



# JOHN HEINZ NATIONAL WILDLIFE REFUGE AT TINICUM

*AMERICA'S FIRST URBAN REFUGE*

**EDUCATE — ENGAGE — CONNECT**



Kelly Kemmerle,  
[Kelly\\_kemmerle@fws.gov](mailto:Kelly_kemmerle@fws.gov)





# ABOUT THE REFUGE

- 1,000 acre greenspace in both Philadelphia and Delaware Counties
- Pennsylvania's largest remaining **freshwater tidal marsh**
  - Located in Delaware River Watershed
- 300 bird species recorded, 80 nesting species
- Over **250,000 visitors** annually
- Created through **community action** to:
  - Preserve and restore Tinicum Marsh
  - Promote **environmental education**
  - Afford visitors the opportunity to **view wildlife** in its natural habitat







# REFUGE GOALS

- *Educate* youth through outdoor exploration and jobs
- *Engage* people to promote sustainable communities
- *Connect* residents to safe & accessible greenspaces



# CURRENT CLIMATE

- over **80%** of Americans live in urban areas\*
- Americans are spending **less time outdoors** than in the past\*
- Additionally **40%** of younger American think the outdoors is unsafe\*\*



*\*USFWS Urban Standards of Excellence*

*\*\*The Nature of Americans Study Findings (2018) DJ Case & Associates*



# STATE OF THE SYSTEM



- The way people interact with the outdoors is **varied and changing** and conservation professionals must **adapt**
- Recognize the **barriers and lived experiences** of our audiences
- Research suggests that programs offer **more ways to engage with nature** than only acquiring formal knowledge

*\*The Nature of Americans Study Findings (2018) DJ Case & Associates*



# ACKNOWLEDGING BARRIERS

## Physical Barriers

- Perceived Cost
- Transportation & Access
- Dangerous Animals
- Lack of Appropriate Gear



## Cultural/Emotional Barriers

- Representation
- Law Enforcement (+/-)
- Community Perceptions
- Fear of Adverse Interactions

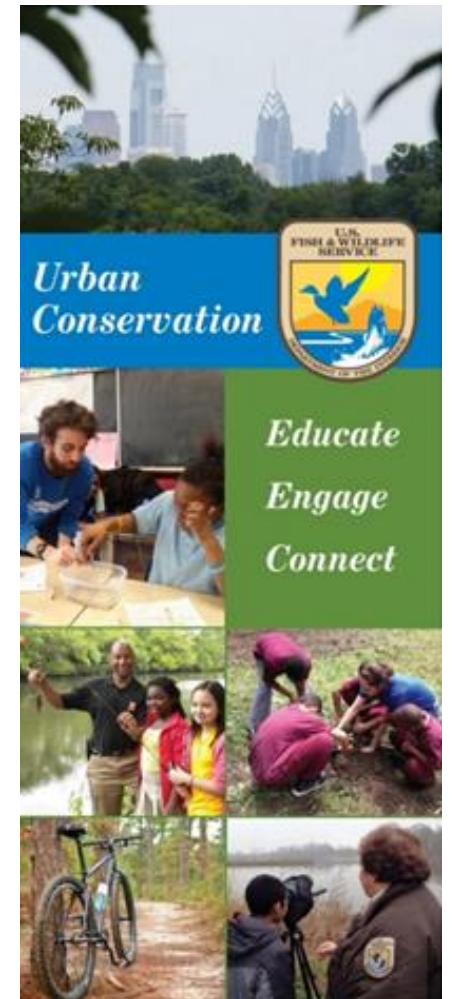




# OVERCOMING BARRIERS

Stepping Stones of Engagement

**EDUCATE – ENGAGE – CONNECT**







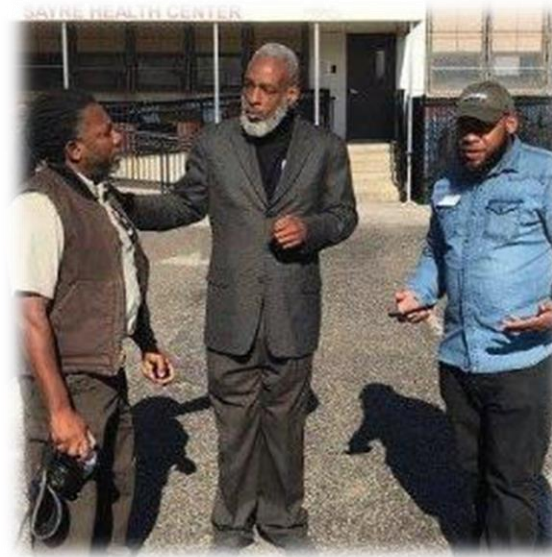
CONNECT

COMMUNITY ENGAGEMENT



# OUR STRATEGIES

- Refuge from the community up
- Focus on a **target community**
- **LISTEN FIRST**
  - Avoid making promises we can't keep.
- **Ask** what **partners need** first
- **Align** joint needs and goals
  - **Provide resources**
- Build **trust** by showing up
- Beware of **First Impressions**





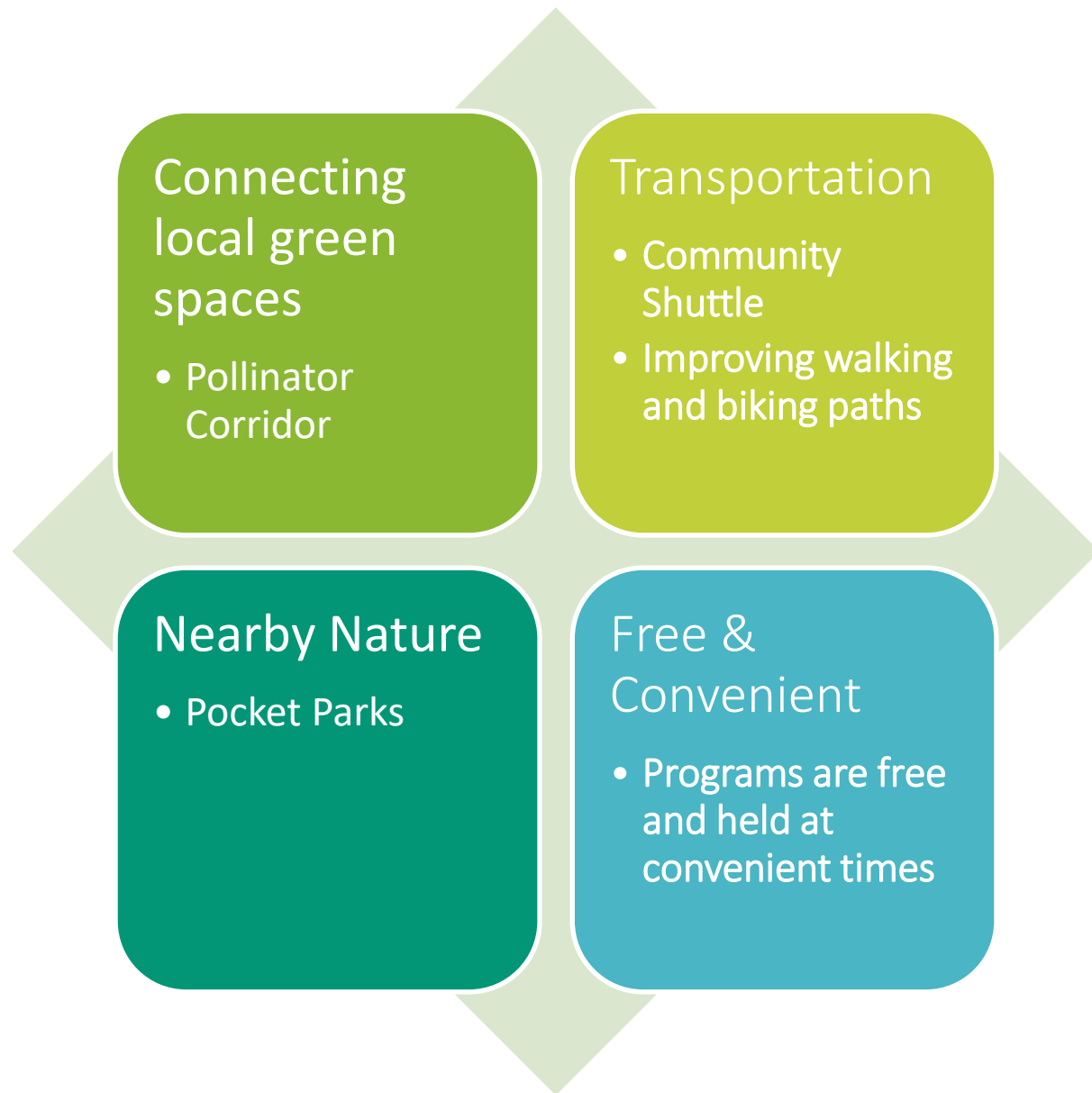
# GETTING OFF REFUGE



- Programming at **Local Greenspaces**
  - Community litter clean-ups
  - Guided Walks & BioBlitz
  - Archery
- Work with **trusted** partners
  - Libraries, rec centers, churches
- **Classroom** Programs
- Choose tabling events wisely
  - Stick to **target community**







## ACCESS AND TRANSPORTATION



# BARRIER BUSTING WITH PARTNERS!:

## TRANSPORTATION, SIGNAGE, AND ACCESS



**October 13th & 14th**  
**FREE FAMILY FUN!**

*Southwest Philly*  
**RIVER DAYS**

**JOHN HEINZ WILDLIFE REFUGE**  
To Bartram's: 9:00 11:00 1:00 3:00  
Arriving at John Heinz: 10:50 12:50 2:50

**PENROSE ELEMENTARY**  
To Bartram's: 9:05 11:05 1:05 3:05  
To John Heinz: 10:45 12:45 2:45 4:45

**TILDEN MIDDLE SCHOOL**  
To Bartram's: 9:15 11:15 1:15 3:15  
To John Heinz: 10:35 12:35 2:35 4:35

**MYERS REC CENTER**  
To Bartram's: 9:25 11:25 1:25 3:25  
To John Heinz: 10:25 12:25 2:25 4:25

**COBBS CREEK C.E.C.**  
To Bartram's: 9:35 11:35 1:35 3:35  
To John Heinz: 10:15 12:15 2:15 4:15

**KINGSESSING REC CENTER**  
To Bartram's: 9:45 11:45 1:45 3:45  
To John Heinz: 10:05 12:05 2:05 4:05

**BARTRAM'S GARDEN**  
Arriving at Bartram's: 9:50 11:50 1:50 3:50  
To John Heinz: 10:00 12:00 2:00 4:00

**FREE SHUTTLE RIDES**  
from 4 locations  
to 3 nature centers!



Free Shuttle Rides & Raffle!





ENGAGE:

HIGH SCHOOL YOUTH CREWS





## MOBILIZE GREEN – HIGH SCHOOL YOUTH CREWS PROGRAM OVERVIEW

- Ages 15+
- Paid to work on meaningful projects in **their community**
- **Recruited** locally
  - Targeted schools
  - Alumni engagement
- Spring, Summer, Fall Crews
- Hours are 8:00am – 4:00pm
- **Transportation provided**
  - During covid, transportation stipends have been provided in lieu of transportation





# MOBILIZE GREEN PROGRAM HIGHLIGHTS

- Career Development
  - Career Readiness Skills
  - Team Building & Leadership
- Environmental Education Opportunities
- Connecting to nature and building a conservation mindset







# EDUCATE:

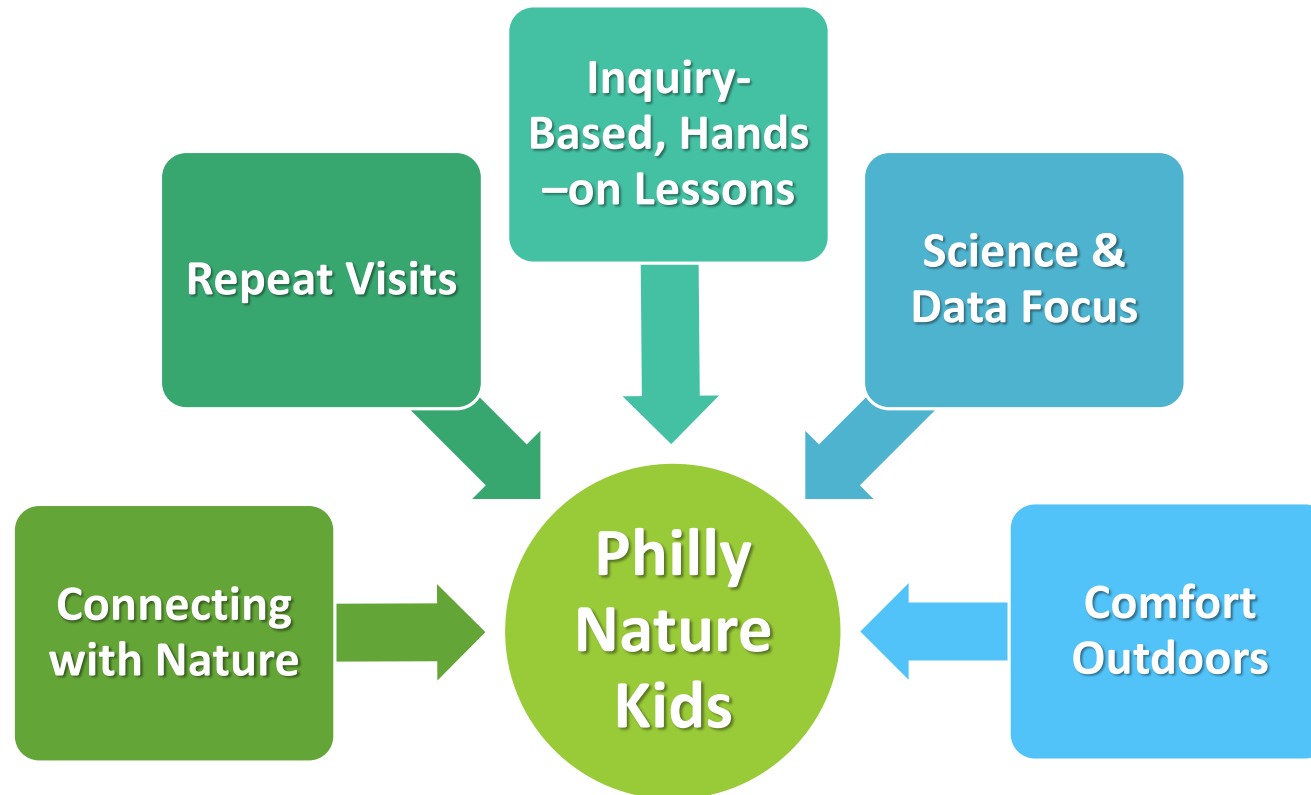
## ENVIRONMENTAL EDUCATION PROGRAM



# Philly Nature Kids



Philly Nature Kids will **foster lifelong stewardship** of the environment by **engaging students through inquiry-based learning** to promote **investigation & discovery** of their National Wildlife Refuge and outdoor community.





# PHILLY NATURE KIDS CLASSROOM MODEL

- 10 classroom visits
- Meeting students **where they are**
- Encourage students to **push their boundaries while still providing autonomy**
- Strong focus on **inquiry**

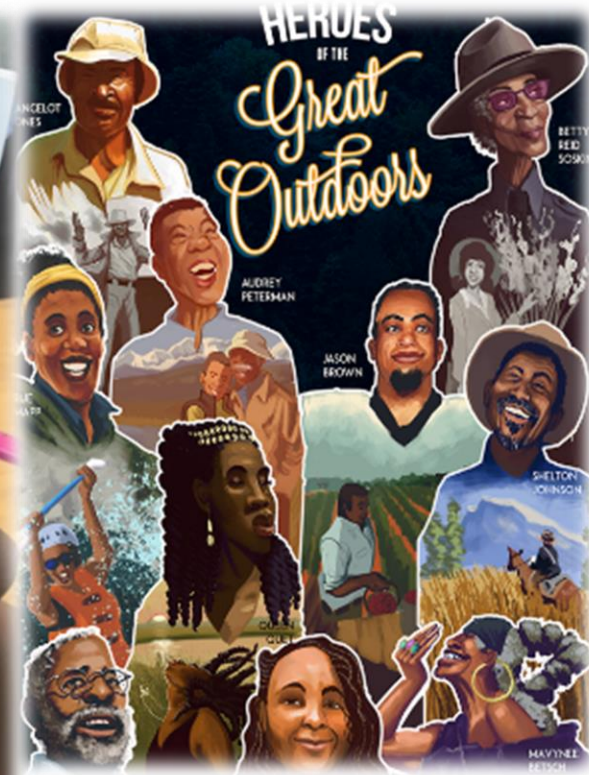
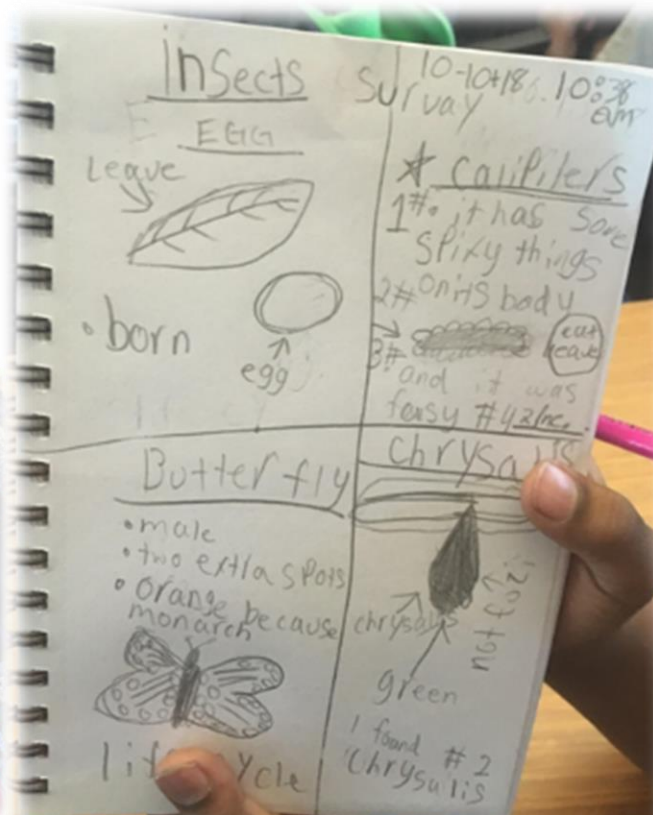




# PHILLY NATURE KIDS

## REFUGE VISITS

- 9 year-round visits
- **Observe & record** phenology
- Maintain a **nature journal**
- Build **naturalist skills**
- Learn from representative **Model Naturalists**



Poster by Eren Wilson Illustrates



# PHILLY NATURE KIDS

## YOUTH OUTDOOR SKILLS

- June Celebration Days
  - Presentations
  - Explore **hiking, fishing, and archery**
  - Pizza Party from the Friends of Heinz
- Junior Ranger Camp
  - 1 week long, **transportation provided**
  - **Kayaking, archery, fishing, wildlife photography**





# TESTING OUTCOMES

## PSSA/Keystone Performance Overview

Note: Due to state accountability rules introduced for 2018-19, proficient/advanced rates displayed here may differ from the rates published by the state if a school has under 95% participation in exams. Please refer to the "PSSA Participation Over Time" sheet to analyze participation data.

Test Type

Subject

School Name

Grade

...

### PSSA and Keystone Performance

#### ELA % Proficient or Advanced (PSSA)

2018-2019 Penrose School 60 Students.

28.3%<sup>+5.3%</sup>  
YOY % Prof/Adv - ELA

#### Math % Proficient or Advanced (PSSA)

2018-2019 Penrose School 60 Students.

10.0%<sup>-3.5%</sup>  
YOY % Prof/Adv - Math

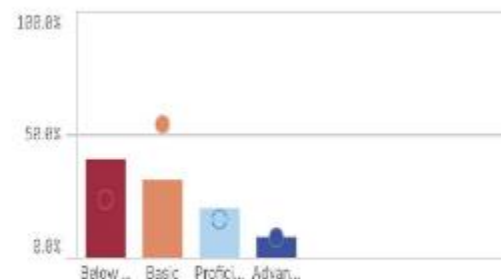
#### Science % Proficient or Advanced (PSSA)

2018-2019 Penrose School 60 Students.

26.7%<sup>+9.0%</sup>  
YOY % Prof/Adv - Science

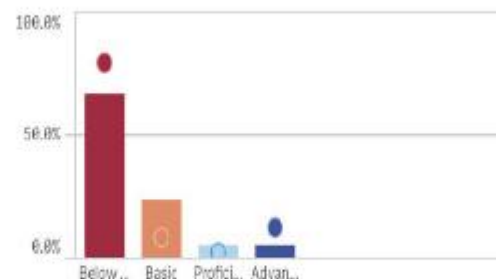
#### ELA: Percent of Students by Performance Level (PSSA)

2018-2019 (Bars) v. 2017-2018 (Circles), District Schools.



#### Math: Percent of Students by Performance Level (PSSA)

2018-2019 (Bars) v. 2017-2018 (Circles), District Schools.



#### Science: Percent of Students by Performance Level (PSSA)

2018-2019 (Bars) v. 2017-2018 (Circles), District Schools.



\* Demographic Data for the 2014-2015 SY was obtained from a different source for Charter Schools.



On average, teachers reported that participating in PNK increased students' **interest** and **comfort** in nature, as well as their **awareness** of and **interest** in the Refuge.

● Before PNK  
● After PNK



# EDUCATOR RESPONSES

**100%**

of teachers reported that PNK increased students' **scientific inquiry skills**

**83%**

of teachers reported that PNK increased students' **understanding of science content**

**83%**

of teachers reported that PNK increased students' **retention of science content**



# PHILLY NATURE KIDS

## PERSPECTIVES



*“Thank you for **teaching us about environments** and how to save them so **now I know how to save environments**. PS. My yard is full of **milkweed!!!!**”*

– Patterson Elementary Student

*“My class gets to learn about the environment by **going out and seeing it first hand**. I know because of the program **my students have learned more than I alone could have ever taught them**.*

*They have a **better appreciation for the environment & greater knowledge about science**.”*

– Joe Kilman, Patterson Elem. 4<sup>th</sup> grade Teacher





# CULTURALLY RELEVANT INSTRUCTIONAL PRACTICES

## Asset Based Mindset

- Focusing on strengths and positive traits

## Place Based Learning

- Focusing on Nearby Nature and places close to home

## Inquiry Based Learning

- Students build scientific mindsets through exploration

## Student & Nature Centered

- Instructors act as guides on the side, centering the student experience & using nature as a teacher

## Trauma Informed Techniques

- Helps build trust and relationships with students

## Representation

- Using model naturalists that reflect the community you serve

## Cultural Awareness

- Know yourself and your community





# STEPPING STONES OF ENGAGEMENT



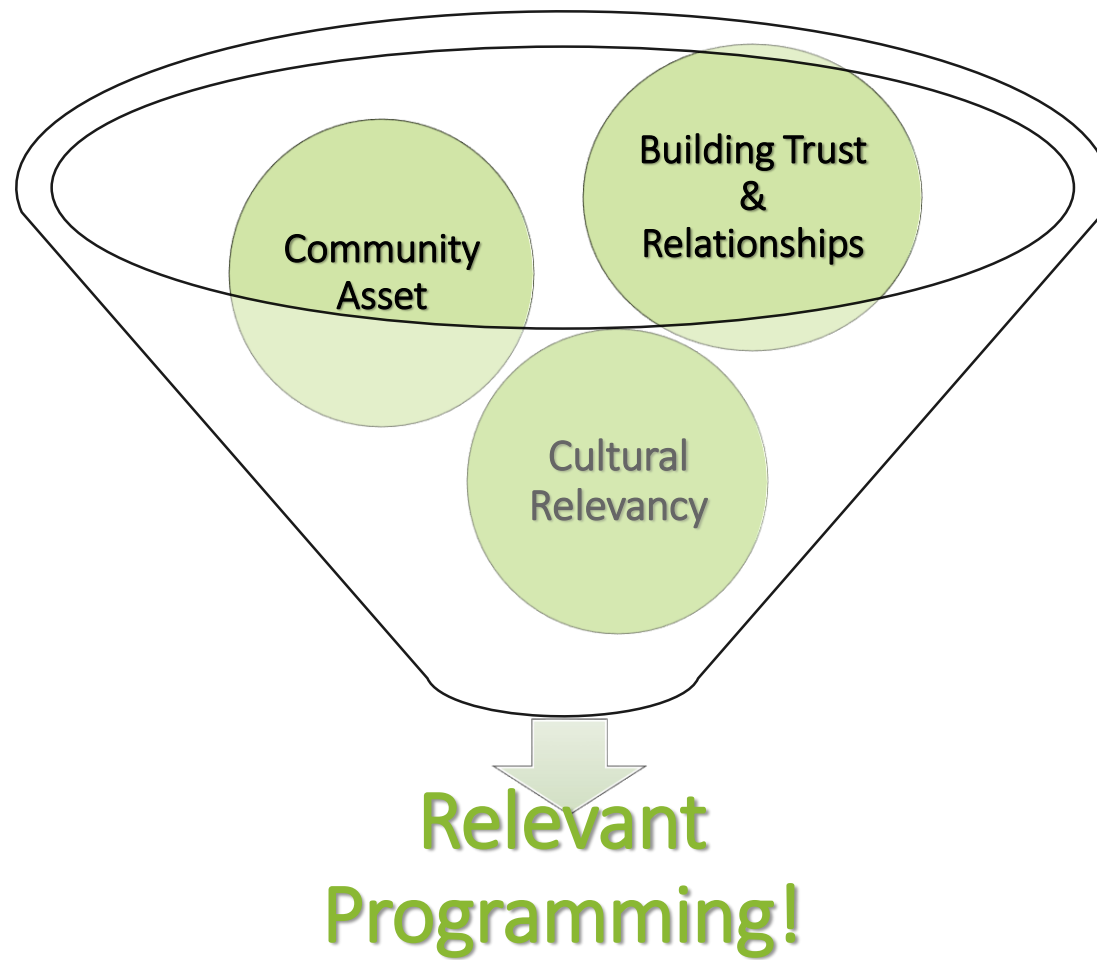
# CULTURAL AWARENESS

*WE ALL HAVE  
WORK TO DO!*

- Know **yourself**
  - Understand your own **cultural lens**
- Beware of First Impressions
- **Watch your language**
  - Assumptions can be dangerous
- Talk to your community
  - Get to **know the stakeholders** and their motivations
  - **Listen first!**
  - Align **joint needs** and goals
- **Check your bias** at the door! ...or Trailhead
  - Be aware of your **internal biases**
- Get Woke! & Acknowledge pop culture



# KEY POINTS



**Contact Info:**  
Kelly Kemmerle, EE Specialist  
Kelly\_kemmerle@fws.gov