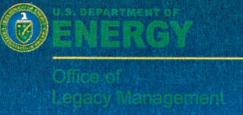


7189



Fernald
Preserve



U.S. DEPARTMENT OF
ENERGY
Office of
Legacy Management

Community Meeting

April 29, 2009

3004



Fernald
Preserve

Agenda

- **Nature nook**
- **Safety**
- **Aquifer**
- **Visitors Center**
- **90-Day Look-Ahead**
- **Northwest High School**

3004.02 470

PH 11



Nature Nook



Mayapple

Podophyllum peltatum

- A perennial found in large patches under trees
- Called the umbrella plant; stands 18 inches tall
- Has either one or two leaves
- Those with two leaves produce a single white flower

0000-01-010



Fernald Preserve

Legacy Mission



Manage DOE's post-closure responsibilities and ensure the protection of human health and the environment.

0000-01-010



Worker Safety and Health

OSHA Recordables (yearly)

Fernald	DOE Complex	LM	Industry
0.0	1.4	0.3	4.6

Fernald Preserve (quarterly)

Lost time	First aid	Recordables
0	0	0

0804.03 - 4700



Prescribed Burn

Irwin Prairie



0804.03 - 4700



Prescribed Burn

Irwin Prairie



Prescribed Burn

Irwin Prairie





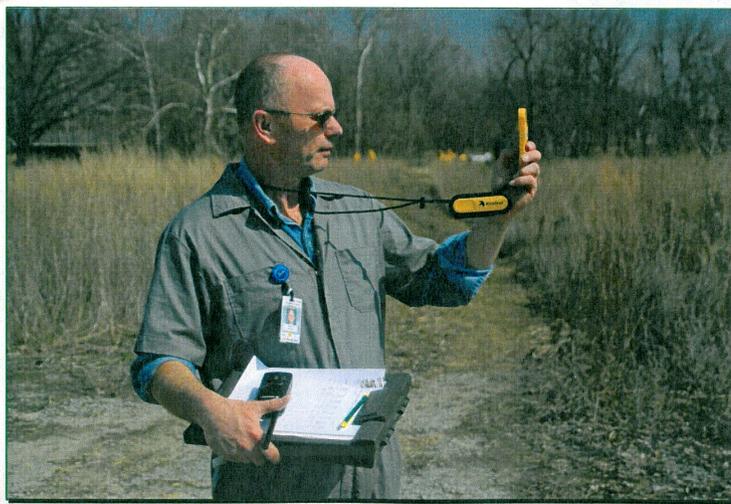
Prescribed Burn

Irwin Prairie



Prescribed Burn

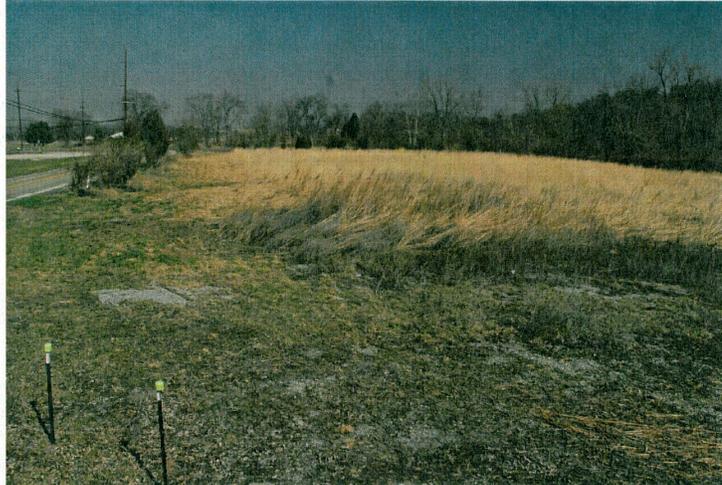
Irwin Prairie





Prescribed Burn

Irwin Prairie

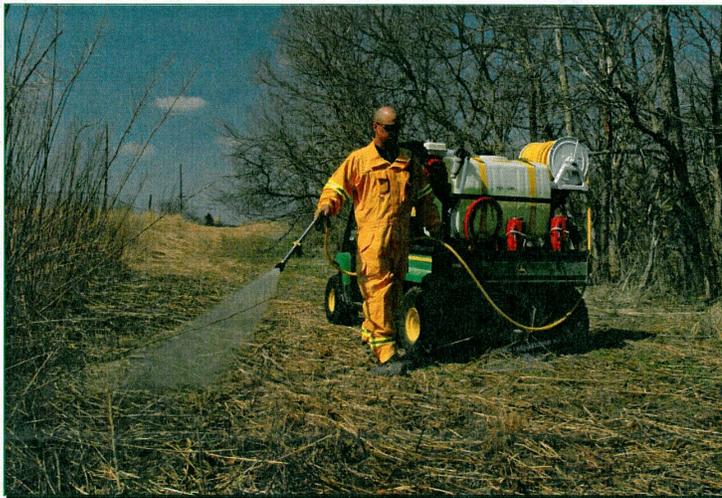


0004_05-04_480



Prescribed Burn

Irwin Prairie



0004_05-07_480



Prescribed Burn

Irwin Prairie

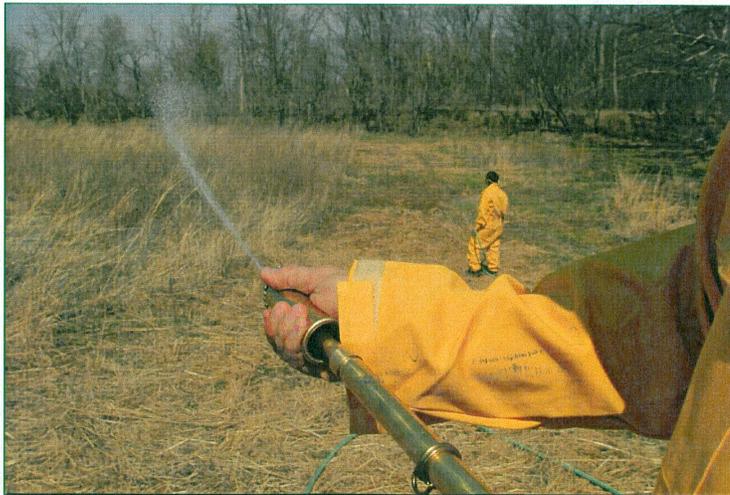


0001.05.01 400



Prescribed Burn

Irwin Prairie



0001.05.01 400



Prescribed Burn

Irwin Prairie

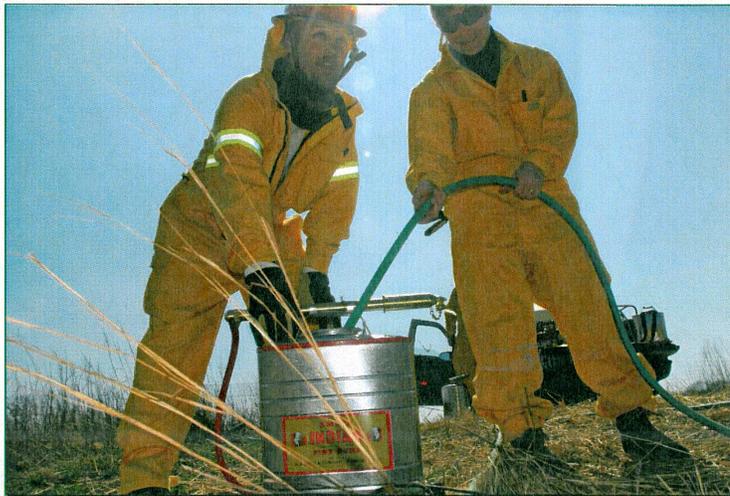


8004-06-30 4470



Prescribed Burn

Irwin Prairie

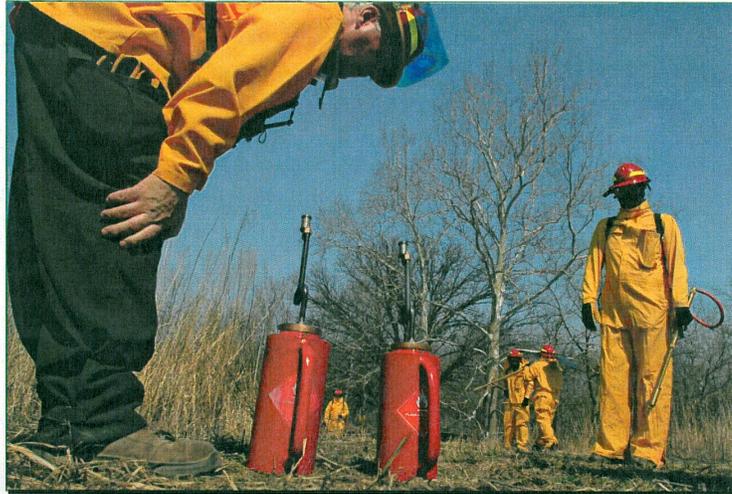


8004-06-30 4470



Prescribed Burn

Irwin Prairie



000106-13_400



Prescribed Burn

Irwin Prairie



000106-13_400



Prescribed Burn

Irwin Prairie



0004_06-14 480



Prescribed Burn

Irwin Prairie



0004_06-14 479



Prescribed Burn

Irwin Prairie



5894.06.16 .400



Prescribed Burn

Irwin Prairie



5894.06.17 .400



Prescribed Burn

Irwin Prairie

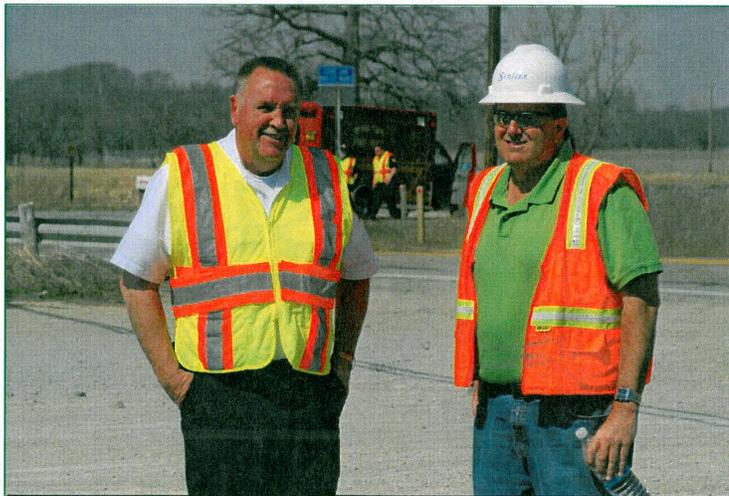


0004_05-18_480



Prescribed Burn

Irwin Prairie



0004_05-18_470



Prescribed Burn

Irwin Prairie



589459-20 AGP



Prescribed Burn

Irwin Prairie

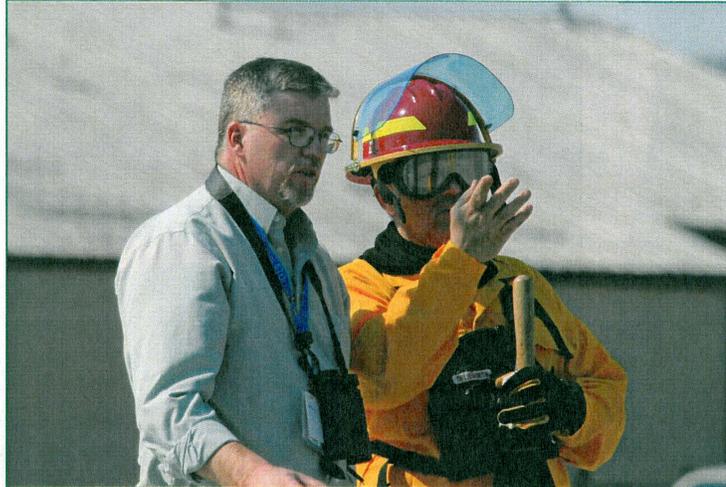


589459-21 AGP



Prescribed Burn

Irwin Prairie



8094-05-21_489



Prescribed Burn

Irwin Prairie



8094-05-21_490



Prescribed Burn

Irwin Prairie



Prescribed Burn

Irwin Prairie





Fernald
Preserve

Prescribed Burn

Irwin Prairie



Fernald
Preserve

Prescribed Burn

Irwin Prairie





Prescribed Burn

Irwin Prairie



Prescribed Burn

Irwin Prairie





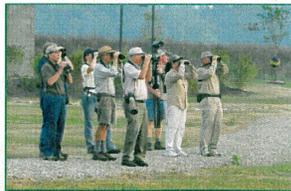
Aquifer

- 2008 groundwater pumping rate was ~99 percent of design
- 2009 groundwater pumping rate is on track to be as high as, or higher than, 2008 rate
- Plan to shut down pumping for two 2-week periods in April–June timeframe
 - Allow aquifer water level to rebound
 - Redissolve uranium in unsaturated sediments



Visitors Center

- Butler County Township Association
- Cincinnati Bird Club
- Cub Scout Pinewood Derby
- Hamilton County Parks
- Morgan Township Historical Society
- January–March: 800 visitors
- Updated reading rails
- New OSDF column





BioBlitz

- May 15, 4 p.m., through May 16, 4 p.m.
- 24-hour species inventory
- Science experts will guide visitors



90-Day Look-Ahead

- **Ecological Team**
Conduct ecological monitoring, maintenance work, and trail construction in August
- **Sampling Team**
Continued environmental monitoring for air, treated effluent, surface water, and groundwater
- **Aquifer Team**
Continue treating groundwater as necessary to meet discharge limits



Community Meeting

Join us:

October 7, 2009

6:30 p.m. Wednesday

Fernald Preserve Visitors Center



Jane Powell

DOE-LM Fernald Preserve Manager
(513) 648-3148
jane.powell@LM.doe.gov

Sue Walpole

S.M. Stoller Community Relations
(513) 648-4026
sue.walpole@LM.doe.gov

General

(513) 648-6000
fernal@LM.doe.gov
www.LM.doe.gov

Northwest High school

Senior Honors Seminar



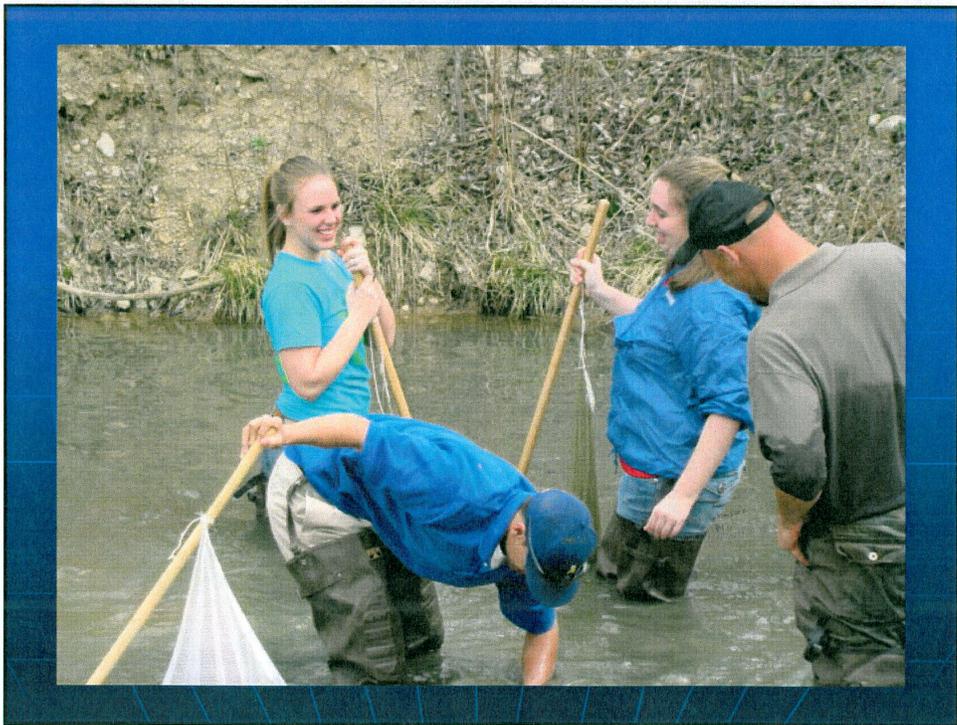
A Fish Survey of Paddys Run at the Fernald Preserve

Northwest High School
Senior Honors Seminar
Class of 2009

Students sampled for fish in Paddys Run at nine locations on five separate occasions. Two additional sites in a tributary stream were also sampled.

- September 23
- September 30
- October 8
- October 16
- October 26





Methods we used...

- Three minnow seines, each with two students. (4 ft X 3 ft, 6 ft X 3 ft, & 8 ft X 3 ft)
- Sample efforts lasted 15 minutes.
- Fish were held in floating minnow buckets until they were identified and counted.
- Samples were preserved in the collections at the Cincinnati Museum Center.
- All other fish were released at the site of capture.



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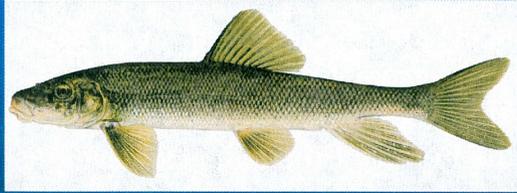
Nineteen species of fish in six families were collected from Paddys Run at the Fernald Preserve during the 2008 study.

A study conducted in 1994 compared the fish species diversity of Paddys Run to the Dry Fork of the Whitewater River approximately 3 miles to the west. Although the study involved Paddys Run, none of the sample sites were on what is now the Fernald Preserve. However, fish were sampled both upstream and downstream from the Preserve.

Species diversity in Paddys Run; 1994 vs. 2008

Family	1994	2008
Suckers (Catostomidae)	3	1
Sunfishes (Centrarchidae)	5	3
Minnows (Cyprinidae)	12	10
Catfishes (Ictaluridae)	0	1
Perches (Percidae)	4	3
Toothed Carps (Poeciliidae)	0	1
TOTAL SPECIES	24	19

Family Catostomidae - Suckers



White Sucker *Catostomus commersoni*

Family Percidae - Perches



Fantail Darter
Etheostoma flabellare

Orange-throat Darter
Etheostoma spectabile



Johnny Darter
Etheostoma nigrum



Family Poeciliidae - Toothed Carps



Western Mosquitofish *Gambusia affinis*

Family Centrarchidae - Sunfishes



Bluegill

Lepomis macrochirus

Longear Sunfish

Lepomis megalotis



Green Sunfish

Lepomis cyanellus



Family Ictaluridae - Bullhead Catfishes



Yellow Bullhead *Ameiurus natalis*

Family Cyprinidae - Minnows



Bluntnose Minnow
Pimephales notatus

Creek Chub
Semotilus atromaculatus



Western Blacknose Dace
Rhynchichthyes obtusus

Family Cyprinidae - Minnows



Central Stoneroller
Campostoma anomalum

Spotfin Shiner
Cyprinella spiloptera



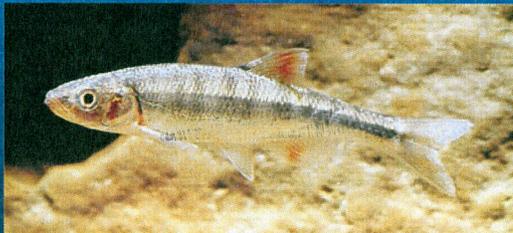
Silverjaw Minnow
Notropis buccatus

Family Cyprinidae - Minnows

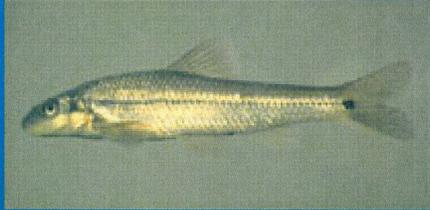


Striped Shiner
Luxilus chrysocephalus

Rosefin Shiner
Lythrurus ardens



Family Cyprinidae - Minnows



Suckermouth Minnow
Phenacobius mirabilis

Southern Redbelly Dace
Phoxinus erythrogaster



What do the results of the study tell us?

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Seven species we collected are indicators of high water quality.

What do the results of the study tell us?

- Orange-throat Darters
- Fantail Darters
- Silverjaw Minnows
- Rosefin Shiners
- Blacknose Dace
- Spotfin Shiner
- Southern Redbelly Dace

Seven species we collected are indicators of high water quality.

The Western Mosquitofish is an introduced species that can become invasive.

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- As its name implies, it eats insect larvae, the primary food of most of the darters and minnows.

More species were collected in 1994 than in 2008.
Is this significant?

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- Probably not.

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- Two Redside Dace were collected in a pool at Millville-Shandon Road in 1994. This species is from Eastern Ohio and may have been released from a bait bucket.
- During the 1994 study, pools were sampled from the headwaters of Paddys Run to near its mouth. All samples in 2008 were on the Fernald Preserve.

The Future?

Our results provide baseline data to which future studies can be compared.

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Specimens accessioned into the Cincinnati Museum Center's collections serve as reference specimens to aid in the identification of specimens collected in the future.

Fernald: A Transformation Through Time



A
Research
&
Film
Project

Northwest
High
School

Senior
Honors
Seminar

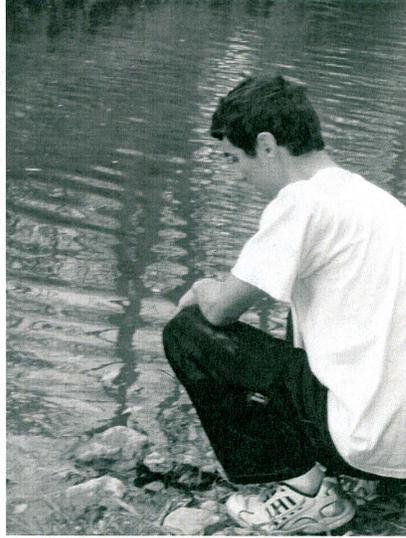
Project Beginnings

- Senior Honors Seminar
- Graduate Paper
- Grant Opportunity
- Cross-Curricular Capstone Project



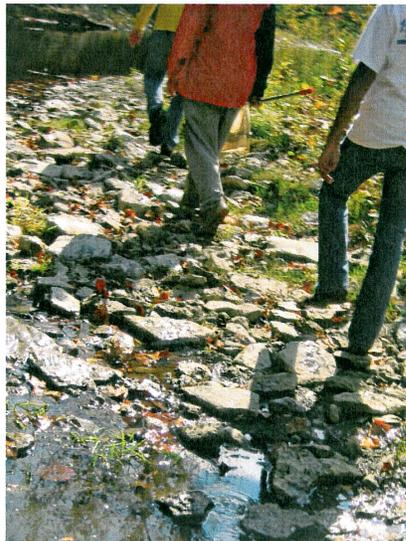
Project Goals

- Authenticity
 - Real Science
 - True cross-curricular instruction
 - Ohio Grade Level Indicators
 - Fernald: a learning resource



Logistics

- Working Groups
 - The "Fish" Group
 - Timeline/Research
 - Art & Music
 - Editing/Media
 - Oral History
 - Script
 - Voice Over



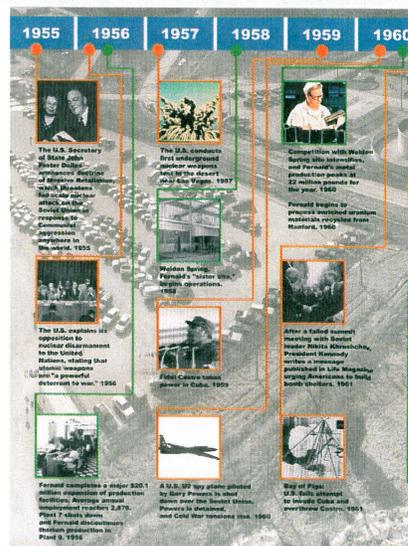
Research & Timeline

- Began with oral histories: human stories
- Research of available news reports
- Internet research
- Preserve Resources
 - Film, books, pamphlets



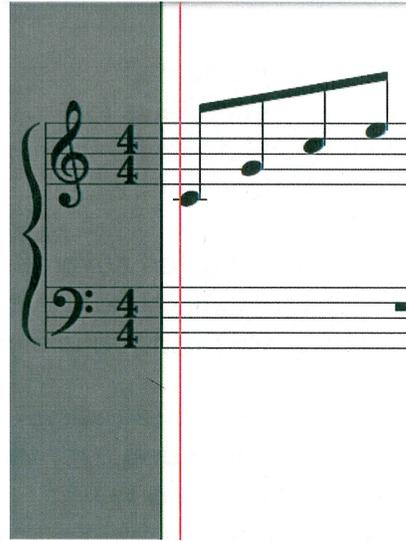
Research & Timeline

- Low tech filing system=access for all.
- Paste up and information selections.



Music

- All-original student compositions for the score...



The Film Score

- Creative Process
- Technical Process
 - Recording
 - Editing
- Final Product



Oral History

- Reviewed interviews for historical & human interest stories.
- Selected several existing interviews for inclusion in film.
- Scheduling new interviews over the next few weeks



FLHP Interview Transcripts

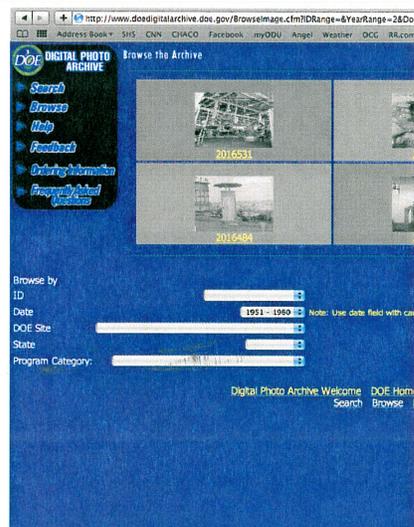
The Fernald Living History Project (FLHP). FLHP started in 1997 in an effort to all aspects of Fernald's history, including land acquisition, construction, Cold War workers, environmental contamination, citizen involvement, studies, cleanup and re of this effort was conducting and archiving over 130 video interviews with past wor government officials and regulators, who were involved with Fernald's history. Tran these interviews are listed below.

Note: Adobe's Acrobat Reader ([free download](#)) is needed to view the files.

Name	Role/Responsibility
Nancy Abbot	area resident
Weldon Adams	Assistant Plant Manager, National Ohio
Charlie Alvis	
John Applegate	former chair, Fernald Citizens Ad
Sam Audia	Plant Manager, National Lead Co
Paul Ball	former employee
George Bossert	former employee
L. French Bell	former member Fernald Citizens Agency for Toxic Substances an
...	former Fernald Citizens Advisory

Media Selection

- **Media selection**
 - DoE Image Archive
 - The Internet (wiki)
 - Archive.org
 - Films provided by Fernald staff
 - Student photography



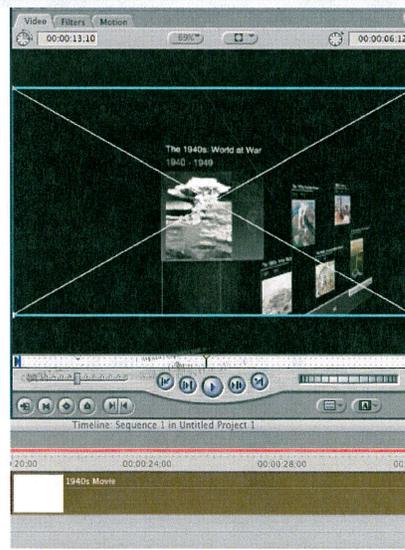
Media Storage

- Students generated a library almost 1000 photographs to be used in the project, all of which had to be dated, categorized & labeled for use.
- This process is ongoing.



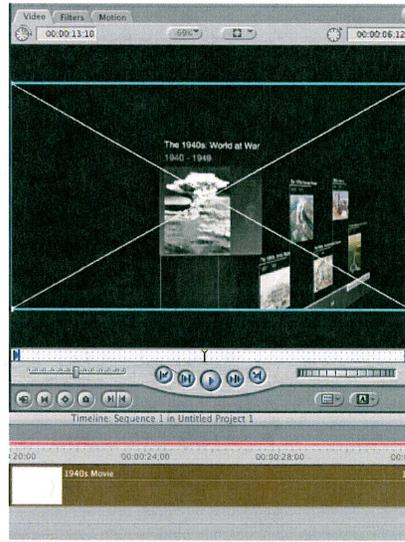
Video Editing & Media

- Students learned non-linear video editing
- The task: take all of the information and media that the class generated and make it presentable and clean.



Video Editing & Media

- Challenges
 - Complex software
 - Media not available while we were training.
 - Time, time, time



Script

- A fantastic group of academic kids.
- Took the information from the timeline and wrote the narrative.
- Mimics the style of History or Discovery Channel documentaries.

At the close of the 40s, the Atomic Energy Commission of a uranium feed materials production center as part of a facility. The need for these types of weapons facilities was at the close of the second great war. The AEC, which was the Department of Energy, sought out a new site for its uranium of more than 60 locations, Fernald, Ohio had been chosen and made public on March 30, 1951. The vast level land, a the C&O railroad made Fernald the ideal location for the

On the same day as the announcement, President Harry Truman's 38th parallel where the Cold War had already begun. The fear of atomic warfare had made a large impact in the US, and the fear of communism, had taken hold of the population. The US service videos and pamphlets that contained both words and communist propaganda. The fear led to average citizens stocking up on food and necessities in order to survive; atomic testing in Russia led to even more fear and urged the US to produce new innovative weaponry.

In addition to the Fernald site, feed materials sites also existed at Niagara Falls. Upon getting wind of Russian atomic tests, the US tested many weapons within its borders, namely in the desert. The Soviet leader Josef Stalin continuously reported the Soviet technology and with each bit of news, the US grew more determined. Even with plenty of weapons, both sides continued this for several years.

Script

- Creative Process
- Documentary Requirements
- Collaboration
- Editing
- Working with the Narrators

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Voice Over

- We decided on a two-narrator format.
- Cadence, Delivery, Clarity
- The Perfect Voice...



What's to come?

•**May:** Draft
Completion
of film

•**Summer:**
document
bio-blitz,
record oral
histories,
recruit new
students to fill
vacant jobs.

•**Fall:** Begin
film revision.

