The Legacy Management community meeting was held on April 29, 2009, at the Fernald Preserve Visitors Center. 45 people attended the meeting for an update on site maintenance and Visitors Center usage.Northwest High School students also gave a presentation about the year-long multi-media project conducted at the Fernald Preserve.

Agenda

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

8694.02 4/09

The agenda for the meeting includes a variety of meeting items.

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

8694.03 4/09

A regular feature of the community meeting is the Nature Nook, which highlights flora and fauna that inhabit the Fernald Preserve. Spring is a great time to observe native wildflowers found in the woods areas.

Fernald Preserve

Legacy Mission

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

8694.04 4/09

The Fernald Preserve mission.

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

8694.05 4/09

The Fernald Preserve's safety performance, as well as Legacy Management's safety performance as a whole, has been outstanding. The site's safety record continues to exceed national industry standards.

Prescribed Burn

Irwin Prairie

8694.06 4/09

Prescribed burns are an important tool in maintaining healthy tall grass prairies. Fernald Preserve personnel successfully completed two prescribed burns in March.

Prescribed Burn

Irwin Prairie

8694.06-02 4/09

Before the burn begins, the go/no-go checklist requirements are reviewed with LM and Stoller management. All conditions of the burn have been met, and equipment and personnel are ready.

Prescribed Burn

Irwin Prairie

8694.06-03 4/09

Personnel don their personal protective equipment, establish lines of communication, and attend a briefing on hazards associated with and methods for the burn.

Prescribed Burn

Irwin Prairie

8694.06-04 4/09

The team poses for a photo prior to heading out to the field.

Prescribed Burn

Irwin Prairie

8694.06-05 4/09

The safety officer continually monitors the wind and weather. Changes are monitored to understand how the fire will behave.

Prescribed Burn

Irwin Prairie

8694.06-06 4/09

Looking out across the area of the Irwin Prairie before the burn, the fire break can be seen in the foreground and between the burn area and Paddys Run Road.

Prescribed Burn

Irwin Prairie

8694.06-07 4/09

The fire breaks are wet down before the burn to further ensure that the fire will be contained.

Prescribed Burn

Irwin Prairie

8694.06-08 4/09

The fire breaks are wet down before the burn to further ensure that the fire will be contained.

Prescribed Burn

Irwin Prairie

8694.06-09 4/09

The backpack sprayer is tested before the burn is ignited.

Prescribed Burn

Irwin Prairie

8694.06-10 4/09

Backpack pump tanks used in firebreak control are filled with water.

Prescribed Burn

Irwin Prairie

8694.06-11 4/09

Backpack pump tanks used in firebreak control are filled with water.

Prescribed Burn

Irwin Prairie

8694.06-12 4/09

Drip torches are checked prior to use.

Prescribed Burn

Irwin Prairie

8694.06-13 4/09

The drip torches' vents are opened, and their nozzles are placed in the proper position and verified to be secure.

Prescribed Burn

Irwin Prairie

8694.06-14 4/09

Weather conditions are checked one last time, and personnel are in place.

Prescribed Burn

Irwin Prairie

8694.06-15 4/09

Once the decision is made to proceed, drip torches begin to ignite grasses along the edge of the fire break.

Prescribed Burn

Irwin Prairie

8694.06-16 4/09

The Ross Fire Department observes the burn.

Prescribed Burn

Irwin Prairie

8694.06-17 4/09

Sector bosses on each section of the burn keep a close watch on burning and maintain contact with the fire manager.

Prescribed Burn

Irwin Prairie

8694.06-18 4/09

Flames and smoke can be seen from across the field.

Prescribed Burn

Irwin Prairie

8694.06-19 4/09

The site Health and Safety manager and the chief of the Ross Fire Department keep a watchful eye on the operations.

Prescribed Burn

Irwin Prairie

8694.06-20 4/09

The Gator carries a water tank and pump along the firebreak to help control the fire.

Prescribed Burn

Irwin Prairie

8694.06-21 4/09

The entire perimeter of the burn area is ignited as the fire burns to the middle.

Prescribed Burn

Irwin Prairie

8694.06-22 4/09

The fire manager briefs the Stoller site manager on present conditions and the success of the burn.

Prescribed Burn

Irwin Prairie

8694.06-23 4/09

Flames continue to burn across the center of the burn area.

Prescribed Burn

Irwin Prairie

8694.06-24 4/09

The fire manager stays in contact with all personnel throughout the burn.

Prescribed Burn

Irwin Prairie

8694.06-25 4/09

Torches are approaching the closure of the burn perimeter.

Prescribed Burn

Irwin Prairie

8694.06-26 4/09

Flames are out, and the mop-up of the area begins. All areas with smoke rising from the duff are wet down, and all embers are extinguished.

Prescribed Burn

Irwin Prairie

8694.06-27 4/09

Personnel continue to walk the burn area.

Prescribed Burn

Irwin Prairie

8694.06-28 4/09

Although some pockets of vegetation did not burn, the burn was very successful overall.

Prescribed Burn

Irwin Prairie

8694.06-29 4/09

The equipment is checked before it is put away. The fire manger remains behind for 1 hour after the burn is completed to assure winds do not reveal non-extinguished embers.

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

8694.07 4/09

The aquifer cleanup, which involves pumping and treating water form the aquifer, is progressing as planned with treatment projected to be completed in the 2016 timeframe. Over 234 million gallons of groundwater have been treated to date.

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

8694.08 4/09

With the opening of the Visitors Center, more classes, conservation organizations and community groups are visiting the Fernald preserve. Over 1,000 guests have visited.

BioBlitz

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

BioBlitz

8694.09 4/09

The Fernald Preserve will hold the first-ever BioBlitz this May. Experts in the fields of zoology, biology, botany, entomology, etc., will lead community members on a 24-hour species inventory.

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

8694.10 4/09

Now that better weather is here, the upcoming months will be very active on the site.

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
fernald@LM.doe.gov
www.LM.doe.gov

8694.11 4/09

The next community meeting will be held at 6:30 on October 7, 2009, at the Fernald Preserve Visitors Center.

Northwest High school

Senior Honors Seminar

8694.12 4/09

The community meeting continued with a presentation by the Northwest High School Senior Honors Seminar. Students produced a video about the history of Fernald and participated in herpetological species inventories.

Fernald: A Transformation Through Time

A Research & Film Project

Northwest High School

Senior Honors Seminar

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

In addition to using the Fernald Preserve as an outdoor classroom for studying fish populations in Paddys Run, the Northwest High School Senior Honors Seminar undertook a research and film project to document the history of the Fernald site. The title of the film project is Fernald: A Transformation Through Time.

Project Beginnings

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The Northwest High School Senior Honors Seminar class presented background information on the film project.

Project Goals

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The goals of the project are to involve students in a hands-on science project that involved multi-disciplinary instruction consistent with Ohio Grade Level Indicators. The Fernald Preserve was chosen as the site for the project.

Logistics

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The two-phased project involved conducting a study on fish species within the Fernald Preserve stretch of Paddys Run and introducing students to all aspects of film production through the production of an original video.

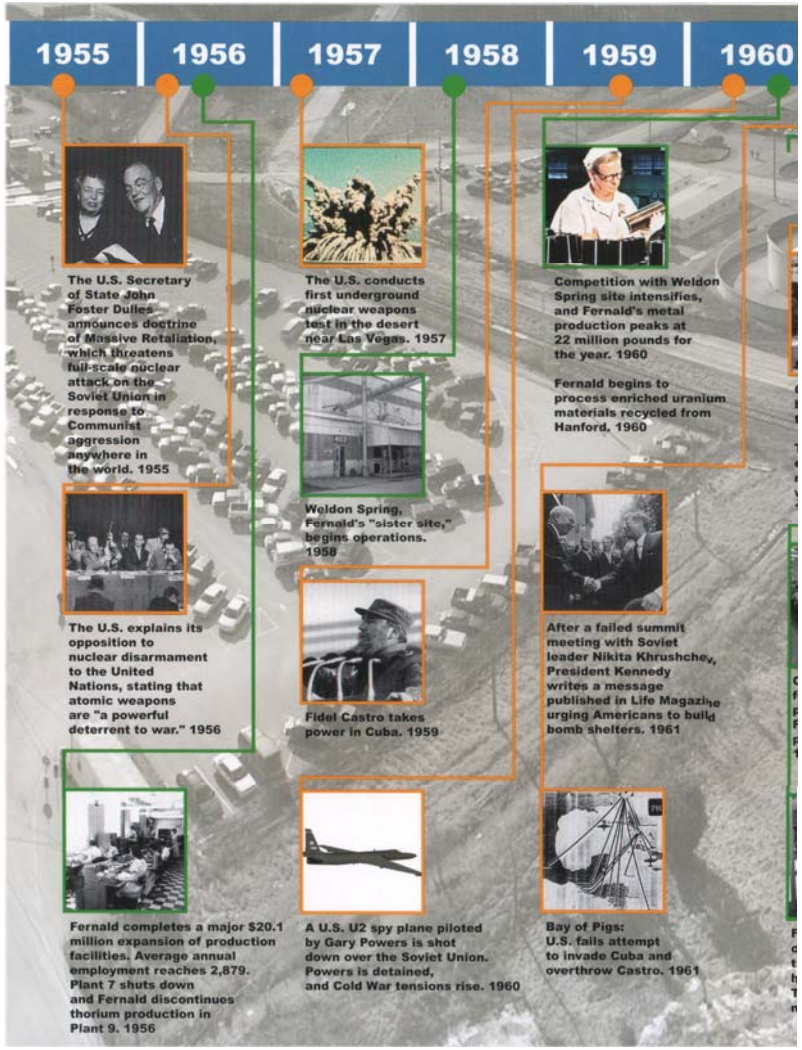
Research & Timeline

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students involved in the film project conducted research through a variety of sources.

Research & Timeline

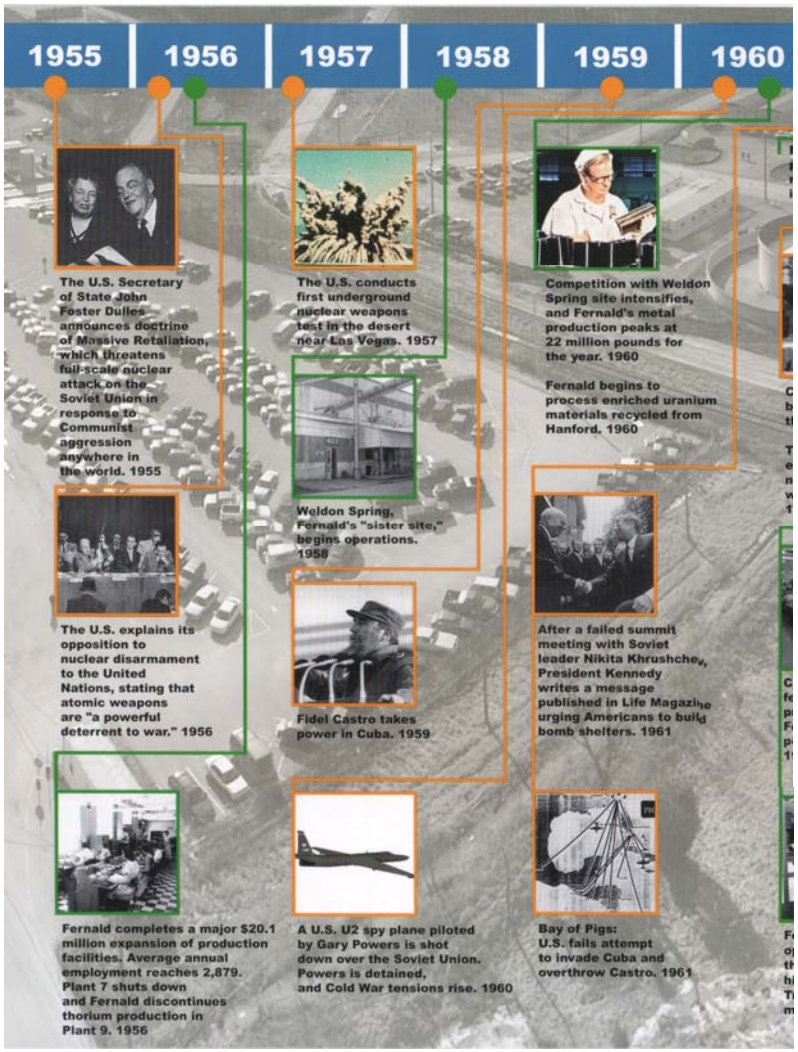
- Low tech filing system=access for all.
- Paste up and information selections.



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
Constructing a timeline was an important part of the film project in order to place Fernald in the proper historical context.

Creativity

- Engaging **all** students.
- Music and art direction...



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The cross-curricular approach allowed all students in the Senior Honors Seminar to be involved in the project.

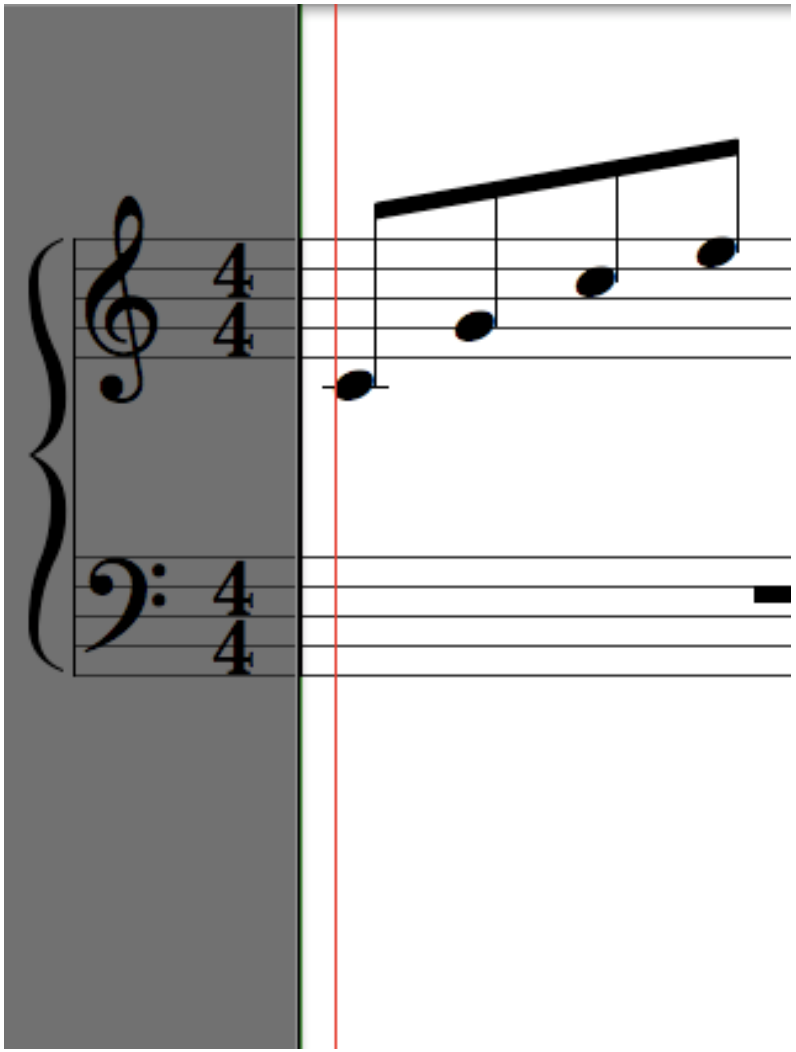
Art Direction

- Titling
- The “Flying” Timeline: Our first breakthrough.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The creation of appropriate artwork was an important aspect of the project.

Music

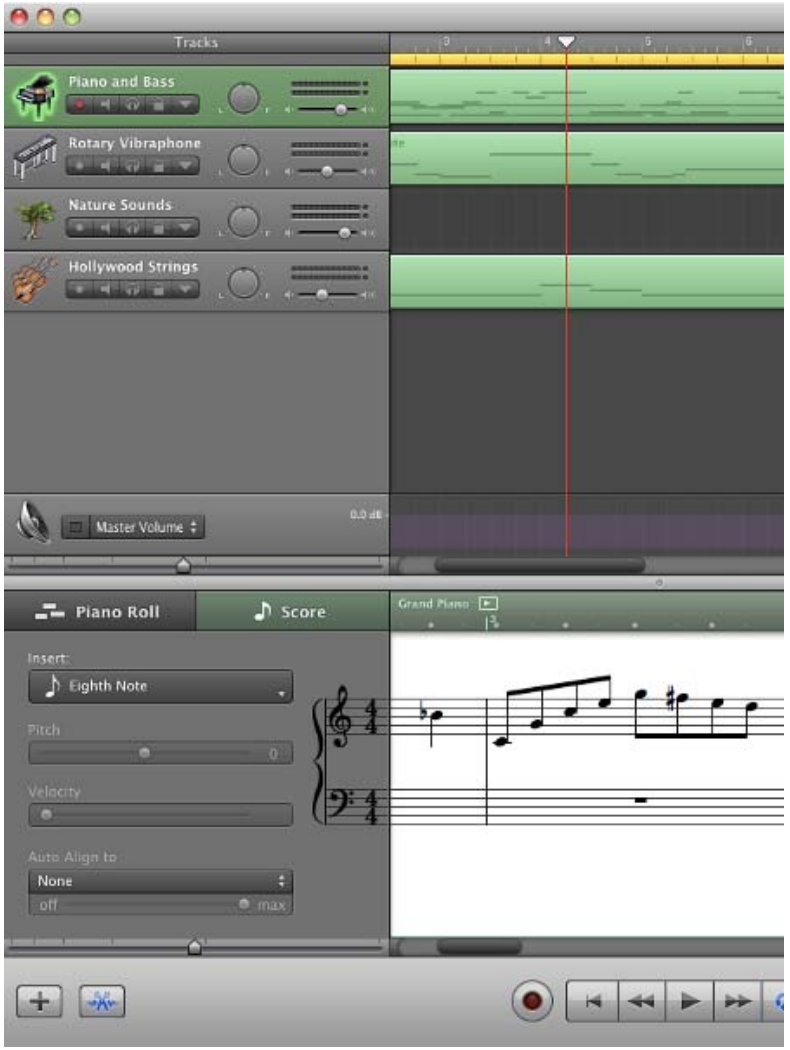
- All-original student compositions for the score...



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students composed the film score.

The Film Score

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



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The film score developed skills the students had been working on in other classes.

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 and effort to all aspects of Fernald's history, including land acquisition, construction, Cold War p 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. Trar 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, Nationa Ohio
Charlie Alvis	
John Applegate	former chair, Fernald Citizens Ad
Sam Audia	Plant Manager, National Lead Co
Paul Ball	former employee
George Bassitt	former employee
L. French Bell	former member Fernald Citizens Agency for Toxic Substances an
	former Fernald Citizens Advisory

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students reviewed Fernald's oral history interviews and selected segments for inclusion in the film. The students will also be conducting new original interviews in the near future.

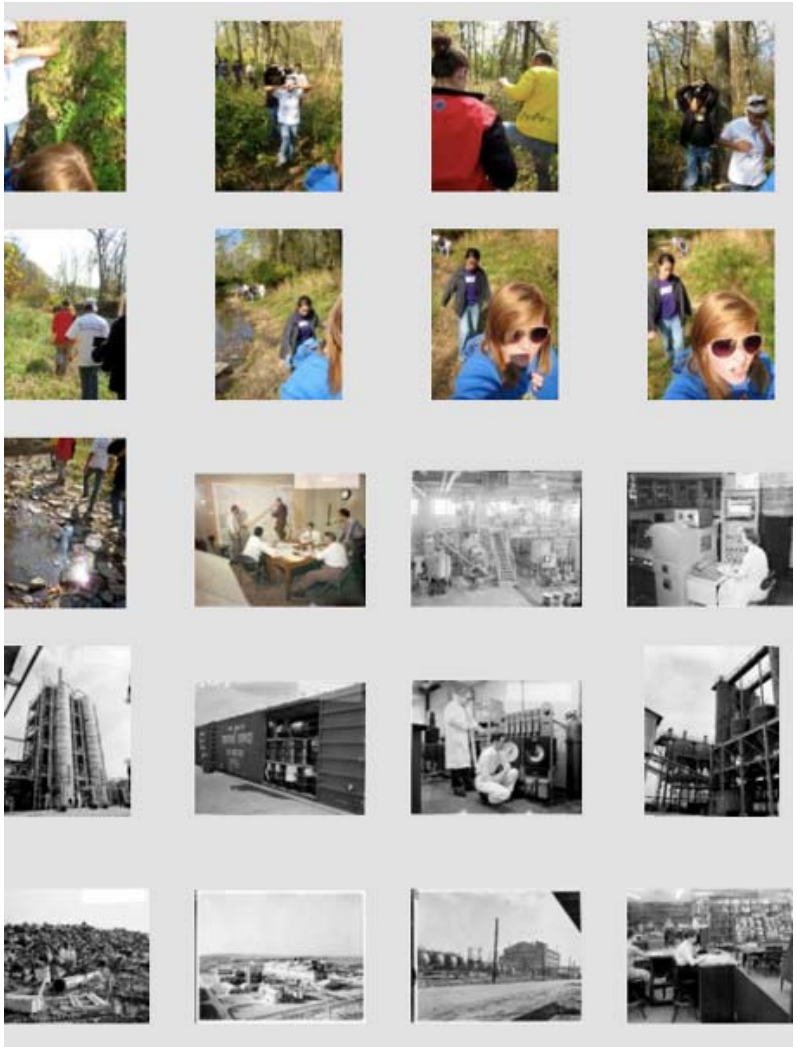
Media Selection

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students selected and integrated a variety of media into their film.

Media Storage

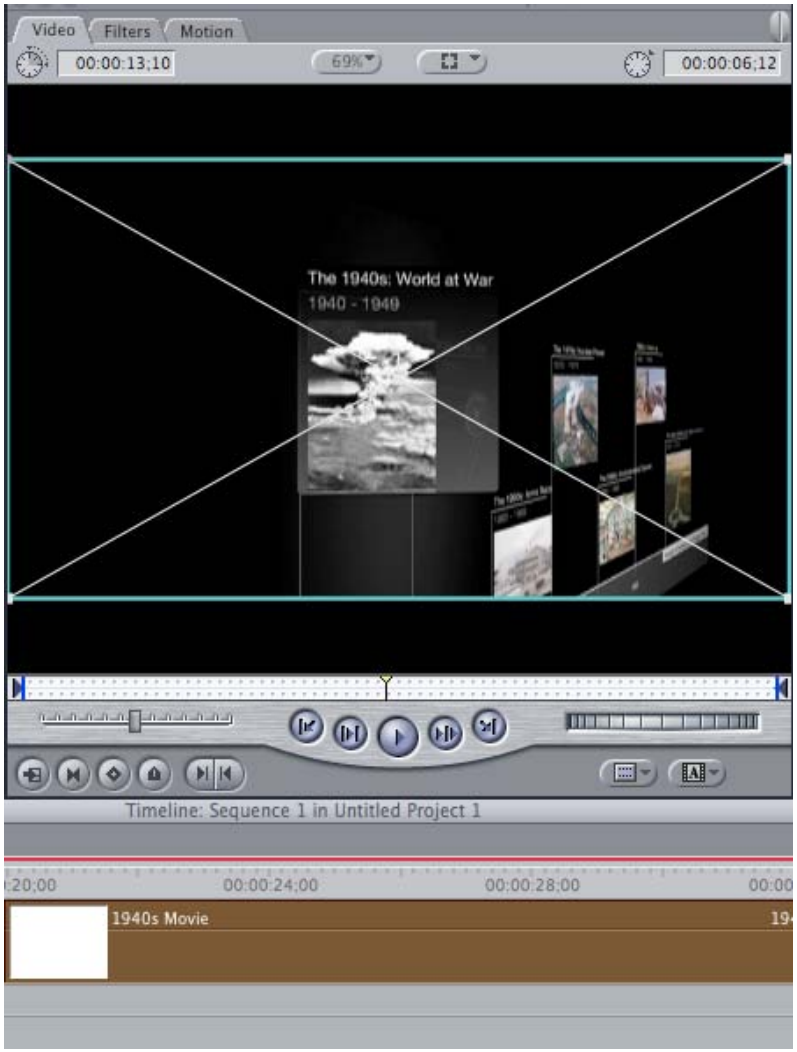
- Students generated a library almost 1000 photographs to be used in the project, all of which had to be dated, categorized & labeled for use.
- This process is ongoing.



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students generated and organized an extensive photo library for use in the film.

Video Editing & Media

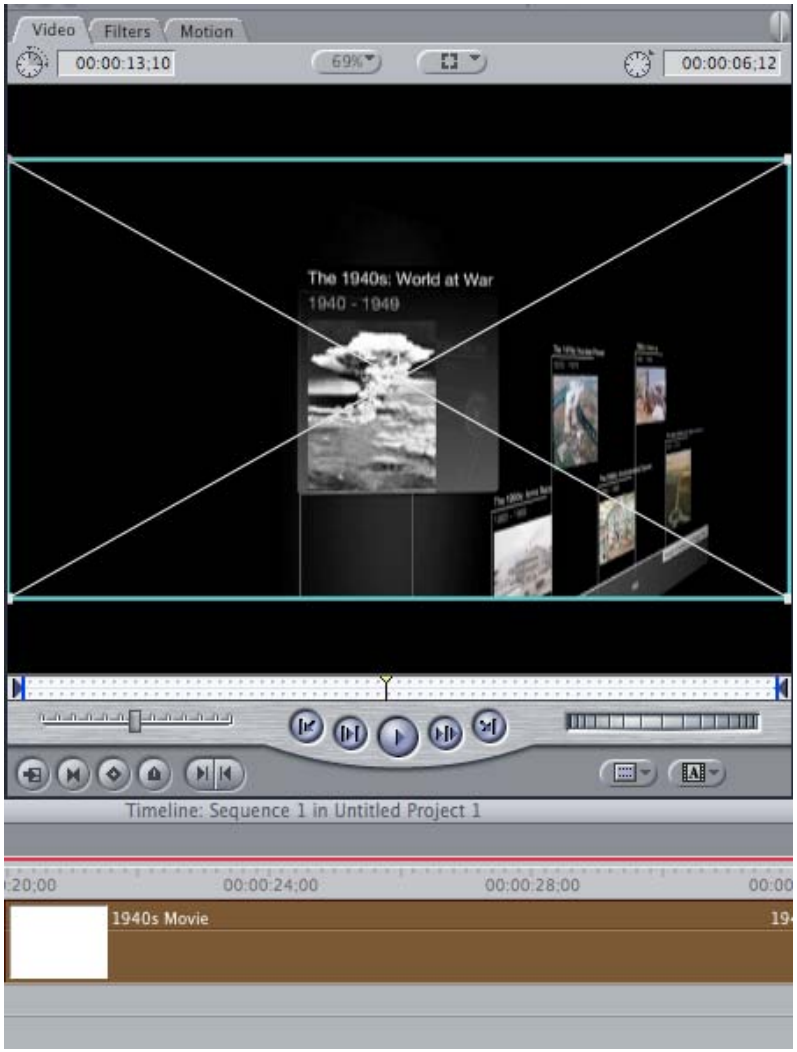
- Students learned non-linear video editing
- The task: take all of the information and media that the class generated and make it presentable and clean.



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students have performed all film editing for the project.

Video Editing & Media

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



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
Many challenges faced by the students during the film production process.

Script

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

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

On the same day as the announcement, President Harry
North Korea's 38th parallel where the Cold War had alr
fear of atomic warfare had made a large impact in the s
of communism, had taken hold of the population. The U
service videos and pamphlets that contained both words
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 urge
produce new innovative weaponry.

In addition to the Fernald site, feed materials sites also
Niagara Falls. Upon getting wind of Russian atomic tes
test many weapons within it's borders, namely in the de
Soviet leader Josef Stalin continuously reported the Sov
technology and with each bit of news, the US grew mor
Even with plenty of weapons, both sides continued this
several years.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
Based on their research, the students developed the script for the film.

Script

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

At the close of the 40s, the Atomic Energy Commissior
of a uranium feed materials production center as part o
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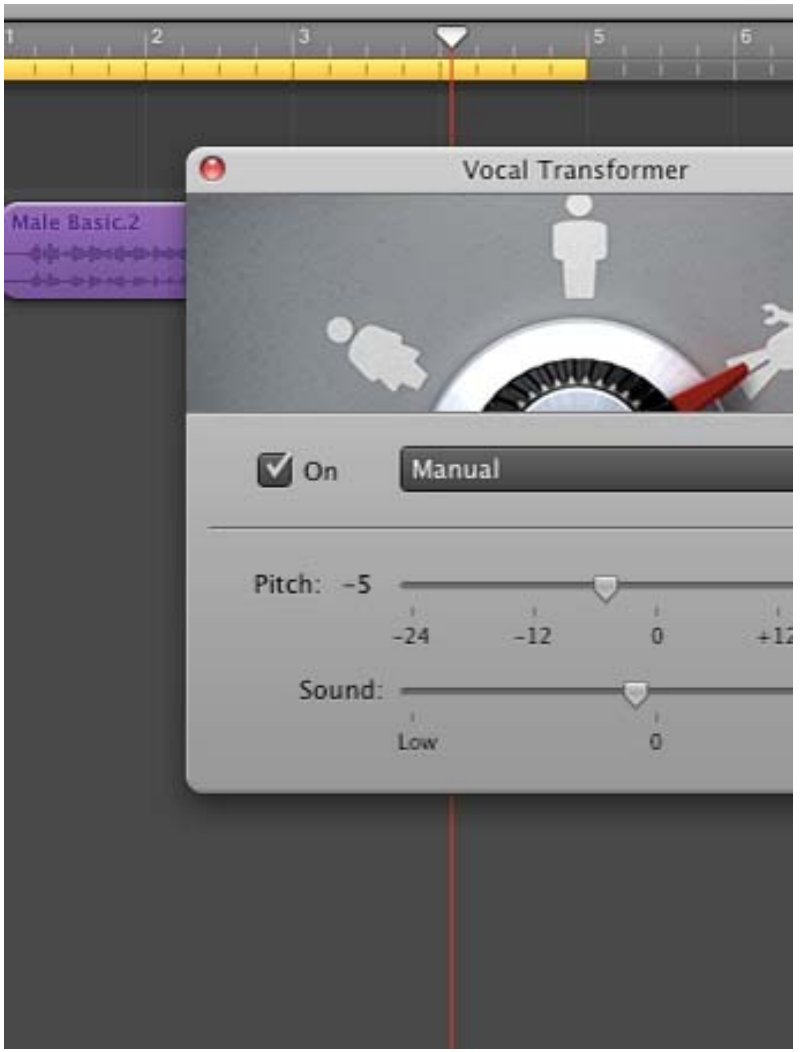
Even with plenty of weapons, both sides continued this
several years.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The students performed many activities in finalizing the film's script.

Voice Over

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



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
The film's narration was performed by the students.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.
Schedule for film completion.

A Fish Survey of Paddys Run at the Fernald Preserve

Northwest High School
Senior Honors Seminar
Class of 2009

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

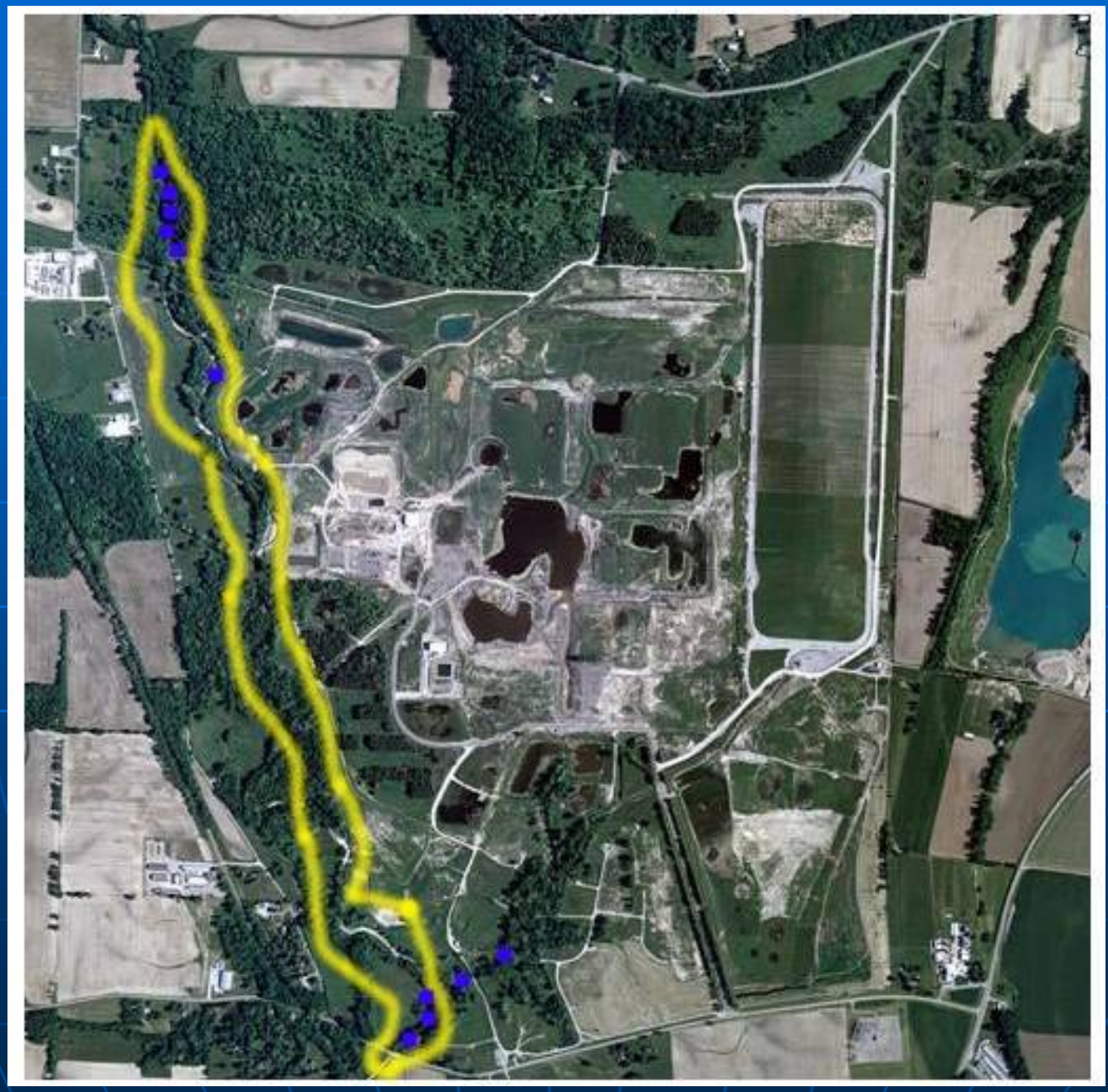
Students from the Northwest High School's Senior Honors Seminar used the Fernald Preserve as an outdoor laboratory to study the fish species in Paddys Run. The students reported the results of their study during the April 29, community meeting.

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Parameters for the Northwest High School's Senior Honors Seminar project which was conducted at the Fernald Preserve in September and October 2008.



ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Paddys Run where the students studied the Fernald Preserve’s fish population is highlighted.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Students are shown seining for minnows in Paddys Run.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Methodology used by the students, including the size of the minnow seines that were used to collect the fish.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Students seining for fish in Paddys Run.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Each section of Paddys Run was sampled for 15 minutes.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Students, their instructor, and Fernald Preserve personnel identify collected fish

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

The study method involved placing the collected fish in minnow buckets.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Samples collected by the students were preserved in the collections of the Cincinnati Museum Center.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Students with sampling equipment used during the project.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

All fish not preserved in the Cincinnati Museum Centers collections were released back into Paddys Run.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Species and family mix of the fish collected by the students.

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

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

This chart compares the results of the students 2008 Paddys Run study to a similar study conducted in 1994.

Family Catostomidae - Suckers

White Sucker *Catostomus commersoni*

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

The White Sucker was a species collected by the students at the Fernald Preserve.

Family Percidae - Perches

Fantail Darter

Etheostoma flabellare

Orange-throat Darter

Etheostoma spectabile

Johnny Darter

Ethostoma nigrum

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Three species of darters were found by the students at the Fernald Preserve.

Family Poeciliidae - Toothed Carps

Western Mosquitofish *Gambusia affinis*

Web: ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Western Mosquitofish was collected by the students at the Fernald Preserve.

Family Centrarchidae - Sunfishes

Bluegill

Lepomis macrochirus

Longear Sunfish

Lepomis megalotis

Green Sunfish

Lepomis cyanellus

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Three species of sunfish were collected by the students during their study at the Fernald Preserve.

Family Ictaluridae - Bullhead Catfishes

Yellow Bullhead *Ameiurus natalis*

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Yellow Bullhead catfish were among the fish collected by the students at the Fernald Preserve.

Family Cyprinidae - Minnows

Bluntnose Minnow

Pimaphales notatus

Creek Chub

Semotilus atromaculatus

Western Blacknose Dace

Rhynichthyes obtusus

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Several minnow species were found by the students in Paddys Run during their study at the Fernald Preserve. This slide shows three of the collected species.

Family Cyprinidae - Minnows

Central Stoneroller

Campostoma annomalum

Spotfin Shiner

Cyprinella spiloptera

Silverjaw Minnow

Notropis buccatus

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Minnow species found by the students at the Fernald Preserve.

Family Cyprinidae - Minnows

Striped Shiner

Luxilus chrysocephalus

Rosefin Shiner

Lythrurus ardens

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Minnow species found by the students at the Fernald Preserve.

Family Cyprinidae - Minnows

Suckermouth Minnow

Phenacobius mirabilis

Southern Redbelly Dace

Phoxinus erythrogaster

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Minnow species found by the students at the Fernald Preserve.

What do the results of the study tell us?

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

Study results.

What do the results of the study tell us?

Seven species we collected are indicators of high water quality.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

High water quality is present in the Fernald Preserve section of Paddys Run.

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.

ALL INFORMATION WAS PROVIDED BY NORTHWEST HIGH SCHOOL.

The presence of these seven species is an indicator of high water quality.

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

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The Western Mosquitofish found by the students is a non-native species that can be invasive.

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

- Source might be from a local farm pond or minnow bucket.

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Possible sources of the Western Mosquitofish.

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

- Source might be from a local farm pond or minnow bucket.
- As its name implies, it eats insect larvae, the primary food of most of the darters and minnows.

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Information on the Western Mosquitofish diet.

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

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Comparison of the results between the 1994 and 2008 studies and addresses the significance of finding more species in 1994.

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

- Probably not.

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The study concluded that there is probably no significance in finding more species during the 1994 study.

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

- Probably not.
- Two species (Largemouth and Smallmouth Bass) probably entered the stream from farm ponds.

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Two bass species found in 1994 probably entered the stream from farm ponds.

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

- Probably not.
- Two species (Largemouth and Smallmouth Bass) probably entered the stream from farm ponds.
- 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.

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One Dace species was probably released from a farm pond.

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

- Probably not.
- Two species (Largemouth and Smallmouth Bass) probably entered the stream from farm ponds.
- 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.

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Another factor for the higher number of species is the 1994 study covered a wider area.

The Future?

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

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The results of the student's project provide important comparison data for future studies.

The Future?

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

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

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Specimens provided to the Cincinnati Museum Center will aid in the identification of specimens collected in the future.