**Invasive and Endemic Species Fil- In-Notes** NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Some species are clearly critical to the functioning of an ecosystem.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**- a species that is critical to the functioning of the ecosystem in which it lives. It affects the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ of many other species in its community.

* **Endangered Species**
  + A \_\_\_\_\_\_\_\_\_\_\_\_\_\_that is likely to become \_\_\_\_\_\_\_\_\_\_\_\_\_ if protective measures are not taken immediately
* **Threatened Species**
  + A \_\_\_\_\_\_\_\_\_\_\_\_\_ that has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and that is likely to become endangered if it is not protected.

***Threatened:*** population \_\_\_\_\_\_ but extinction is not about to happen

***Endangered:*** population so low that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is possible

**Native Species**

* \_\_\_\_\_\_\_\_\_\_\_\_ species: a species that is \_\_\_\_\_\_\_\_\_\_\_ (common) or indigenous to a particular area
* Normally live and thrive in a particular \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Endemic Species**

* Plants or animals that exist only in one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ region.
* May exist on one island or specific continent
* Examples:
  + Koala
  + Tasmanian devil
  + Emperor penguin

**Non-Native Species**

* A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ living outside its native \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ range
* Arrived by human activity, either deliberate or accidental.
* Non-native species are not necessarily invasive.

**Non-Native Invasive Species**

* A non-native species that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (badly) affects \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ within an ecosystem

**Common Characteristics of Invasive Species**

Invasive species in general:

* Have few natural \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or diseases
* Have high \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rates
* Are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ species

**Common Traits of Invasive Plants**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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EXAMPLE 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

EXAMPLE 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Impacts of Invasive Species**

* Displace \_\_\_\_\_\_\_\_\_\_\_\_\_\_ species
  + Japanese stilt grass displaces native herbaceous plants, reducing biodiversity, and reducing food available for wildlife species.
* Reduce forest \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Some \_\_\_\_\_\_\_\_\_\_\_\_\_ species kill \_\_\_\_\_\_\_\_\_\_\_\_\_\_ species
  + About ¼ of the hardwood trees in Pennsylvania used to be American chestnut. The invasive chestnut-blight fungus killed most American chestnut throughout the eastern US by 1950.
* Hemlock woolly adelgid kills Eastern hemlock trees in Pennsylvania and the northeast.
* Eastern hemlock forests play an important role in maintaining stream temperatures and oxygen levels favorable for brook trout.
* Hemlock mortality leads to increased water temperatures and oxygen levels, and therefore reduced brook trout populations.

**Economic Impacts of Invasive Species**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ species are responsible for tremendous \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ losses through:

* loss in forest and agricultural \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* spread of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that impact humans