

# **Thurston High School AP Environmental Science**

Creating continued place-based learning opportunities  
for students in all grades  
while increasing biodiversity and watershed health

# Great Lakes Watershed field course

- National Oceanic and Atmospheric Administration (NOAA) B-WET grant
- Teacher training June 2017
  - 20 educators from MI, OH, IL and WI
  - Earth Force framework
  - Schoolship experiences
  - Canoeing the Boardman River to see effects of Dam removal efforts
  - Learn about green roofs and other eco-friendly infrastructure in downtown TC



# Earth Force Framework

- Step 1 – Community Environmental Inventory
- Step 2 – Issue Selection
- Step 3 – Policy and Community Practice Research
- Step 4 – Goal and Strategy Selection
- Step 5 – Planning and Taking Civic Action
- Step 6 – Review and Share



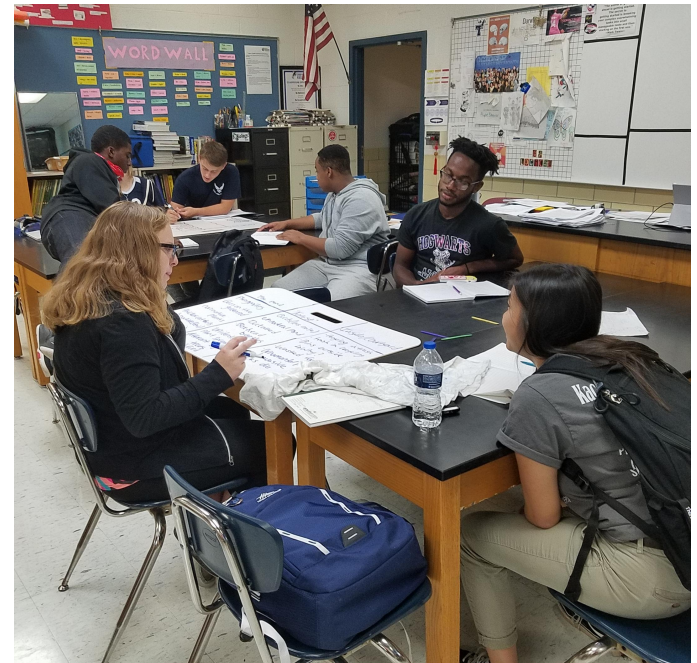
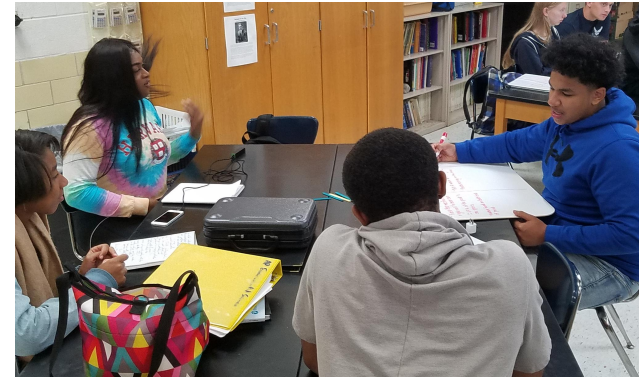
# Community Environmental Inventory

- Energy Audit
- Recycling Audit
- Environmental/ Carbon footprint
- Food Waste Audit
- Guided Walking Tour
  - Pervious/Impervious Material
  - Storm Water
  - Water Drainage
- Interviews
- Online Databases



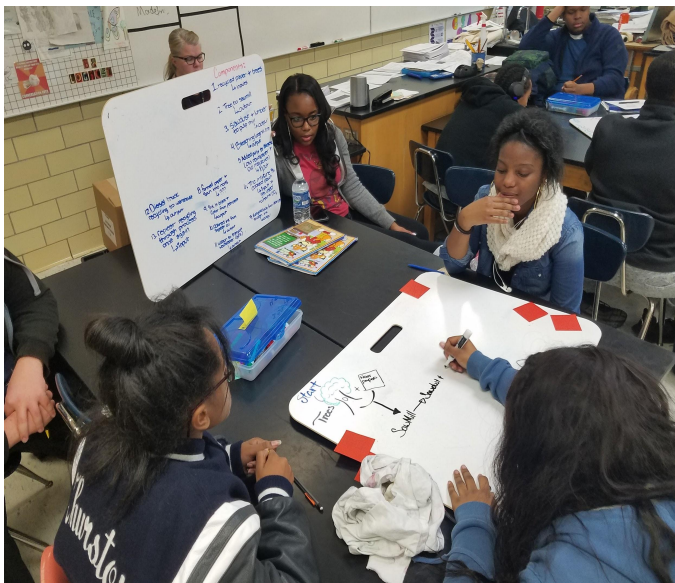
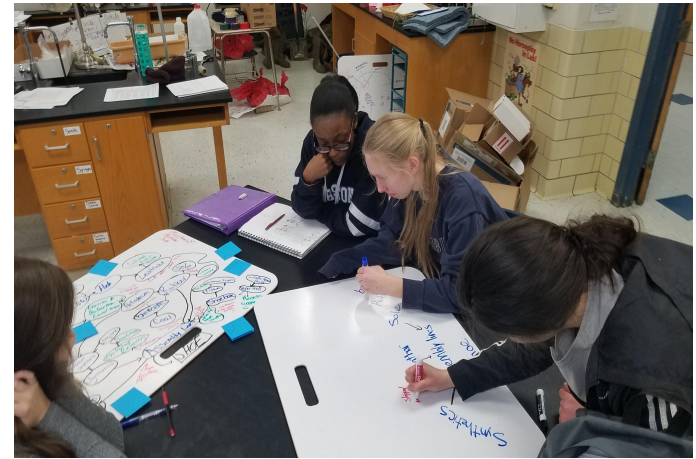
# Issue Selection

- Determined Community Strengths and Potential Issues
- Researched Issues further:
  - Explore cause and effect
  - Explore assets and constraints involved
  - Does it meet the goal of improving watershed health?



# Issue Selection

- Groups presented potential projects
- Class came to a consensus about which issue to address
- Identified:
  - Questions they still have
  - How they will find the information
  - Who will find the information



# Goal and Strategy Selection

- The class decided on criteria for choosing a strategy that students will focus on. Some considerations when identifying criteria for selection of a strategy:
  - **REALISTIC** | will students be able to carry out the strategy given the available resources?
  - **PRECEDENT** | how have others used this strategy before, and how well did it work?
  - **RELEVANCE** | how much does the strategy actually address the project goal?
  - **SIMPLICITY** | how easy or difficult will the strategy be to carry out?
  - **IMPACT** | how likely is it that the strategy will have a lasting impact?
  - **OPPOSITION** | how much opposition will you likely get from other people or organizations?

# Planning and Taking Civic Action

Students formed task committees

- Soil type
- Native plant selection
- Equipment budget – determine best vendors
- Permitting for herbicide
- Herbicide choice
- Methods of mechanical removal and disposal
- Meeting with Superintendent for project approval

Fulfilled their designated responsibilities with facilitation from

Ms. Hereau





# Planning and Taking Civic Action

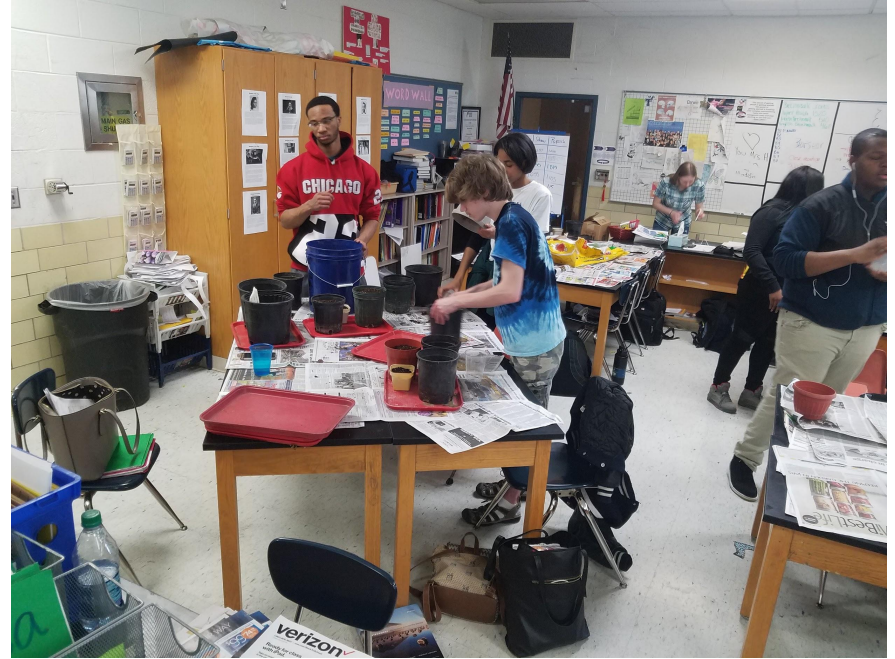
Developed a project timeline

- Herbicide treatment - no permit necessary (last fall)
- Mechanical removal and/or controlled burn (late winter/early spring)
- Start seeds in greenhouse (late winter/early spring)
- Install plants in garden (spring)
- Install Bird feeders and nesting boxes and observation benches (spring)
- Continued maintenance and planting and spot treat with herbicide (summer/fall)
- Learning lab installations - benches, signage, platform/deck/boardwalk (summer/fall)
- Field trip curriculum design (summer/fall)
- Invite classrooms and schedule field trips (fall/spring)



# Still in the removal stage

- Herbicide treatment - no permit necessary (last fall)
- Start seeds in greenhouse (late winter/early spring)
- Mechanical removal and/or controlled burn (sadly did not get permission for burn)









# Review and Share

- Here we are!
- What's next?
- Long-term goals and sustainability



# Funding

- Lots of grant writing and a few awards!
  - Cornell Lab of Ornithology Garden Grant - \$1000
  - MAEOE Grant - \$500
  - NOAA B-WET Grant (through Watershed Field Course) - \$300
  - MWEA/MSTA Dan Wolz Clean Water Education Grant - \$1000
  - Knight Center for Environmental Journalism Grant - \$1000
  - Michigan Lottery Excellence in Education Award 2018 - \$500
  - NOAA Planet Stewards Education Project 2018 - \$2500
  - MDSTA Mini Grant - \$500
  - Plus Generous Donations from the Community!