



Fernald
Preserve



Community Meeting

March 5, 2008

8624

The sixth quarterly Legacy Management Community Meeting was held on March 5, 2008, at the Ross Fire House. Approximately 26 people attended the meeting for information related to the aquifer restoration activities, debris discoveries, and a Visitors Center update.



Nature Nook



Canada Goose
Branta canadensis

- Most familiar waterfowl in this area
- Typically migrate, but may become “residents” if conditions are ideal
- Population growth due to successful 20th century wildlife protection
- Nest on the ground near water
- Clutches typically have 5–7 eggs

8624.02 3/08

A regular feature of the community meeting is the Nature Nook which highlights a flora or fauna that inhabits the Fernald Preserve.



Nature Nook



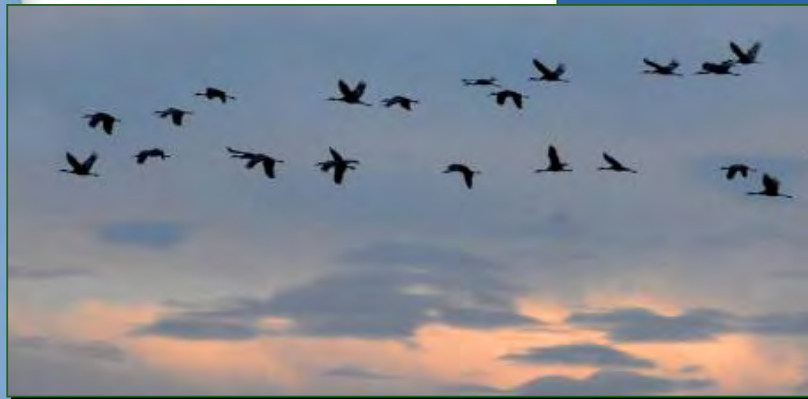
8624.03 3/08

The Canada goose has become a nuisance species at the Fernald Preserve. These once migratory birds are now attempting to reside year-round. The birds have been eating young wetland plantings and their droppings have created problems in the water. In an effort to prevent the geese from laying eggs on site, Border collies have been brought on site to chase the geese.



Nature Nook

Sandhill Cranes



8624.04 3/08

Recent migratory birds to stop at the site include the sandhill crane.



Fernald Preserve



As a community asset, the Fernald Preserve will foster wildlife habitat and provide educational opportunities through environmental stewardship.

The Fernald Preserve continues the slow transformation from a recently-remediated uranium-metal production facility to a nature preserve as the site matures.



Worker Safety and Health

OSHA Recordables (yearly)

Fernald	DOE Complex	LM	Industry
0.0	1.6	0.3	4.8

Fernald Preserve (quarterly)

Lost time	First aid	Recordables
0	0	0

8624.06 3/08

The Fernald Preserve safety performance has been outstanding with zero OSHA recordables, lost-time accidents, or first-aid cases. This safety record continues to exceed national industry standards.



Inspections

Site

- Component of the site's *Comprehensive Legacy Management and Institutional Controls Plan* (LMICP)
- Ensures that institutional controls are maintained and that restored areas are protected
- 2007 was the first inspection year
- Inspections are conducted quarterly
- Inspections show that the institutional controls are effective and there is limited unauthorized use
- Negative findings most associated with the development of restored areas (noxious weeds and erosion)



8624.07 3/08

Various types of inspections are conducted quarterly and annually at the Fernald Preserve.



Inspections

On-Site Disposal Facility

- Component of the site's *Post-Closure Care and Inspection Plan*
- Adopted to identify potential problems before they become major concerns
- Reviews include fences, signage, grass cover, drainage system, and survey benchmarks
- 2002 was the first inspection year
- Inspections are conducted quarterly
- No major issues noted to date
- Typical findings include erosion rills, animal burrows, noxious weeds, woody vegetation, and rocks
- Next inspection March 12



8624.08 3/08

Inspections of the On-site Disposal Facility are conducted quarterly.



Surface Water

Waste Pit 3 Area

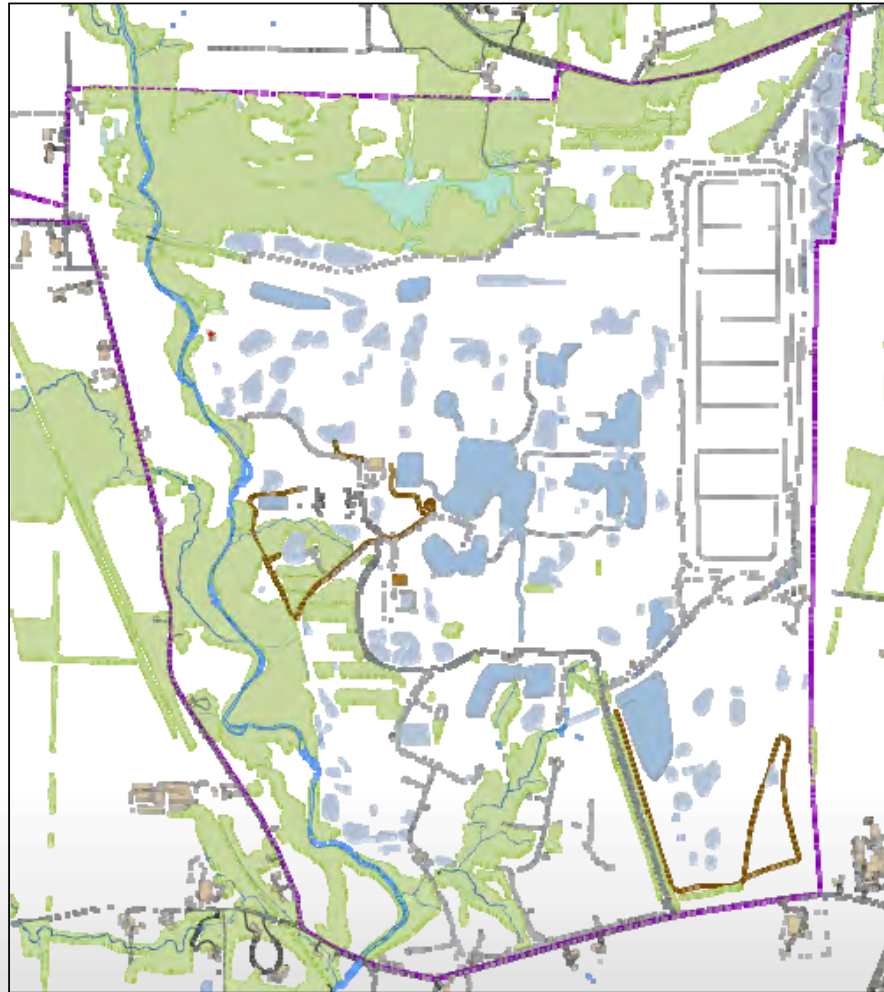
- Area met final remediation levels for soil certification
- Late 2006–early 2007: elevated total uranium levels in the surface water were discovered
- January–March 2007: leachability study developed, conducted, and results were shared with the U.S. Environmental Protection Agency (EPA), Ohio EPA, and the community
- DOE developed and executed a maintenance plan to remove upper 6 inches of soil and to reduce “ponding” in the area
- Groundwater is captured by existing extraction wells
- Monitoring, reporting, and maintenance of the area will continue and the data will be reported to the EPAs
- *Interim Residual Risk Assessment* was completed, approved by the agencies, and demonstrated that the site meets the risk levels for an undeveloped park

8624.09 3/08

Elevated uranium levels in the surface water near the former Waste Pit 3 area are being monitored. While the area in question has met soil cleanup levels and the water is not draining off site, DOE has completed a maintenance action and will continue to monitor the area.



Surface Water



8624.10 3/08

The red dot is the location of elevated uranium levels in the surface water near the former Waste Pit 3 area.



Surface Water



8624.11 3/08

The maintenance action undertaken by DOE involved removing 6 inches of surface soil and regrading.



Nonroutine Events



August 2007



8624.12 3/08

Site status reports are routinely sent to site regulators and stakeholders.



Nonroutine Events

Debris

- Discoveries are occurring due to the weathering of the site (freeze, thaw, rain, etc.)
- The potential to find debris is identified in the site's *Comprehensive Legacy Management and Institutional Controls Plan* (LMICP)
- Locations are logged in a GPS database, and a radiological survey is performed to determine the appropriate disposition
- Approximately 2,300 pieces have been found and 125 pieces have been identified with fixed contamination
- A running total of the contaminated debris is provided to the agencies and the public on a monthly basis
- Preparing for site opening

8624.13 3/08

Site status reports are routinely sent to site regulators and stakeholders.



On-Site Disposal Facility



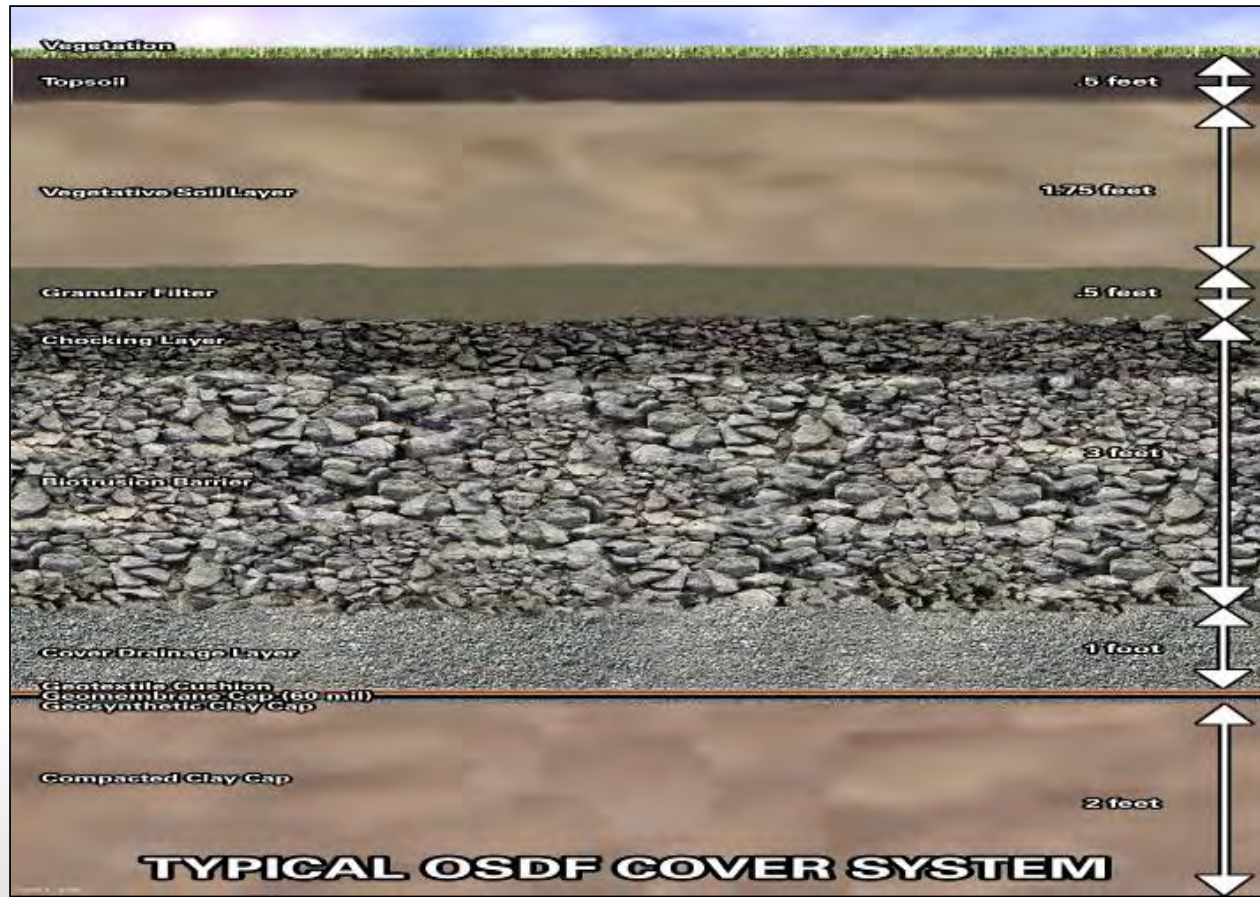
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The On-Site Disposal Facility is an engineered waste-storage area that holds 2.95 million cubic yards of waste.



On-Site Disposal Facility

Cover



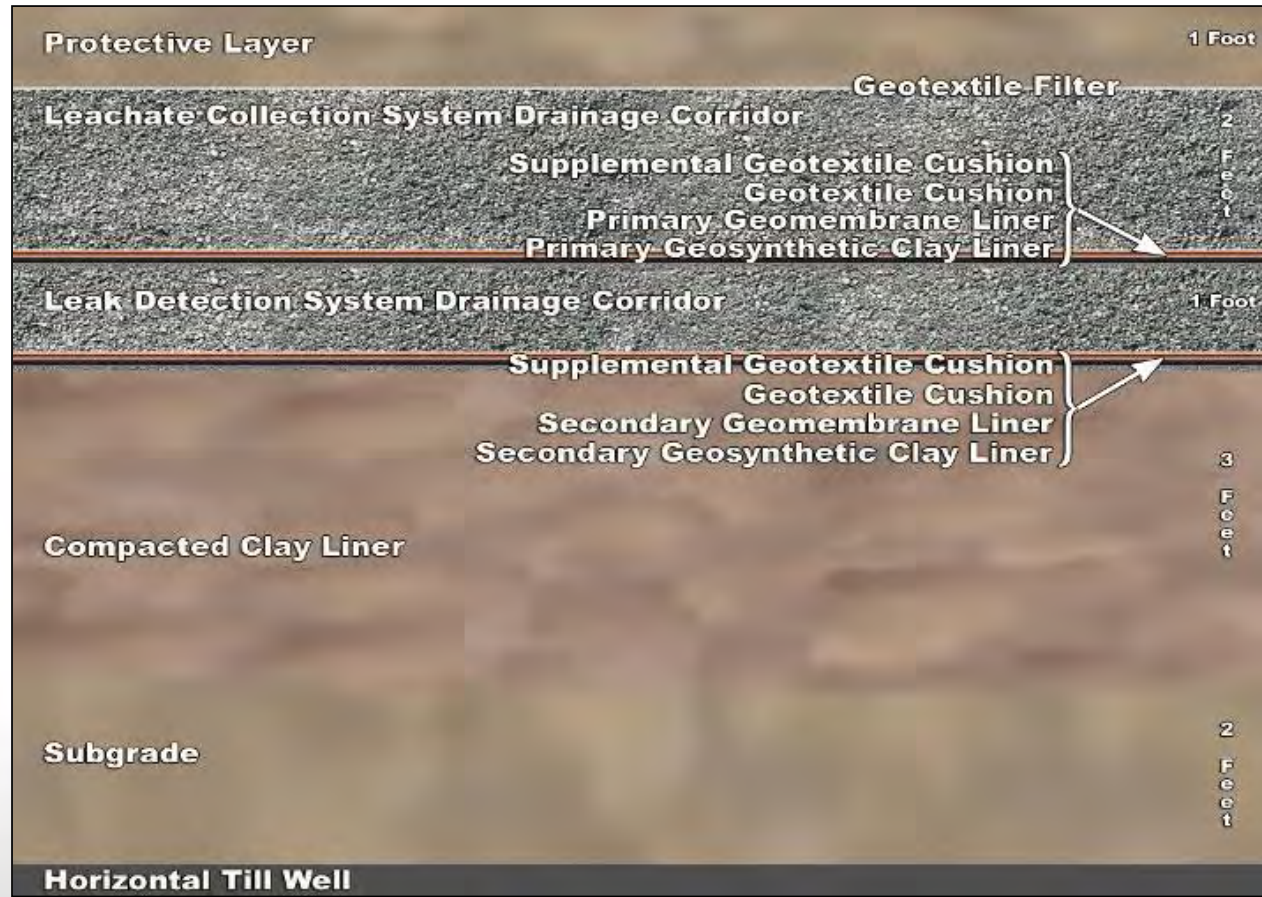
8624.15 3/08

On-Site Disposal Facility engineered cover system.



On-Site Disposal Facility

Liner



8624.16 3/08

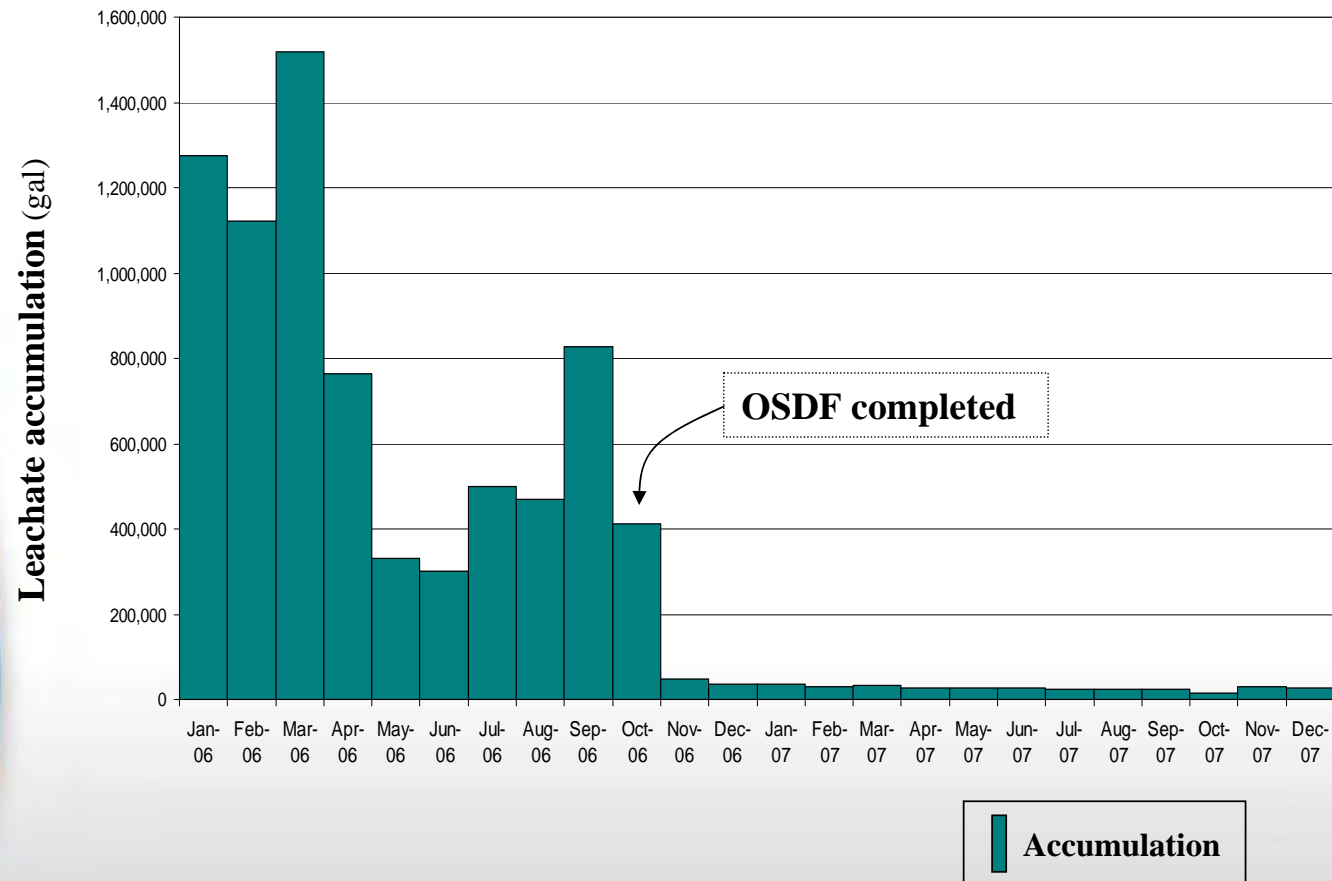
On-Site Disposal Facility engineered liner system.



On-Site Disposal Facility

Leachate Collection System

Leachate Collection



8624.17 3/08

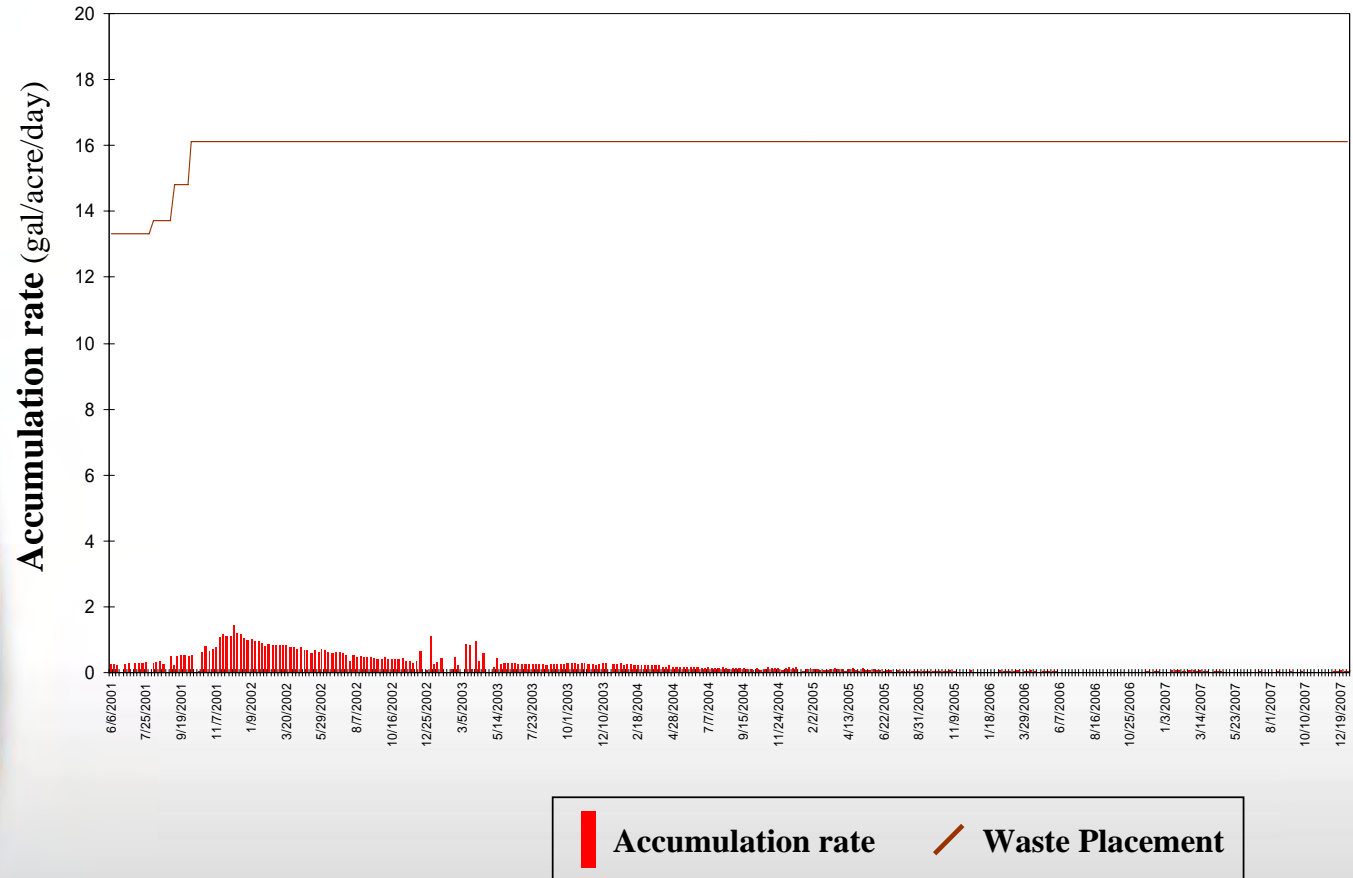
Leachate is the moisture in the waste within the On-Site Disposal Facility (OSDF). The leachate is collected and transferred to a treatment facility. Prior to completing the cover system in October 2006, monthly leachate flows were hundreds of thousands of gallons per month. Since the completion of the OSDF cover system, monthly leachate flows have decreased to 20,000–30,000 gallons.



On-Site Disposal Facility

Leak Detection System: Cell 1

20-gallon action level



8624.18 3/08

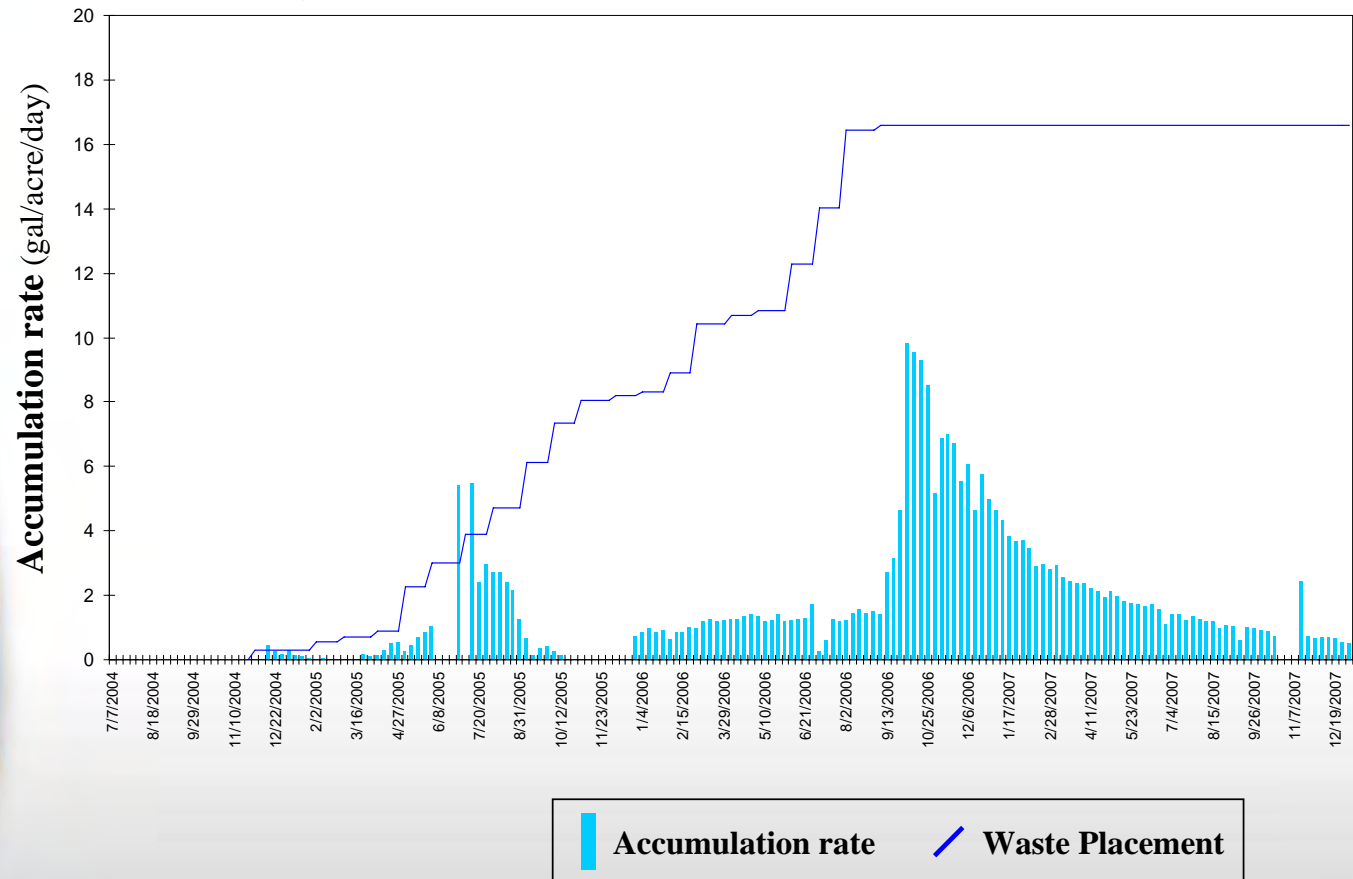
Cell 1 of the On-Site Disposal Facility was the first of eight cells filled with waste and capped. The volume of water collected from the leak detection system of this cell is well below the action level and the system is operating as designed.



On-Site Disposal Facility

Leak Detection System: Cell 8

20-gallon action level



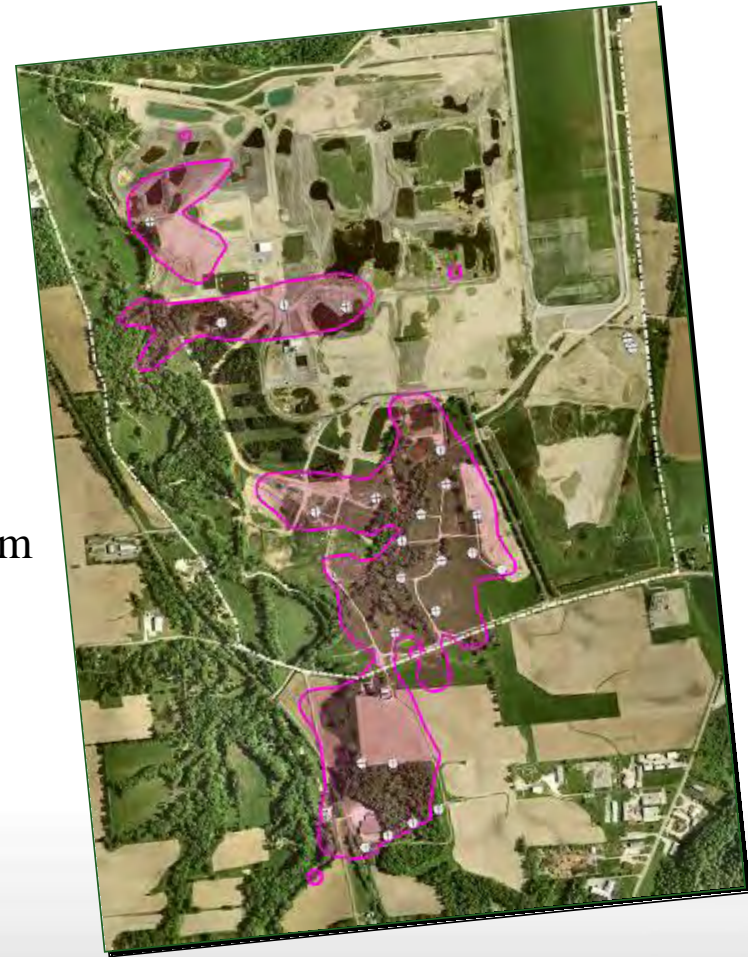
8624.19 3/08

Cell 8 of the On-Site Disposal Facility was the last of eight cells filled with waste and capped. The volume of water collected from the leak detection system of this cell is well below the action level and the system is operating as designed.



Aquifer Restoration

- 4,800 gallons-per-minute target flow rate
- 23 extraction wells
- 178 sampling wells
- Extracted 20.7 billion gallons
- Treated 9.33 billion gallons
- Removed 8,449 pounds of uranium
- Project completion in 2026



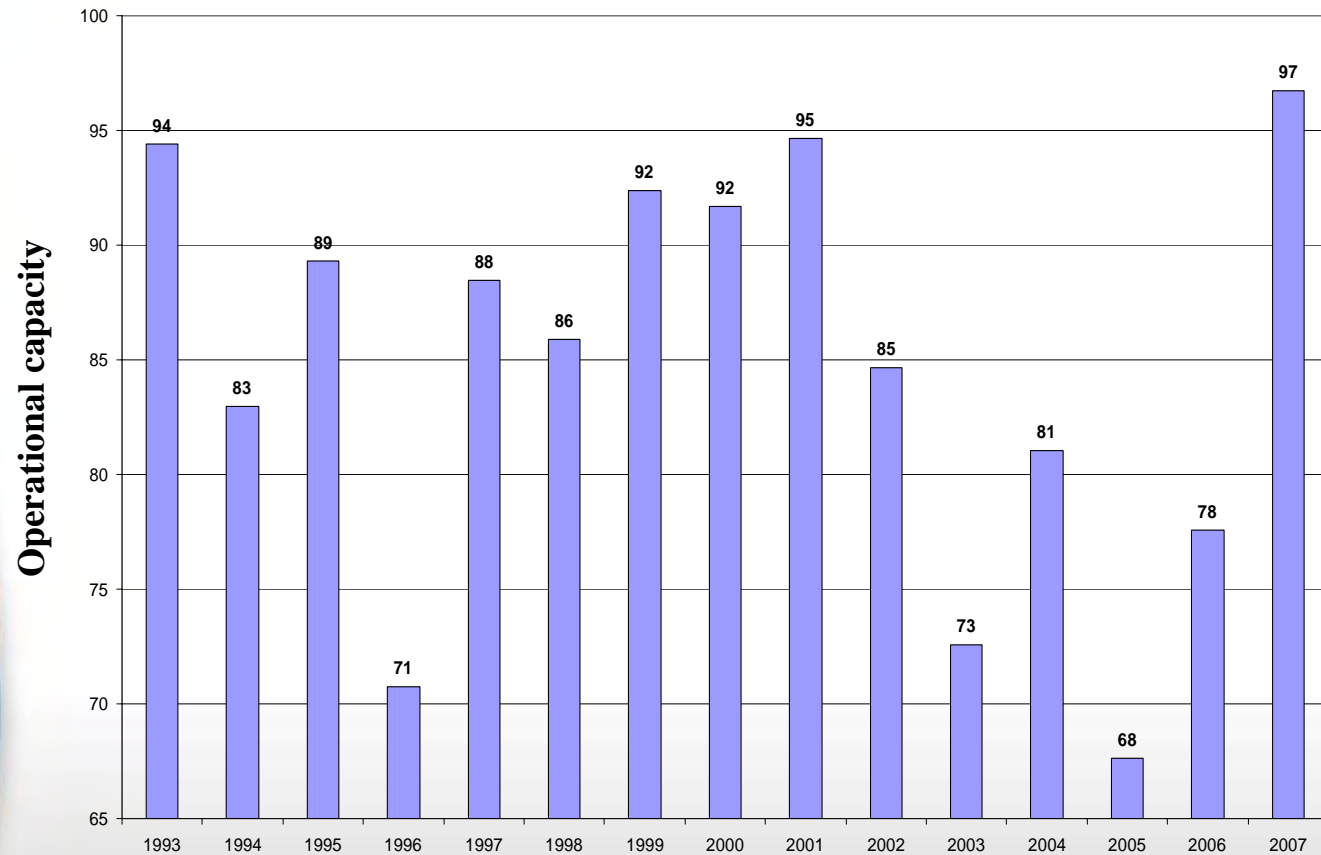
8624.20 3/08

Groundwater cleanup continues at the Fernald Preserve.



Aquifer Restoration

Pumping – Percent of Target Achieved



8624.21 3/08

2007 was the best year to date for operations related to the site's groundwater cleanup.



Aquifer Restoration

Regulatory Limits

- Meet 30 parts per billion monthly average uranium discharge limit to Great Miami River
- Meet 600 pound per year uranium discharge limit to the Great Miami River

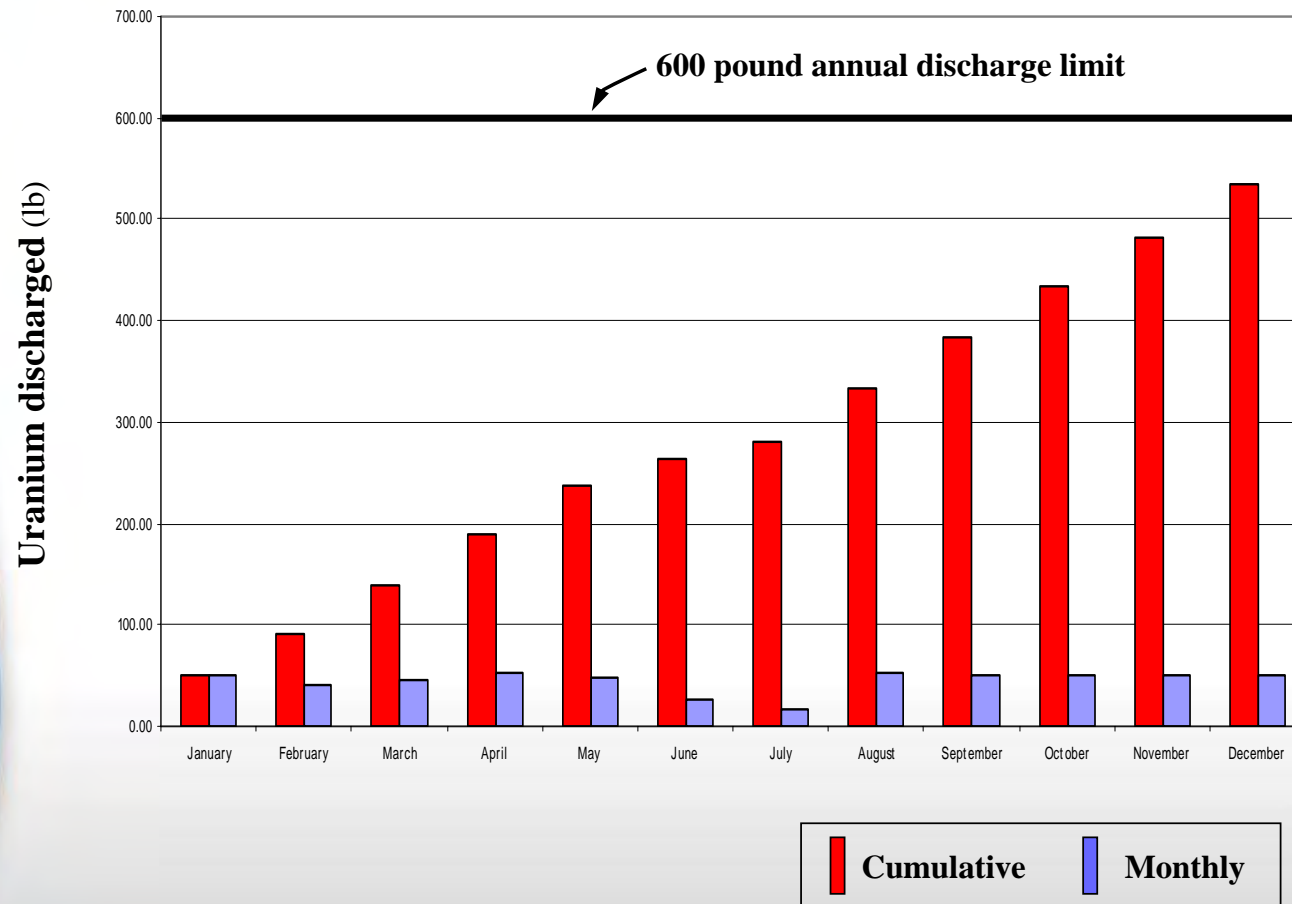
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Regulatory limits at the Fernald Preserve are set by the U.S. Environmental Protection Agency.



Aquifer Restoration

2007 Uranium Discharged (pounds)



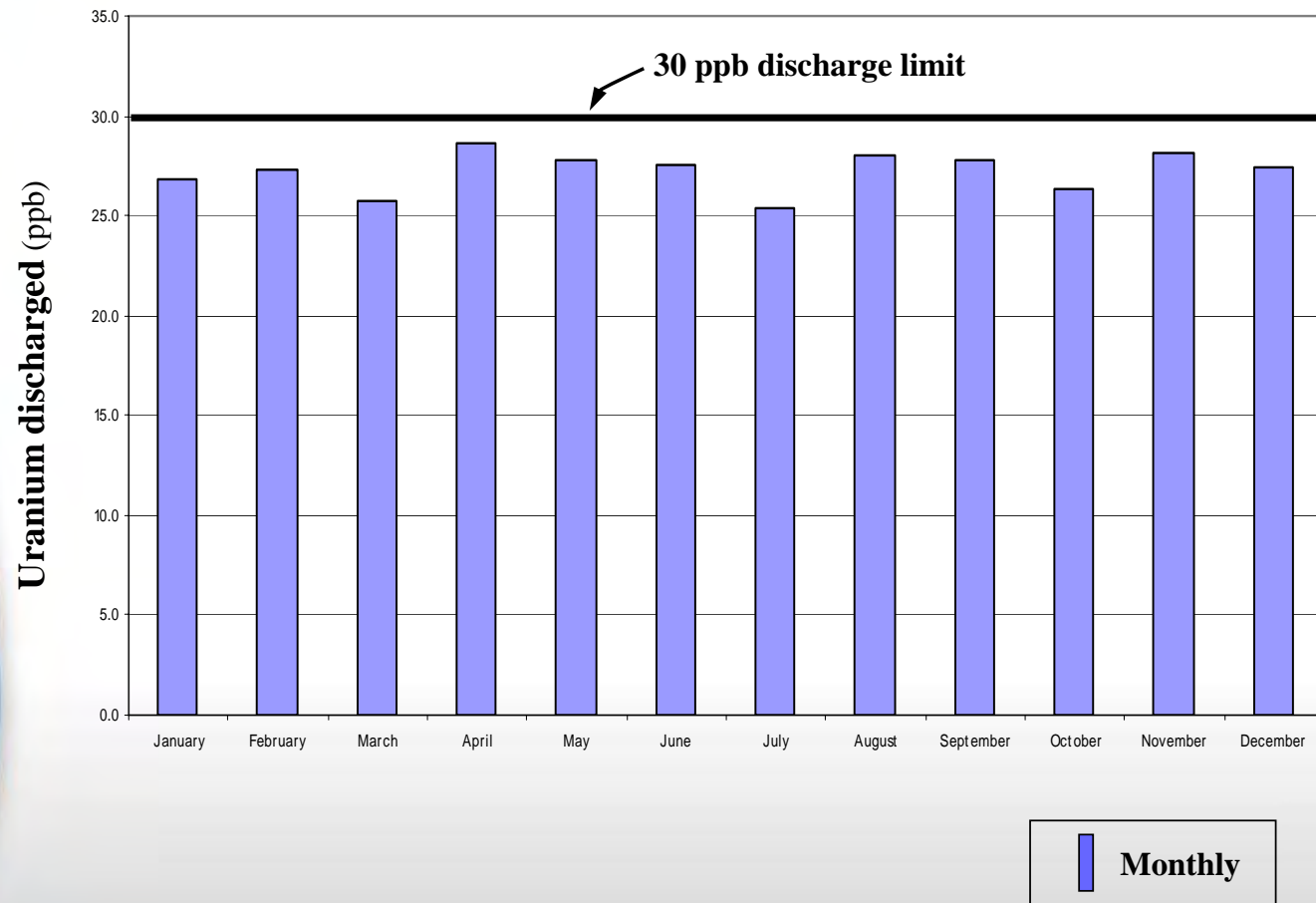
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Uranium discharge levels to the Great Miami River are well within the limits set by the U.S. Environmental Protection Agency.



Aquifer Restoration

2007 Uranium Discharged
(parts per billion)



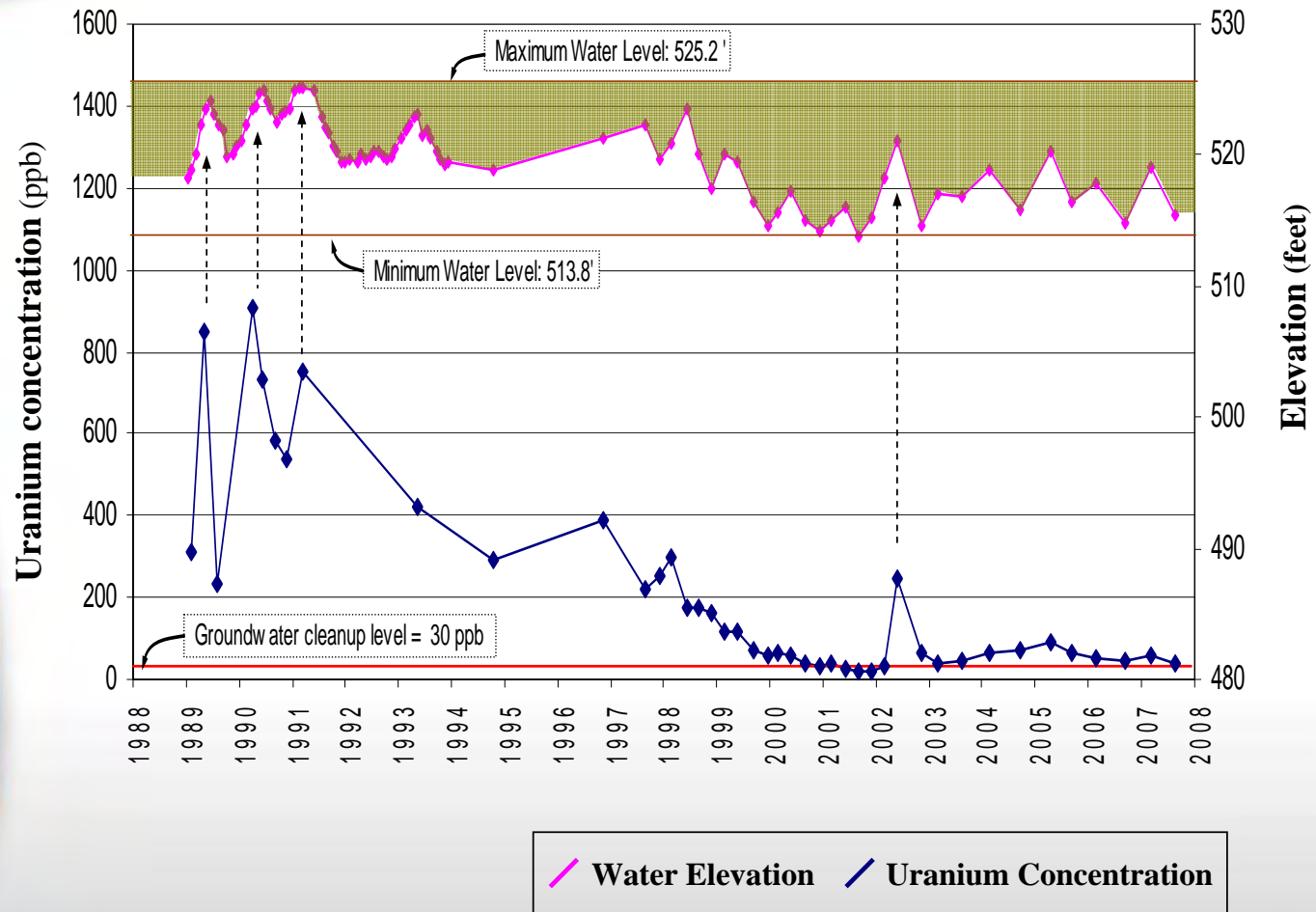
8624.24 3/08

Uranium discharge levels to the Great Miami River are well within the limits set by the U.S. Environmental Protection Agency.



Aquifer Restoration

Monitoring Well 2046 Water Level



Uranium concentrations in the groundwater are related to aquifer levels beneath some areas of the site.



Aquifer Restoration

Water Level Rebound Study

Purpose

- Uranium on sediments above water table under some source areas (Former South Field and Waste Storage Areas)
- Shut down 19 of 23 extraction wells for one month
- Allow water levels to rebound
- Redissolve uranium bound to sediments

Results

- Water levels did not rebound as much as expected due to drought conditions

2008 Plan

- Monitor water levels to time the shutdown with the aquifer's highest water level

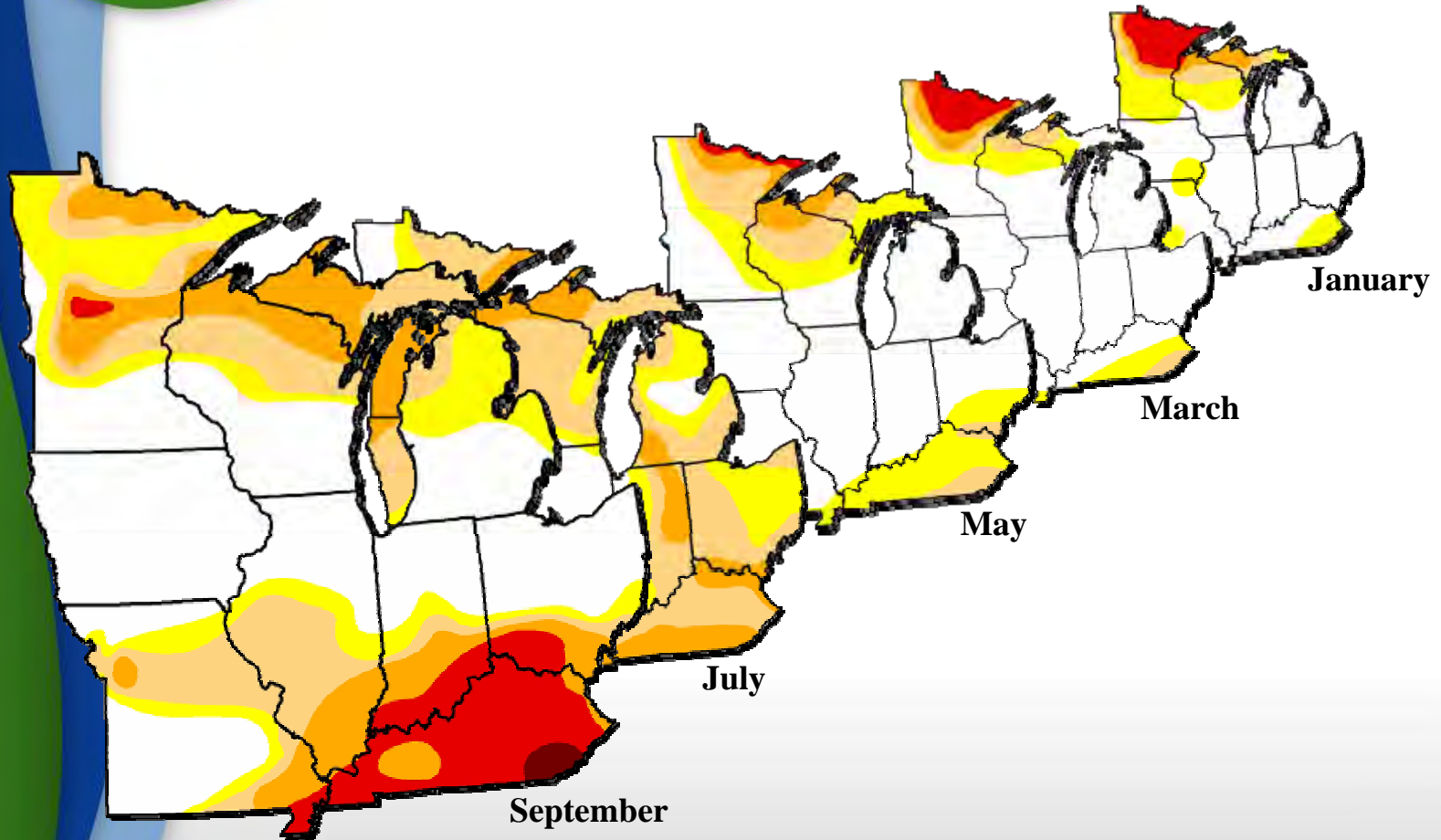
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Various actions have been taken by the aquifer-restoration personnel to remove uranium from the Great Miami Aquifer.



Aquifer Restoration

2007 Drought Conditions

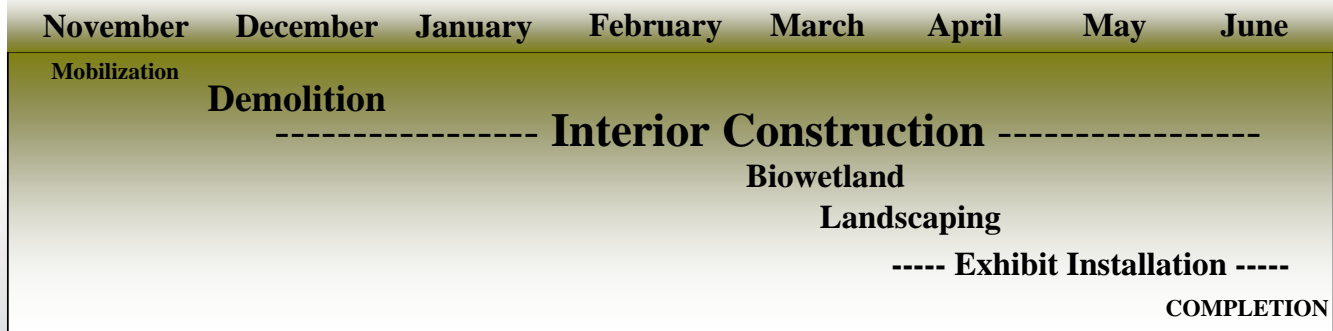
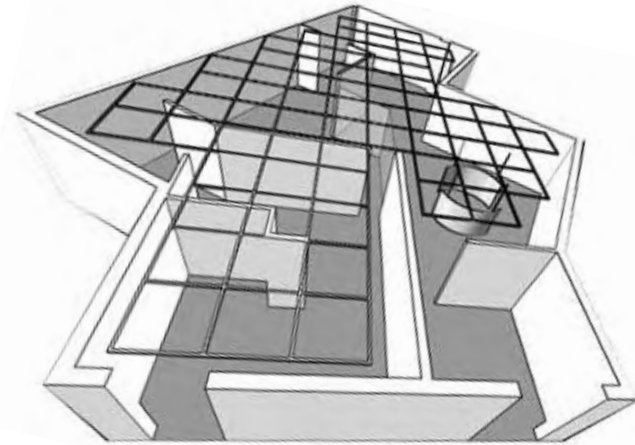


8624.27 3/08

2007 Midwest drought progression.



Visitors Center



8624.28 3/08

The Fernald Preserve Visitors Center will open to the public later this year and will serve to inform the public of activities at Fernald, such as Legacy Management oversight, groundwater management, and land use restrictions. The center will also include an exhibit area detailing Fernald's rich history through land acquisition, construction, Cold War production, environmental contamination, citizen involvement, cleanup, and ongoing restoration.



Visitors Center



- 02 Nature and Native Sounds
- 07 Eminent Domain Stories
- 03 Trinity Explosion
- 04 Fifties / Duck-and-Cover
- 05 Construction Sequence
- 06 Plant Operations
- 07 Beeper Signal Sounds
- 08 Contamination News Media
- 09 Demolition Sequence



8624.29 3/08

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Visitors Center

Biowetland

- 30% design was presented to and accepted by regulators on January 23 (ahead of schedule)
- Final design due on March 7 (on track)

Exhibits

- University of Cincinnati (UC) 90% design was submitted on February 25 (on schedule)
- UC will submit final design to Harlan Graphics on March 21 (on track)
- UC will complete multimedia content by April 14 (on track)

LEED

- Leadership in Energy and Environmental Design (LEED) materials were submitted for evaluation to the U.S. Green Building Council (USGBC) on February 22
- Feedback on submittal expected from USGBC by March 31
- Expediting certification; anticipate approval by September 21

8631.30 3/08

The Fernald Preserve Visitors Center will be an environmentally friendly building.



Site Opening



8624.31 3/08

Trails are being constructed in preparation for the site's opening.



Site Opening

- Planned opening for June 18, 2008 and community meeting
- Visitor access will be limited to the Visitors Center, paved surfaces, and established trails to reduce human impact on restoration efforts
- Access to additional areas can be conducted by site personnel or trained volunteers
- Site perimeter signage will be changing



8624.32 3/08

Visitors to the Fernald Preserve will be sharing the site with restoration and groundwater cleanup personnel.



Community Relations

Sue Walpole

S.M. Stoller, Fernald Community Relations Manager

- **Information requests** (December–February)
 - 3 Freedom of Information Act (FOIA)
 - 3 Privacy Act (PA)
 - 13 National Institute of Occupational Safety and Health (NIOSH)
 - 15 Employment verifications
 - 30 Part E, Energy Employees Occupational Illness Compensation Program Act (EEOICPA)
- **Public interaction** (December–February)
 - 6 Tours: 30 people

8624.33 3/08

Requests for information continues at the Fernald Preserve.



What's Next?

90-Day Forecast (March–May)

- **Visitors Center**
 - Construction and exhibit installation
- **Restoration**
 - Trails and overlook construction
 - Restored areas maintenance
 - Mowing, Herbicide application, Goose control
- **Reports**
 - Issue *2007 Fernald Site Environmental Report*
 - Finalize annual revisions to the *Comprehensive Legacy Management and Institutional Controls Plan*

8624.34 3/08

Work priorities at the Fernald Preserve for the next 3 months will include work on the Visitors Center, restoration activities, and the completion of annual documents.



Community Meeting

Join us:
June 18, 2008
6:30 p.m.
Crosby Senior Center



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8624.35 3/08

The next community meeting will be held at 6:30 p.m. on June 18, 2008, at the Crosby Senior Center.