

# Welcome to the Toms River Restoration Program

Please take time to learn about the proposed restoration projects, ask questions, and discuss your thoughts with the BASF Team.

BASF wants to hear from you. Please scan the QR code below to provide your input, comments and feedback on our survey.

**Thank you for joining us!**





# What Are Natural Resource Damages (NRD)?

State Law defines **Natural Resources Damages (NRD)** as damages for the lost value of, injury to, or destruction of natural resources due to the discharge or release of hazardous substances into the environment

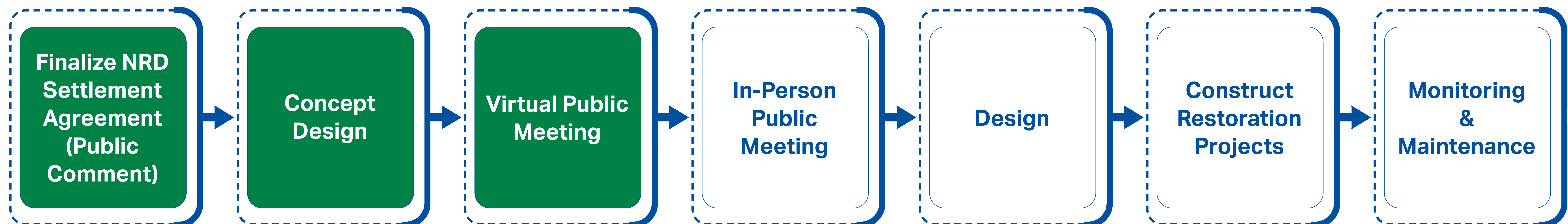


**Natural resources** include all land, fish, shellfish, wildlife, biota, air, waters, and other such resources owned, managed, held in trust or otherwise controlled by the State.

**NJDEP's Office of Natural Resource Restoration** seeks potentially responsible parties to settle NRD liabilities through voluntary negotiations or litigation to compensate New Jersey citizens for the lost value of their natural resources.

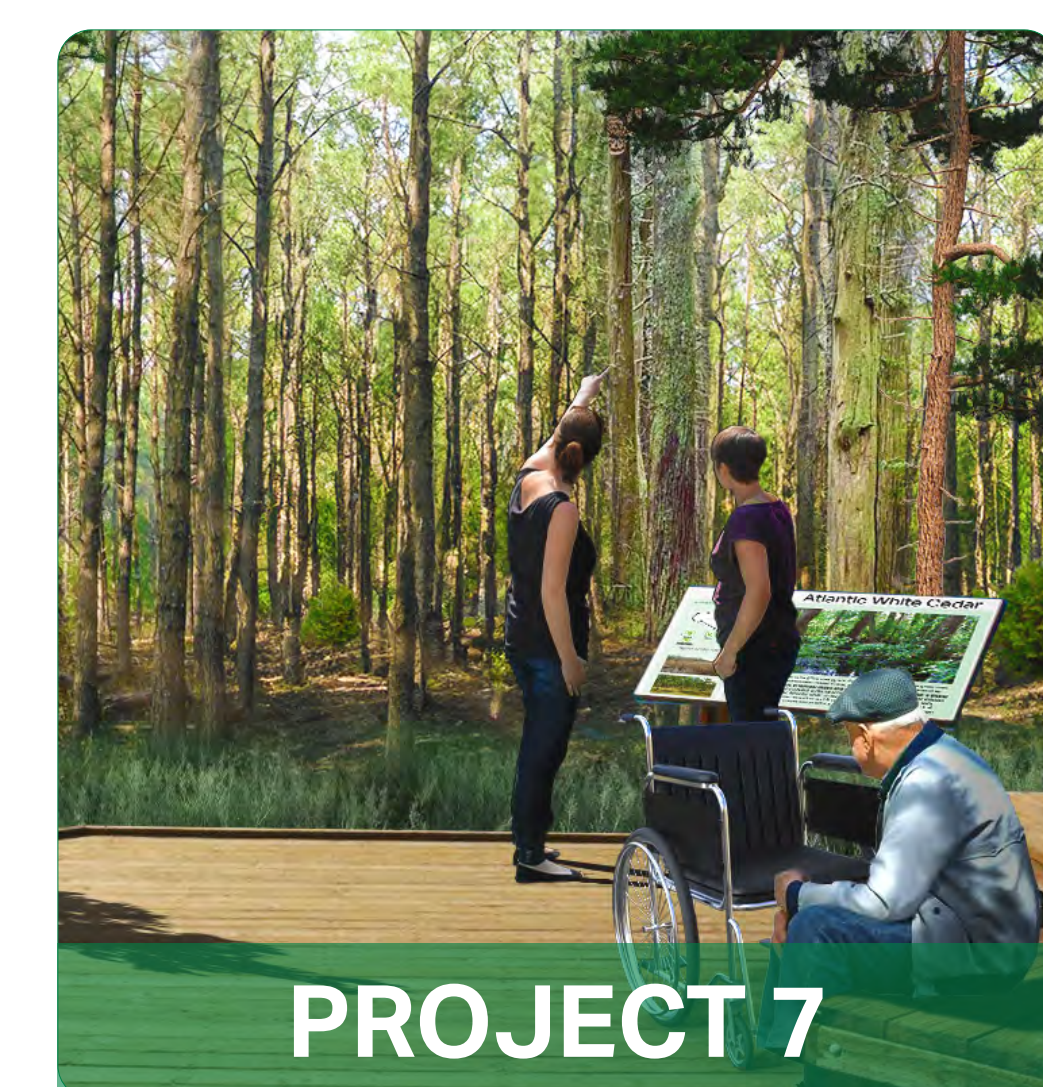
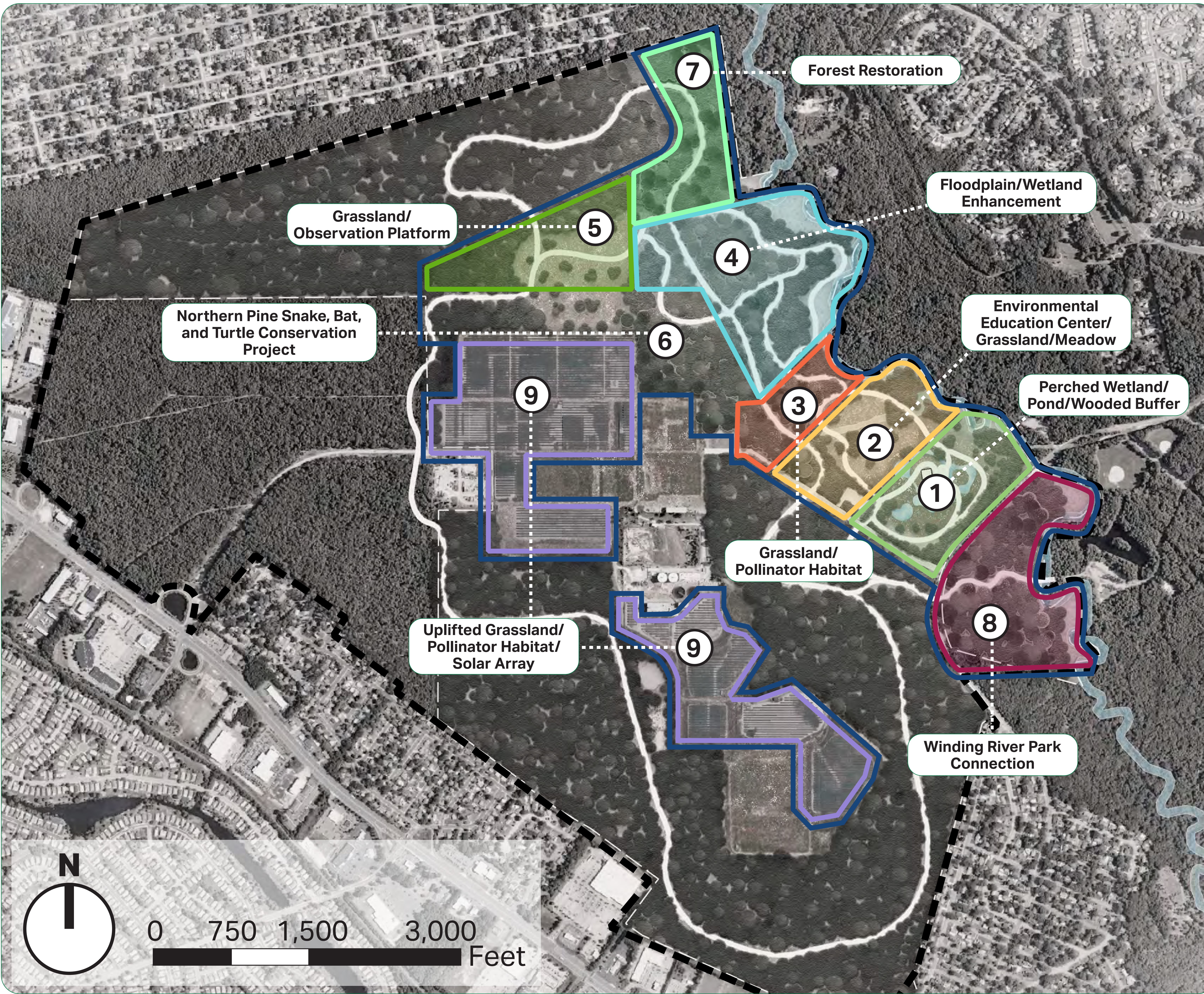
**Compensation** may be met through any combination of land preservation, monetary compensation, and/or restoration projects to fulfill NRD liabilities/responsibilities.

## Toms River NRD Projects





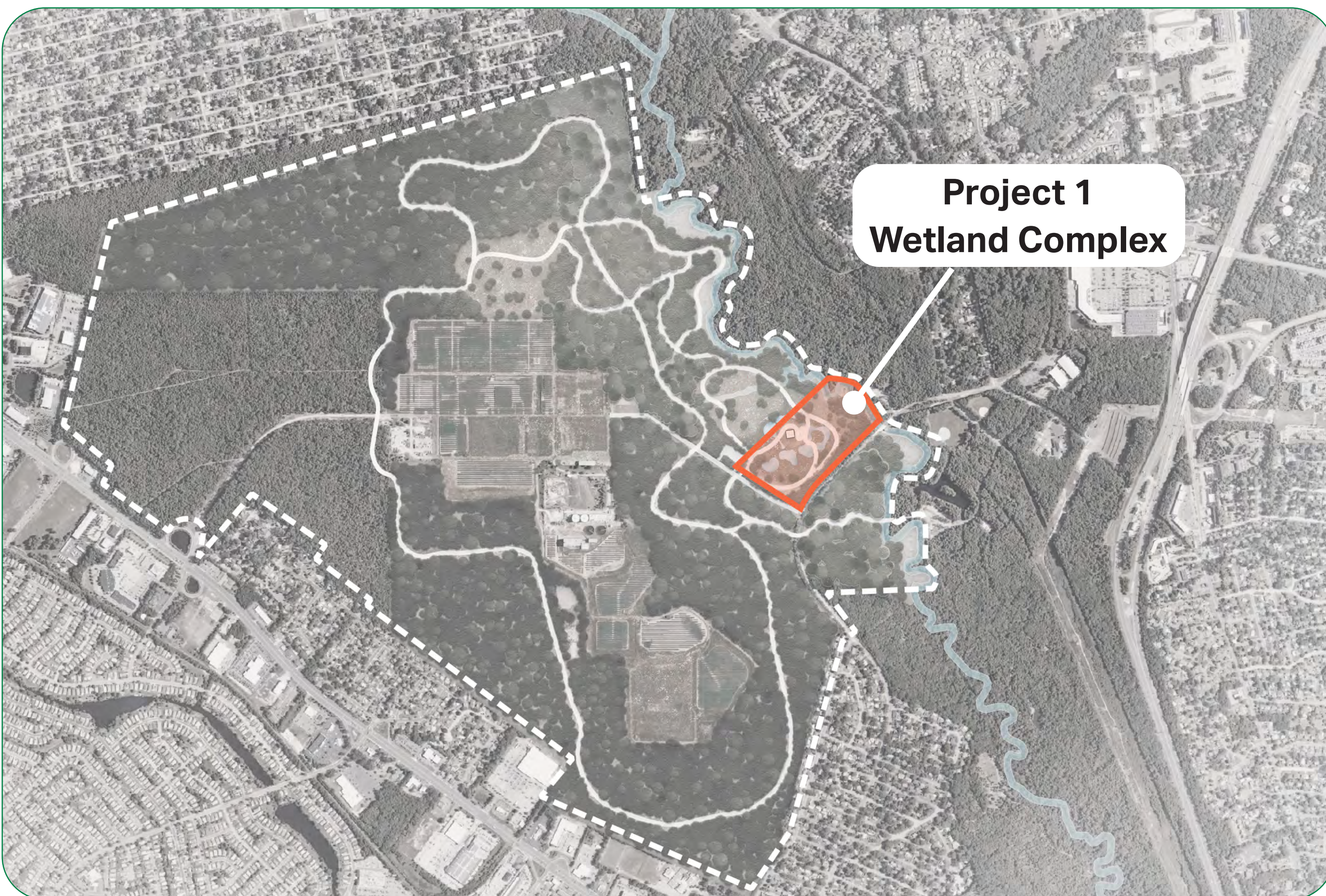
# Toms River Restoration Projects





# Project 1 Wetland Complex

- Environmental Education Center
- Green and Sustainable Construction
- Outdoor Education
- 15+ Acre Wetland Complex



Wood Duck

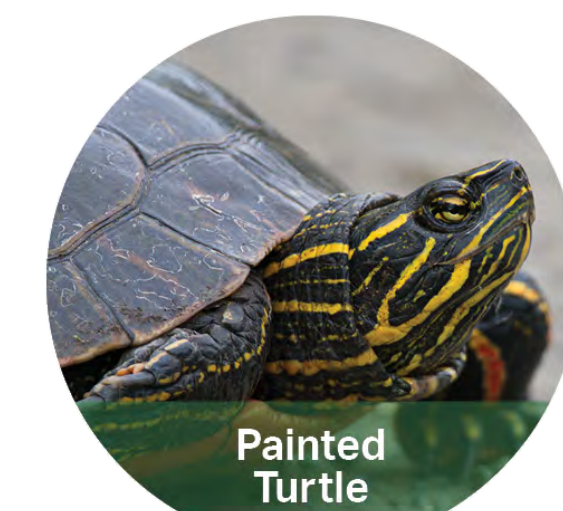
## Ecology



Wood Duck



Great Blue Heron



Painted Turtle



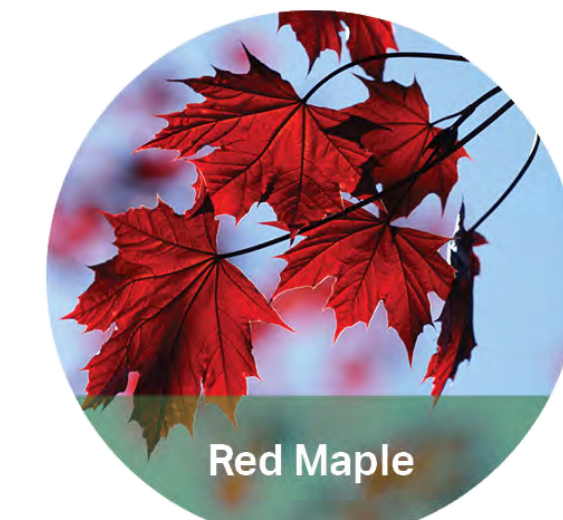
Red Winged Blackbird



Green Frog



Soft Rush



Red Maple



Butterfly Weed



Highbush Blueberry

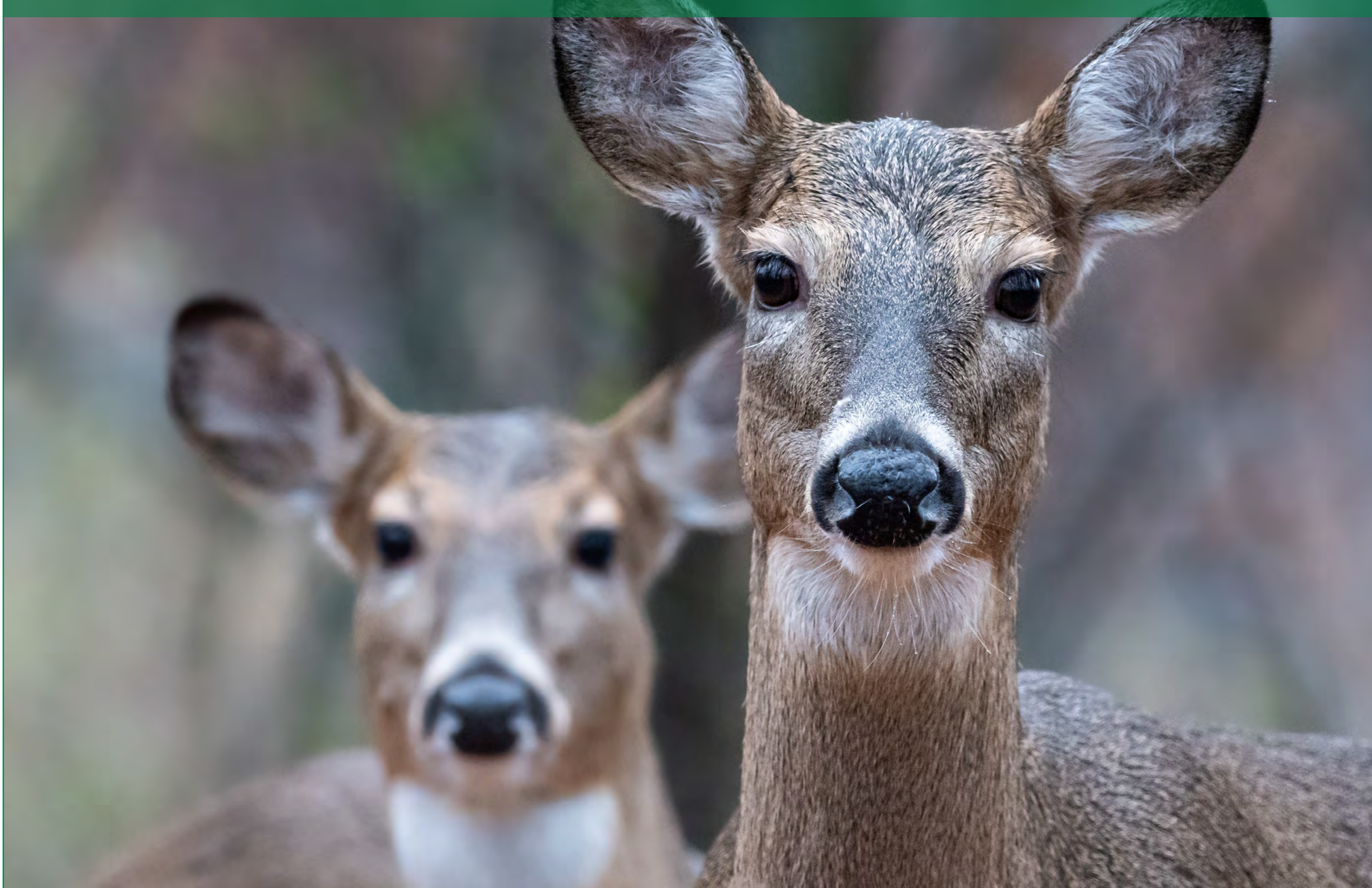


Sweet Pepperbush



# Building on Existing Environmental Education Programming

## DEER POPULATION STUDY



- Motion detection activated wildlife cameras
- > 600 students/educators on site
- >18,000 hours
- >150,000 images

## POLLINATOR HABITAT



- 400 plantings, Monarch butterfly focus
- Pollinator habitat created and maintained by Toms River High School students
- Master Gardeners provided assistance to students

## BAT STUDY



- TRHS District's Authentic Science Research Program
- Six species of bats found on site

## BLUEBIRD NEST BOXES

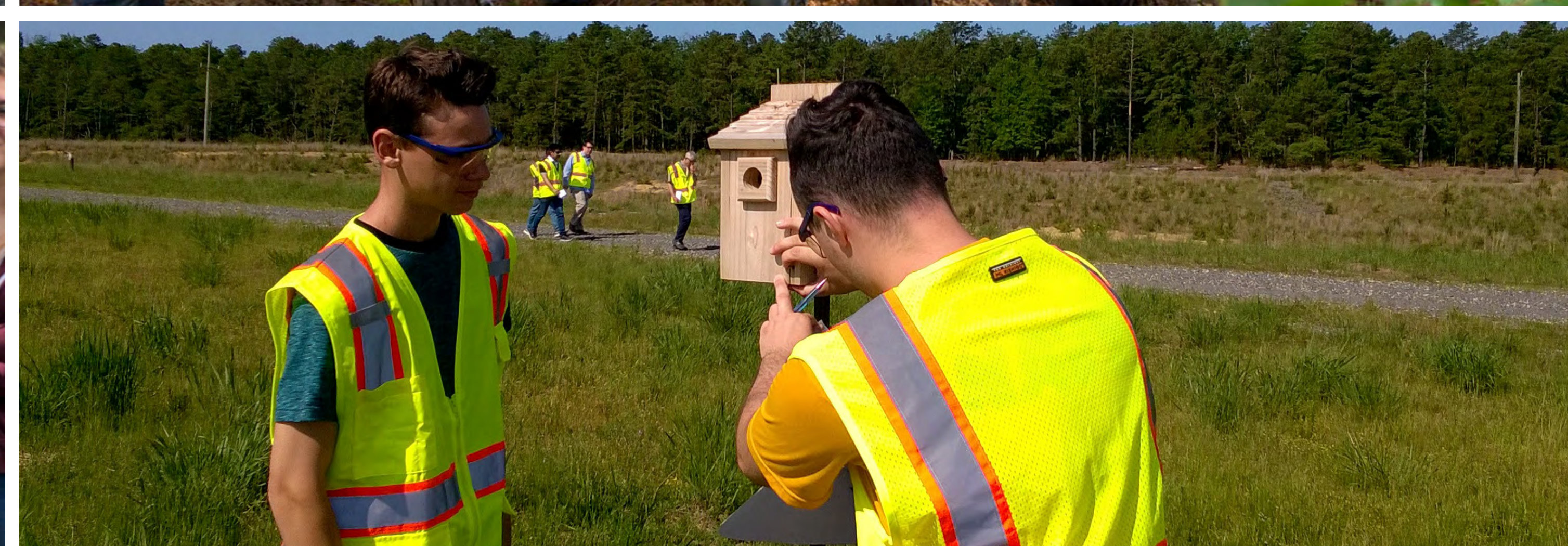
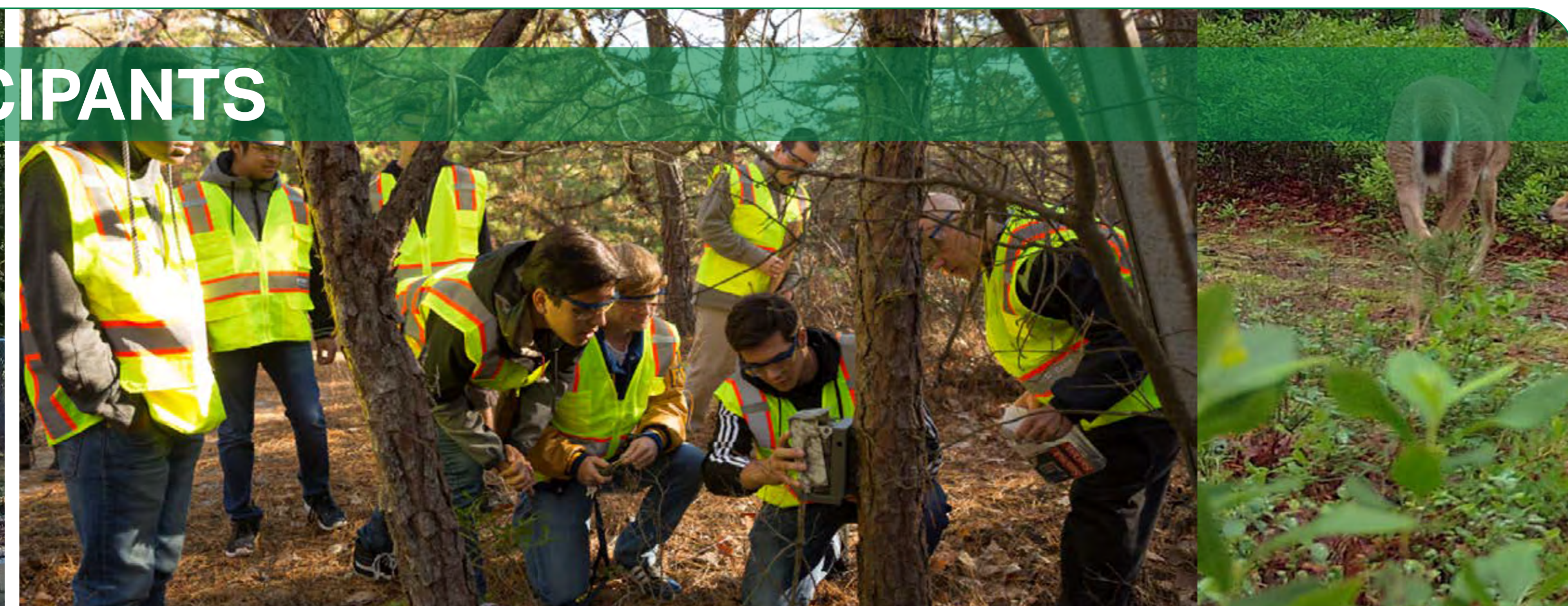


- As many as at 60 young birds fledged per year
- Partnered with NJ Bluebird Society
- Banding demonstrations

## PARTICIPANTS



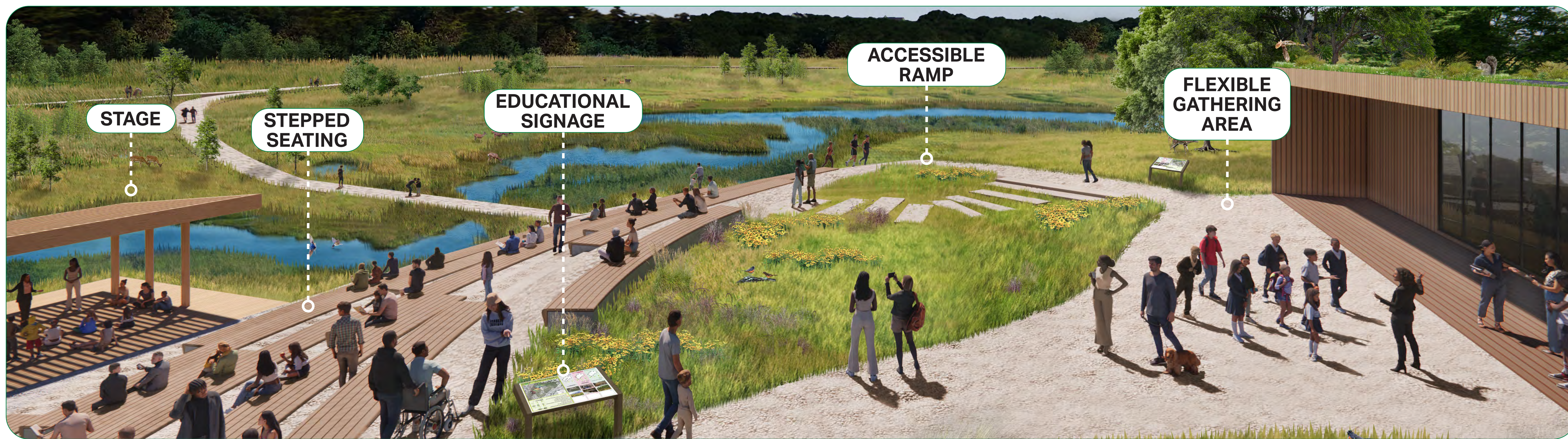
- Manchester Township High School
- Toms River High Schools (South, North, East)



- Alliance of New Jersey Environmental Educators (ANJEE)



# Project 2 Environmental Center

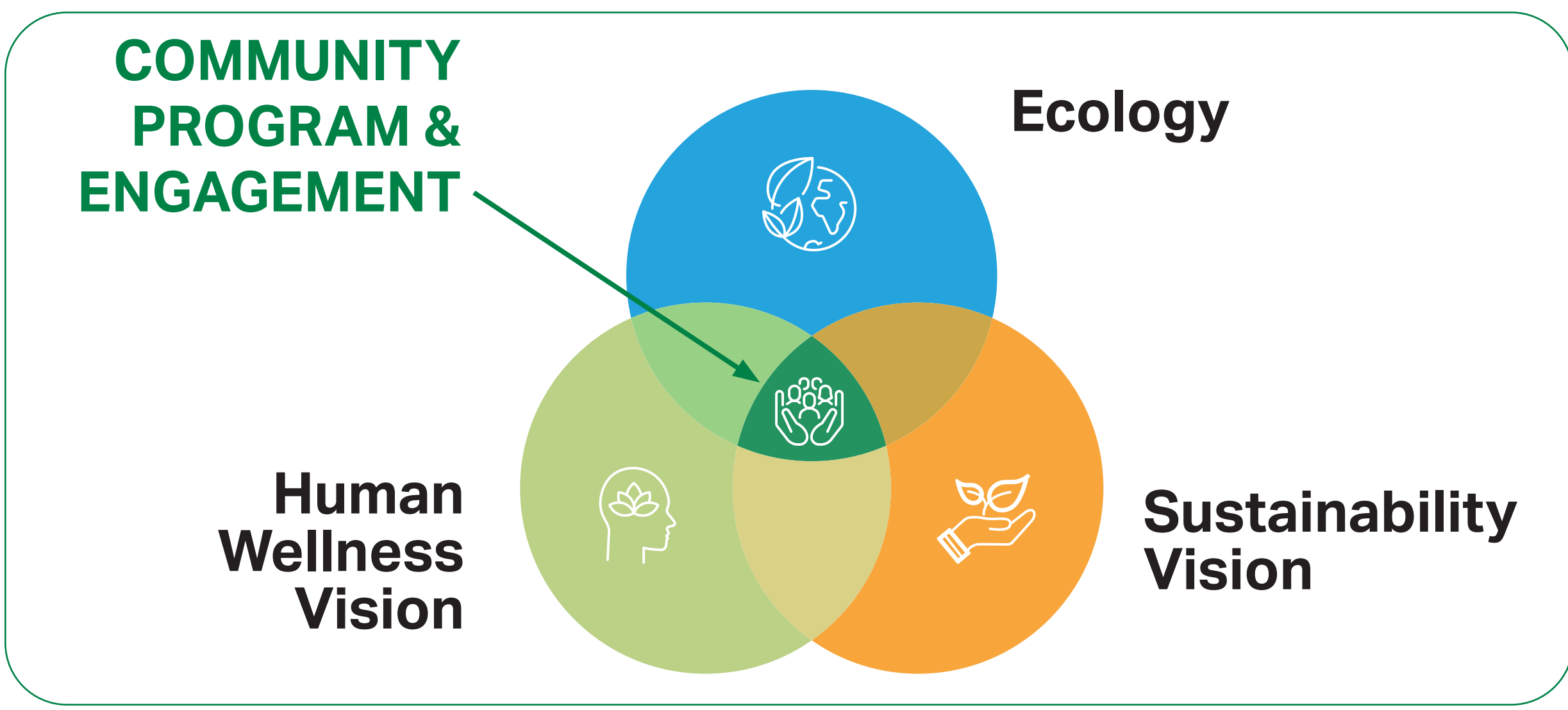


**OUTDOOR GATHERING**  
Outdoor Classes | Gathering Spaces | Shelter and Picnic Area

**LEARNING SPACE**  
Playrooms | Classrooms | Libraries

**EXHIBITION SPACE**  
Exhibition space that showcases biodiversity, nature and sustainability

The block contains three sections with icons and circular images. The 'OUTDOOR GATHERING' section includes icons for a presentation, graduation, people, and a bicycle. The 'LEARNING SPACE' section includes icons for a presentation, graduation, globe, people, and a flask. The 'EXHIBITION SPACE' section includes icons for a presentation, graduation, globe, people, and a bicycle.



**REGULAR USERS**

**OCCASIONAL USERS**

STUDENTS/SCHOOLS

EDUCATORS

VOLUNTEERS & STAFF

COMMUNITY / FAMILIES

VISITORS

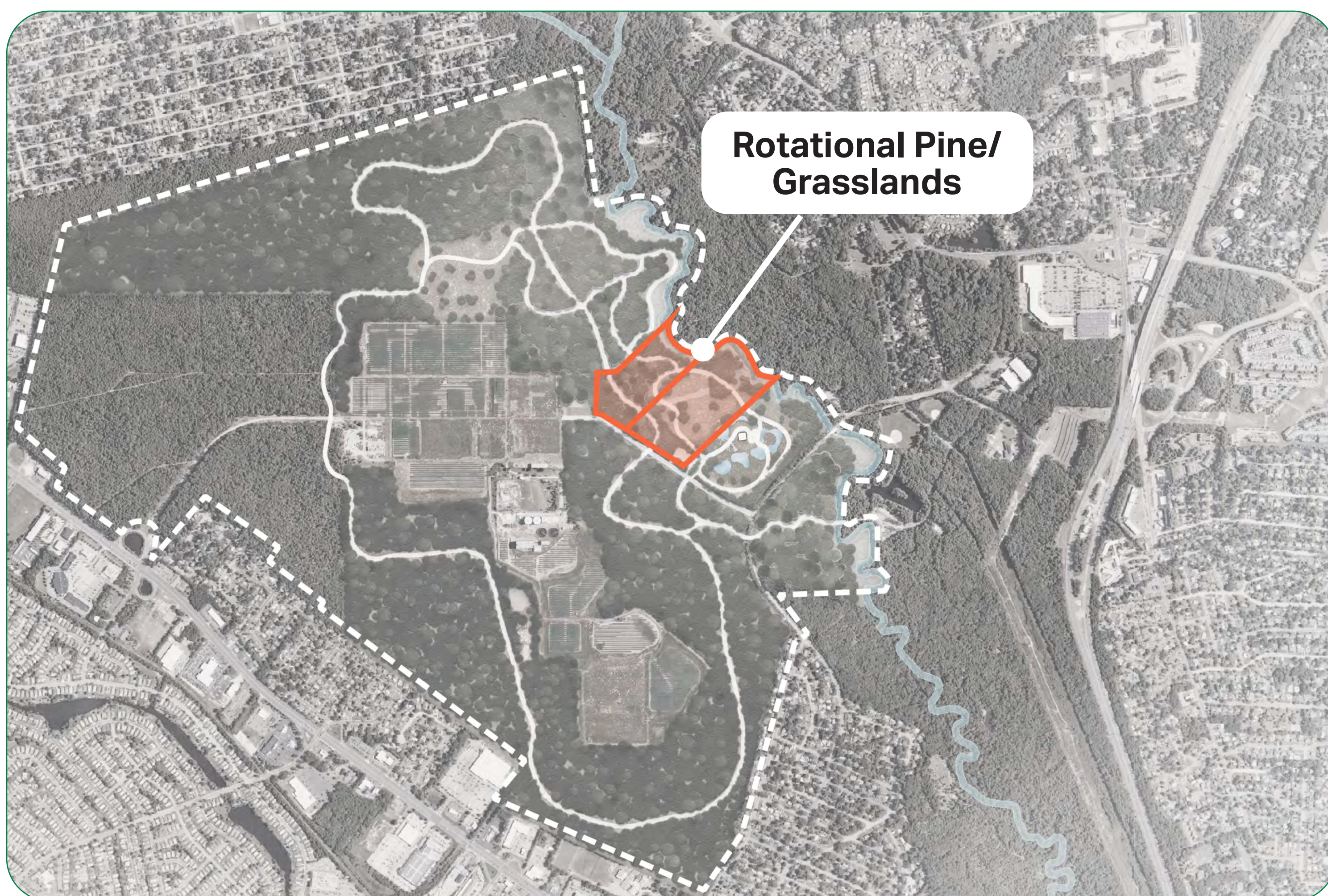
RESEARCHERS & SCIENTISTS

The block lists six user groups with corresponding icons and circular images. 'STUDENTS/SCHOOLS' features an icon of a graduation cap and a photo of children. 'EDUCATORS' features an icon of a person at a whiteboard and a photo of a teacher. 'VOLUNTEERS & STAFF' features a globe icon and a photo of people planting. 'COMMUNITY / FAMILIES' features an icon of people and a photo of a family. 'VISITORS' features a binoculars icon and a photo of hikers. 'RESEARCHERS & SCIENTISTS' features a flask icon and a photo of scientists in a lab.



# Rotational Pine / Grasslands

- Approximately 13 acres Grassland and Rotational Habitat Restoration
- Pollinator Ecology
- Some Universally Accessible Trails and Interpretive Kiosks



American Kestrel

## Ecology



Eastern Towhee



American Kestrel



Baltimore Oriole



American Goldfinch



Monarch Butterfly



New England Aster



Sickle Leaved Golden Aster



Pitch Pine



Scrub Oak

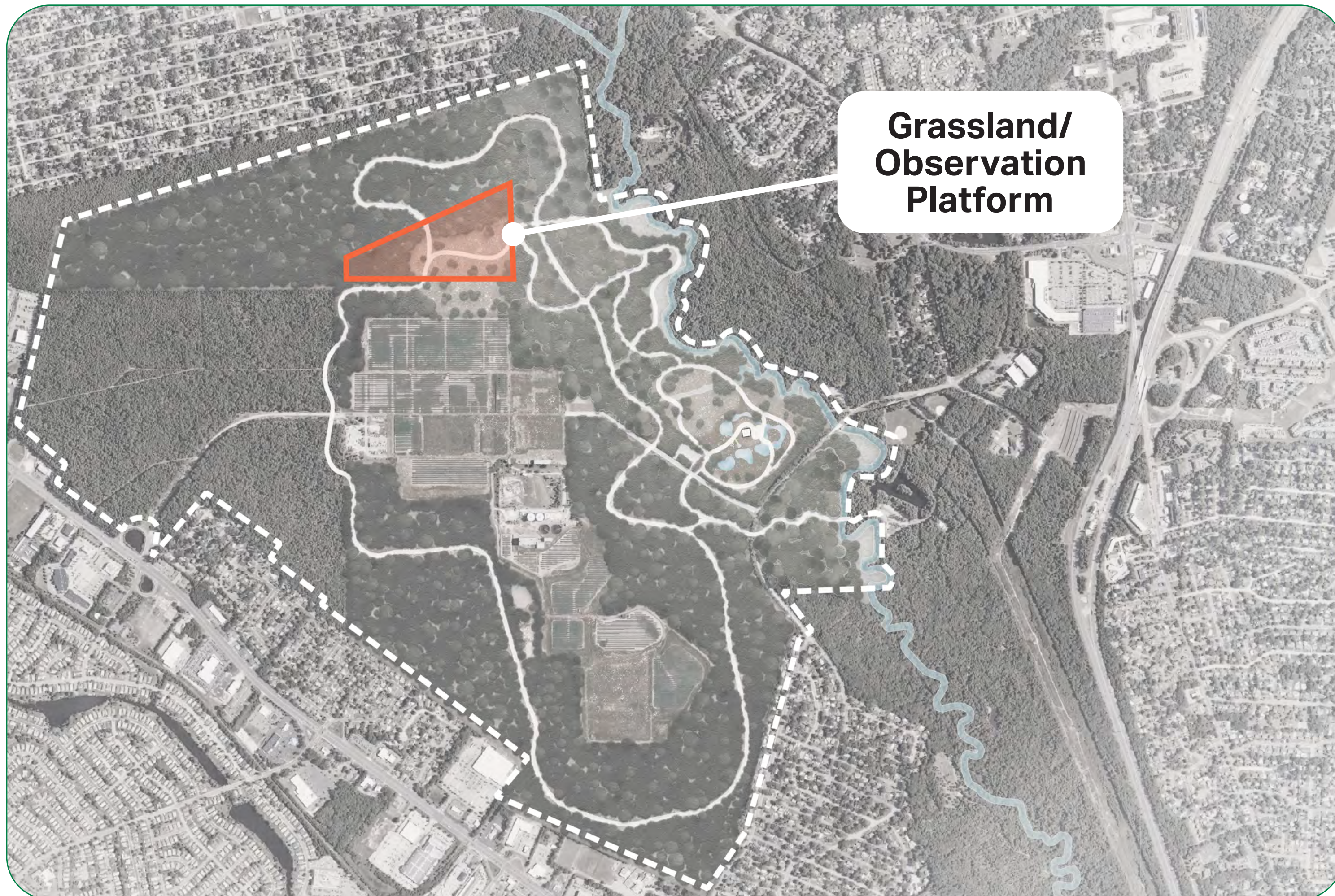


Common Milkweed



# Grassland / Observation Platform

- 8+ acres Expansive Grasslands
- Elevated Accessible Observation Platform
- Restore Habitats for T&E Birds



Short-eared Owl

## Ecology



Eastern Bluebird



Grasshopper Sparrow



Common Yellowthroat



Eastern Meadowlark



Short-eared Owl



Panic Grass



Switch Grass



Scrub Oak



Pitch Pine

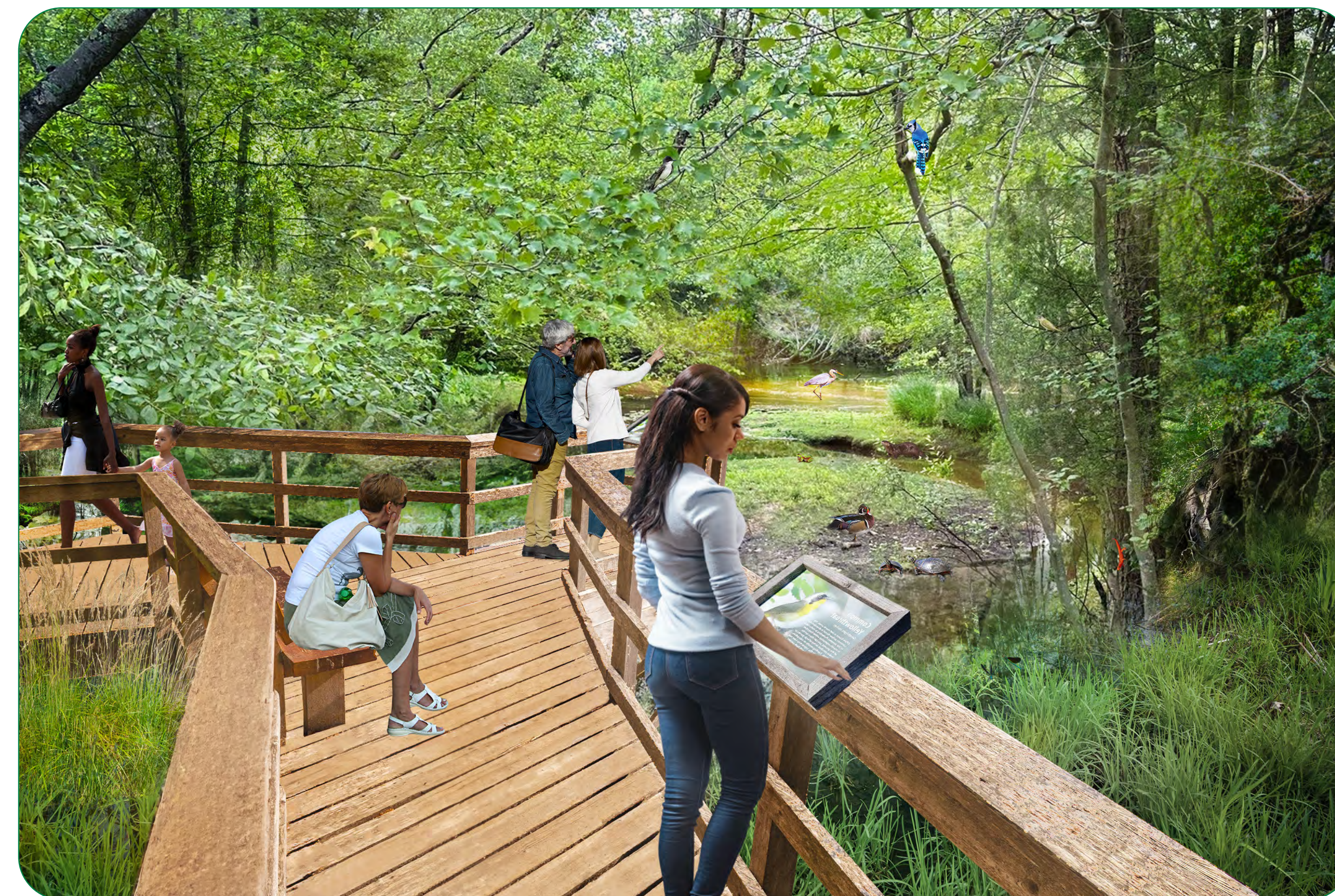
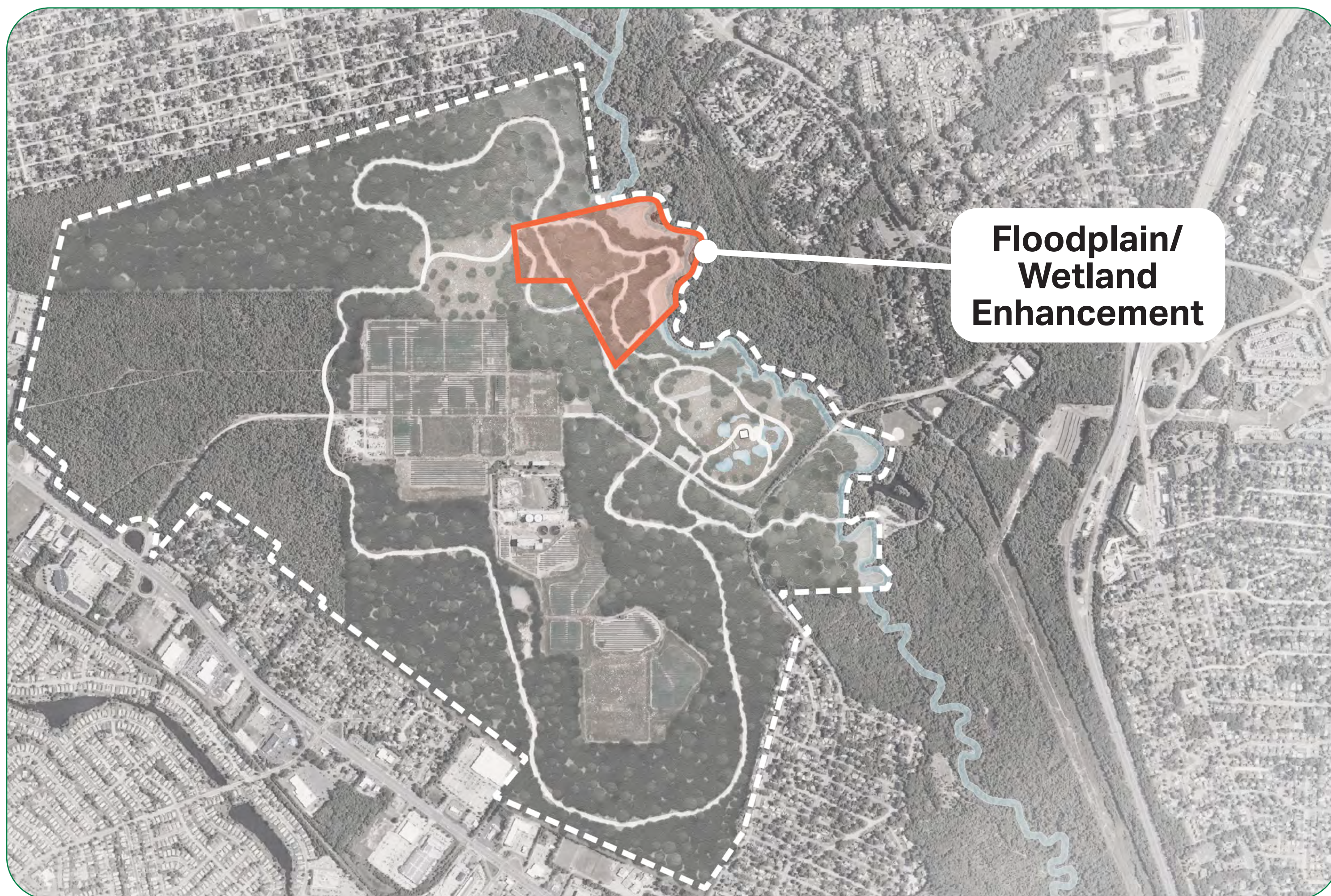


Black Huckleberry



# Floodplain / Wetland Enhancement

- 5+ acres
- Reconnect the Toms River Floodplain with the Riverine Corridor
- Passive Recreation (hiking, nature watching)
- Educational Signage and Displays



### Ecology

 Scarlet Tanager	 Black Crowned Night Heron	 Beaver	 Ovenbird
 Black Throated Blue Warbler	 Wood Duck	 Tussock Sedge	 White Azalea
 Inkberry	 Sweet Gum	 Tupelo	 Soft Rush



# Protection of River Flood Plain + Connection to Winding River Park

- Regional Open Space Connectivity
- Footbridge and Signage
- River and Floodplain Ecology



Belted Kingfisher

## Ecology



Belted Kingfisher



Yellow Crowned Night Heron



Parula Warbler



American Wigeon



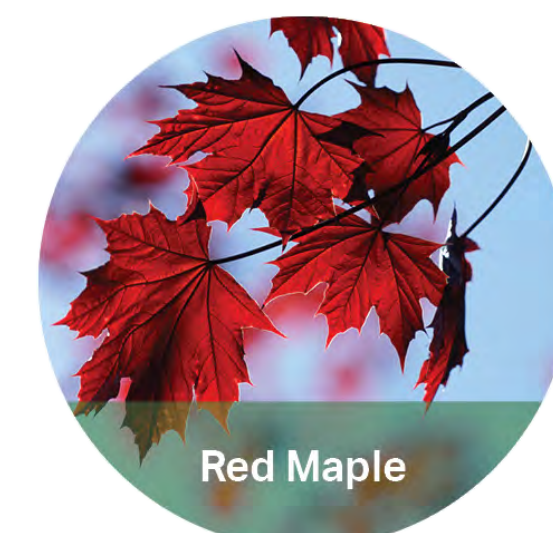
American Redstart



American Holly



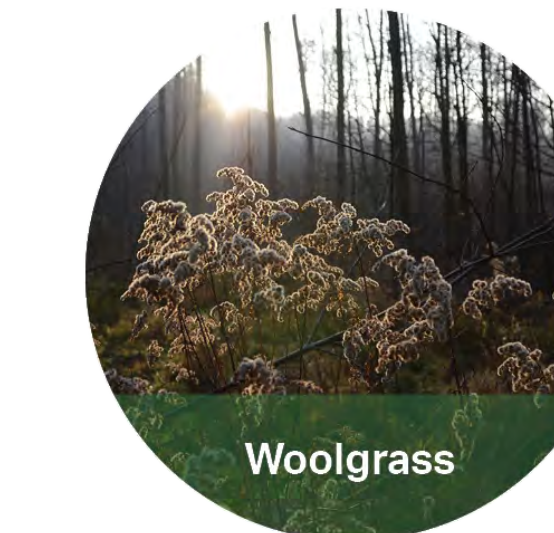
Buttonbush



Red Maple



River Birch



Woolgrass



# Invasive Species Management / Atlantic White Cedar Restoration

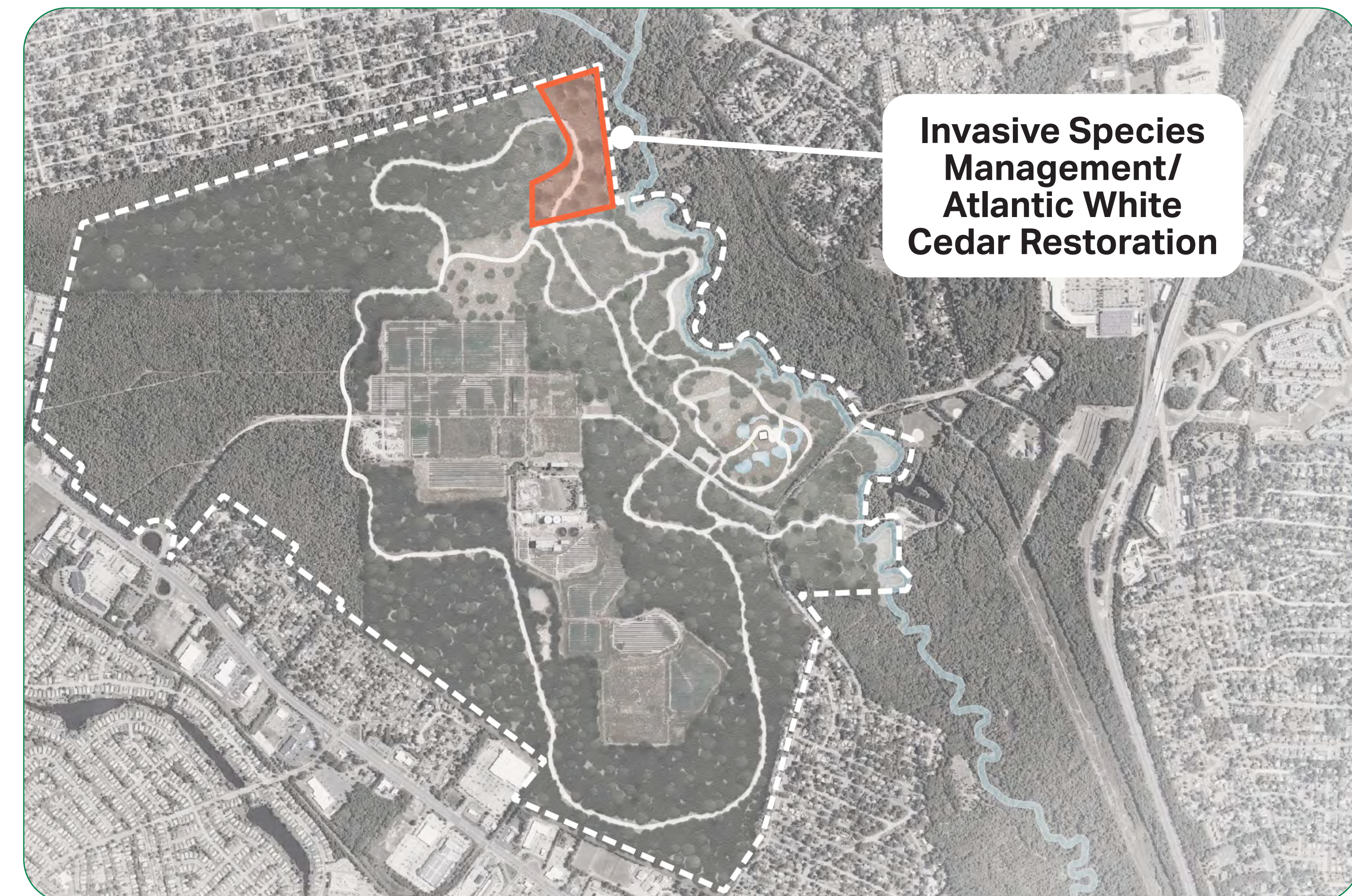
- 5+ acres
- Invasive Phragmites Removal
- Atlantic White Cedar Restoration
- Viewing Platform and Signage



Phragmites



Barred Owl



Invasive Species Management/  
Atlantic White Cedar Restoration

## Ecology



Yellow Warbler



Barred Owl



Black & White Warbler



Hermit Thrush



Black Throated Green Warbler



Hessel's Hairstreak



Sphagnum



Atlantic White Cedar



Sweet Pepperbush



Inkberry



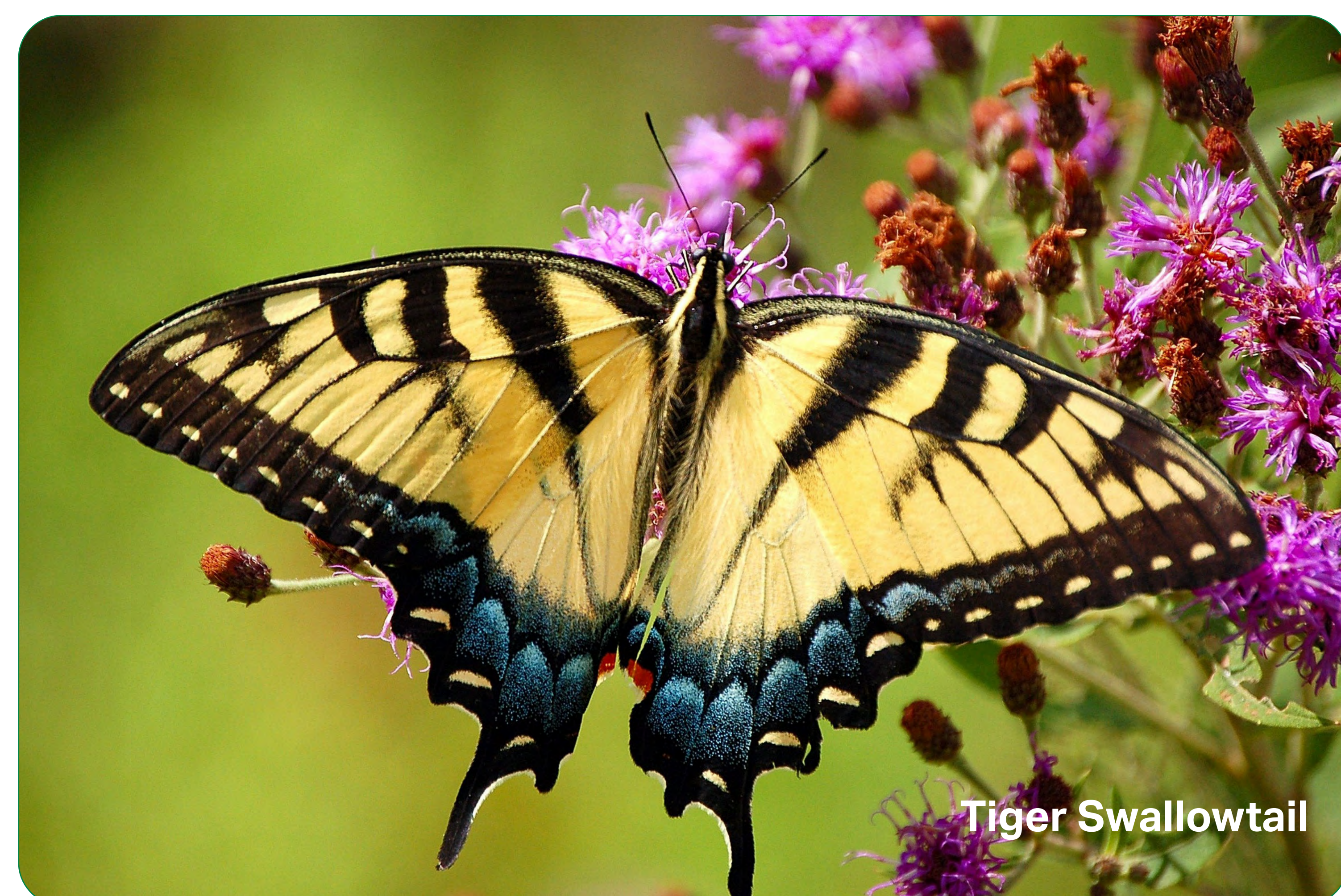
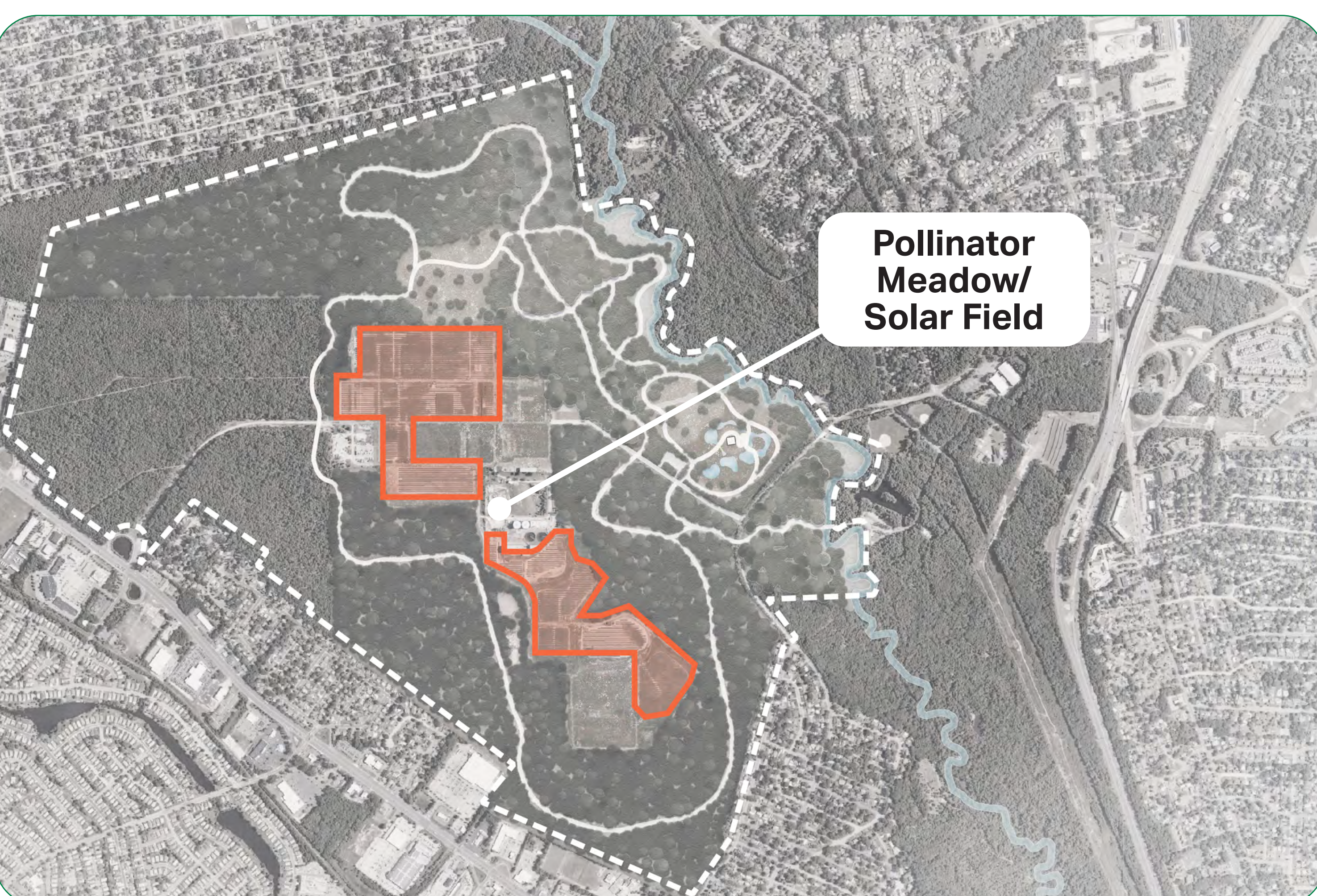
# Pollinator Meadow / Solar Field

- Approximately 120 acres
- 319 Species of Plants
- Grasshopper Sparrow Habitat











Spring 2021

Summer 2023



### Ecology

 <p>Blackeyed Susan</p>	 <p>Blue Eyed Grass</p>	 <p>Common Milkweed</p>	 <p>Rush</p>
 <p>Tiger Swallowtail</p>	 <p>Monarch Butterfly</p>	 <p>Savannah Sparrow</p>	 <p>Grasshopper Sparrow</p>



# Rare Species Conservation



- 350 + acres within the Project Area
- Partnering with Experts at Universities on Rare Species Conservation Efforts
- Targeted Rare Species Habitat Enhancement

## RARE AND ENDANGERED SPECIES



Grasshopper Sparrow



Big Brown Bat



Northern Pine Snake



Eastern Box Turtle



# Grasslands

**Grassland habitat and grassland-dependent species in New Jersey are in decline**

## Restoration

- Baseline & reference condition survey
- Invasive, woody species management
- Limited soil enhancement
- Seeding/plantings



Panic Grass



Switch Grass



Sickle Leaved Golden Aster



New England Aster



Eastern Bluebird



Grasshopper Sparrow



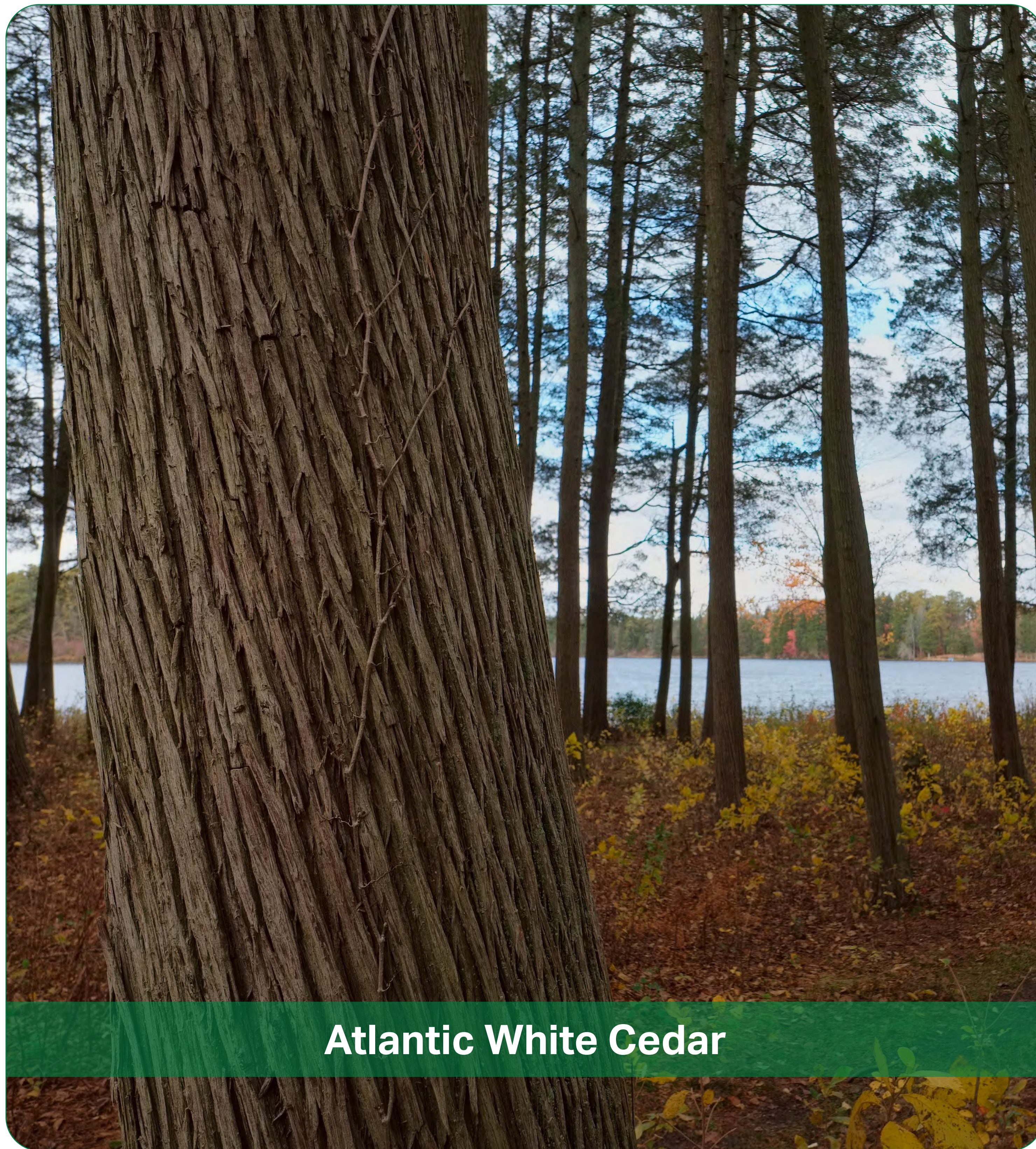
Common Yellowthroat



Short Eared Owl



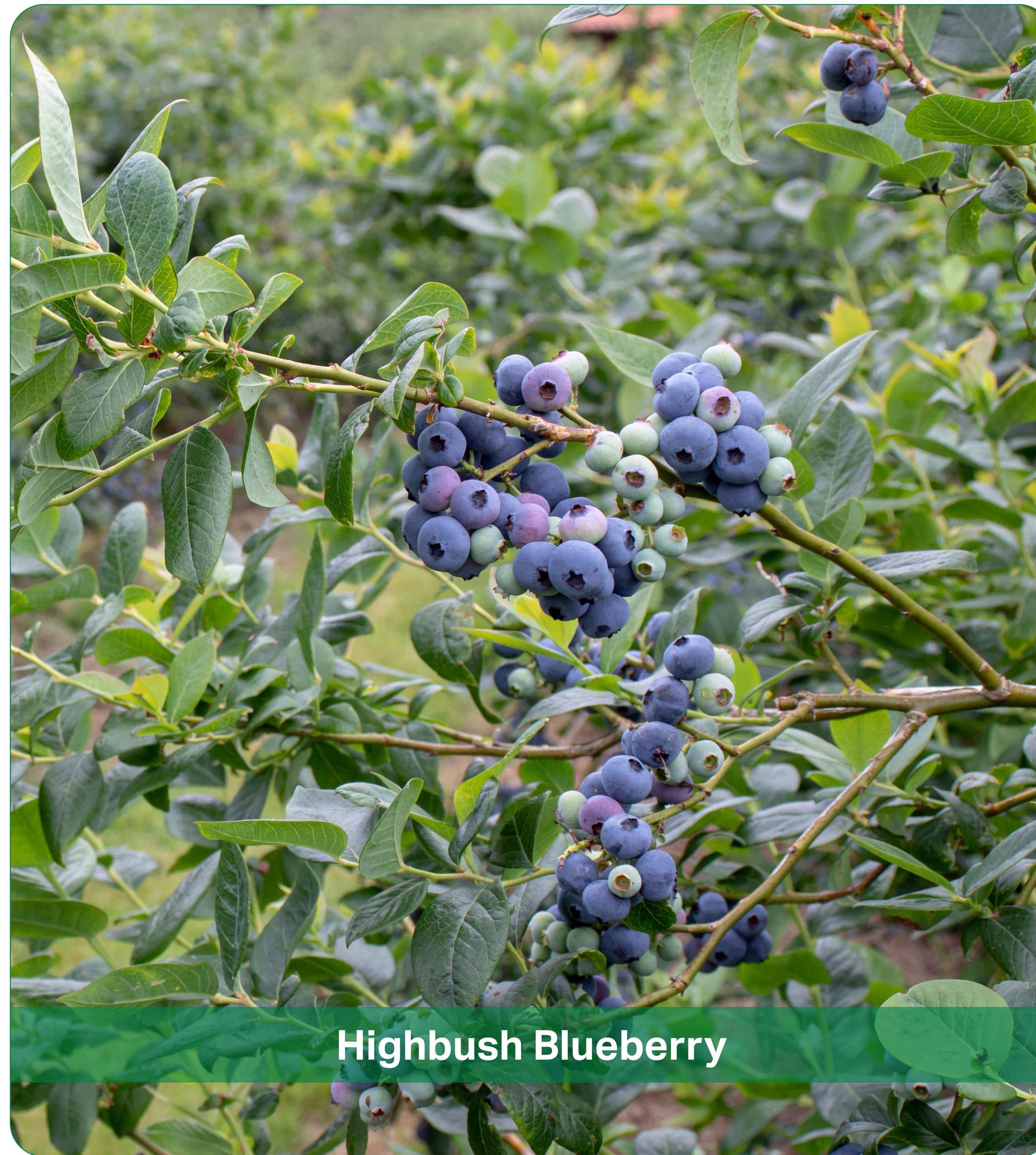
# Wetlands



Atlantic White Cedar

## ATLANTIC WHITE CEDAR

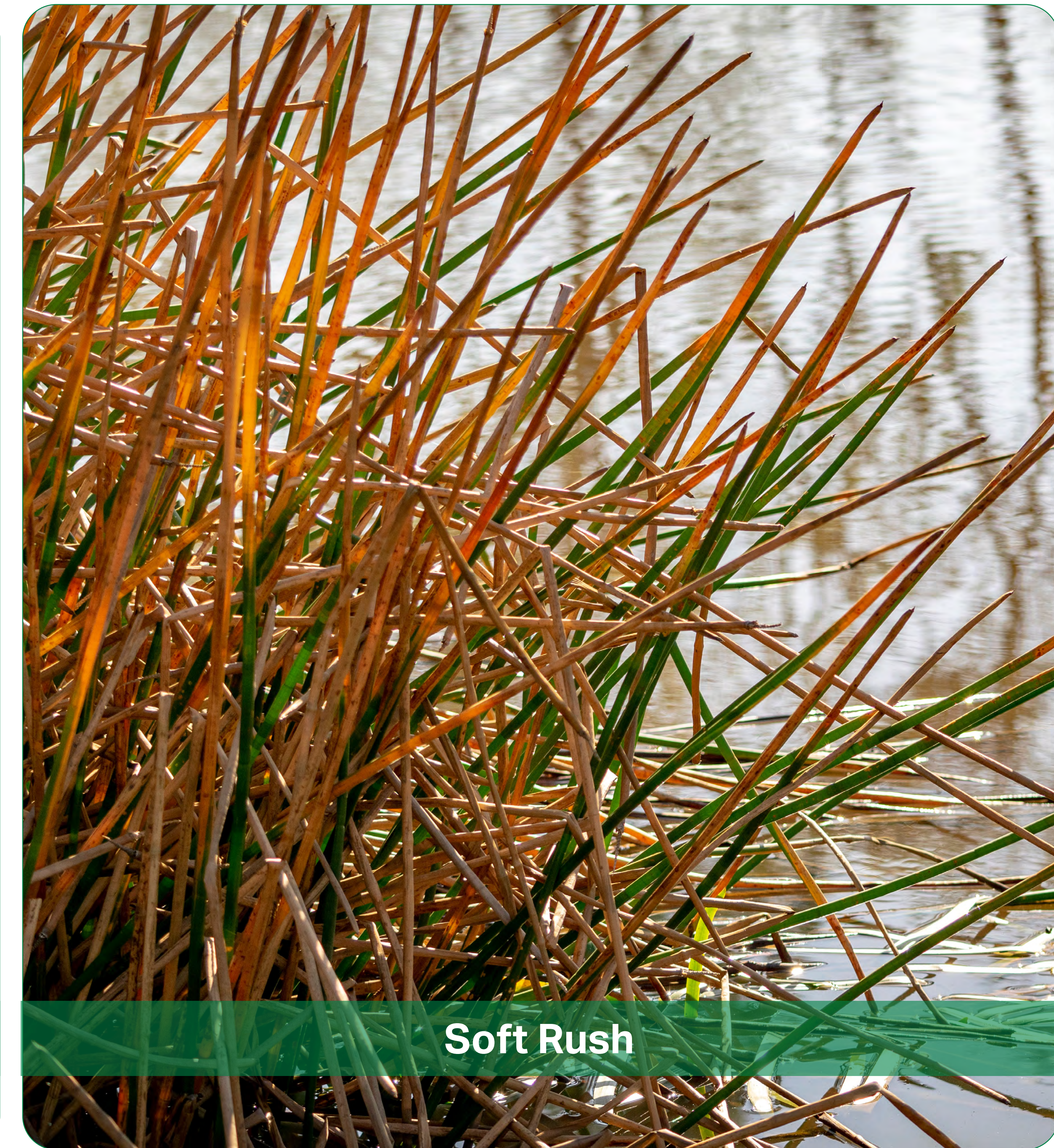
- In New Jersey 125,000 acres historically, 25,000 acres remain
- New Jersey Forest Service
  - 1,000 acres of restoration per year
  - 10-year program



Highbush Blueberry

## BROADLEAF SWAMP

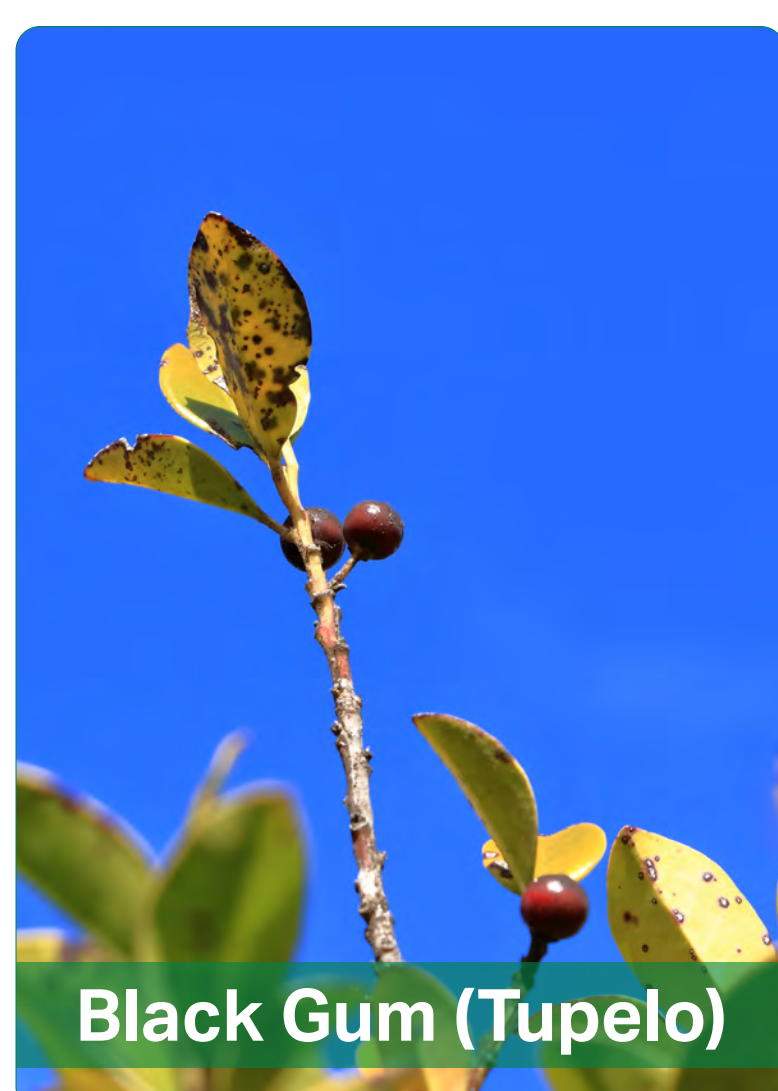
- **TREES:** black gum (tupelo), red maple
- **SHRUBS:** highbush blueberry, sweet pepperbush
- **HERBS:** Ferns, mosses, lichens



Soft Rush

## PITCH PINE LOWLAND

- **TREES:** pitch pine, red maple
- **SHRUBS:** sheep laurel, dangleberry
- **HERBS:** sphagnum, ferns, wintergreen



Black Gum (Tupelo)



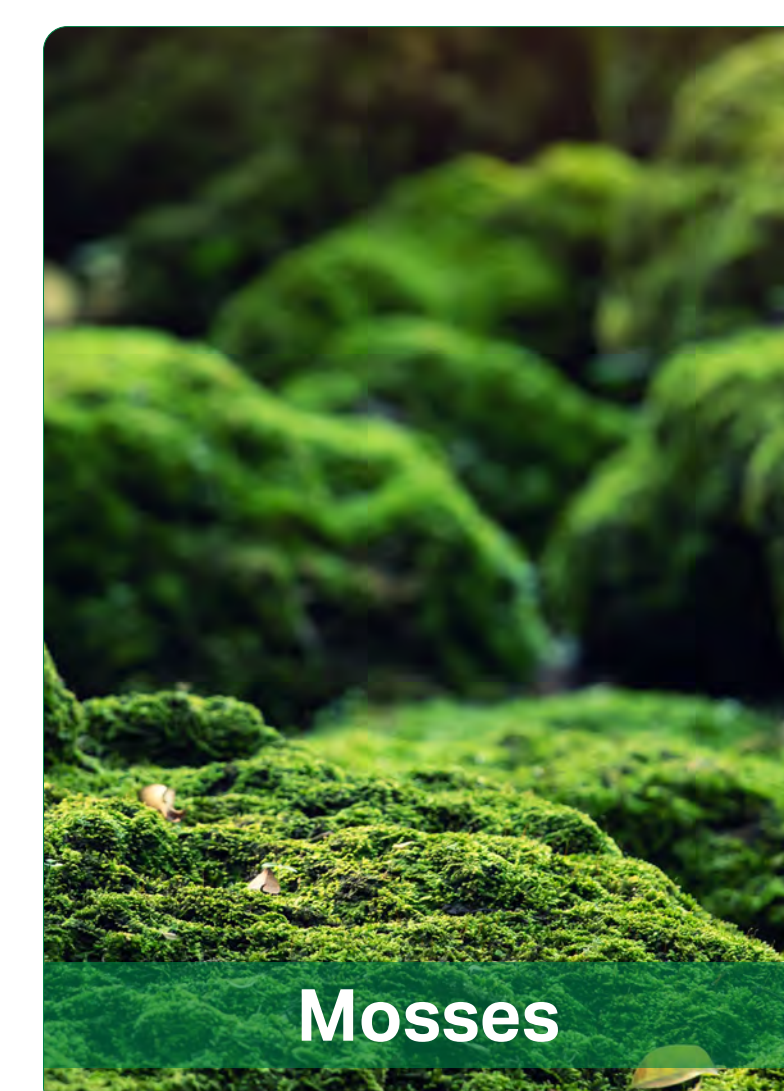
Red Maple



Sweet Pepperbush



Ferns



Mosses



Lichens



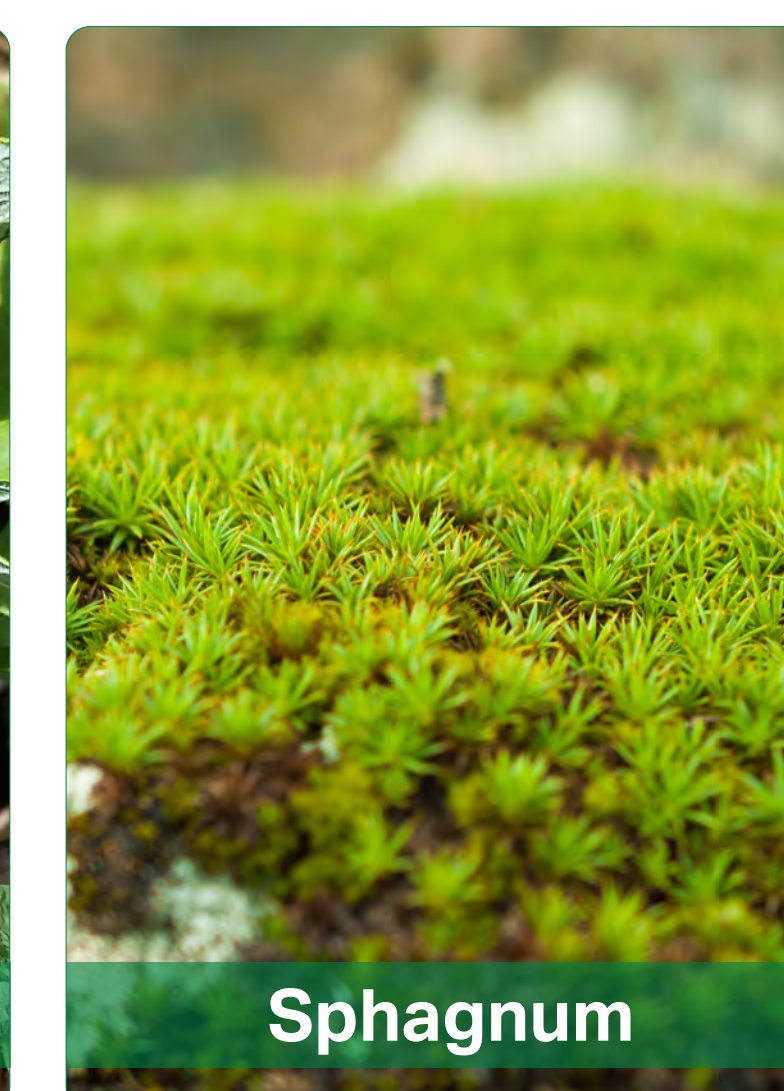
Pitch Pine



Sheep Laurel



Dangleberry



Sphagnum



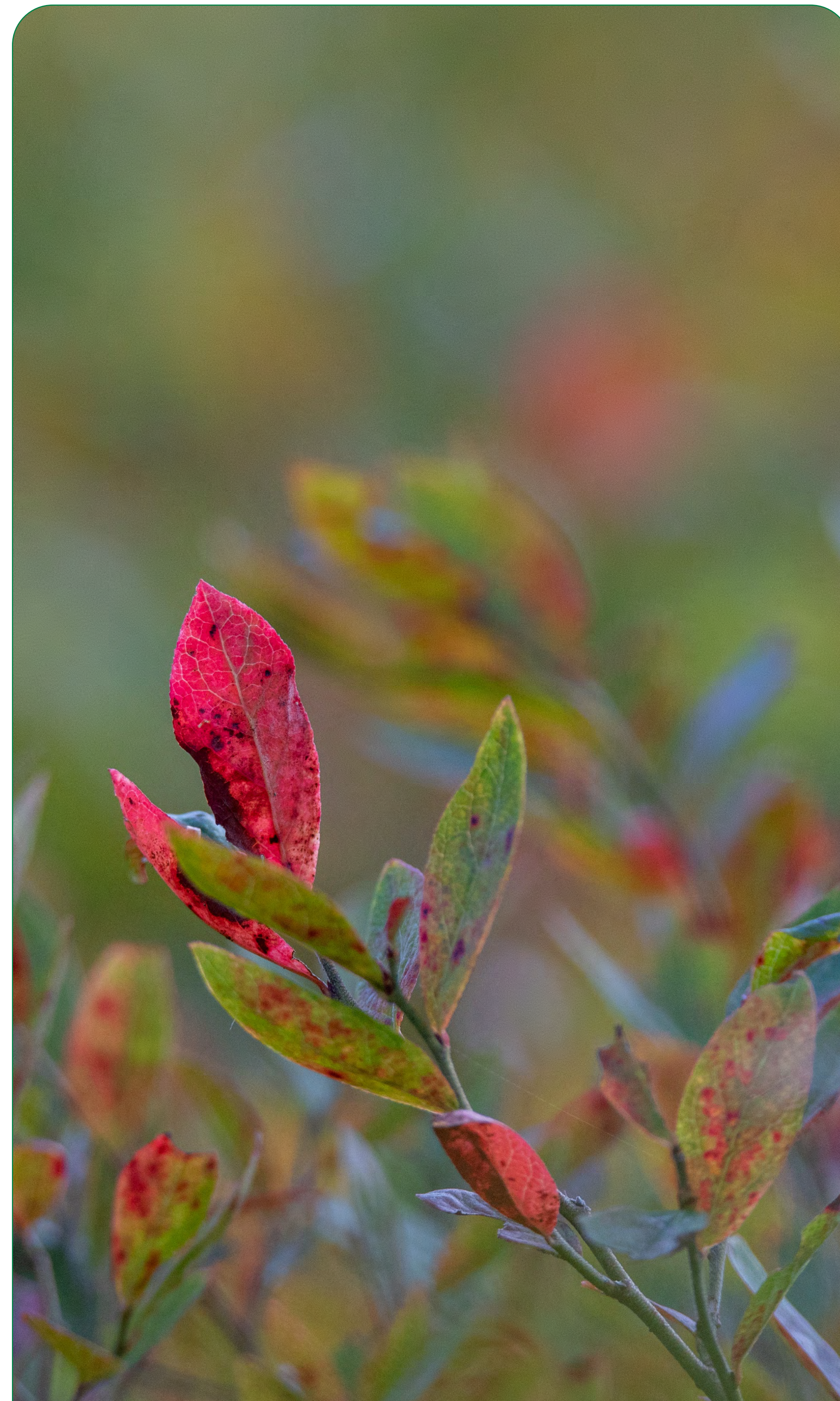
Wintergreen



# Uplands / Terrestrial



Pitch Pine / Scrub Oak



Pitch Pine / Heath  
(low bush blueberry & huckleberry)

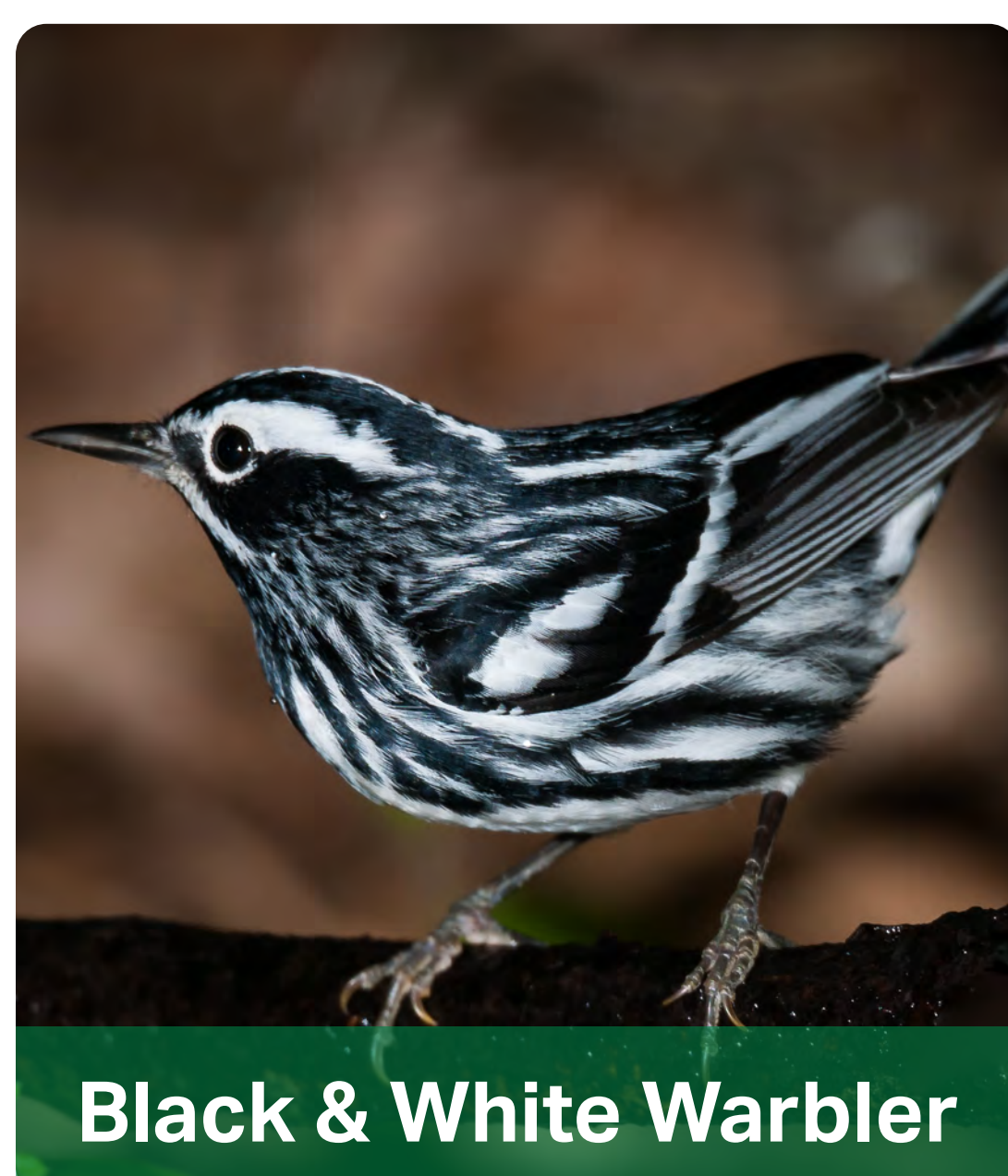


Pitch Pine / Black Oak

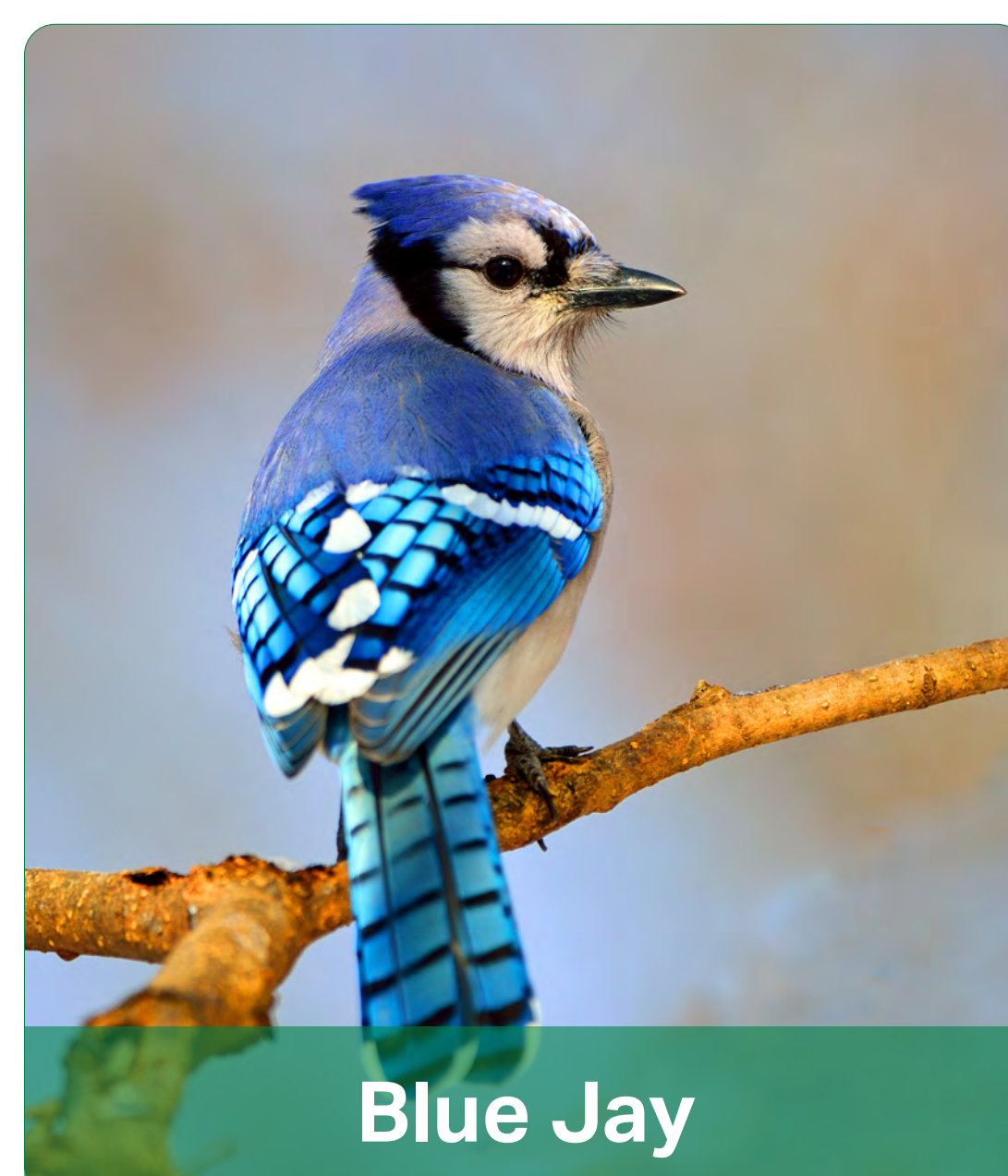


Black Oak / Pitch Pine

## Common Birds of the Pine Barrens



Black & White Warbler



Blue Jay



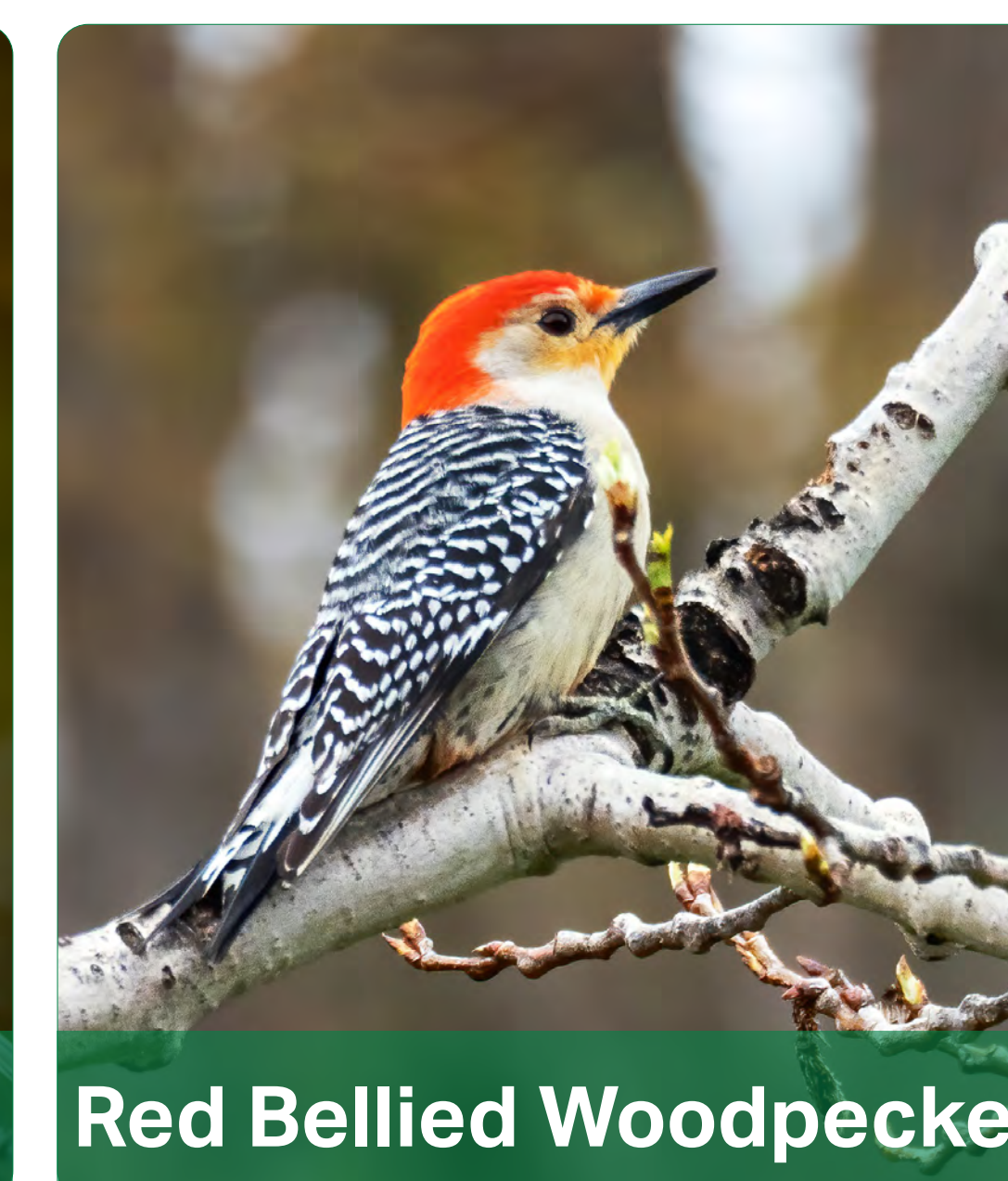
Carolina Chickadee



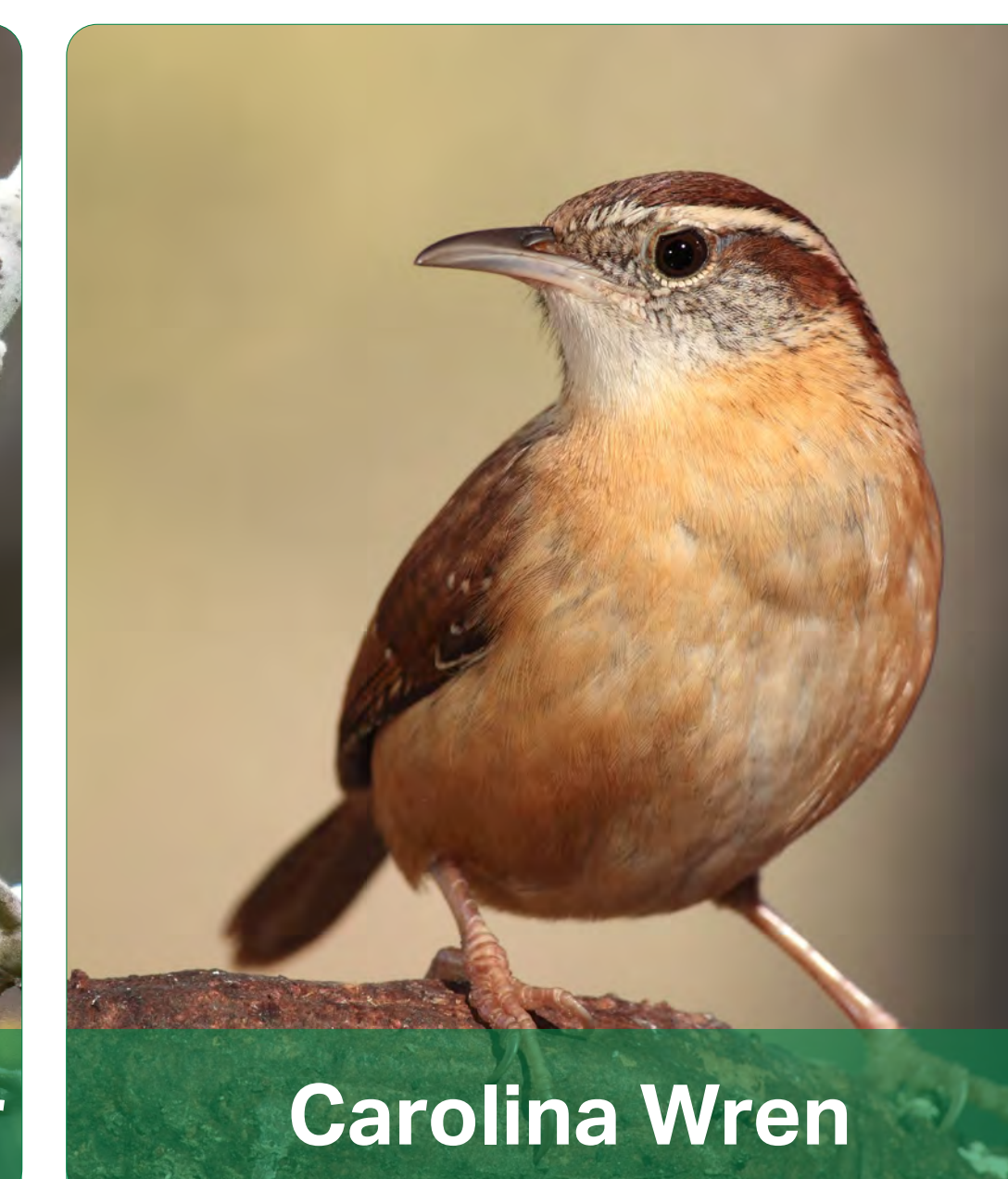
Eastern Towhee



Northern Mockingbird



Red Bellied Woodpecker



Carolina Wren



Blue Gray Gnatcatcher

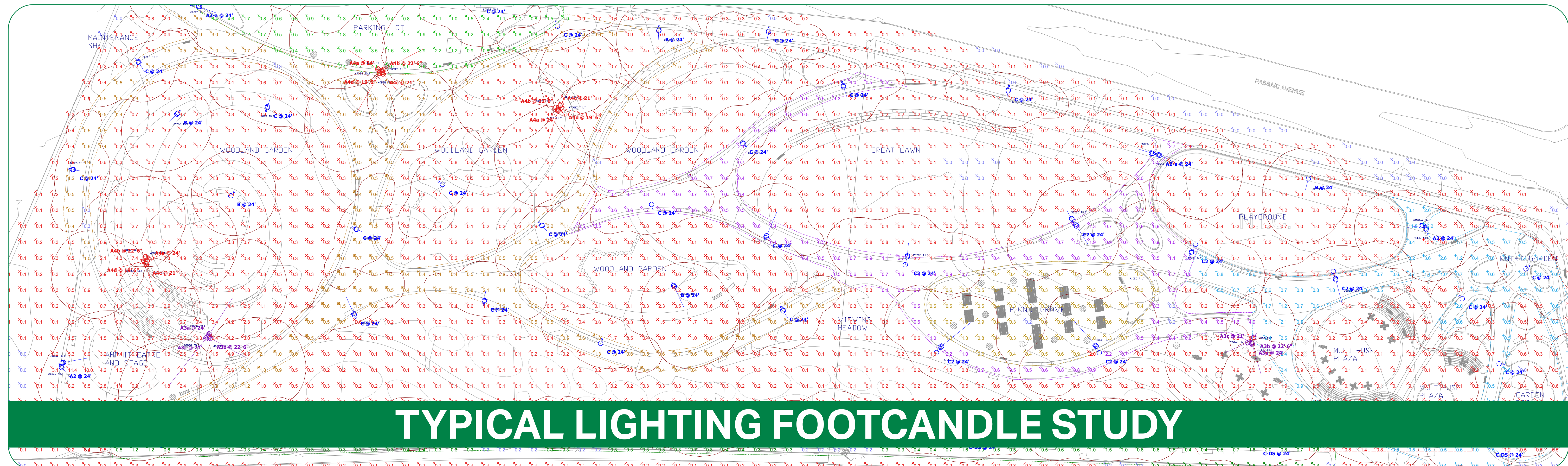


# Traffic and Lighting

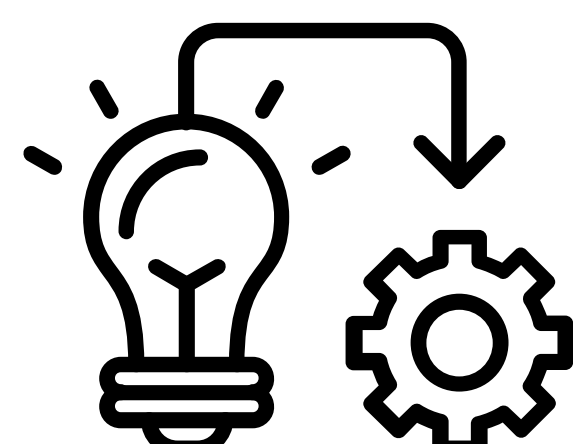


## BASF to Conduct Lighting Study

- Minimization of Community and Ecological Impacts
- Energy Savings/Sustainability
- Fixtures and Controls
- Safety



**1**  
Collect feedback on potential site plan concepts



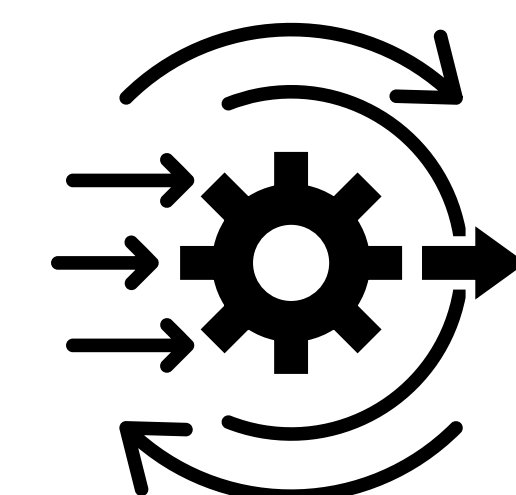
**2**  
Develop site plan and programming



**3**  
Analyze potential impacts of new site plan on existing roads



**4**  
Public comment period for local residents



**5**  
Refine design if needed

**Traffic Studies Assess the Potential Impacts of New Development on Adjacent Roads**



# Timeline & Feedback

## FAST TRACK SCHEDULE



### Project 3:

Grassland Pollinator Habitat



### Project 5:

Grassland Observation Platform



### Project 9:

Uplifted Grassland/Pollinator Habitat/Solar Array

These projects have a straightforward and definable design/permitting process and can be relatively easy to implement.

### Estimated Time to Completion:

Summer 2026

## TYPICAL SCHEDULE



### Project 2:

Grassland/Meadow (earthwork/upland plantings phase)



### Project 6:

Northern Pine Snake, Bat, and Turtle Conservation



### Project 8:

Winding River Park Connection

These project have a more complex design process where there may be some permitting and implementation challenges.

### Estimated Time to Completion:

Fall 2027

## COMPLEX SCHEDULE



### Project 2:

Environmental Education Center (wetlands plantings/education center)



### Project 1:

Perched Wetland/Pond/Wooded Buffer



### Project 4:

Floodplain/Wetland Enhancement



### Project 7:

Forest Restoration

These projects are sophisticated in their design process and present some permitting challenges and implementation that will require a longer and more complex timeline.

### Estimated Time to Completion:

Spring 2029



**BASF wants to hear from you.**  
Please provide your input, comments and feedback on our survey which closes on March 15<sup>th</sup>.

