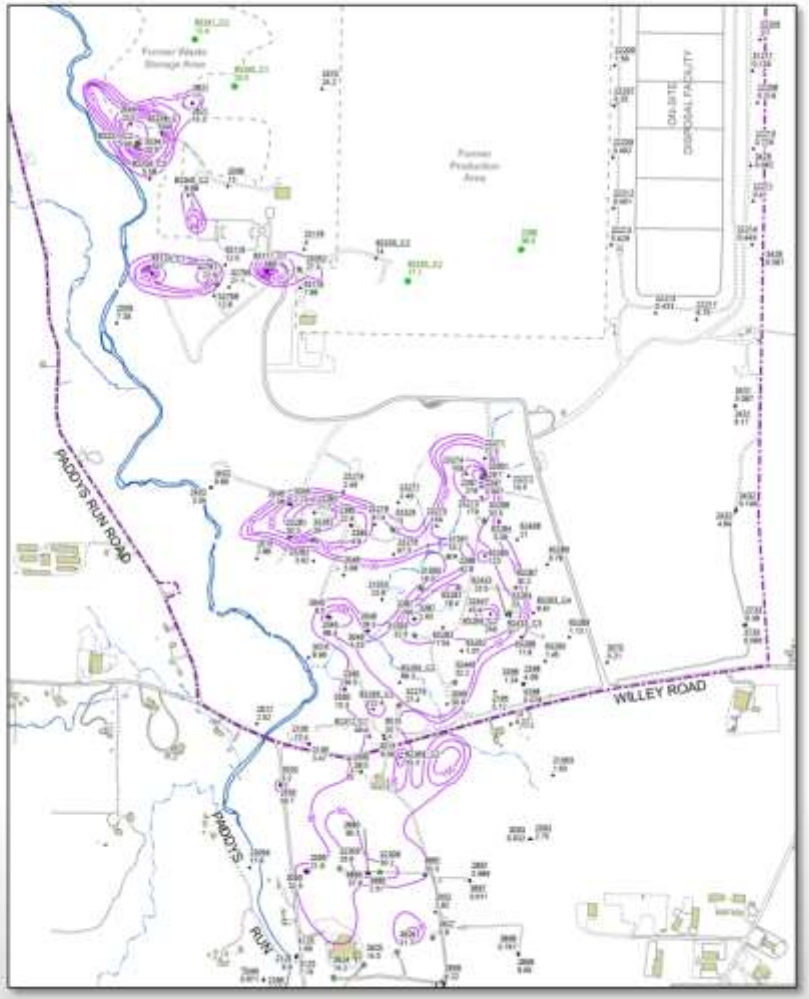
2011
Post-cleaning

2015

On-Site Disposal Facility leachate lines have been routinely inspected using a camera. Frequency of these inspections is being reduced to once every 10 years.

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

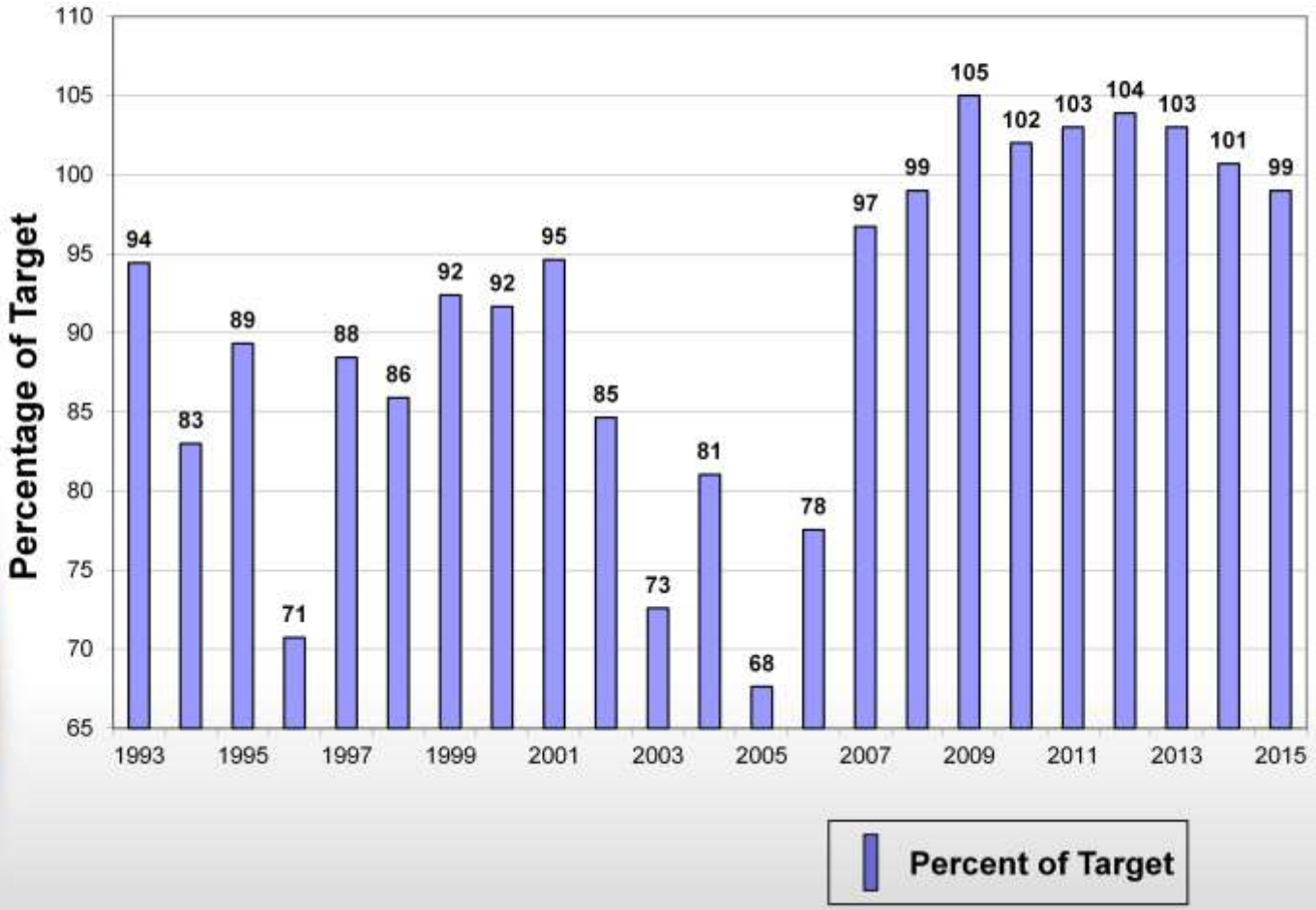
Aquifer Restoration



Groundwater cleanup continues at the site.

Aquifer Restoration

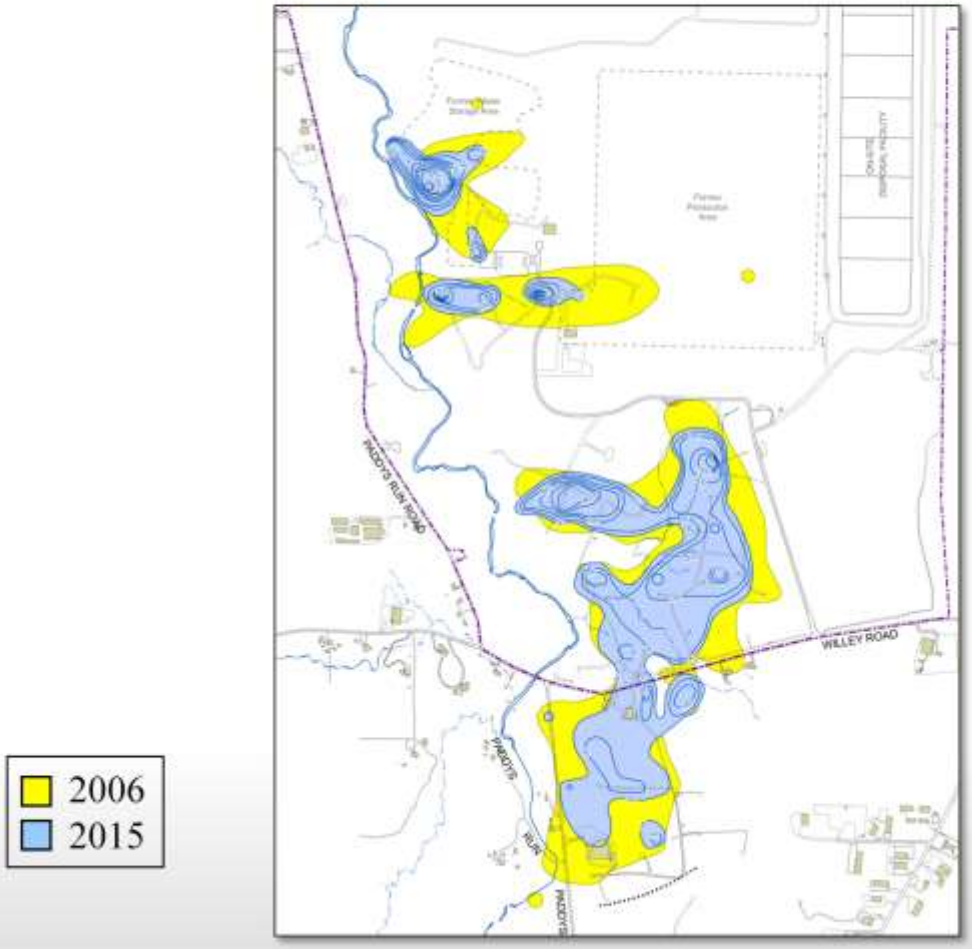
Pumping: Percentage of Target Achieved



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

Aquifer Restoration

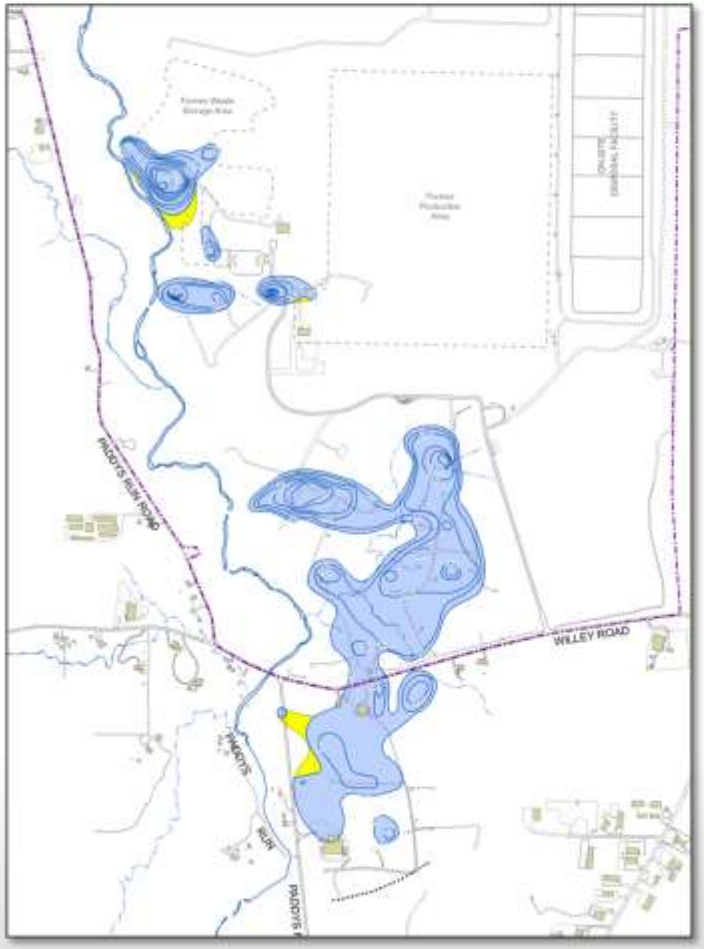
Maximum Plume: 2006 and 2015



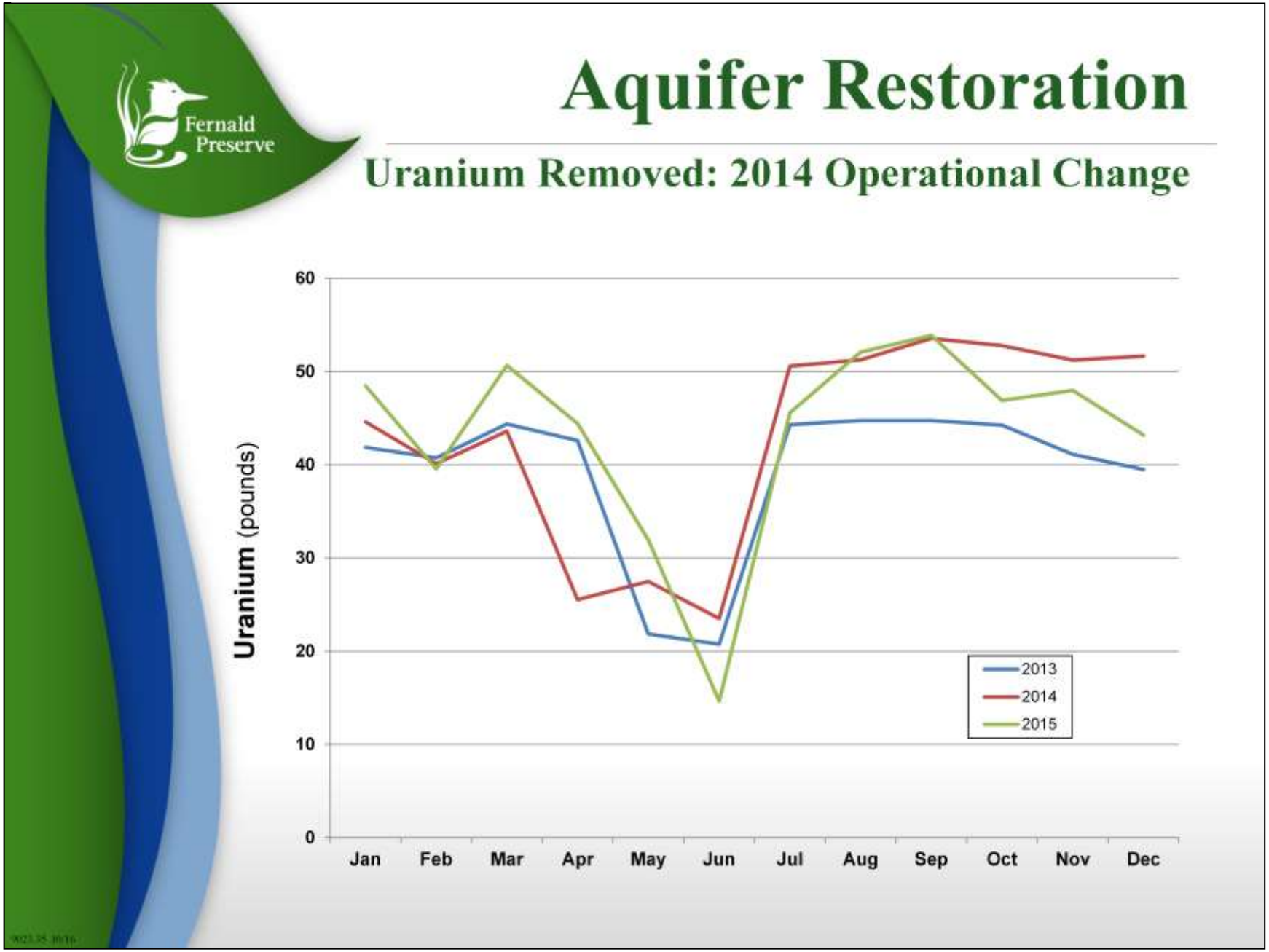
Maximum size of uranium plume footprint was 189.3 acres in 2006.
Maximum size of uranium plume footprint was 108.1 acres in 2015.

Aquifer Restoration

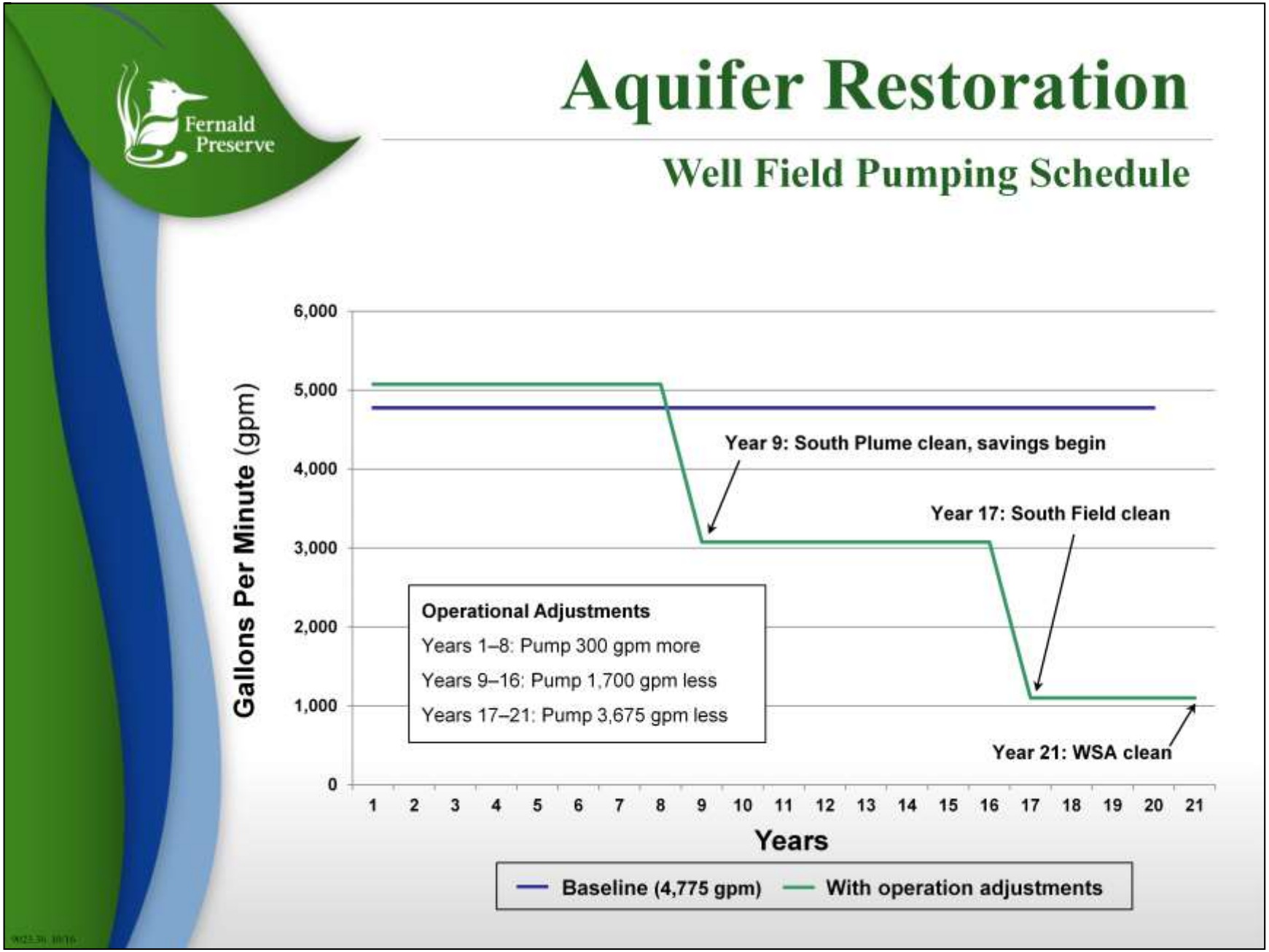
Maximum Plume: 2014 and 2015



The maximum uranium plume footprint interpretation decreased by 2.8 acres from 2014 to 2015.



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



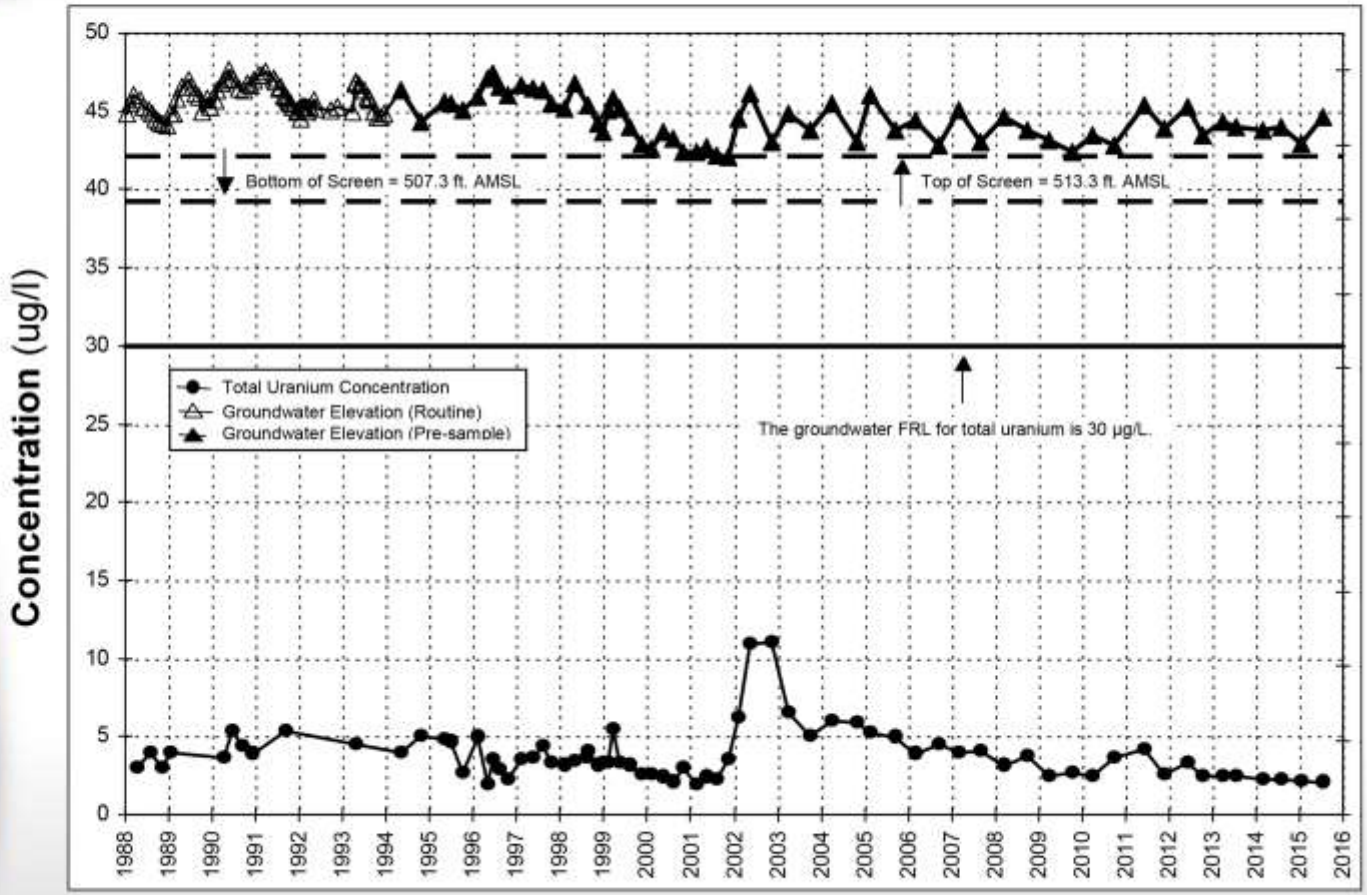
The groundwater model predicts that pumping at slightly higher rates now will allow pumping rates to be reduced in the future.

Aquifer Restoration

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

Aquifer Restoration

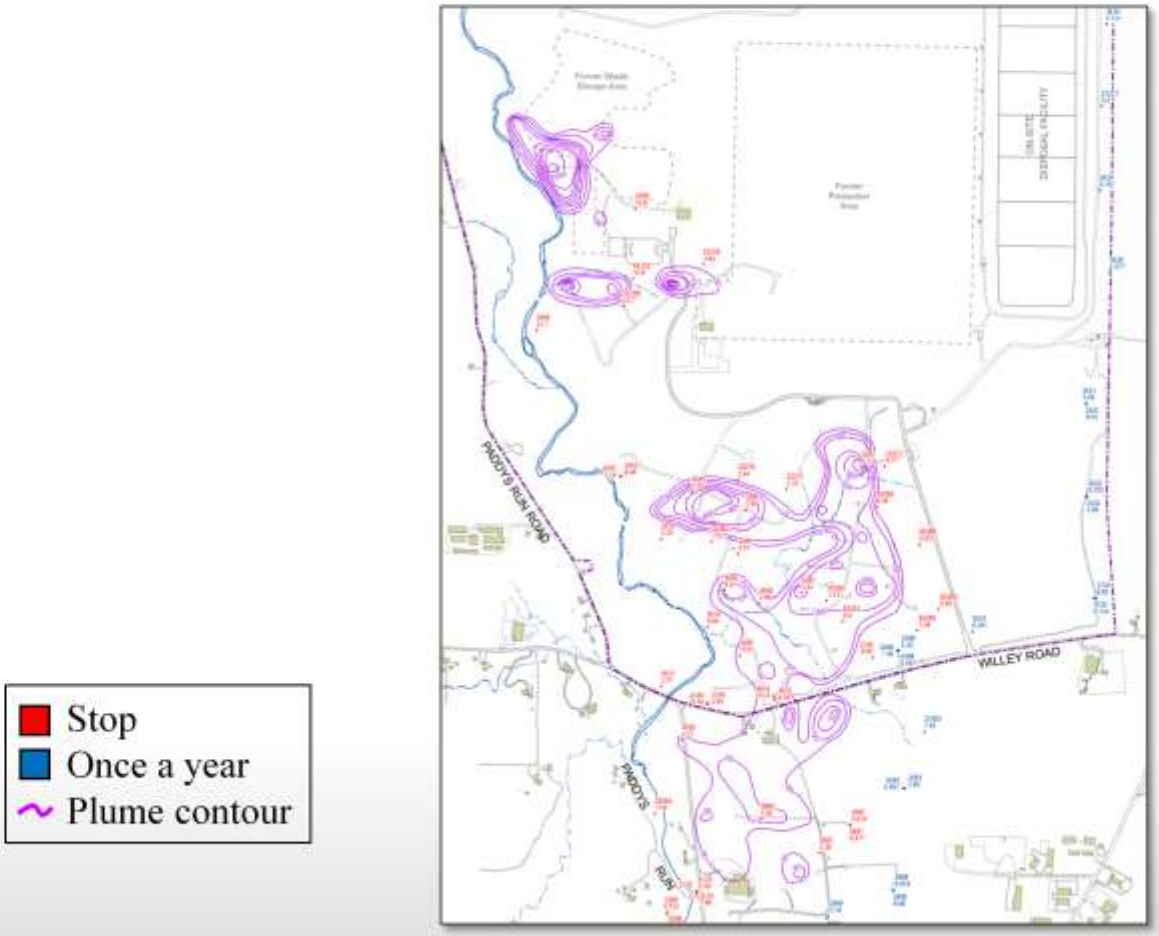
Monitoring Reductions



Data trends at select monitoring wells have been stable for over 10 years. Monitoring at some wells is no longer needed to determine the extent of the uranium plume.

Aquifer Restoration

Monitoring Reductions



With EPA, Ohio EPA, and Stakeholder concurrence the amount of groundwater monitoring will be reduced beginning January 1, 2017.

Public Activities

- Site use
- Events

Since the site opened to the public in 2008, schools, conservation organizations, former workers, hikers, and many others have used the site, the Visitors Center, and the reservable spaces.

Public Activities

Monarch Butterflies

- Population rebounding

The site provides important pollinator habitat and several programs were offered allowing citizens to learn more about, and participate in, efforts to support the declining monarch butterfly population.

Nature-at-night captures community interest. A variety of public night hikes and other activities were offered throughout the year.

Extensive grassland and wetland habitats at the site are recognized as regionally-important birding areas that attract bird watchers and photographers.

Public Activities

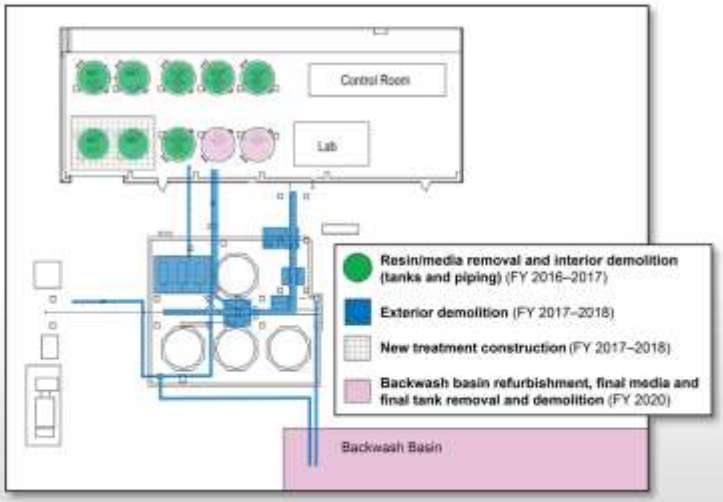
Bobcats

Bobcats have raised kittens onsite for 3-consecutive years.

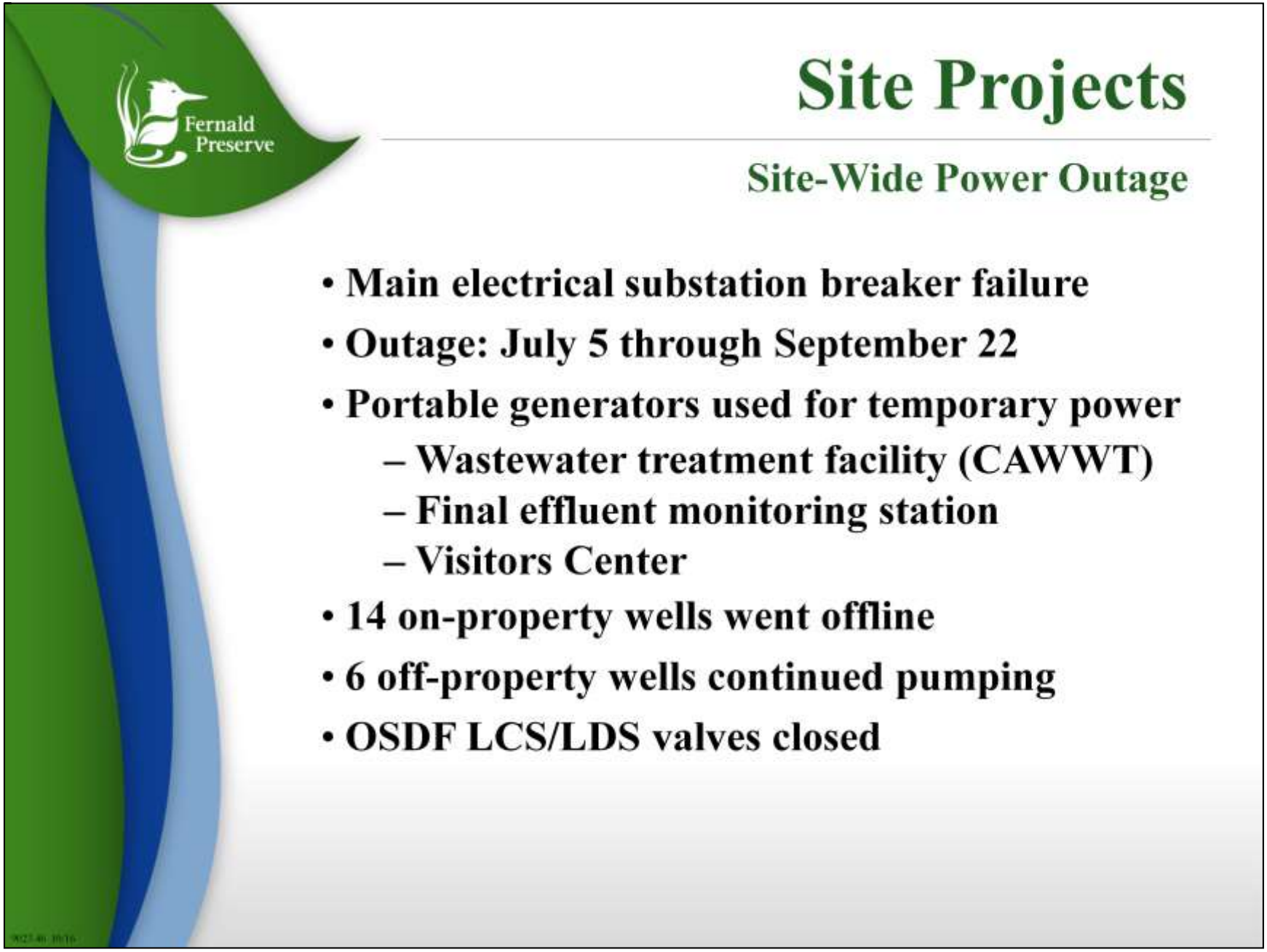
Site Projects

Wastewater Treatment Optimization Project

- Components/sub-projects
  - Design new system
  - Remove old system components
  - Fabricate and install new system components



The wastewater treatment optimization project is underway and anticipated to be completed in 2018.



A site-wide power outage occurred when electrical equipment failed at the site's substation.

Site Projects

Site-Wide Power Outage

- Repair options evaluated by electrical engineering firm
- Repairs completed September 26

Critical equipment and facilities were run on generators until electrical service was restored.

Site Projects

Honeysuckle Clearing

Honeysuckle clearing was conducted along the Shingle Oak Trail as part of ongoing efforts to remove invasive species from the site.

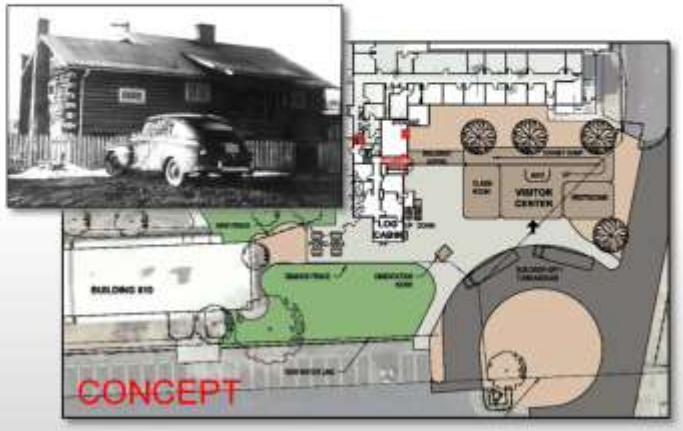
Site Projects

Extraction-Well Maintenance

Extraction-well maintenance is a substantial ongoing effort.

Success Stories

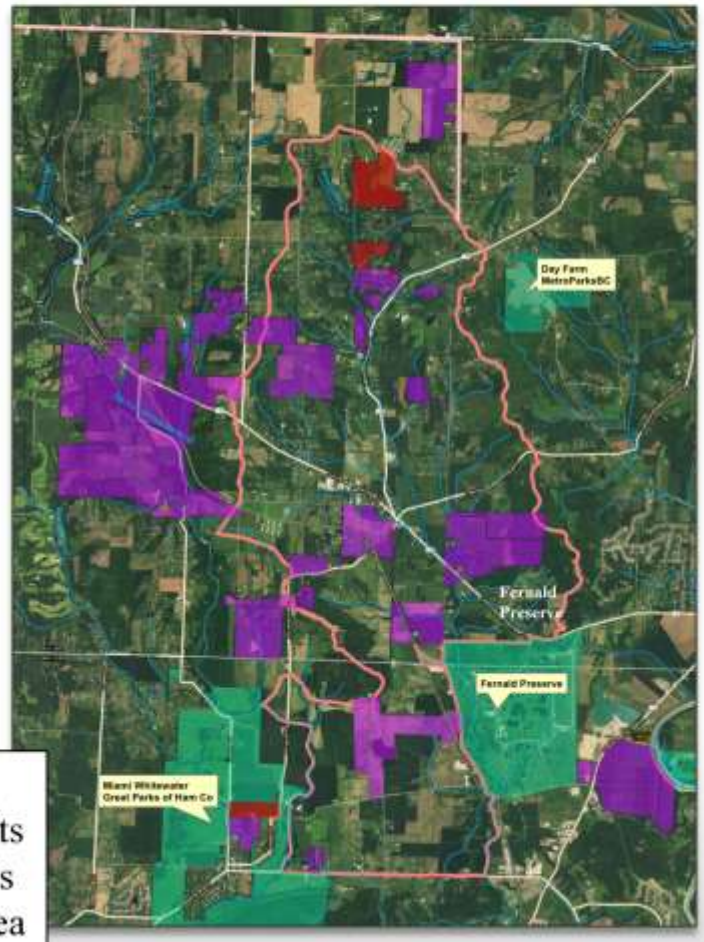
- LM visitors centers
- Portsmouth Site Specific Advisory Board (SSAB) OSDF visit



LM is expanding its network of visitors centers, and lessons learned from the site's cleanup continue to be shared.

Natural Resource Trusteeship

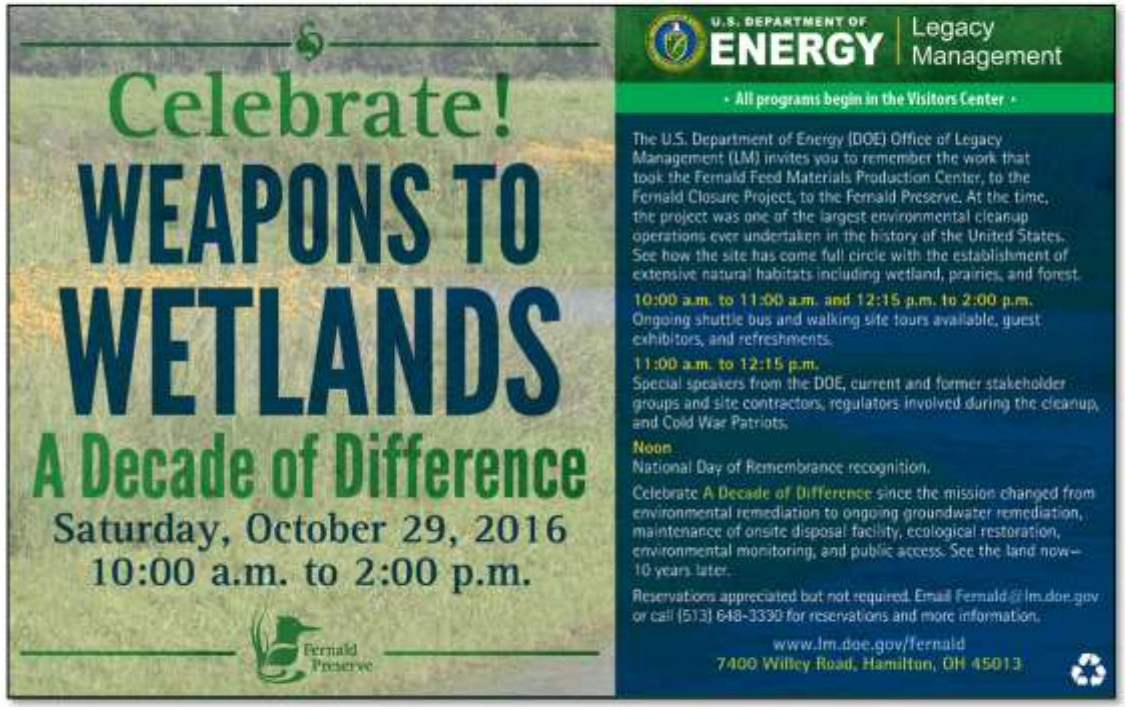
September 2016



The Natural Resource Trustees have partnered with the Three Valley Conservation Trust to purchase conservation and agriculture easements in the Paddys Run watershed and above the associated Buried Valley aquifer.

Numerous work activities are planned for the coming year.

Look Ahead



A 10-year anniversary celebration will be held October 29, 2016.

The next annual Fernald Preserve community meeting will take place in fall 2017.