

## Invasion Ecology: week 1

### Worksheet

#### *Part I. Invasive species: definition, introduction, establishment.*

In the provided space below, please list the first words (associations) that come to your mind when you hear “invasive species” (30 sec)

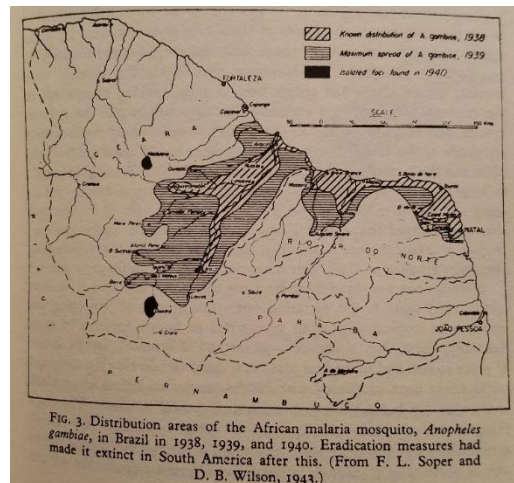
- Please compare your lists in pairs and pick 3-5 unique associations (1-2 min)
- Please compare your lists in groups and pick 3-5 unique associations (1-2 min)
- Please compare your matches with formal definition of invasive species (2-3 min) (use 'Yes/No cards')

Which of the following species can be invasive? (Please circle the answer)

Alien	Yes / No
Exotic	Yes / No
Non-indigenous	Yes / No
Introduced	Yes / No
Naturalized	Yes / No

#### *Part II. Charles Elton (1958): The ecology of invasions by animals and plants.*

“...About 1929, a few African mosquitoes accidentally reached the north-east corner of Brazil, having probably been carried from Dakar on a fast French destroyer. They managed to get ashore and founded a small colony in a marsh near the coast—the Mosquito Fathers as it were. At first not much attention was paid to them, though there was a pretty sharp outbreak of malaria in the local town, during which practically every person was infected. For the next few years the insects spread rather quietly along the coastal region, until at a spot about 200 miles farther on explosive malaria blazed up and continued in 1938 and 1939, by which time the mosquitoes were found to have moved a further 200 miles inland up the Jaguaribe River valley. It was one of the worst epidemics that Brazil had ever known, hundreds of thousands of people were ill, some twenty thousand are believed to have died, and the life of the countryside was partially paralysed..”



### Part III. Species introductions.

Your assigned species is **jumping worm**.



- Please read this brief species description (1-2 min):  
 “Most earthworms in the northeast are considered exotic. They were introduced to North America in the 18th and 19th centuries from Europe and Asia through the trade of horticultural materials. Native plants in the northeast evolved without the presence of earthworms, and Northeastern forests have a characteristically thick layer of leaf litter and organic matter. Many native plants require this organic layer for their seeds to germinate. When jumping worms consume the upper organic layer of the soil, native plants slowly disappear and invasive species take their place. As the forest floor structure changes, other species suffer too, such as ground nesting birds, amphibians, and invertebrates.” (UNH extension, 2018)

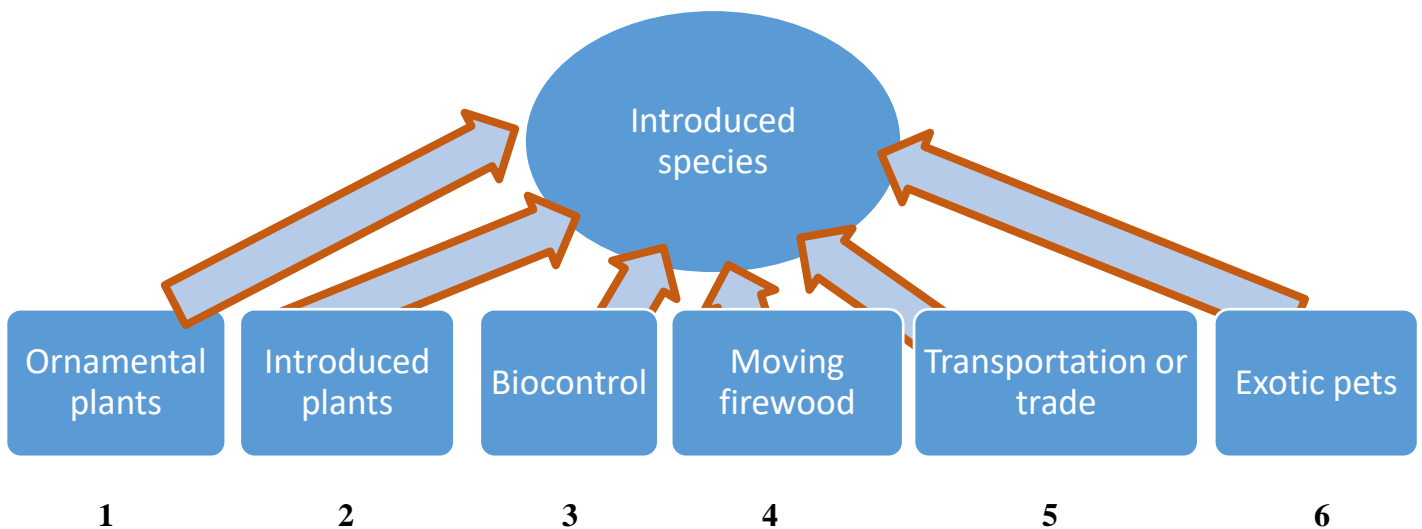
- Why is it an invasive species? Please check ALL that applies (30 sec):
  - Introduced to the US from other countries
  - Causes damage to native species
  - Cause damage to forest ecosystem
- What is the mode of introduction of this invasive species? Please circle your answer (30 sec):
  - Intentional
  - Non-intentional

### Part IV. Modes of species introduction.

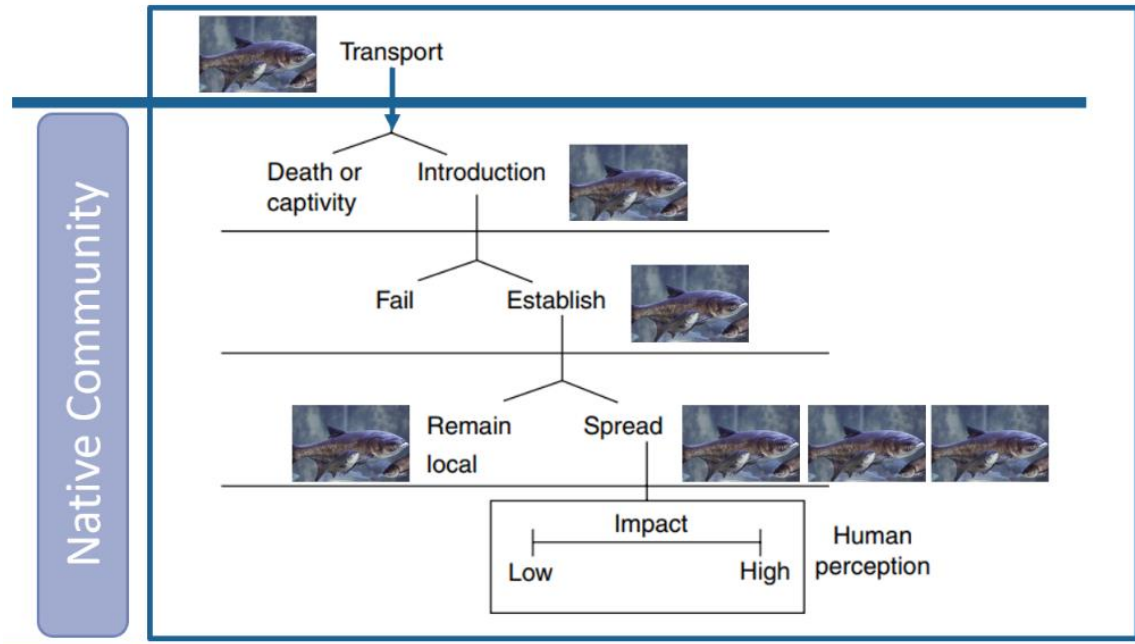
Please write the numbers on the corresponding line:

**Deliberate**

**Accidental**



Part V. What is the best title for this scheme? \_\_\_\_\_



Part VI.

Please write the percent of species which can successfully establish, disperse, and have a high impact on environment (your best guess):

