

Everglades Champions In Action Program

A powerful community partnership for collaborative, student-driven environmental civic action projects in schools.



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Everglades Champions in
Action Teacher
The Conservatory School
of North Palm Beach



Benefits for Educators

Everglades Literacy Teacher Toolkit: includes hands-on, engaging NGSSS-aligned lessons & all necessary materials shipped to your school



Earth Force 6 Step Civic Action Curriculum: detailed lesson plans, tip cards, and activities



Meaningful Professional Development: hands-on curriculum learning, networking, field experiences



Grant Funding: teacher access to funds for project resources and field trips



Compensation for Participation: honors teachers' time, boosts morale & motivation



Networking: partnerships with parents, community members, local scientists & organizations



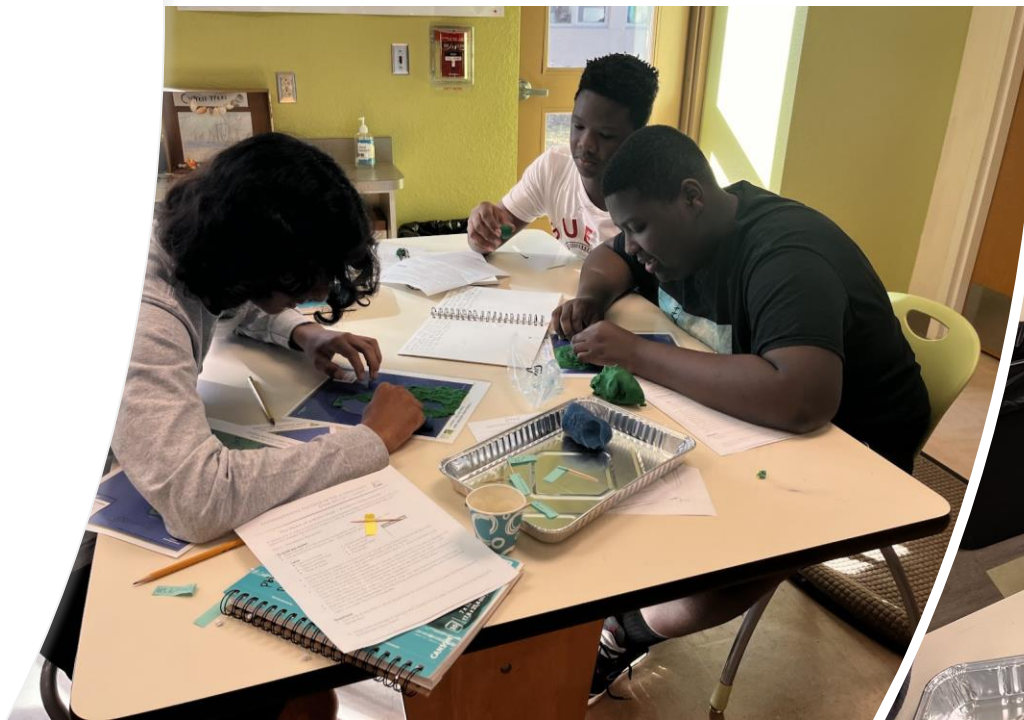
Our Experience with the Everglades Literacy Lessons

Lesson 1: The Heart of the Everglades (9th-12th)

-teaches students about the KOE watershed and how it was channelized due to human development

-provides hands-on experience for students to map the KOE watershed before channelization and after

-Allows students to test and observe impacts of channelization to the water flow





Spider Map

Name: Nia Wilkinzen Date: _____

You are going to create a spider map of some of the habitat types found in the Everglades and the animals that live there. As your teacher presents the PowerPoint, add the names of the habitat types to the diagonal lines. Then add the animals found in those habitats on the horizontal lines.

HABITAT: Hardwood hammock

- Anhinga
- grey fox
- box turtle
- raccoon
- barred owl
- Oak toad
- Great blue heron
- eastern indigo snake

HABITAT: mangrove swamp

- Striped mullet
- bald eagle
- american crocodile
- west indian manatee
- Osprey
- deer fly
- roseate spoonbill
- ~~eastern~~ green tree frog

THE EVERGLADES

- Zebra longwing butterfly
- Florida panther
- eastern indigo snake
- bald eagle
- black bear
- barred owl
- raccoon
- box turtle
- Oak toad

- Anhinga
- Pig frog
- Osprey
- American alligator
- bald eagle
- river otter
- Wood stork
- great blue heron

- bald eagle
- Osprey
- river otter
- American alligator
- great blue heron
- Pig frog
- roseate spoonbill
- Anhinga
- dragon fly
- gambusia
- wood stork
- purple gallinule
- snapping turtle

HABITAT: Pinelands

HABITAT: Sawgrass marsh

HABITAT: Cypress Swamp

Lesson 2: Classifying Everglades Animals & Their Habitats (3rd Grade)

- Students learned about the 5 major habitats of the Everglades
- Students tested their ability to classify animal cards based on their class.
- Students learned what animal species live in what habitat.

Invasive Species Of The Everglades

Description: Invasive species are very harmful to the Everglades due to them eliminating native species through corrupting the food chains.

Three ecosystem services impacted by this threat:

- Invasive species like the Burmese Python are carnivorous and may feed on the fish we eat. This can harm our fishing industry as it depletes the population of fish.
- Invasive species can spread, carry, and create diseases which we can obtain which is harmful to us.
- Also, due to species like the Burmese Python, being an apex predator, having multiple apex predators can disrupt the food chain.

Summary of the three most serious facts of this threat:

- There are 32 are fish, 12 are birds, 46 are reptiles, 17 are mammals and over 70 invertebrate invasive species in the Everglades.
- There has been a decline of nesting birds by 90%.
- Invasive species provide little to no nutritional value to native species.

Three reasons how political, social, and economic concerns affect science and policy in the Everglades:

- Because of the agricultural industry, added nutrients are promoting the growth of invasive species.
- The exotic pet and plant industry also serves as a main cause for the introduction of invasive species.
- On a social level, people releasing their non-native pets, cause the introduction of invasive fish, reptiles, amphibians, and birds.

Habitat Loss:

By: Isabella + Fadiala

Info:

- More people that come into the world, the more people need to cut trees down and make more pollution for the world.
- Hurricanes in 1997 caused extensive flooding. The federal government responded by creating the Central and southern FL Flood Control Project.
- 10,000 km² of freshwater marshes, half of it has been drained and has been converted into agricultural use or urban development.

Facts:

- It provides drinking water for 7 million Floridians.
- Fire is common in the Everglades - and important.
- It's the only place in the world where alligators and crocodiles coexist.

Human Population

Population growth levels and of the water

Political: Politicians don't want to save the Everglades because it produces money for them.

Economic: Home centers can sell houses on land taken away from the Everglades.

Social: People would rather just buy houses for cheap rather than think about the destruction their home caused.

Doing: the 1950's, 60's, and 70's of thousands of retirees each week.

The quality of the ecosystem decreased because of the original habitat.

POLLUTION

Description: introduction of harmful materials to the environment

3 Ecosystems impacted: increased levels of phosphorus and nitrogen which has resulted in shifts of the algae and plant communities found in these places.

- Lakes
- Marshes
- Nearshore marine environment

Three facts about the threat -

Three reasons how political, social, and economic concerns affect science and policy in the Everglades:

- Nutrient pollution is coming from agriculture run off and fertilizers which grows invasive species.
- The safety in the fertilizer caused toxic mercury in fish, birds, reptiles, and mammals.
- Algae communities have shifted from ones dominated by various green algae to ones dominated by blue-green algae.

Socially - The changing of water was justified because people needed new houses causing more population which is why the Everglades is half the size.

Political - They aren't requiring the farmers because everyone needs food so they can't put the blame on them.

Economic - The farming industry makes all of money by selling the goods grown.

Tatum, Cameron, Nia, Tori, & Gianella, Flame

Lesson 3: Threats to the Everglades (8th Grade)

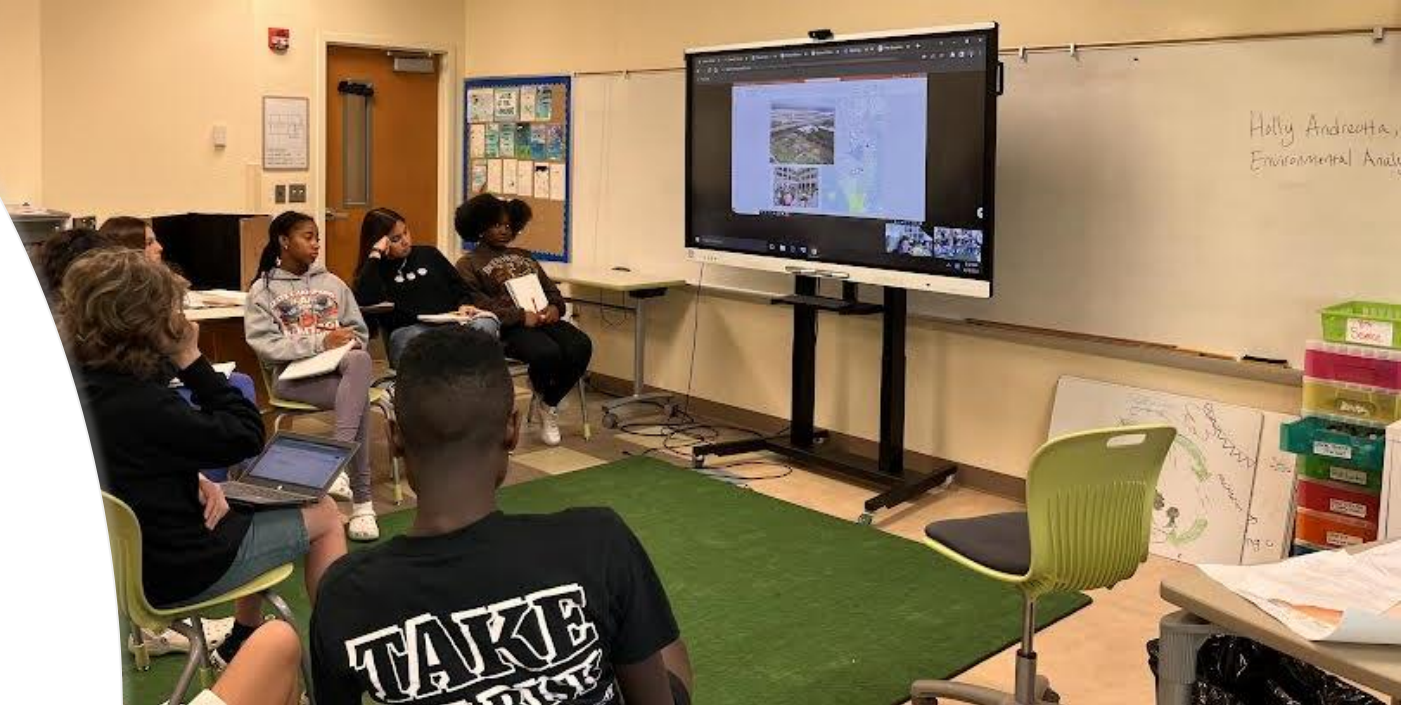
- Students worked in collaborative groups to research major threats to the Everglades & created informative posters regarding the political, economic and social impacts of these threats.

Civic Action Project Development

Topic: Invasive Plants

Community Inventory

1. **Research:** Invasive Plants of the Everglades, local policies to address this problem.
2. **Interviews with Experts:** Holly Andreotta from South Florida Water Management District & Antonio Rodriguez from PBC ERM.
3. **Community Survey:** Google form sent to parents to determine community members knowledge of invasive plants.



Invasive Plant Removal Field Experience at Winding Waters Natural Area



Project Goal:

We want to raise awareness about invasive plants of South Florida and how to mechanically remove them, which will result in less invasive plants in the Everglades.



Strategies to accomplish this goal:



Make a film to educate the public about Invasive Plants



Make 2 information brochures:
Invasive Plants of the Everglades; Native Plants of South Florida



Paint and sell hand-painted reusable bags to raise funds for native plants for the school yard.



Plan & Execute a public exhibition to share film, flyers, and reusable bags



Share film with PBCERM and on social media sites



The Conservatory School Public Exhibition

- film screening
- brochure distribution
- reusable bag sale

Opportunity of a Lifetime: Hike2o Challenge

- Meeting new people
- Experiencing diverse habitats of the Everglades
- Feeling empowered to explore more natural areas
- Sharing the excitement of my adventures with my students





