Why Phragmites?

We chose Phragmites australis as the focus for this integrated curriculum unit for several reasons:

- It is large, has a distinctive appearance and is extremely widely distributed within New Jersey and beyond, increasing the chances that every student in the class will have seen this species near where they live. In many, if not most, cases, students and teachers would be able to collect materials for use in class activities on or near their school’s property, perhaps as part of the class activity.

- It is a major invasive species with a clear and often negative impact upon the landscapes in which it is found.

- It has a long and interesting history that allowed us to create entrees for engaging students who might not otherwise be interested in “science”

- It is conducive to use in a wide variety of craft activities which again creates opportunities for engaging students in the learning process.

About Georgian Court University

Founded and sponsored by the Sisters of Mercy of New Jersey, Georgian Court University is located in residential Lakewood, New Jersey, on a magnificent 155-acre estate formerly belonging to railroad baron, George Jay Gould. Open to students of all faiths, Georgian Court University provides a comprehensive liberal arts education in the Roman Catholic tradition with a special concern for women.

The university offers a curriculum that is broad enough to be truly liberal, yet specialized enough to provide in-depth preparation for careers or further study. Degree programs include Biology (BA/BS/MS), Biochemistry (BS), Chemistry (BA/BS), Math (BA), Natural Sciences (BS), Nursing (BSN) and Physics (BA/BS).

The unique Georgian Court University atmosphere is one of a small college ambiance in a technologically advanced, highly esteemed university setting. Centered around the core values of the Sisters of Mercy, the university offers an extremely safe and nurturing campus environment with individualized attention and guidance, and a commitment to service.

Georgian Court University
900 Lakewood Avenue
Lakewood NJ 08701

Invasive Species
Integrated Curriculum Unit

Invasive species are one of the most important hazards to New Jersey’s natural habitats. Get the word out to your students in a fun and engaging way using a two-week integrated curriculum, grounded in the New Jersey Core Content Standards.

All lesson plans, along with associated worksheets, PowerPoint presentations, rubrics, etc. can be downloaded from our website:

http://gcuonline.georgian.edu/phragmites.htm
What is an Integrated Curriculum Unit?

An integrated curriculum unit provides a series of interconnected lesson plans held together by a common theme. They move the teaching mode away from rote memorization of isolated facts and figures and toward building thinking, problem solving skills that appeal to multiple intelligences and build long term understanding and insight through integrating learning between curricular areas (Lake, 1994).

Why use Integrated Curriculum Units?

- Integrated curricula are effective because they work with the brain’s tendency to retain information better when it’s part of a complex “web” of interconnected ideas and experiences.
- Students taught using an integrated curriculum consistently perform better than students taught using “traditional” methods, as measured both by internal assessment measures and by performance on state or national standardized tests (Hartzler, 2000).
- Teaching using integrated curricula results in “greater intellectual curiosity, improved attitude towards schooling, enhanced problem-solving skills and higher achievement in college” (Loepp, 1999).
- And it’s a lot more fun too!

What Will Students Learn?

- See Phragmites’ role in history while exploring different cultures through time using guided imagery and role-playing.
- Make a Phragmites reed pen.
- Hone map-skills using hands-on activities.
- Investigate different marsh ecosystems, and how they work using active learning.
- Use a simple experiment to explore transpiration in plants.
- Discover the impact of an invasive species on an entire ecosystem.
- Calculate the area of a marsh impacted by the invasion over time and use this to assess rates of spread for the invasive species.
- Create, write and edit a newspaper describing different aspects of the Phragmites invasion, and its consequences for wetland ecosystems.
- Make a Phragmites necklace.
- Explore taxonomic designations (Kingdom, Phylum… etc.) in the context of invasive plants.
- Collect, calculate and display data about species diversity, abundance and percent composition of native species in marshes affected by Phragmites using a variety of graph formats.
- Practice observation and critical thinking-skills in determining the differences between native and invasive strains of Phragmites.
- Write a biopoem & create a dance around it.
- Play Phragmites kickball.

And much, much more!

Who is the Intended Target Audience?

Course materials etc. are available to teachers around the world via GCU’s website http://gcuonline.georgian.edu//phragmites.htm

However, the primary targets for this project are teachers and students in the middle school system in New Jersey.

Contact Information

Dr. Louise Wootton, Jodi Sisk, Amanda Traina and Allison McGrath
Department of Biology
Georgian Court University,
Lakewood NJ 08701
732 987 2349
woottonL@georgian.edu