# Think Outside the Shell: Interdisciplinary Curriculum and Alligator Snapping Turtles

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# **Operation Endangered Species**



### Introduction

- Bachelors English Ed 1991-1995
- Masters in Literature 2000-2004
- PhD student in English Studies 2013-present
- English Instructor PTHS 1997-present

NOT A BIOLOGY TEACHER ©

# The Alligator Snapping Turtle







### **Turtle Facts**

- "Dinosaur of the turtle world"
- Largest freshwater turtle in North America
- Average lifespan 20-70 years
- Males average 175 pounds
- Can submerge for 40-50 minutes
- Endangered in Illinois and protected by state law
- "Adult snappers have no natural predators other than humans..."

# Program Philosophy

"What you get by achieving your goals is not as important as what you become by achieving your goals."

Henry David Thoreau

### The Mission

To engineer innovative education techniques through the use of pioneering interdisciplinary curriculum designed to empower students to write in a wide variety of new and familiar genres, to collaborate with a spectrum of students and professionals in multiple contexts, and to foster the eco-conscious objective of restoring an endangered species to a breeding population in its historical habitat.

### The Rationale

Currently, local, state, and federal governments do not have the resources or funding to permanently save many of the organisms currently on the Endangered Species list. Furthermore, school districts across the United States have adopted the Common Core State Standards which require students to employ a wide variety of skills and knowledge with real-world applications. Operation Endangered Species seeks to address the recognized needs of all agencies and also the plight of organisms threatened with extinction through the empowerment of students in classrooms across the state to cooperate, collaborate, and create a template which reaches across many disciplines, easily adapts to any endangered species, and creates a curriculum template for giving students the tools to take action.

### Genesis

- Paul Ritter, President of the Illinois Science Teacher Association
- Dr. Brady Barr, National Geographic
- Illinois Department of Natural Resources
- State Farm Youth Advisory Board

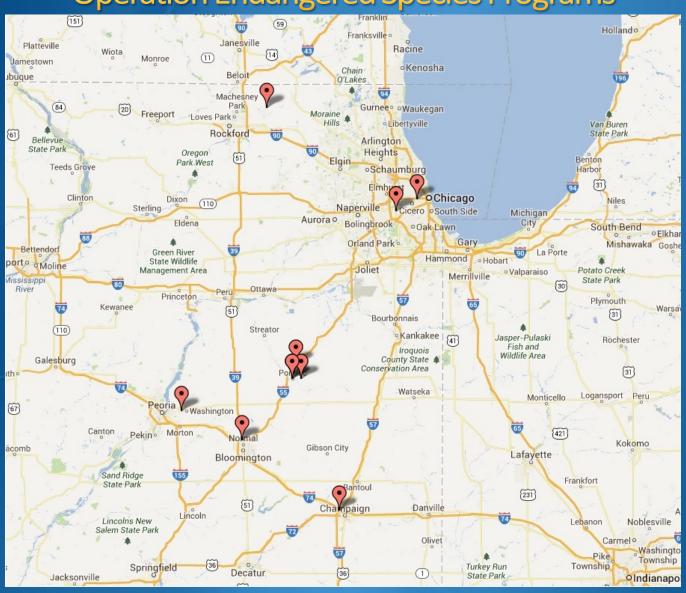


### PTHS "Hub" School



# Map

**Operation Endangered Species Programs** 



### **Participating Schools**

### **Elementary**

Lincoln Elementary School, Pontiac Metcalf Laboratory School, Normal Washington Grade School, Washington

### Middle School

Washington Middle School, Pontiac

### **High School**

Pontiac TWP. High School, Pontiac
Booker T. Washington STEM Academy, Champaign
North Boone High School, Poplar Creek
Lyons TWP High School, La Grange
Whitney Young Magnet School, Chicago

## **Funding**

State Farm Youth Advisory Board - \$100,000 grant

http://www.statefarmyab.com/projects/details/operation-endangered-species-the-alligator-snapping-turtle-project/



http://www.centralillinoisproud.com/story/pontiac-students-get-100k-to-save-endangered-allig/d/story/3dNTDVHgo0ehHR9ZJ\_6Waw

### Other Sources



\$2,000 scholarship

http://ing.us/about-ing/responsibility/childrens-education/unsung-heroes/award\_winners?page=1

# Nearly \$2,500 in donated tanks and equipment through



### **Support Organizations**















STATE FARM® YOUTH ADVISORY BOARD







### **Biology Classroom**

**Common Core Literacy Standards** Research, reading non-fiction text "Write informative/explanatory texts, including [...] scientific procedures/experiments..." **Next Generation Science Standards Elementary – Interdependent Relationships in Ecosystems** Middle School - Growth, Development, and

**Reproduction of Organisms** 

**High School – Matter and Energy in Organisms** and Ecosystems

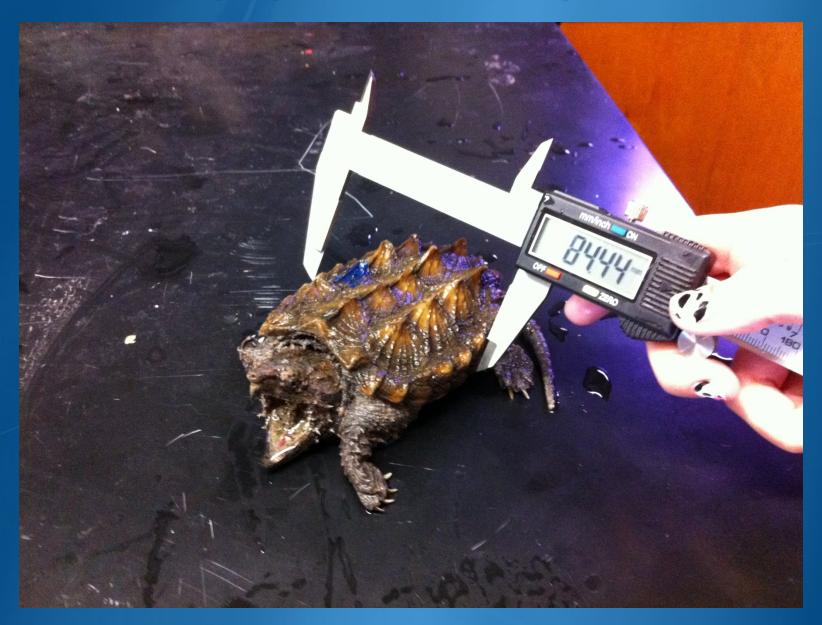
"Real World Scientists"



# **Equipment-Scale**



# **Equipment - Calipers**



# Equipment – Tank & Filter



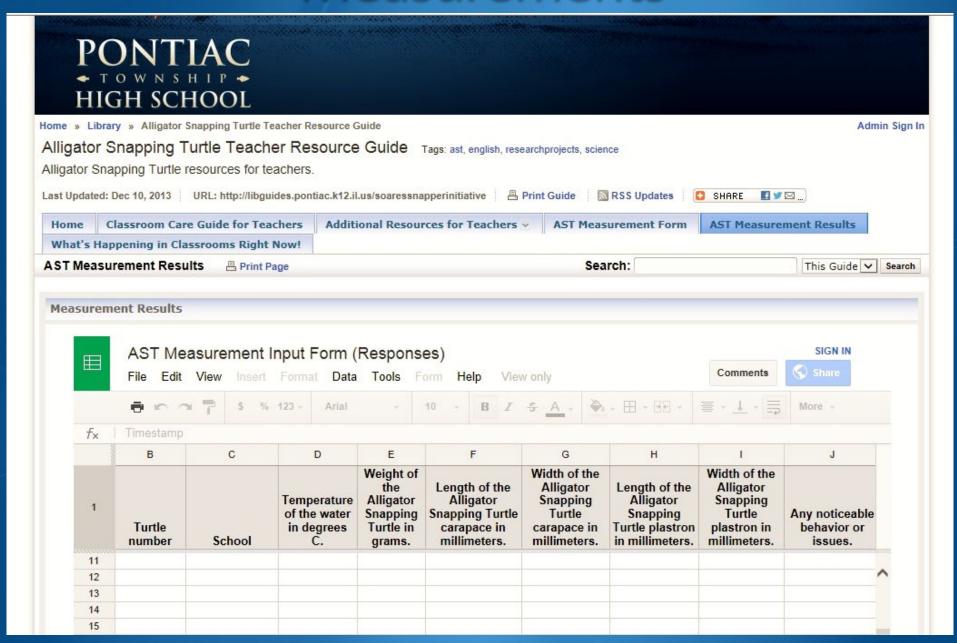




### Food



### Measurements



### **English Classroom**

Common Core Language Arts Standards

Reading: Informational Text - "technical meaning"

"analysis of ideas"

"different mediums"

Language - "Consult general and specialized reference materials"

Writing – "precise language and domain-specific vocabulary"

"Gather relevant information from multiple authoritative print and digital

sources"

**Writing in Multiple Genres** 

### AST Multi-Media Portfolio Project

"Inspiring Struggling Students with Operation Endangered Species"
Alligator Snapping Turtle (AST) Multi-Media Portfolio Project:
The English 2Snapper Initiative

### **Five Step Intiative**

- 1. Peer edit, revise, and expand existing AST Guidebook.
- 2. Develop accompanying AST Promotional Portfolios.
- 3. Write and produce AST PSA's.
- 4. Develop PTHS AST website.
- 5. Create and distribute curriculum kits designed for Pre-K, K-5, and 6-8.

### **Rationale**

Students will meet Common Core standards and develop their English/Language Arts comprehension skills in a real-world situation by developing multiple modes of information promoting Operation Endangered Species Project and creating content for collaborating school districts.

### Methodology

Brainstorming, extensive research using Netbooks and internet lab

MLA documentation

Composition and development of supporting texts and graphics

Speech development and filming of Public Service Announcements using Media

**Center Resources** 

Website development and enhancement using Front Page

### **AST Care and Curriculum Guide**

### "Think Outside the Shell"



### Alligator Snapping Turtle Classroom Curriculum Care Guide

Developed by Mr. Mike Soares, Mr. Paul Ritter and the Rhet II students at
Pontiac Township High School, Pontiac, Illinois

This program is a partnership with Pontiac Township High School, the State of Illinois, Illinois Department of Natural Resources, Peoria Zoo, The Nature Conservancy and TetraFauna, and made possible by a grant from the State Farm Youth Advisory Board.

### Other Classrooms

- Civics Proclamations, letters to legislators
   House Resolution 1029 May 18, 2012 designated
   as Endangered Species Day in the State of Illinois
   (with State Rep. Jason Barickman (R-Champaign).
- Speech PSA's
- Music Theory Theme Songs
- Art Posters, sculptures

### Beyond the Classroom

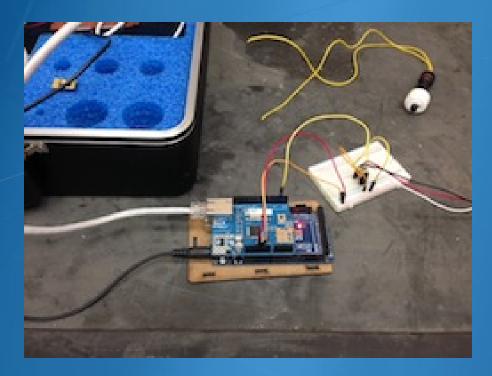
AST's tagged and released by IDNR with students into the Cache Watershed (Southern IL)



**Photo from Friends of the Cache Watershed** 

## Whitney Young Magnet School

From the tank to the computer: sensors for water level, temperature, pH, and nitrate or nitrite levels



Source: news.medill.northwestern.edu/chicago/news.aspx?id=225953

## **Products**



### **ISU Connection**



Metcalf Laboratory School



### Recovery Model

### **Proposal Summary:**

"To expand Operation Endangered Species through creating species recovery modules for other Illinois state-listed Threatened & Endangered Species/Species in Greatest Need of Conservation which are tractable for high schools to adopt and permitted by the Illinois Department of Natural Resources."

Source: Angelo Capparella, PhD., Associate Professor of Zoology, School of Biological Sciences, Illinois State University

### Final Quote

"Hands-on activities with animals in the classroom can literally change a kid's life. I am a living, breathing example of that."

Dr. Brady Barr, Resident Scientist

National Geographic