Thursday Lecture

2024-09-26

**Sources and Sinks vs. Ecological Traps II**

Quiz:

What is the difference between a sink and an ecological trap? *Trap: has the cues to indicate high-quality habitat or to cause an animal to choose to settle there. It effectively “tricks” the animal into settling there. A sink does not have those cues; animals do not choose to settle in traps, they are forced to settle in traps.*

Consider two different study areas with different levels of human disturbance (high vs low human disturbance). Your study species is fairly abundant in both areas yet has markedly lower juvenile survival in the study area with high human disturbance. Is this sufficient evidence to call the high-disturbance area a sink? *No, because low survival does not necessarily translate into negative population growth. Low survival xould be offset by high fecundity and/or high adult survival.*

*Observing differences in one demographic does not inform you of the entire system*

**Natal Habitat Preference Hypothesis**

An animal during dispersal from natal habitat selects for habitat similar to what it was raised in.

* Requires an open system

Juveniles go out and select areas to settle outside their natal home range, we will see individual variation in where they choose to settle. NHPI offers a hypothesis for this individual difference.

Why would this be advantageous for a species?

* Process of finding habitat to settle more efficient, less risky to fitness consequences
* Cultural learning from mom, prey-selection

When natural selection acts on a phenotype, it must have a corresponding genotype that can be passed on

* Over time, we expect natural selection to perpetuate the successful genotypes, narrowing the range of genotypes that are attributed to that phenotype.
* Analogous to discussion of genetic basis for natural selection on sign stimuli response (high fitness consequences)
* So we do not expect to see much variation in phenotypes that are attributed to genetic selection for traits