

May 4, 2015

## Warm-Up

Today you will need your pencil and notebook.  
**Test on Thursday on the Biosphere.**

STAR WARS  
MAY THE 4TH  
BE WITH YOU!

Please pick-up your weekly homework page!

o **Review: What are the top 5 causes for recent declines in biodiversity?**



Hint: HIPPO - Use your notes from last week's biodiversity article

Habitat Loss & Destruction  
 Introduction of invasive alien species  
 Pollution  
 Population Growth  
 Over-exploitation of resources

## Ecological Niche

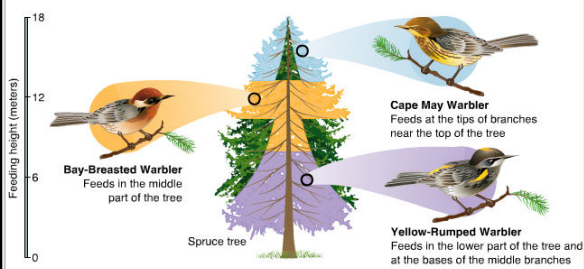
Homework

- **Definition:**
- The role that an animal or plant species plays in the ecosystem
- **Example:** deciduous forest- there is a niche for an organism that can fly and eat nectar from blossoms

**Warbler Birds:** Each of these warbler species has a different niche in its spruce tree habitat. By feeding in different areas of the tree, the birds avoid competing with one another for food.

**What would happen if two of the warbler species attempted to occupy the same niche?**



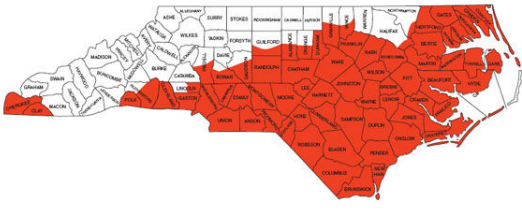
## Invasive Species

Homework

- **Definition:**
- Plants, animals, or other organisms that are introduced to an area outside their original range and cause harm to the ecosystem
- **Example:**
- Fire Ant, Kudzu (for NC)

Fire Ant – Native to Brazil now in NC  
 – Efforts to Control Population

### Imported Fire Ant Quarantine Area North Carolina - 2010


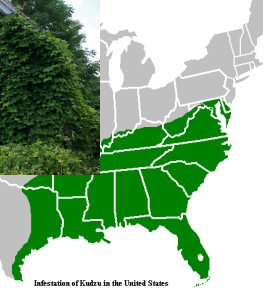


Regulated Area - Movement of regulated articles from this area into or through white area requires inspection.

Non Regulated Area - Movement of articles from or through these areas does not require inspection.

Kudzu – From Asia :: The plant climbs over trees or shrubs and grows so rapidly that it kills them by heavy shading.

Grows at a rate of 150,000 acres a year

Infestation of Kudzu in the United States


## Effects of Invasive Species

1. Explain effects of invasive nonnative species (plant and animal) on an ecosystem.

- Displace native species
- Reduce native wildlife habitat
- Reduce forest health and productivity
- Alter ecosystem processes
- Degrade recreation areas



## Are Invasive Species Ever Good?

- Yes!
- These traits are often the reason a species that eventually becomes invasive was introduced to an ecosystem in the first place.
- Himalayan blackberry, for example, produces edible berries that are relished by wildlife and people alike.
- Yet it threatens to crowd out native plants and increase fire danger
- Any positive effect an invasive species might have in an ecosystem can easily be outweighed by the damage it causes.




## Endangered Species

- **Definition**
- Species which are threatened with destruction due to habitat destruction or other factors
- **Examples:**
- Humpback Whale, Green pitcher plant

## Endangered Species Act of 1973

- **Definition**
- Designed to protect and recover endangered species and the ecosystems upon which they depend
- **Application:**
- Signed into law by President Richard Nixon



## Activity: Analysis Questions

1. Which species was eliminated from the ecosystem first?
2. Why did some species survive longer than others?
3. Were you able to compete with other native species for resources?
4. Were you able to compete with the invasive species for resources?
5. What could be the consequences of organisms entering an ecosystem that have a competitive advantage over the native species?

## Summary Video

- <https://www.youtube.com/watch?v=mUssO68D2eM>
- In your notebook....
  - One thing you found interesting
  - Two things you learned