Seed Dispersal Module

Class duration: 75 Minutes

Goal: Provide an understanding the modes and effect of seed dispersal in plants, with interrelation to other species.

 Goal subsets: Modes of seed dispersal

 What is a seed shadow

 Effect of seed form in relation to dispersal function

Abiotic dispersal in different environments: tropical, vs plains, vs Urban

Biotic dispersal in different environments

Emphasize - Seed shadow differences affected by different environments, fragmentation, and quorum sensing amongst plants

Student Background:

Urban centers are NOT devoid of life

Habitat distribution

Age distribution of populations = growth potential, survivorship, preproduction

Don’t remember much about photosynthesis of plant types

Class Plan:

Video – Before or during class? Handout work during class or after?

Outline:

How much do you know about plants? Flowering plants? Photosynthesis quick overview.

What is a seed? What is fruit? What is the purpose of fruit?

What are seed vectors? Abiotic vs Biotic. Can you be a vector? Have you been?

* Relate wind to water currents -> broadcast spawners
* Birds eating seeds or fruits, mention bird digestive system, spider monkeys diet as related to seed dispersal

Video talks about tropical plants and spider monkey vectors. What other vectors are possible in the tropics? In the plains environment? (Ex. Freshkills Staten Island converted landfill) In an urban environment? For all abiotic? Biotic?

Seed shadow: What is it? Do all plants have the same size seed shadow? What controls this?

\* Do seed shadow section of the handout.

\* Do *Platypodium elegans* section of handout.

Note where seedlings grow. What are limiters to plant growth? Actual shadowing with canopy, nutrient competition, growth competition through release of toxic metabolites. (Ex. Eucalyptus).

Discuss fragmentation as related to the different environments

\* Do the bird dispersal and the last dispersal map in hand out.

Talk about the human impact on all of these environments.

Applications to course:

Do urban trees we plant have potential to naturally disperse? Urban factors that prevent maturation. Invasive species