Name: Date:

**Biodiversity Accounting & Invasive Species Sensemaking**

Part 1: Please take a few minutes to read the questions below and consider them. We will have a class discussion surrounding them. Please use the space provided to write down consideration, responses you find valuable.

Introduction questions to consider:

1. “How do invasive species arrive at new locations?”
2. “How do invasive species out-compete native species?”
3. “Do invasive species cause harm besides population/competition effects?”

Part 2: Walking around the room, please visit the 4 stations setup to analyze biodiversity at each. Make note in describing what you see in each station using at least 2 sentences.

**Rate the biodiversity of four environments on a scale of 1-10; 1=low biodiversity and 10=high biodiversity**.

Remember to make note of your observations using 2 sentences. Your sentences can include what type of environment you are observing, what organisms you are viewing, noted relative abundance, or noted relationships between organisms. Also make note of at least one invasive species in the environment.

Consider the following definitions and you may use them in your observation writing:

These are definitions for key terms that influence biodiversity in an ecosystem.

Biodiversity- the variety of organisms in a given area, the genetic variation within a population, the variety of species within a community, or the variety of communities within an ecosystem

Relative abundance- the percent composition of an organism of a particular kind relative to the total number of organisms in the area.

Species richness- simply a count of species, and it does not take into account the abundances of the species or their relative abundance distributions.

**Environment 1:**

1(low biodiversity) 2 3 4 5 6 7 8 9 10 (high biodiversity)

Observations and notes about this environment:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Invasive species in Environment 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Environment 2:**

1(low biodiversity) 2 3 4 5 6 7 8 9 10 (high biodiversity)

Observations and notes about this environment:

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Invasive species in Environment 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Environment 3:**

1(low biodiversity) 2 3 4 5 6 7 8 9 10 (high biodiversity)

Observations and notes about this environment:

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Invasive species in Environment 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Environment 4:**

1(low biodiversity) 2 3 4 5 6 7 8 9 10 (high biodiversity)

Observations and notes about this environment:

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Invasive species in Environment 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Part 3: Independent Reflection:

1. When you observed the environment at each station which type of biodiversity did you think most about?
   1. Ecosystem diversity within an area
   2. Species diversity within an area
   3. Genetic diversity within an area
2. Using the species guides at each station, did you observe any invasive species? For each environment write down the name of one of the invasive species observed.

Environment 1 invasive species:

Environment 2 invasive species:

Environment 3 invasive species:

Environment 4 invasive species:

1. Choose one of the Environments you observed. What will likely happen over time with competition between native species and invasive species? Will this affect relative abundance? Will it affect species richness? You may draw a before and after with your explanation if that is helpful.
2. Choose one of the invasive species from the environments “visited” and research what species it affects most in through competition, predation, or symbiosis.

Invasive species:

Most affected native species:

How is the native species affected:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Your independent answers to the following questions will be discussed as a class:**

1. What is the meaning of biodiversity? Is there more to the definition you’d like to add?
2. How can you calculate biodiversity?
3. What makes a habitat or biome more biodiverse than another?