



US Army Corps
of Engineers
Buffalo District

The Former Lake Ontario Ordnance Works (LOOW)

USACE Update
27 October 2007



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Overview

- Welcome & Introductions
- Corps Community Outreach
- Corps Mission & Programs
- What's Been Done
- What's Planned For 2008



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Welcome & Introductions



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Welcome & Introductions

Corps Speakers

- **Mr. Jim Karsten**

Responsible for Buffalo District environmental remediation projects

- **Mr. Bill Kowalewski PE, PMP**

Responsible for USACE projects at the Former LOOW



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Welcome & Introductions

Corps Project Team – Key Staff

- **Dr. Judy Leithner**
Environmental Engineer
- **Dr. Karen Keil**
Environmental Toxicologist
- **Ms. Liza Finley**
Risk Assessor
- **Ms. Michelle Rhodes**
Chemical Engineer
- **Mr. Steven Vriesen**
Environmental Engineer
- **Mr. Bill Frederick**
Hydrogeologist
- **Ms. Arleen Kreuzsch APR**
Outreach Specialist
- USACE National Center of Expertise for Hazardous, Toxic, Radiological Waste
- Contracted scientists from Argonne National Laboratory, SAIC, EA Engineering & Science, Hydrogeologic, and others



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Welcome & Introductions

Objectives for Today

- Provide information on how you can participate and find out more about the Corps mission at the Former LOOW site
- Provide an update on what the Corps has done and is doing at the former LOOW site
- Provide information on future activities, events, reports, and opportunities to participate that will be taking place in the coming year



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Corps Community Outreach



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Corps Community Outreach *Objectives*

- Provide opportunities to exchange information
- Seek and accept public input regarding USACE projects
- Respond to public concerns where we have authority to do so
- Coordinate public concerns with local, state, and other Federal agencies on public concerns outside USACE authority
- Ensure consistency in communications



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Corps Community Outreach

**How
You
Can
Find
Out
More**

- Visit the Corps website
www.lrb.usace.army.mil/derpfuds/loow-nfss
- Visit the RAB website at
www.loowrab.com
- Visit the LOOW Information Repository at the Lewiston Library
- Attend Corps public information sessions
- Attend RAB meetings/contact a RAB member
- Attend Niagara County Health Department's Community LOOW Project Meetings
- Contact your state regulatory agency



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Corps Community Outreach

**Who
You
Can
Contact**

Ms. Arleen Kreusch

Community Outreach Specialist

for

Environmental Restoration Projects

U.S. Army Corps of Engineers

Buffalo District

derpfuds@usace.army.mil

fusrap@usace.army.mil

1-800-833-6390 Option-4



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Corps Mission & Programs



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Corps Mission & Programs

Buffalo District Area of Responsibility

- 38,000 square miles
- 100 miles of federal channels
- 18 commercial harbors
- 17 recreational harbors
- 33 miles of breakwaters
- 25 members of Congress





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Corps Mission & Programs

Congressionally Authorized Missions

- Navigation
- Flood Damage Reduction
- Shoreline Protection
- **Environmental**
- Global War on Terrorism
- Disaster Relief
- Regulatory
- Flood Control and Coastal Emergency
- IIS (Interagency and International Services)
- International Joint Commission (IJC)



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Corps Mission & Programs

Environmental Missions

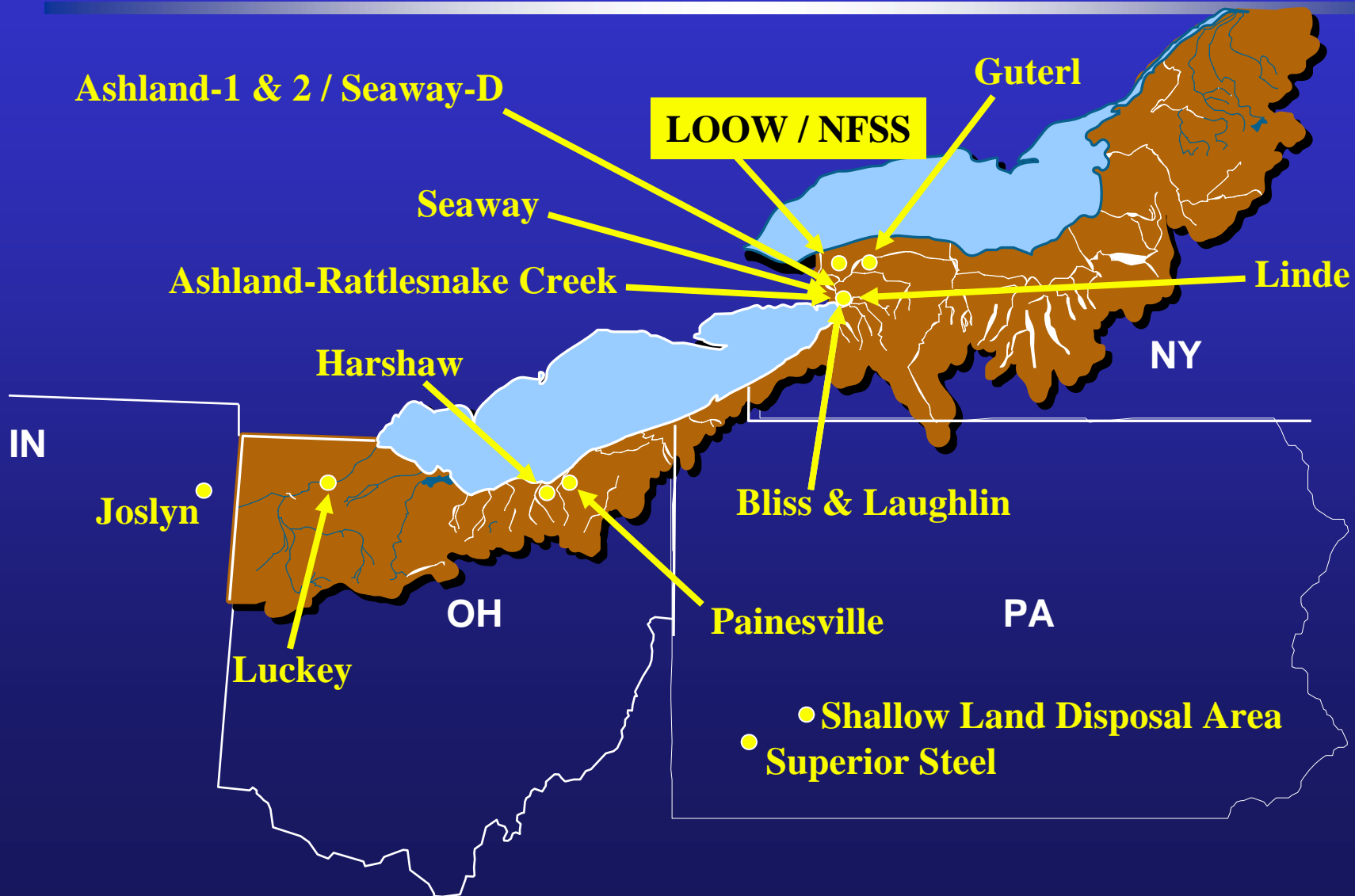
- **Ecosystem Restoration**
 - Habitat Restoration, Aquatic Resources, Shoreline Protection
- **Environmental Remediation**
 - *Resulting from Federal Ownership or Activity*
 - Radiological Contamination
 - Chemical Contamination
 - Explosives / Munitions
 - Underground Storage Tanks
 - Building Demolition / Debris Removal



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Corps Mission & Programs

Environmental Remediation Sites





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Corps Mission & Programs

Environmental Programs

F ormerly

U tilized

S ites

R emedial

A ction

P rogram

- Radiological impacts from past Federal activity
- \$140M per year nationally
- 20-25 projects nationally
- 11 projects in the Buffalo District area of operation

** NFSS is 1 of the 11 projects in the Buffalo District*



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Corps Mission & Programs

Environmental Programs

Defense **E**nvironmental **R**estoration **P**rogram

- Impacts from Past Department of Defense Activities
 - Chemical
 - Explosives / Ordnance
 - Underground Tanks
 - Buildings / Debris

Formerly **U**sed **D**efense **S**ites

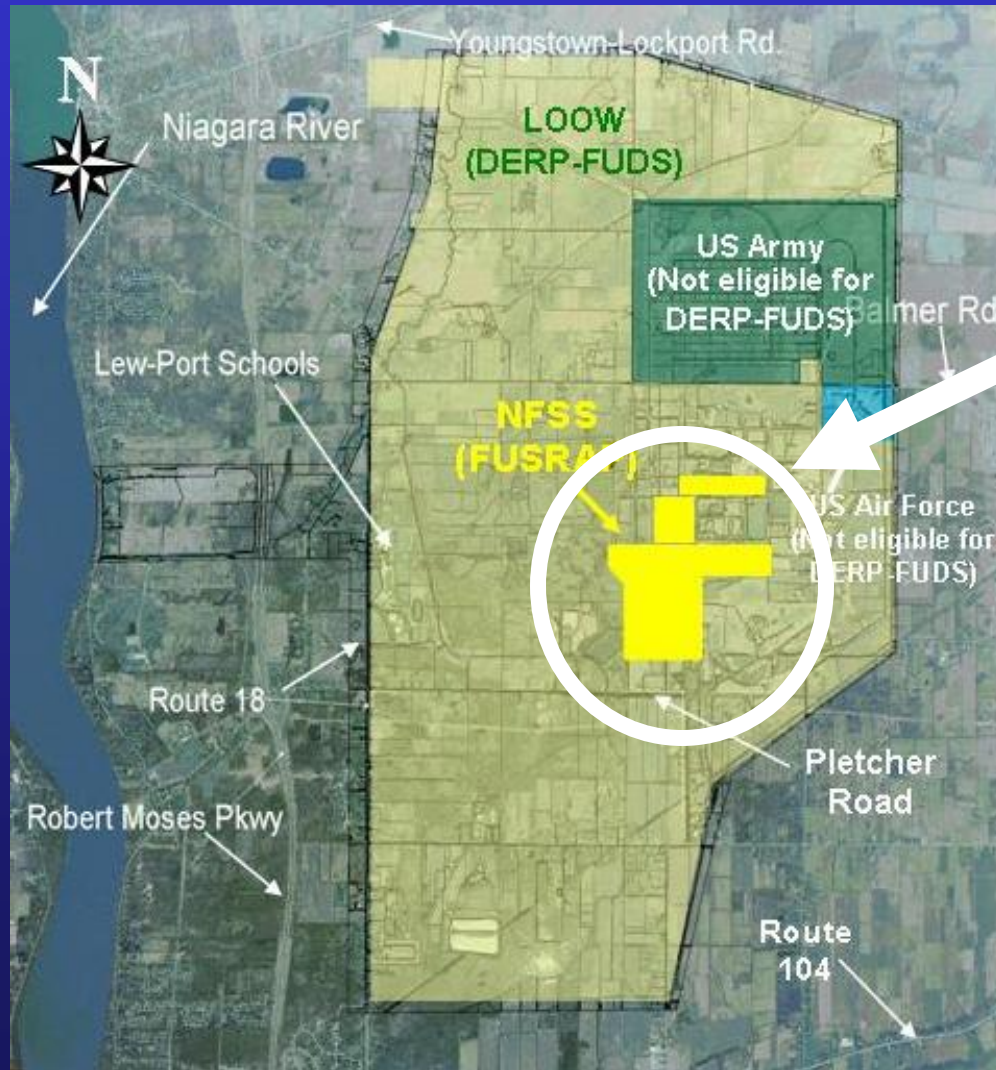
- \$250M per year nationally
- 9,908 properties nationally
- 487 properties in NY State
- * *LOOW is 1 of the 487 sites in NY State*



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Corps Mission at LOOW

Radiological - FUSRAP

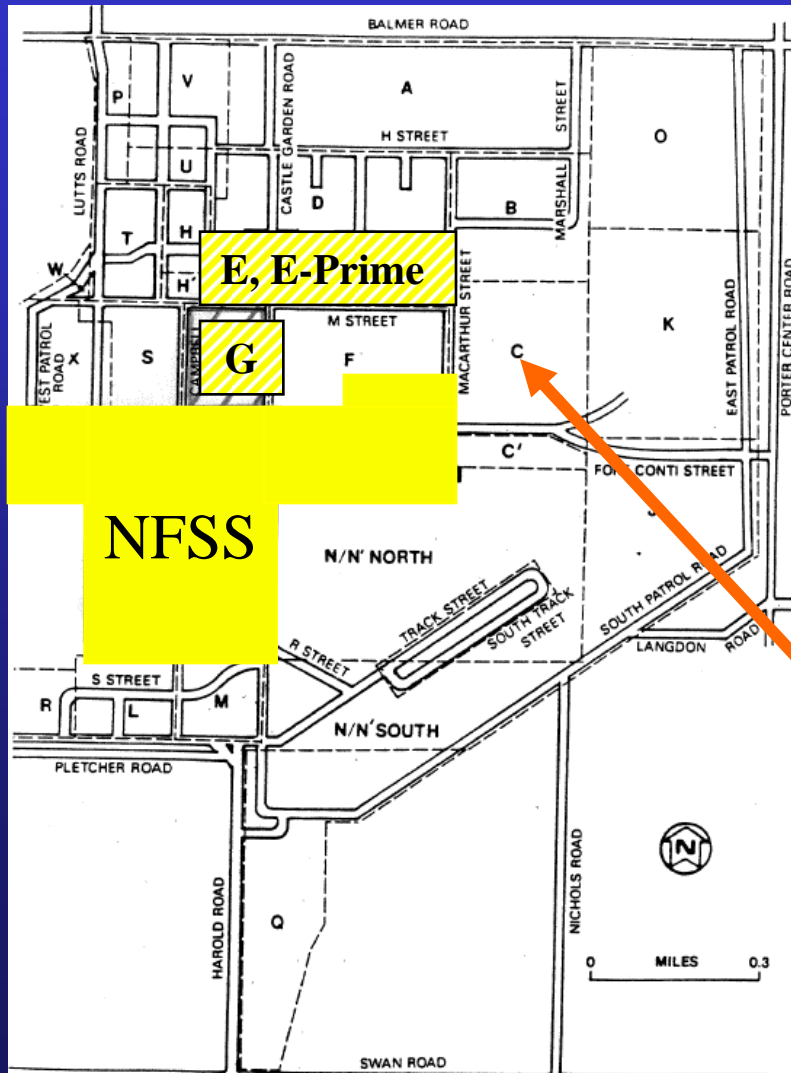


- The Corps is completing investigations of the NFSS and three open sites started by the US Department of Energy within 300 acres of the former LOOW
- The Corps is only authorized to investigate radiological impacts from Federal activities at other locations when directed to do so by the US Department of Energy





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Corps Mission at LOOW (Radiological - FUSRAP)



Open Investigation Areas

-  Niagara Falls Storage Site (Federal Property)
-  Open Vicinity Properties E, E-Prime, and G (CWM Property)

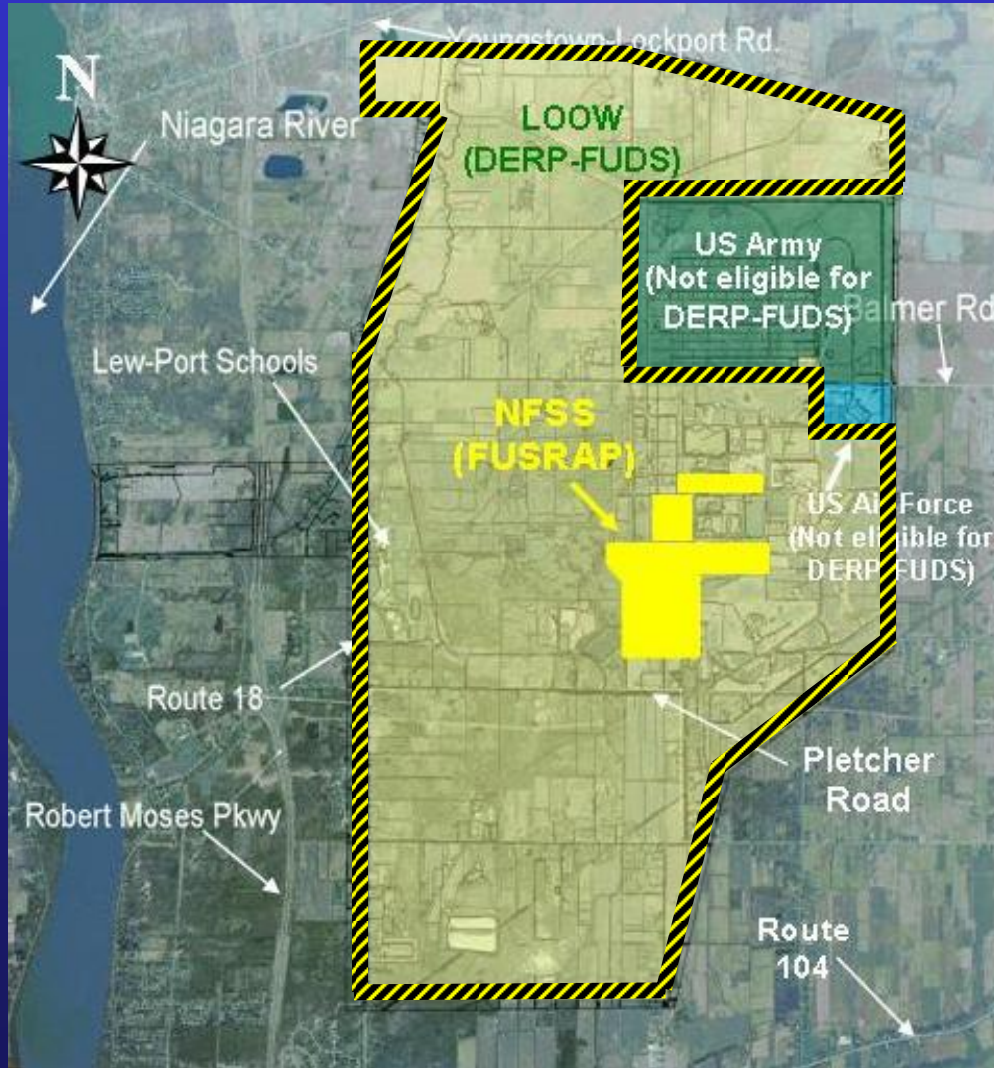
Closed Investigation Areas

-  Closed Vicinity Properties. USDOE remediation complete. No further Federal action unless directed by Congress or USDOE (VP-C Shown)



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Corps Mission at LOOW (*Non-Radiological DERP-FUDS*)



Open Investigation Areas

- Impacts from Department of Defense ownership and operation
- DoD Chemical Contamination
- DoD Explosives, Munitions and Chemical Warfare Materiel
- DoD Underground Storage Tanks



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Corps Mission at LOOW

Responsibilities

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- **IS** responsible for addressing **contamination** caused by past **Federal** activity at the LOOW
- **IS** responsible for protecting Federally regulated **wetlands** at the LOOW
- **IS NOT** responsible for **contamination** caused by **non-Federal** activity at the LOOW
- **IS NOT** authorized to conduct **public health studies**
- **IS NOT** responsible for permitting or regulating commercial **landfills** at the LOOW
- **IS NOT** authorized **to stop** a property owner from using or developing **their property** even if it impacts current or future USACE environmental remediation activities



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Lake Ontario Ordnance Works *Other Agencies & Responsibilities*

US Army / New York Army National Guard	- IS responsible for addressing environmental issues at the National Guard training site north of Balmer Road
US Department of Energy	- IS responsible for all radiological issues outside the open FUSRAP properties (NFSS and VP-E, E-Prime, G) being investigated by the Corps - IS responsible for determining whether to reopen closed FUSRAP vicinity properties for future USACE investigation



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What's Been Done



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What's Been Done

Niagara Falls Storage Site (NFSS)





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What's Been Done

NFSS Site Security & Maintenance

2001- 2002	<p>Demolished Building 403 (former fire department and USDOE laboratory facility)</p> <ul style="list-style-type: none">* <i>Eliminated radiological and physical hazards</i>* <i>Safely removed and properly disposed of debris</i>
2002	<p>Completed asbestos abatement of Building 401 (former boiler house for LOOW TNT Plant)</p> <ul style="list-style-type: none">* <i>280 cubic yards of asbestos insulation safely removed and properly disposed</i>
2000 & 2005	<p>Completed structural safety assessment of Building 401</p> <ul style="list-style-type: none">* <i>Not at risk for collapse</i>



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What's Been Done

NFSS Site Security & Maintenance

2004	<p>Completed independent site security survey report by USACE Protective Design Center and USACE Electronic Security Center</p> <p><i>* Threat analysis and technical security recommendations</i></p>
2007	<p>Completed independent site security assessment by US Department of Homeland Security</p> <p><i>* Included local law enforcement and emergency response teams</i></p> <p><i>* Final report due in 2008</i></p>



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What's Been Done

NFSS Environmental Surveillance

1981– 1997	NFSS Environmental Surveillance Program and Annual Technical Memorandum <i>* Performed by US Department of Energy</i>
1997 - Present	NFSS Environmental Surveillance Program and Annual Technical Memorandum <i>* Performed by US Army Corps of Engineers</i>
2006 – Present	Public release of environmental surveillance data in advance of the preparation of the Annual Technical Memorandum <i>* In response to public request</i>



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What's Been Done

NFSS Environmental Surveillance

- Over 25 years of regular site maintenance and monitoring of radon concentrations in air; external gamma radiation exposure; radionuclide concentrations in surface water, sediments, and ground water indicates:
 - No current transport of contaminants from IWCS
 - Interim Waste Containment Structure (IWCS) is working as designed to retard rainwater, groundwater infiltration, and radon emanation
- We have a better understanding of the nature and extent of contamination within the IWCS and the overall NFSS.



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What's Been Done

NFSS Remedial Investigation (FUSRAP)

2001 - 2003	Completed three phases of field sampling, analysis, and site exploration and characterization <i>* In 2003 the USACE publicly released the validated data being evaluated in the NFSS Remedial Investigation Report</i>
2002	Completed walkover survey report of the Lewiston Porter school campus to map gamma radiation levels <i>* No hazard to members of the public</i> <i>* The only readings above background were in a piece of granite curb, some bricks and stones, and some isolated areas of asphalt paving</i>



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What's Been Done

NFSS Remedial Investigation (FUSRAP)

2003

Completed walkover survey of the site to map gamma radiation levels and geophysical (underground soils and structures) of the entire 191-acre NFSS

* *Report publicly released*

* *Majority of site soils at background levels*

* *Localized areas of elevated radioactivity*

* *Results evaluated as part of NFSS Remedial Investigation Report*



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What's Been Done *NFSS Vicinity Property-G (FUSRAP)*

2001	<p>USACE initiated reinvestigation of 1951 era burial area for University of Rochester animal carcasses & lab debris</p> <p>In response to public concerns</p> <p>Area had been previously investigated and remediated by USDOE</p>
2002	<p>Completed trenching and sampling of burial area and other suspect areas</p>
2003	<p>Completed laboratory analysis and evaluation of data</p>



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What's Been Done

Vicinity Property-G (FUSRAP)

2004

Completed VP-G Investigation Public Fact Sheet

- * *No exposure or risk to general population*
- * *Need additional investigation to close out Vicinity Property-G*
- * *99% of soils at background radiation levels and free of animal bones and lab debris*
- * *Trace amounts of strontium and plutonium detected in a bone and small amount of laboratory debris found 12 feet below ground*



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What's Been Done

Lake Ontario Ordnance Works

1986	LOOW Project Authorized by Congress under DERP-FUDS Program
1986 - 1997	Initial USACE historical and technical investigations into the LOOW
1997	Buffalo District designated the Lead District for LOOW
1998	Completed LOOW History Search Report detailing property ownership and Federal and non-Federal activities at the LOOW



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What's Been Done *Lake Ontario Ordnance Works*

1998	<p>Interim removal action for asbestos insulation and drums of waste chemicals</p> <p><i>* 6,300 cubic yards of asbestos safely removed and disposed</i></p>
1998 - 2000	<p>Interim removal action for TNT and chemical waste sewer lines</p> <p><i>* 1,300 tons of chemically contaminated soils, pipeline sludge, and water safely removed and disposed</i></p> <p><i>* 300 pounds of TNT safely removed from soils and pipelines</i></p> <p><i>* 95% of TNT Waste Pipelines addressed</i></p>



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What's Been Done *Lake Ontario Ordnance Works*

1999	Completed Phase-I Remedial Investigation <i>* Identified areas of contamination in the developed area of the former LOOW</i>
2001	Completed Phase-II Remedial Investigation <i>* Identified areas of contamination in the developed area of the former LOOW</i>

** Areas A, B, and C discovered on CWM property indicate buried debris and drums from former Air Force Plant-68 operations. These will require remediation in the future.*



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What's Been Done

Lake Ontario Ordnance Works

2002	<p>Analysis of historical aerial photographs of the LOOW 1938 – 1997</p> <p><i>* Identified ground disturbances in the undeveloped zone from 1942-1944 TNT plant operation.</i></p> <p><i>* Other areas noted as possibly impacted areas</i></p>
2003	<p>Completed Summary Report of Environmental Investigations at the LOOW</p> <ul style="list-style-type: none">- Federal Investigations- Non Federal Investigations



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What's Been Done *Lake Ontario Ordnance Works*

Completed Phase-III Remedial Investigation of
Small Bermed Clearings

120 circular ground depressions noted in aerial
photography analysis from 1942-1944 TNT plant
operation – possible TNT burn areas?

2004

A representative set of 12 areas were located and
subjected to field and laboratory analysis

** No TNT detected in field or laboratory*

** Very low levels of diesel range organics present
consistent with heavier hydrocarbons like motor oil*

** Radiological levels were typical for local
background residential area*



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What's Been Done *Lake Ontario Ordnance Works*

2004	Initiated Human Health and Ecological Risk Assessments for portions of the developed zone of the LOOW
2005	Underground Utilities Remedial Investigation Contract awarded
2006	Completed UURI field sampling of utility pipelines
2007	Completed UURI laboratory analysis Publicly released UURI validated data UURI data evaluation and report preparation is in progress



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What's Been Done *LOOW Historical Research*

2007

In response to an inquiry by a local property owner

USACE identified the source of legal terms in a property deed originating from the sale of surplus LOOW land through the Federal Farm Mortgage Corporation in 1946

Deed language reserved the federal government's right to

"...all uranium, thorium, and all other materials...pursuant to the Atomic Energy Act of 1946..."

"...essential for the production of fissionable material, contained, in whatever concentration, in deposits in the lands..."



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What's Been Done *LOOW Historical Research*

2007

President Truman Executive Order 9701 (1946)

“Providing for the reservation of rights to fissionable materials in lands owned by the United States”

“...Public lands in the United States, including Alaska, which contain or may contain substantial deposits of fissionable materials...”

“...to enter upon the lands and prospect for, mine, and remove such materials...”



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What's Been Done *LOOW Historical Research*

President Truman Executive Order 9908 (1947)

“Reservation of source materials in certain lands owned by the United States”

“...all disposals of lands...shall contain the following reservation...”

2007

“...All uranium, thorium, and all other materials determined pursuant to...the Atomic Energy Act of 1946...to be particularly essential to the production of fissionable materials, contained in whatever concentration, in deposits in the lands...”



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What's Been Done

Lake Ontario Ordnance Works

2007	Awarded contract to prepare individual <i>Property Management Action Plans</i> For the former LOOW properties Details to be discussed in the next section of this presentation
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What's Been Done *Lake Ontario Ordnance Works*

- Underground Utilities Remedial Investigation
Field Observations & Preliminary Findings
 - * *The majority of the underground pipelines were found where we expected to find them*
 - * *Radiation monitoring in the work locations did not indicate hazardous levels of radiation*
 - * *Completed sampling and laboratory analysis of pipeline contents, surrounding soils, and surface soils for organics, hydrocarbons, pesticides, PCBs, explosives and metals*
 - * *The results of the laboratory analysis have been publicly released. USACE is evaluating the data for preparation of the remedial investigation report*



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What's Planned For 2008



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What's Planned for 2008

Niagara Falls Storage Site (FUSRAP)

- NFSS Remedial Investigation Report
 - * *December 2007 Public Release*
 - * *Public information session and discussion of findings. The date is yet to be determined*
- NFSS Environmental Surveillance Program
 - * *Continued sampling and public data release*
 - * *Reevaluate and update program based on results of NFSS Remedial Investigation Report*



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What's Planned for 2008

Niagara Falls Storage Site (FUSRAP)

- NFSS Feasibility Study
 - * *Determine NFSS cleanup alternatives*
 - * *Identify and evaluate remediation technologies*
 - * *Examine transportation and disposal options for removal alternatives*



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What's Planned for 2008

Niagara Falls Storage Site (FUSRAP)

- NFSS Site Security and Maintenance
 - * *Continued security improvements*
 - * *Continued facility improvements*
 - * *Ongoing maintenance of Interim Waste Containment Cell and site grounds*



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What's Planned for 2008

Lake Ontario Ordnance Works

- Property Management Action Plans
 - * *Individual plan for each property*
 - * *USACE mission requirements*
 - * *Key facts, findings, issues*
 - * *Proposed future USACE work*
 - * *“Living Documents” – periodic updates based on public input, new facts, and project progress*
 - * *Public comments & responsiveness summary included in each plan*



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What's Planned for 2008

Lake Ontario Ordnance Works

- Underground Utilities Remedial Investigation Report
 - * *Completion & public release of report*
 - * *Public information session and discussion of findings. The date is yet to be determined*



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What's Planned for 2008

Lake Ontario Ordnance Works

- Risk Assessment of areas of concern within CWM, Somerset, Town of Lewiston, Occidental, and Modern Disposal Properties
 - * *Completion & public release of report*
 - * *Public information session and discussion of findings. The date is yet to be determined*



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What's Planned for 2008

Lake Ontario Ordnance Works

- Phase-IV Remedial Investigation of LOOW Developed Area
 - * *Likely area of concern will be Town of Lewiston property containing former LOOW Wastewater Treatment Plant*
- Apart from contracts awarded in prior years, *we do not yet have funds to initiate new activities in 2008.* We are awaiting the FY2008 Congressional Budget to be passed.



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What's Planned for 2008

Lake Ontario Ordnance Works

- Phase-IV Remedial Investigation of LOOW Developed Area
 - * *Likely area of concern will be Town of Lewiston property containing former LOOW Wastewater Treatment Plant*
- Focused archive search report and site inspection report on former Northeast Chemical Warfare Depot operations by USACE ordnance experts
 - * *Subject to approval and funding*



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Questions

- If you have questions or suggestions for future public information sessions please fill out a comment card and leave it with us
- If you would like to be included on our mailing list for future information please leave us your name and mailing address