

# The Nature of Food Waste: A Holistic Extension Program



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# The Food Waste Problem

- ▶ U.S. consumers and retailers waste 133 billion lb
- ▶ Costs ~\$165 billion
- ▶ Food is the most common waste
- ▶ Consumers waste the most
- ▶ Goal to reduce by 50% by 2030
- ▶ U.S. schools
  - ▶ Spend ~\$1 billion on food waste
  - ▶ Largest part of waste stream
  - ▶ Younger students waste more



# Education Gaps and Research

## ▶ Gaps:

- ▶ No lessons available that incorporate Indiana Academic Standards
- ▶ Today's youth are largely removed from agriculture and the environment

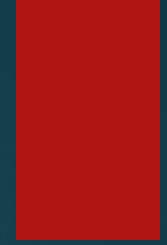
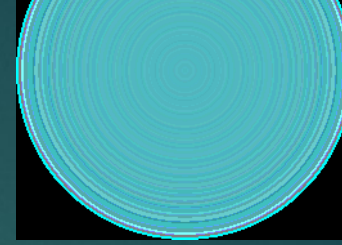
## ▶ Research:

- ▶ Recycling efforts doubled from 1990 to 2010 as a result of educational campaigns targeting schools and local communities
- ▶ Environmental education positively affects youth attitudes
- ▶ Younger students respond more favorably
- ▶ Adults once in youth programs adopt environmental behaviors

# Proposed Solution

Solution:

- ▶ 1) Link agriculture to natural resources
- ▶ 2) Help K-5 teachers easily incorporate curricula into classrooms
- ▶ 3) Expose youth to food waste issues early on

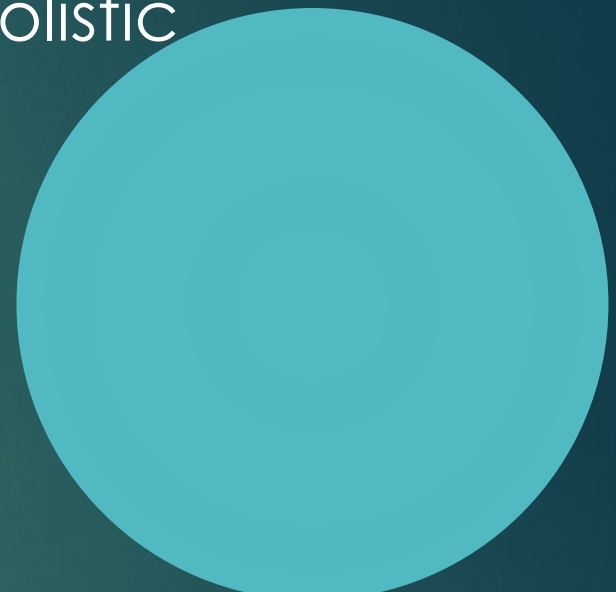
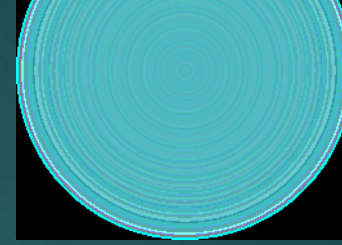


# Objectives

- ▶ Reduce Indiana youth food waste through a holistic extension program: The Nature of Food Waste

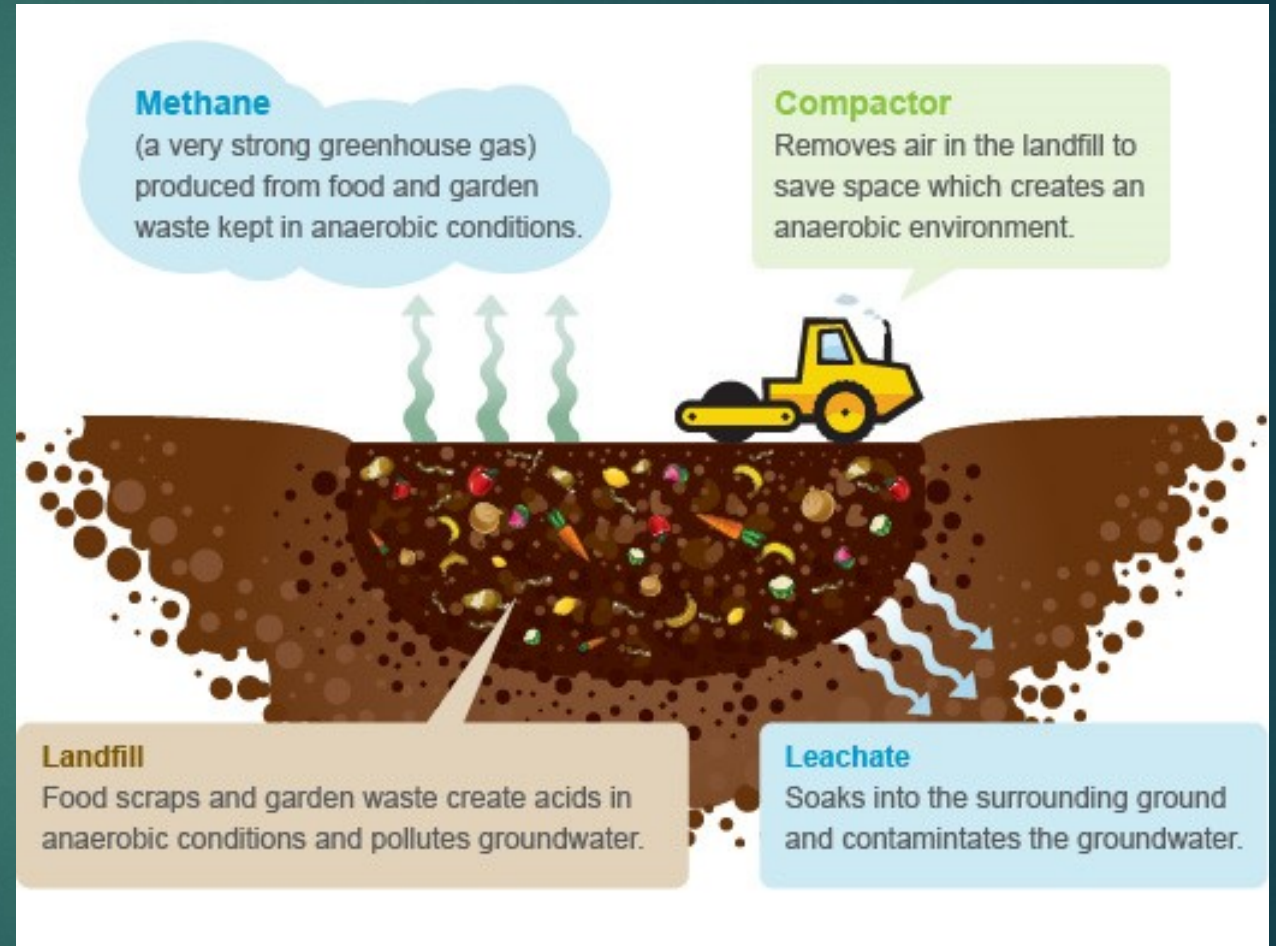
- ▶ Program includes:

- ▶ Lesson plans
- ▶ Teacher workshops
- ▶ Exhibit
- ▶ App
- ▶ Videos/Podcasts



# Environmental Topics Covered

- ▶ Natural resources consumed
- ▶ Food waste in landfills
  - ▶ Water quality
  - ▶ Climate change
  - ▶ Wildlife



# Lesson Plans/Outside Resources

- ▶ Available on Purdue Nature of Teaching-  
[purdue.edu/nature](http://purdue.edu/nature)



Lesson plans were pilot tested by students from The Nature of Service Learning Course Spring 2016

# Lesson 1

## Unit 1 • Overview

### Estimated Time

Four 30–50 minute Lessons

### Vocabulary

- Habitat
- Generalist
- Specialist
- Plantigrade
- Digitigrade
- Track

### Unit Objectives

Students will be able to:

- Identify wildlife species using tracks.
- Recognize that animal diversity is high even though we do not see the animals.
- Predict which species tracks they are likely to find based on habitat requirements.
- Create molds of tracks and interpret animal behavior.

### Targeted Grade-Level Indiana Standards

*K–5 Science Standards*

- 1.1.2; 1.1.4; 1.2.4; 1.2.6; 1.4.2  
2.1.2; 2.4.4  
3.1.2; 3.1.3; 3.2.2.; 3.2.4; 3.4.1  
4.1.2; 4.1.5; 4.1.6; 4.2.5  
5.1.1; 5.2.4; 5.2.7; 5.2.8; 5.4.4; 5.4.5; 5.5.1

*K–5 Math Standards*

- 1.1.10; 1.5.1; 1.5.4  
2.1.11; 2.1.12; 2.5.1; 2.5.3  
3.1.13; 3.5.1  
4.5.1; 4.6.1; 4.6.2  
5.6.1; 5.6.2; 5.6.3; 5.6.4

*9–12 Natural Resource Management*

- N1; N2; N3

### Reference Materials

*Natural History of Indiana Mammals (FNR-413)*  
by Robert N. Chapman and Rod N. Williams

### Required Materials

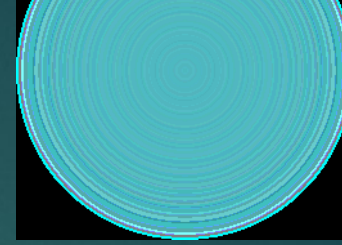
- Masonry sand
- Yard or meter stick
- 2 ml vials
- Scent or bait
- Flour sifter
- Pen or pencil
- Ruler
- Scent Station Data Sheet
- Camera to document activities
- *Natural History of Indiana Mammals (FNR-413)*  
by Robert N. Chapman and Rod N. Williams
- *Big Tracks Little Tracks Following Animal Prints*  
by Millicent E. Selsam
- *Peterson Field Guide to Animal Tracks* by Olaus



# Teacher Workshops



Health and Wellness Teacher Workshops Summer 2016



# Hellbender Havoc

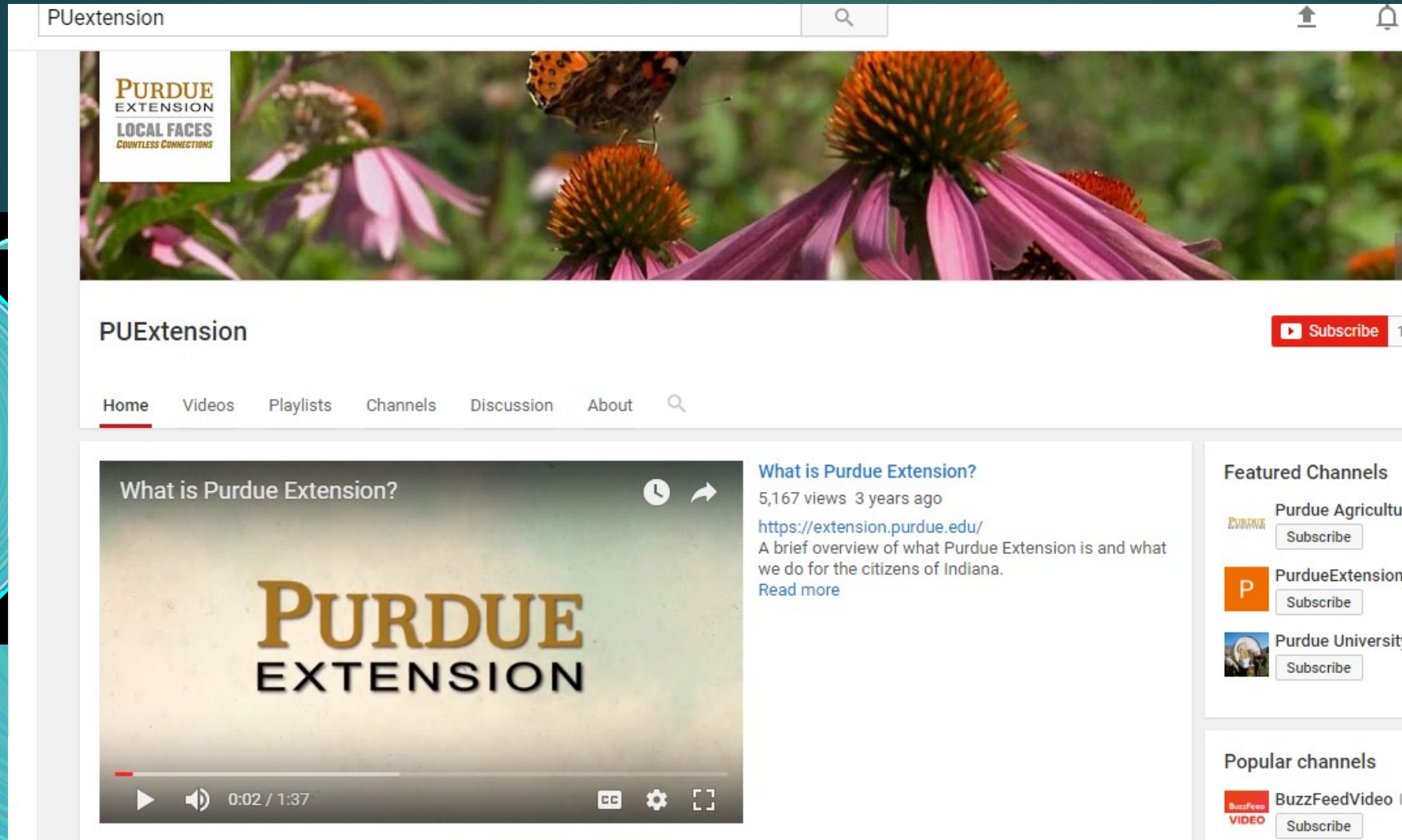
By Purdue University

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# Videos and Podcasts



The image shows a screenshot of the Purdue Extension YouTube channel page. At the top, there is a search bar with "PUextension" entered and a search icon. To the right are icons for upload and notifications. Below this is a banner image featuring purple flowers and a monarch butterfly, with a logo in the top left corner that reads "PURDUE EXTENSION LOCAL FACES COUNTLESS CONNECTIONS".

The channel name "PUExtension" is displayed, followed by a red "Subscribe" button and a subscriber count of "1,3...". Below the name is a navigation menu with links for "Home", "Videos", "Playlists", "Channels", "Discussion", and "About".

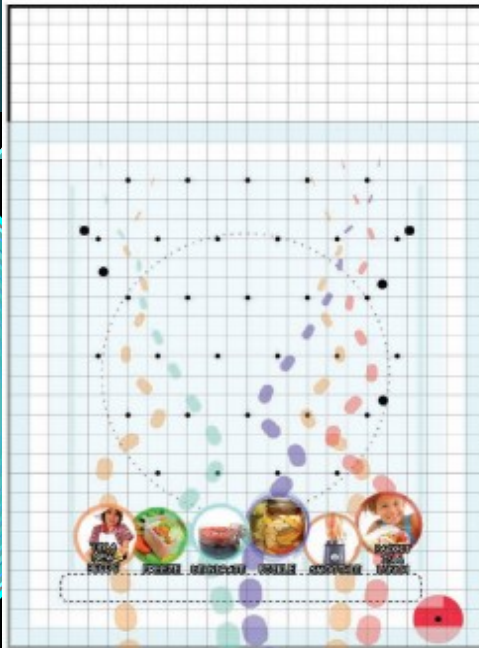
The main content area features a video player for the video "What is Purdue Extension?". The video player shows a title card with "PURDUE EXTENSION" in large, bold letters. The video player controls at the bottom indicate a play button, a volume icon, a progress bar at 0:02 / 1:37, and icons for closed captions, settings, and full screen.

To the right of the video player, the video title "What is Purdue Extension?" is shown, along with "5,167 views 3 years ago" and a description: "A brief overview of what Purdue Extension is and what we do for the citizens of Indiana." Below the description is a "Read more" link.

On the right side of the page, there are two sections: "Featured Channels" and "Popular channels". The "Featured Channels" section lists "Purdue Agriculture" (with a "Subscribe" button), "PurdueExtensionE" (with a "Subscribe" button), and "Purdue University" (with a "Subscribe" button). The "Popular channels" section lists "BuzzFeedVideo" (with a "Subscribe" button).

# Exhibit





## RECLAIM FOOD AT HOME



USE FOOD IN A DIFFERENT WAY... TRY A NEW RECIPE

CONSERVE FOOD FOR A FOR A SHAG

## REDUCE FOOD WASTE AT HOME

 <p>microwave</p>	<p>cabinet cavity</p>	<p>freezer cavity</p> <p>take small portions at meals try something at least twice proper food storage, sealed Freeze extra for long term storage plan meals for a week left over meals make a left over day make a grocery list and stick to it Prioritize food that will go bad, eat it first Taste/sniff food for freshness Best by labels are NOT safety dates Buy ugly food so it's not thrown away</p>
<p>Re-use left over in new recipes. eats parts of food normally not eaten (potatoe skins, candied orange peels)</p> <p>range</p>		<p>refrigerator cavity</p>
 <p>oven</p>	 <p>compost</p> <p>compost food at home-good for garden. Donate compost to community garden</p>	

Help parents make sack lunch 03



Don't be afraid of UGLY food (spotty banana)

USE FOOD IN A DIFFERENT WAY... TRY A NEW RECIPE




# Acknowledgements



ENGAGE  
PURDUE

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## ▶ Partners

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- ▶ New Market Elementary
- ▶ Nature of Service Learning Students

## ▶ Research Committee

- ▶ Prof. Rod Williams-chair
- ▶ Prof. Linda Prokopy
- ▶ Prof. Dan Shepardson

## ▶ Lab Mates

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- ▶ Erin Kenison
- ▶ Obed Hernandez-Gomez
- ▶ Emily McCallen
- ▶ Nick Burgmeier
- ▶ Veronica Yager
- ▶ Paige Weldy
- ▶ Kelsey Rearick

# Thank you!

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## Feedback Welcome!!