4-H Soil & Water Project Update
PRESENTATION OUTLINE

• Project Background – What, Why, How?
• Who are the Partners?
• What is 4-H – Youth Education?
• Project Goals
• How will 4-H Implement?
• Tour of the New & Improved! Soil & Water Science Manuals
• How can Floodplain Managers use this program?
• How can you earn CRS Points?
SAD, Out of Date Soil & Water Materials!!

- Last Updated in 1994
- Fail to include web-based resources that practitioners take for granted
- Contained very little to no information on:
  - stormwater quality
  - stormwater quantity
  - floodplain management
  - other water quality issues
How 4-H Works

- 3rd through 12th graders may enroll in the 4-H program
- At enrollment, 4-Hers choose which projects they wish to complete for a given year & can create a fair exhibit for these projects
- Soil & Water project competes with many, many other projects
- 4-Hers attend club and workshop meetings to get help with completing their projects & exhibits
PARTICIPATION IN THE 4-H PROJECT, 1995-2015

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COLLABORATION NEEDED

- Purdue Extension/4-H
- Wabash River Enhancement Corp
- Tippecanoe County Partnership for Water Quality
- Christopher Burke Engineering
- Walmart (FUNDING!!!!)
**WHAT IS 4-H – YOUTH EDUCATION?**

- Administered by the Secretary of Agriculture, though Land Grant universities
- 4-H is the only federally-authorized youth serving organization
- Federal oversight requires that we follow policies that other youth serving organizations are not required to follow
4-H Mission & Vision

Mission: The Indiana 4-H Youth Development mission is to provide real-life educational opportunities that develop young people who will have a positive impact in their communities and the world.

Vision: Indiana 4-H Youth Development strives to be the premier, community-based program empowering young people to reach their full potential.
**Key Aspects of the 4-H Program**

- Non-formal programming – emphasizing Experiential Learning
- Volunteers extend our programs far beyond what staff are able to do!
- Youth, parents, and families learning together
- Subject matter from the land-grant university
- A variety of delivery methods
- Focus on positive youth development
IMPORTANCE OF ADULT INVOLVEMENT

- Youth who lack a strong relationship with a caring adult while growing up are much more vulnerable to a host of difficulties, including academic failure and involvement in risky behaviors.

- Resilient youth (those who successfully transition from risk-filled backgrounds to the adult world of work and good citizenship) are consistently distinguished by the presence of a caring adult in their life.

About 20% (8.5 million) of U.S. youth do not have a caring adult in their life.
**PROJECT GOALS**

- Upgrade to Soil & Water Science
- Addition of water education materials
- Revise the Indiana 4-H Soil and Water Conservation manuals to provide full-color, user-friendly materials that attract youth to this natural resources study area.
- Incorporate web resources as much as we could
HOW PURDUE EXTENSION ROLLED-OUT...

- Presented to Indiana Extension Youth staff – Fall Conference, September 23, 2014
- Youth enroll for the project online, November 1 – January 15, 2015
- Educational opportunities for youth are dependent upon the volunteer project leader
  - Project club meetings
  - Workshop
  - Parent assistance
  - New: Natural Resource clubs
- Availability: Purdue Extension’s Education Store, www.the-education-store.com
- Exhibiting at the county and state fairs
Project Products

- 4 Soil & Water Science Manuals:
  - Level 1 – 3rd through 5th Graders
  - Level 2 – 6th through 8th Graders
  - Level 3 – 9th through 12th Graders
  - Facilitator’s Guide
TOUR OF THE NEW & IMPROVED! MANUALS

BEFORE

AFTER
LEVEL 1, 3RD – 5TH GRADES

Contents
- Erosion
  - Splash
  - Water
  - Wind
- Floods!
- Life in the Soil
- Properties of Water
- Soil and Water
- Soil Needs Its Space
- Soil Origins
- Soil Profiles
- Soil Texture
- The Water Cycle
- Watersheds
- Glossary
Level 2, 6th – 8th Grades

Contents

- Careers in Conservation
- Clean Water
- Color Clues
- Conservation Practices
- Floodplains
- Kankakee Marsh
- Municipal Water Treatment
- Onsite Wastewater Treatment
- Soil Erosion
- Soil Formation
- Soil Health
- Soil Texture
- Storm Water Runoff
- Surface and Groundwater
- Water Testing
- Wetlands
Chapter 1: You are a Homeowner
- City Dwellers and Country Dwellers
- Conservation at Home
- Soil Moisture
- Why Should I Care About My Soil?

Chapter 2: You Live in a Watershed
- Stream Water Quality Monitoring
- Water as a Resource
- Water Information Online
- Water Pollution

Chapter 3: You Are a Food and Fiber Producer
- Agricultural Soils
- Agricultural Water
- Soil Erosion
- Water and CAFOs

Chapter 4: You are the Mayor
- Conservation Planning
- Explore Your Wastewater Treatment Plant
- Planning for Growth
- Wetlands

Chapter 5: You are a Teacher
- Interactive Demonstration
- Lights, Camera, Learn-by-Doing!
- Mentor a 4-H Member
- Share Your Knowledge

Chapter 6: You are a Legislator
- Challenges
- Current Events
Facilitator’s Guide – For Adult Helpers (For All 3 Levels)

Contents
- Note to Project Facilitator
  - Thank you
  - Key concepts
- Learning Goals
- 4-H Life Skills
- The Experiential Learning Model
- Youth Development Stages
- Youth Manuals: Suggestions and Answers
- Activity Facilitation

Activity Facilitation components:
- The Big Picture
- Facilitating the Activity
- Essential Questions
- Next Generation Science Standards
- Success Indicator
Example Floodplain Management Activity

- **Level 1: Splash Erosion**
  - Place a water-filled can on a step ladder fold-out platform
  - Watch the water drip and mark each splash mark
  - Discuss:
    - Number and size of splashes
    - How this could look along a streambank or within the floodplain?
    - How is this different if the soil is covered by grass, sod, straw or leaves?
**Example Activity**

- **Level 1: Splash Erosion (p 5)**
  - Place a water-filled can on a step ladder fold-out platform
  - Watch the water drip and mark each splash mark
  - Discuss:
    - Number and size of splashes
    - How this could look along a streambank or within the floodplain?
    - How is this different if the soil is covered by grass, sod, straw or leaves?

- **Others:**
  - Flood damage to your property (p 11)
  - Properties of water (p 17)
  - Where does rain come from (p 37)
EXAMPLE ACTIVITY

- **Level 2: Where are YOUR floodplains? (p 1 4th listing)**
  - Obtain a series of local FEMA Flood Rate Insurance Maps and DNR Digital Flood Insurance Rate maps
  - Identify your house, school or other important area
  - Discuss
    - What zones are displayed?
    - In what zone is the point of interest located?
    - What does this mean?
**Example Activity**

- **Other Options**
  - Clean water – who is responsible for keeping your water clean
  - Soil and water conservation practices
  - Water treatment practices
  - Reducing soil erosion
EXAMPLE ACTIVITY

- **Level 3:**
  - Wetlands
  - City Dweller and Country Dweller
  - Water as a Resource
  - Stream Water Quality Monitoring
  - Soil Erosion
  - Conservation Planning
  - Planning for Growth
PROJECT TIMELINE, 2015

- February. Curriculum Posted online
  - The Education Store, Purdue Extension
  - [www.edustore.purdue.edu](http://www.edustore.purdue.edu)

- March. passed National 4-H Curriculum Peer Review

- Summer.
  - 299 Indiana 4-H members used for study and exhibits to share what they learned at county and state fairs
  - Presentations:
    - June: Universities Council on Water Resources
    - July: Earth Educators Rendezvous
    - July: Soil & Water Conservation Society (SWCS) International Conference
## 2015 Project Manuals Sales

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**Other States:**
- Iowa
- Florida
- Mississippi
- Illinois
AWARDS AND RECOGNITION

- National 4-H Jury Review – passes and accepted as National 4-H Curriculum, March, 2015

- Universities Council on Water Resources (UCOWR) Education and Public Service Award, 2015

- Indiana Peer Reviewed

- INAFSM “Outstanding Outreach-Education Award”, September, 2015
Exhibits, 2015 Indiana State Fair

Judges reported:

- More variety
- Improved quality
Did you know that you live in a watershed?!

Watershed Map of Indiana

INDIANA STATE FAIR

WETLANDS
WHAT IS A WETLAND?

INDIANA STATE FAIR

WIND EROSION

INDIANA STATE FAIR

No-Till

To Till or Not to Till?
Comparing No-Till to Vertical Tillage

The Pros of No-Till
- Reduces compaction
- Long-term better yields
- Higher organic matter
- Less soil erosion
- More moisture
- Less time in the tractor
- Prevents weeds and insects
- Less soil loss from equipment

The Cons of No-Till
- Requires no till
- Shorter time to heat
- Not good for erosion control
- Not as good for dry soil

The Costs of No-Till
- Requires no till
- Requires no till

The Costs of Vertical Tillage
- More time to heat
- More time for weeds

Conclusion

INDIANA STATE FAIR
How CAN Floodplain Managers USE This Program?

- Use to help your community understand and enhance your floodplain management program
- Most entities need help with K-12 Education
  - Mini 4-H (K-2nd grade); Regular 4-H (3rd – 12th grade)
- Existing Programs Save on Costs
- Professionally Executed Education Materials
- Materials are available for purchase to anyone
HOW CAN YOU EARN CRS POINTS?

- Earn Community Rating System (CRS) points for outreach (CRS Coordinator’s Manual p. 330-1)

- Activity 330 Outreach Projects (OP)
  - Could possibly get up to 60 points
  - Up to 200 points for designing and carrying out public outreach projects

- Credits for individual projects may be increased if the community has a Program for Public Information (PPI)
  - Up to 80 points added to OP credits and up to 20 points added to FRP credits, for projects that are designed and implemented as part of an overall PPI

- Stakeholder Delivery (STK)
  - Up to 50 points added to OP credits for having info disseminated by people outside the local government
What CAN Floodplain Managers Do?

- Find Out if Your County Offers the Soil & Water Science Project
- Talk to Your County’s Purdue Extension Youth Educator
- Find Out if Your County has a S&W project Superintendent
- Offer to do a S&W topic workshop
- VOLUNTEER!
- Help recruit volunteers & Encourage Youth Who Are Interested in Our Professions
4-H SOIL & WATER PROJECT UPDATE

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- **Lori Gates**, Senior Project Manager, Christopher Burke Engineering  
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4-H Soil & Water Project Update

Questions?