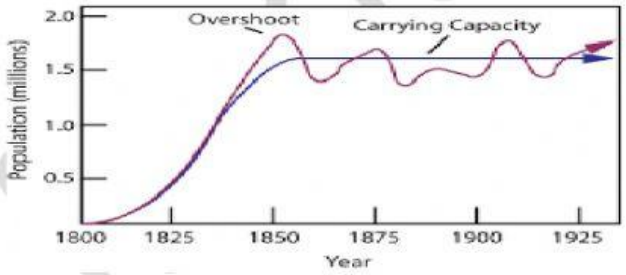
Learning Target: I can identify and explain the five factors that affect carrying capacity.

Carrying Capacity & Limiting Factors 101 video notes

1. Carrying capacity is the _____ of individuals of a particular species that a specific environment can _____.
2. Once a population reaches its _____ in an environment, a variety of factors work to _____ out that population.
3. Limiting factors control the _____.
4. The factors that control the growth of a population are _____ _____



5. On this graph we are looking at the _____or changes in a population over time and it's _
6. Take a look at the red line, from _____ the population continues to rise until it _____ around and then it drops down to around _____.
7. The population continues to go _____ from year to year.
8. The blue line represents the average amount of _____ of a certain _____ that an ecosystem can and keep alive with the amount of _____ that are available in that area.
9. The carrying capacity for this population of organisms would be approximately _____

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Limiting Factors of Populations of Organisms

1. **Competition** – When populations of organisms become _____, individuals in the population will with each other for _____, and other essentials to keep them alive.
   - Some individuals acquire enough _____ to _____. Some individuals may get just enough resources for them to survive, but not enough for them to support and take care of .
   - Some organisms may not get enough _____ and they _____ or die from lack of essential resources.
   - Competition is a _____ limiting factor. The more individuals that live in a certain area, the they use up the _____ in that area. Density-dependent limiting factors are any factor that effects the _____ of a population of living things in response to them being in _____ to each other.
   - What were people fighting over during the Covid-19 pandemic in 2020? _____
   - Many animals for territories where they can _____ offspring. These areas are often located close to _____ to keep them alive.
   - Animals who do not find and establish a _____ often do not find _____ and therefore cannot breed and have _____.
   - When organisms from two different _____ compete for the same resource it creates a very important type of competition that is a major factor for _____.
   - Often times, one species , thrives, and keeps their population alive; while the other species dies and their population becomes _____.

2. **Predator-prey relationships** are very important in _____ especially when we talk about _ Relationships.
   - Herbivores feed on which provide the herbivores with _____. If there were too many herbivores then they would _____ the grass and other producers until there was nothing left.
   - The herbivore population would soon _____ and this would cause a _____ on every other organism in the ecosystem and cause their population to _____ and lead to possible .
   - Predators help control _____ populations by _____ them to get energy.
   - If predators weren't around to keep herbivore populations in _____, herbivore or primary consumer populations would grow out of control and _____ on plants and other primary producers which would _____ entire food webs and ecosystems.
   - Primary producers are the _____ of any food chain or food web, and without them everything else would .

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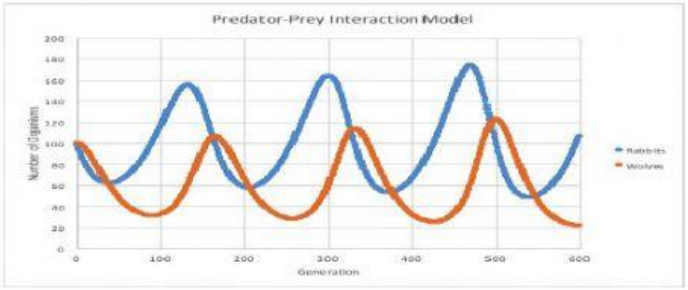

- Why does the wolf population decrease as the rabbit population decreases? _____
_____
- Why does the wolf population increase as the rabbit population increases? _____
_____
- Predators and prey have a _____, as one _____ the other increases and vice versa.
- Predation of herbivores or primary consumers is a very important _____ that helps sustain life on earth by preserving the amount of available _____ that many organisms depend upon for their survival.

3. **Parasitism and disease** – causing organisms _____ on their _____ which times weakens them, causes , and leads to death in some cases.
   - Parasitism and disease are _____ factors because the _____ organisms are together the parasites and disease can _____ from one host organism to the next.
   - Wolves are important for controlling and keeping _____ populations at a certain level.
   - What would happen if disease spread in wolf populations? _____
   - If the prey feed on grass and the wolves are no longer around, the prey population would __ out of control and would _____ and other producer populations which would cause other grass eating organisms to _____ and die out.

4. **Unusual weather and natural disasters** - _____
   - Both are limiting factors.
   - Density- limiting factors can have an impact on species of organisms no matter how __ their population is in one area.
   - These limiting factor events can impact _____ areas and have _____ effects on several species in an area.
   - A heavy rainstorm can away vital _____ and shelter that organisms depend upon to survive.
   - Extreme can kill large numbers of _____ in a river or stream due to the lack of __ Supplies.

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5. **Invasive species** – can be huge _____ for organisms that are _____ to a certain environment.
   - Are organisms that have been introduced into a _____ and often ____ the , environment, and _____ the population of _____ species.
   - Some examples of invasive species are _____ and water hyacinths.
   - Invasive species the native species of an area for _____ that they need to survive.

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