Env Sci 21.1

Goals

* Describe two ways to measure biodiversity.

* Contrast background extinction rates and periods of mass extinction.

* Evaluate the primary causes of biodiversity loss.

* Describe the benefits of biodiversity.

* Discuss the characteristics of the field of conservation biology.

Plan

Go over last semester's final (30 min)

What is biodiversity (5 min)

What is conservation biology?

Video: Conservation and Restoration ecology (10 min)

Why should we care about biodiversity (10 min)

Three E's of sustainability (Ecologic, Economic, Equality)

How to measure biodiversity (5 min)

Types of biodiversity

Institutions measuring species diversity

IUCN

Endangered Species List

Video: IUCN Redist a barometer of life (10 min)

History and present status of life (10 min)

Most species are now extinct

Most extant species are undescribed

Five big (post Cambrian explosion) extinction events

Video: Six craziest extinction events (5 min)

Environmental Science 21.2

Goals

* Describe de-extinction

* Compare the challenges and prospects for de-exintction

Plan

Video: Stewart Brand Dawn of De-Exction (20 min)

Discussion questions

EnvSci 21.3

Goals

* Describe the theory of island biogeography

* Use the theory of island biogeography to make predictions in fragmenting habitat

Plan

What is biogeography (5 min)

Video: Biogeography where life lives (5 min)

Theory of Island Biogeography (10 min)

Habitat loss and fragmentation, islands and corridors (5 min)

Video: Wildlife corridors are key to this national park's survival (5 min)

Lab: Island Biogeography lab (45 min)

Questions

Why is habitat fragmentation a problem?

Migratory routes are important for many species, how does this impact management?

How can this be applied to terrestrial habitat? Marine habitat?