



Biodiversity

SYI-3.F.1

Natural and artificial ecosystems with fewer component parts and with little diversity among the parts are often less resilient to changes in the environment.

SYI-3.F.2

Keystone species, producers, and essential abiotic and biotic factors contribute to maintaining the diversity of an ecosystem.



Biodiversity

SYI-3.G.1

The diversity of species within an ecosystem may influence the organization of the ecosystem.

SYI-3.G.2

The effects of keystone species on the ecosystem are disproportionate relative to their abundance in the ecosystem, and when they are removed from the ecosystem, the ecosystem often collapses.

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Which type of community is more resilient to chance?

- A. Less diversity & fewer parts**
- B. Less diversity & more parts**
- C. More diversity & fewer parts**
- D. More diversity & more parts**

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**Which type of community
is more resilient to
chance?**

**D. More diversity & more
parts**



**Chance are random
environmental changes that
might occur. The more diversity
allows for the favorable
characteristic to be present in
the ecosystem.**



Keystone species have a...

- A. Disproportionate affect relative to abundance**
- B. Proportionate affect relative to abundance**

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Keystone species have a...

**A. Disproportionate affect
relative to abundance**

**A keystone species is a species on
which other species in an ecosystem
largely depend, such that if it were
removed the ecosystem would change
drastically.**

**Example: The sea otter maintains
the kelp forest**



What happens if a keystone species is removed...

- A. Community becomes more diverse**
- B. Ecosystem collapses**
- C. No effect due to minor role**
- D. Population becomes less diverse**

What happens if a keystone species is removed...

B. Ecosystem collapses



A keystone species is a species on which other species in an ecosystem largely depend, such that if it were removed the ecosystem would change drastically which affects the existing food web and the ecosystem could collapse.



Which of these does not contribute to maintain diversity?

- A. Decomposer**
- B. Essential abiotic/biotic factor**
- C. Keystone species**
- D. Producer**

Which of these does not contribute to maintain diversity?

A. Decomposer



This is directly from the CED. Diversity refers to the species richness and the relative abundance. A decomposer will break down detritus (decomposing materials).



What type of environment is resistant to change?

- A. Low diversity, low component parts**
- B. High diversity, low component parts**
- C. Low diversity, high component parts**
- D. High diversity, high component parts**

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What type of environment is resistant to change?

D. High diversity, high component parts



A high diversity will allow for the favorable characteristic to be present in the ecosystem.



If the keystone species is removed what happens?

- A. Their predator population increases**
- B. Their predator population decreases**
- C. The ecosystem collapses**
- D. The ecosystem stabilizes**

If the keystone species is removed what happens?

C. The ecosystem collapses



The sea otter is a keystone species. When the sea otter is removed, the sea urchins that the sea otters prey upon increases in population which destroys the kelp forest. The sea otter keeps the sea urchin population in check so the kelp forest can be maintained.



Abiotic factors

- A. Factor that causes living organism to die**
- B. Factor that causes living organisms to reproduce**
- C. Living factor**
- D. Nonliving factor**

Abiotic factors

D. Nonliving factor



Abiotic factors are nonliving factors while biotic factors are living factors.

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Predators are an example of

- A. Abiotic factors**
- B. Biotic factors**

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**Predators are an example
of**

B. Biotic factors



Predators prey upon the other organisms. Since the predators are living and affect the prey population, they would be considered a biotic factor.



What happens if sea otters decrease?

- A. Sea urchins increase, kelp increases**
- B. Sea urchins decrease, kelp increases**
- C. Sea urchins increase, kelp decreases**
- D. Sea urchins decrease, kelp decreases**

**What happens if sea
otters decrease?**

**C. Sea urchins increase,
kelp decreases**



**Sea otters eat sea urchins and
sea urchins eat kelp. If the sea
otter population decreases, the
sea urchin population will
increase which will decrease the
kelp population.**