

Invasive Species

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A worksheet to accompany the PowerPoint, Invasive Species and Biodiversity, Parts 1-3

Name: _____ Hour _____ Date: _____

Date Assignment is due: _____ Why late? _____
Day of Week Date If your project was late, describe why

1. Define the following words

- a. Invasive Species
- b. Distribution
- c. Colonization
- d. Disturbances
- e. Succession
- f. Community
- g. Biological Pollution
- h. Biodiversity
- i. Species Richness
- j. Individual Species Abundance
- k. Genetic Diversity
- l. Species Diversity
- m. Ecosystem Diversity

2. Name eight (6) of the invasive species mentioned in these three PowerPoints

- a.
- b.
- c.
- d.
- e.
- f.

3. How does the Asian longhorned beetle kill trees? At what stage of the beetle's life does this occur?

4. What does it mean that Gypsy moth populations are "eruptive"? What's the minimum number of eggs we could expect to find in any forest ecosystem in North America? What does this say about the spread of the Gypsy moth?

5. In the past two decades, how many acres of forests have been sprayed with pesticides to kill this moth? In your opinion, is this a good thing or a bad thing for those ecosystems? Explain.

6. When did the Emerald Ash Borer become established in Wisconsin? Where did it come from? How did it get here?

7. How many years may go by before the damage to trees from the Emerald Ash Borer is noticed? How might this affect our ability to detect it? How would this situation affect the spread and control of the

8. What is the cost of the Emerald Ash Borer?

9. What are the 10 EAB Infested States?

10. Can a native species be an invasive species? Can a native species be an introduced species? Explain

11. Can introduced species be good for people and/or the environment? Explain:

12. Do all introduced species become invasive? What is the likelihood of this happening? Explain:

13. Does your answer to #12 mean that invasive species are a minimal threat? Explain:

14. What characteristics do invasive species have that make them able to out-compete native species and take over habitats?

15. How is it that invasive species are able to have such a wide distribution? Explain relating to each of the three factors that affect distribution:

a. Colonization:

b. Use of Resources:

c. Interactions with other organisms:

16. In the fight against invasive species, where should we focus most of our money, efforts, and resources? Explain:

17. Explain how transportation and disturbances are ways in which humans help the spread of invasive species:

18. In February of 2009, the State of California sued the US Forest Service to prevent it from building roads through environmentally sensitive areas. If the habitat destruction would be minimal, what might be a greater concern for preventing this action? (Include *disturbance* and details from #17 in your answer).

19. Why is biological pollution so much worse than chemical pollution?

20. Why do we want biodiversity to be as high as possible?

21. Forest X has 20 maples, 22 birch trees, 15 honey suckle, and 11 cedars. Forest Y has 31 maples, 11 birches, 1 honey suckle, and 15 cedars. Which has the greater biodiversity? Explain:

22. The three levels of biodiversity are listed below. Explain how the Emerald Ash Borer would affect biodiversity at all three levels in the US and provide examples to supplement your explanation:

Genetic Diversity

Species Diversity

Ecosystem Diversity

23. In agriculture, a weed is anything growing where we don't want it to. This means that even another crop could be a weed. For example, if a corn stalk is growing in a field of wheat, that stalk of corn is a weed for that field, even if we wanted corn in other fields.

Imagine a new weed, *Paininnda rearum* appears in Wisconsin soybean fields after it was accidentally introduced by some imported farm machinery from Europe. Consider two hypothetical possibilities:

Case A: this weed, *P. rearum*, is found in every field and lowers the soybean productivity. It spreads to native ecosystems, but usually does not become established unless the ground is very disturbed. Is it invasive? Explain:

Case B: this weed, *P. rearum*, is found only occasionally in soybean fields. However, it does grow exceedingly well in wetlands and directly competes with native cattails for nutrients and sunlight. Is it invasive? Explain:
