

Ecosystem Unit: Created by Rachael Coleman

Limiting Factor

Tercerary Consumers

Phenomenon: Video on Extinct Animals

<https://www.youtube.com/watch?v=u4a8n6ypQEE>

ANCHOR CHART: Why do animals go extinct?

OR

What is this graph showing and based off of this picture why do populations change?

https://www.google.com/search?q=Predator+and+Prey+population+graph&safe=active&rlz=1C5CHFA_enUS683US683&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwisj4fe7PnSAhXhIIQKHb2uAN0Q_AUIBigB&biw=1258&bih=480&dpr=1&surl=1#imgrc=mBRaqiU2AW3n5M:

ANCHOR CHART: Observations:

Talk about Aligators and Dodo Birds

Eco System video:

<https://www.youtube.com/watch?v=v6ubvEj3KGM&t=76s>

<https://www.youtube.com/watch?v=izRvPaAWgyw>

ANCHOR CHART: Vocabulary: What science words did you hear that were new to you, or that you still don't understand

6.4.1

Notes page 101

Ecosystems is the interaction of **organisms** with **each other** and with the **physical environment**.

Ecosystems include biotic – **living** and abiotic – **nonliving** parts. Examples of biotic-
Examples of abiotic-

Ecology – the study of **ecosystems** Example of ecosystems are:

Different ecosystems in Utah

Forest - deciduous, coniferous or oftentimes a mixture of both, in which some trees **shed** their leaves each fall, while others remain **evergreen** year-round.

Grassland – in **temperate** regions, although they can exist in colder areas as well, Grasslands share the common climactic characteristic of semi-aridity. Trees are **sparse or nonexistent**, but flowers may be interspersed with the grasses. Grasslands provide an ideal environment for **grazing** animals.

Desert - The common defining feature among desert ecosystems is **low precipitation**, generally less than 25 centimeters (**10 inches**) per year. Not all deserts are **hot** -- desert ecosystems can exist from the **tropics** to the **arctic**, but regardless of latitude, deserts are often **windy**. Some deserts contain **sand dunes**, while others feature mostly **rock**. Vegetation is **sparse or nonexistent**, and any animal species, such as insects, reptiles and birds, must be **highly adapted** to the dry conditions.

Freshwater ecosystems - can be found in **streams, rivers, springs, ponds, lakes, bogs and freshwater swamps**. They are subdivided into two classes: those in which the water is **nearly stationary**, such as ponds, and those in which the water **flows**, such as creeks. Freshwater ecosystems are home to more than just fish: algae, plankton, insects, amphibians and underwater plants also inhabit them.

Marine ecosystems- differ from freshwater ecosystems in that they contain **saltwater**, which usually supports different types of species than does **freshwater**. Marine ecosystems are the most **abundant** types of ecosystems in the world. They encompass not only the **ocean floor** and surface but also **tidal zones**, estuaries, salt marshes and saltwater swamps, mangroves and **coral reefs**.

I would have students get in pairs and lead class in creating a food web for the ecosystem that they drew (from the above list). And discuss what would happen if a part of the food web were to disappear and what causes parts of the food web to disappear.

Name 3 animals that might live in a marine environment and list 3 adaptations of each animal?

What adaptations would plants need to live in the desert?

When resources (either biotic or abiotic) are limited, populations **go down**, and the whole **ecosystem** can be affected.

The less diverse an organism's diet the more likely they are to go **extinct**

Pandas only eat bamboo article (googleclassroom)

<https://www.worldwildlife.org/stories/giant-panda-no-longer-endangered>

Limiting factors- resources and environmental factors that limit the growth of organisms

List of species in Utah

<https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=UT&status=listed>

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6.4.2

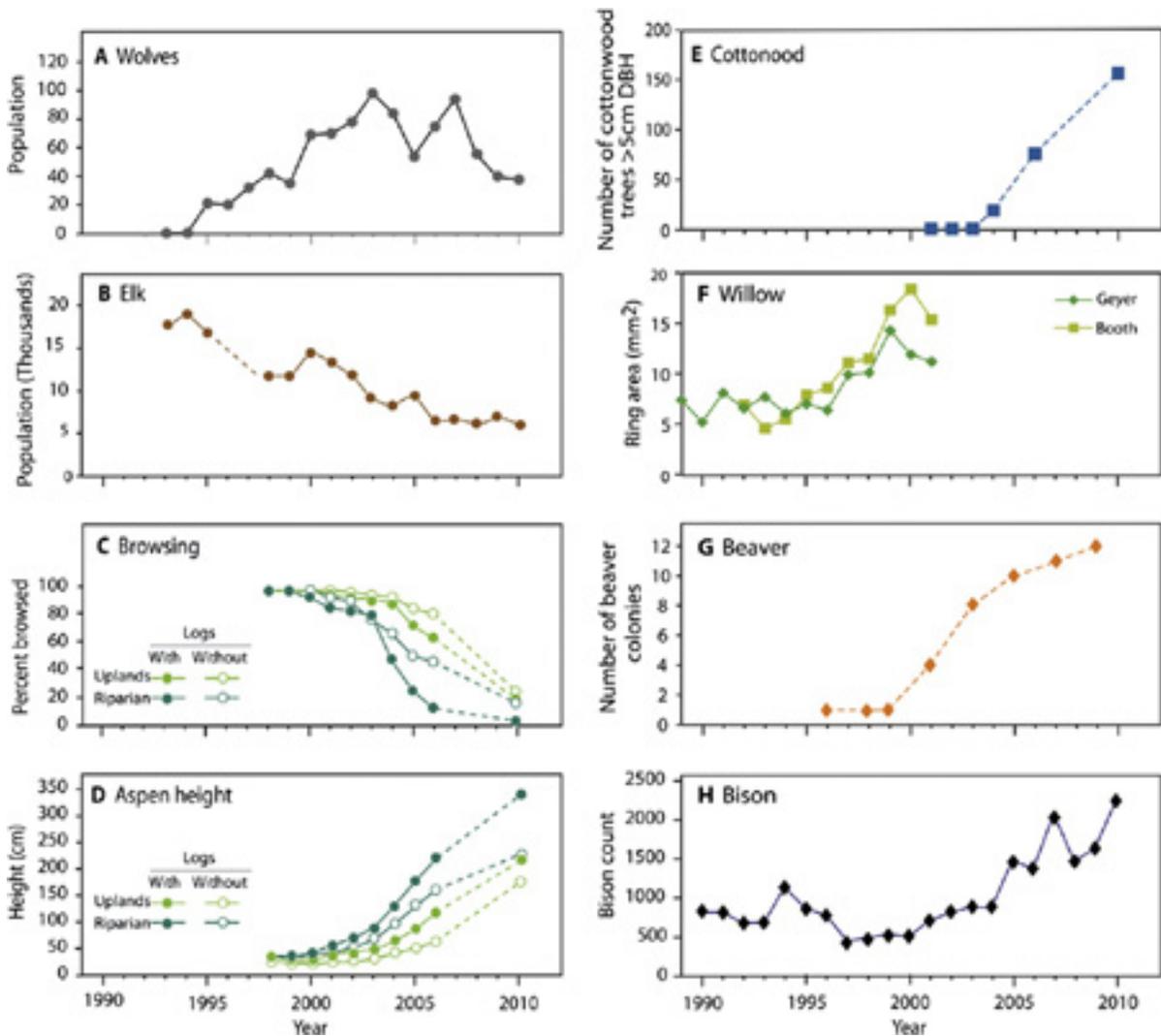
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Wolves in Yellowstone 6.4.2

Start at 20 second (1-20 is about the big bang)

<https://www.youtube.com/watch?v=5Iddy0CVILg>

phenomena of wolves graph



Food web Activity:

Symbiotic relationships are a special type of interaction between **species**. Sometimes beneficial, sometimes harmful, these **relationships** are essential to many organisms and ecosystems, and they provide a **balance** that can only be achieved by working together.

Cards with food web

Predation- one **gains**, one **looses** (usually dies)

Mutualism – (think win win) both **gain**

Commensalism- one **gains** the other isn't **affected**

Most food webs don't include the **sun** (it's understood, unless at the bottom of the ocean). Most food webs don't include **recyclers** (like fungi) which makes the food web more like a cycle of energy.

Niche- the role an organism **fills** in it's **habitat**
Describe your niche at home

Habitat- where an organism **lives**
Describe your habitat

Every ecosystem needs to have an organism that **produces** food and **recycles** dead stuff

Producers- organism that use the sun to **produce** food

Competition- when different organisms **compete** for the same **resource** (like tall trees trying to reach the sunlight) List two other examples:

Consumer- an organism that **consumes** another organism for **energy**

Secondary Consumers – consumers that eat **consumers**

Tertiary Consumers- **carnivore** at the top of the **food chain**

Recycler- an organism that recycles **dead stuff** back into the ecosystem

When competition is fierce, organisms **die**, **relocate**, or populations **go down**.

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Animal Adaptations Activity Start:

Song to play while working

https://www.youtube.com/watch?v=GUY_LK_lOc&list=PLzRtcM_LAHMAkKTHW92UTe8aniWr7ECrW&index=2

https://www.youtube.com/watch?v=rzE6BNNLew0&list=PLzRtcM_LAHMAkKTHW92UTe8aniWr7ECrW&index=8

6.4.3

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Food Chain- is just 1 line of **energy transfer**

Food Web – always starts with a producer and ends with a consumer. (even though a recycler would bring it all back to a cycle). It includes **multiple lines** of energy transfer.

Arrow **ALWAYS** points to where energy is **GOING**

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Create a food web using all the animals

6.4.5

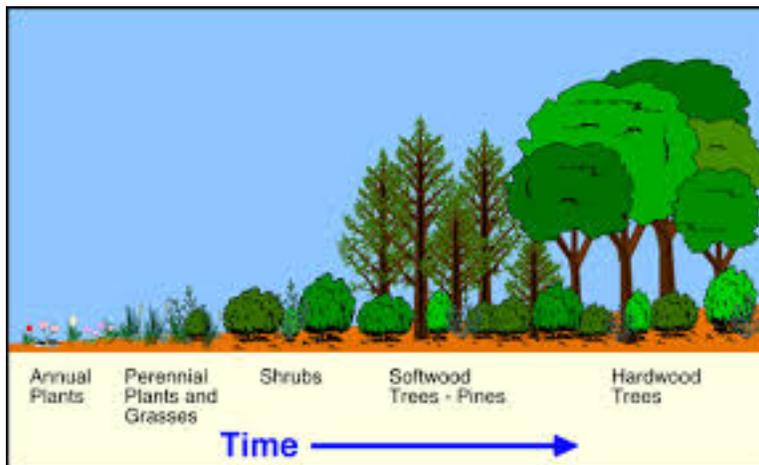
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Stability- a population/ecosystem has reached a **climax community** and will remain **nearly the same** until a **disaster strikes**.

What are the clues of a climax community.

What are pioneer species?

Natural cycles of a climax community.



<http://researchquests.org/cleveland-lloyd/>

Tamarisks on the Colorado Article 6.4.5 (googleclassroom)

<http://www.westword.com/news/photos-colorado-river-battle-against-a-serious-enemy-invasive-tamarisk-5887768>

[Video](#)

<https://www.youtube.com/watch?v=Uby86bJpgik>

Yellowstone Fire of 1988 Article and video 6.4.5 (googleclassroom)

<http://www.yellowstonepark.com/1988-fires-yellowstone/>

Disaster strikes the classroom:

Utah Lake Dumping 6.4.5 (it has youtube links and a handy (what looks to be good) ready to use lesson)

http://utahlake.gov/wp-content/uploads/2011/04/2-GB-The_Business_of_Abusing_a_Lake.pdf

What are the clues of a climax community.

What are pioneer species?

Natural cycles of a climax community.