THE STANDARD

Effects of Ecosystem Change

Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

DCI
DISCIPLINARY CORE IDEA

LS2.C · Ecosystem Dynamics, Functioning, and Resilience

> *Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.*

Ecosystems are not still pictures. They shift. A drought, a fire, a flood, a new predator, a disease, the loss of one plant species. Any of those changes can push populations up, down, or sideways across the whole system. **Change one piece and the whole web feels it.**

SEP
SCIENCE & ENGINEERING PRACTICE

Engaging in Argument from Evidence

> *Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.*

Students aren't telling a story about an ecosystem. They're building an argument, with data, that a specific change caused specific population shifts. Empirical evidence is the job. A claim without numbers behind it doesn't count. A graph without a claim doesn't either. **Both, together, are the work.**

CCC
CROSSCUTTING CONCEPT

Stability and Change

> *Small changes in one part of a system might cause large changes in another part.*

Stability looks like a forest that seems the same year after year. Change looks like that forest a year after a wildfire. **The standard pushes students to see that "stable" ecosystems are actually balancing many small forces, and that one disruption can swing the whole balance into a different state.**