

14.5 Ecological Succession

KEY CONCEPT

Ecological succession is a process of change in the species that make up a community.



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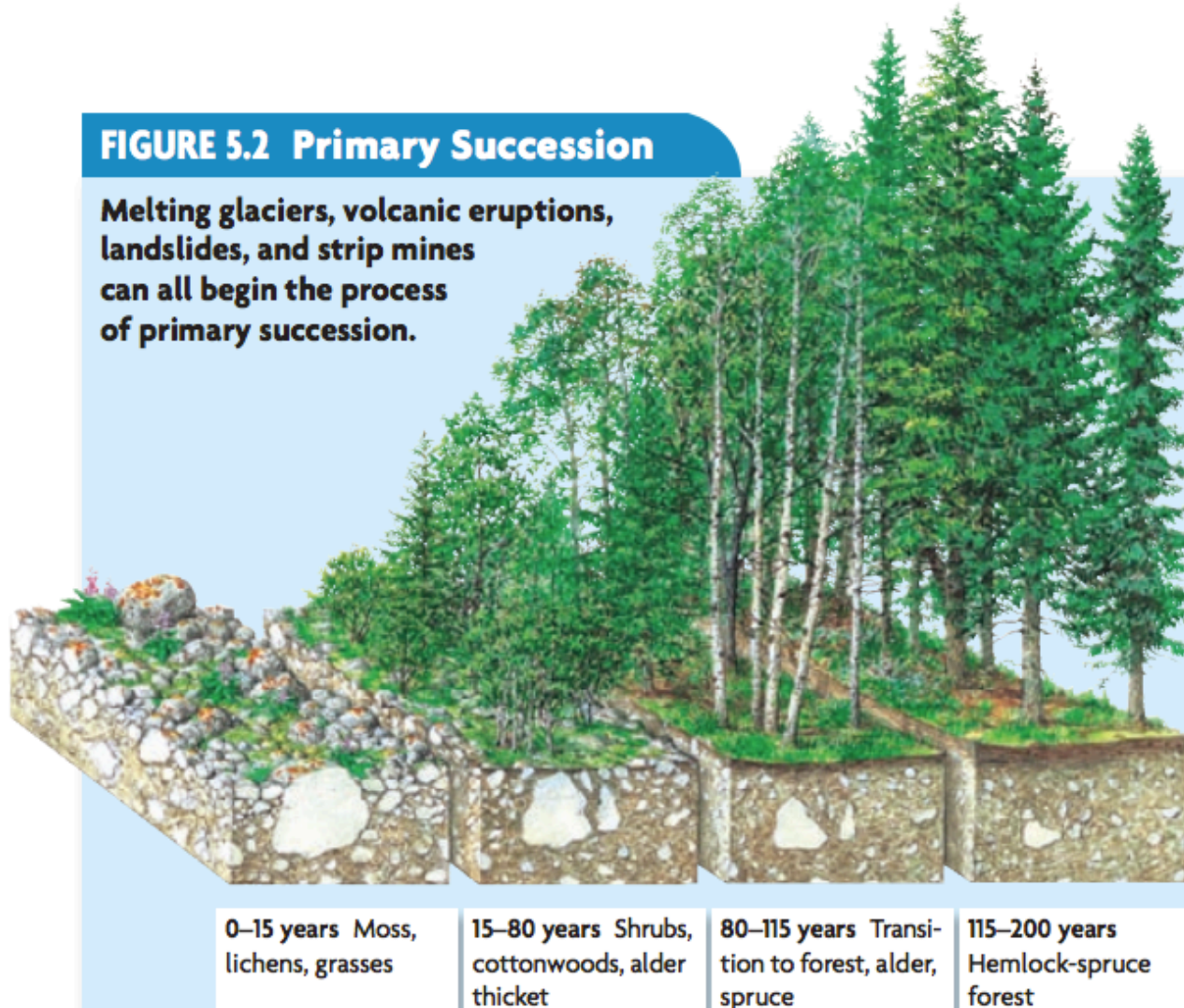
- ▶ **Succession** occurs following a disturbance in an ecosystem.
 - Succession regenerates or creates a community after a disturbance.
 - a sequence of **biotic** changes
 - **damaged communities** are regenerated
 - **new communities** arise in previously uninhabited areas



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- There are **two** types of succession.

1. **Primary Succession** — started by pioneer species



0–15 years Moss, lichens, grasses

15–80 years Shrubs, cottonwoods, alder thicket

80–115 years Transition to forest, alder, spruce

115–200 years Hemlock-spruce forest

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- **Primary Succession** occurs in an area that is previously uninhabited.
 - Begins in a place **without any soil**.
 - Sides of volcanoes
 - Landslides
 - Flooding
 - First, **lichens** that do not need soil to survive grow on rocks
 - Next, **mosses** grow to hold newly made soil
 - The **first** organisms that live in a previously uninhabited area are **Pioneer Species**.



Glacier Bay National Park in Alaska has given scientists an opportunity to witness primary succession as the glacier recedes.

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▶ Pioneer Species



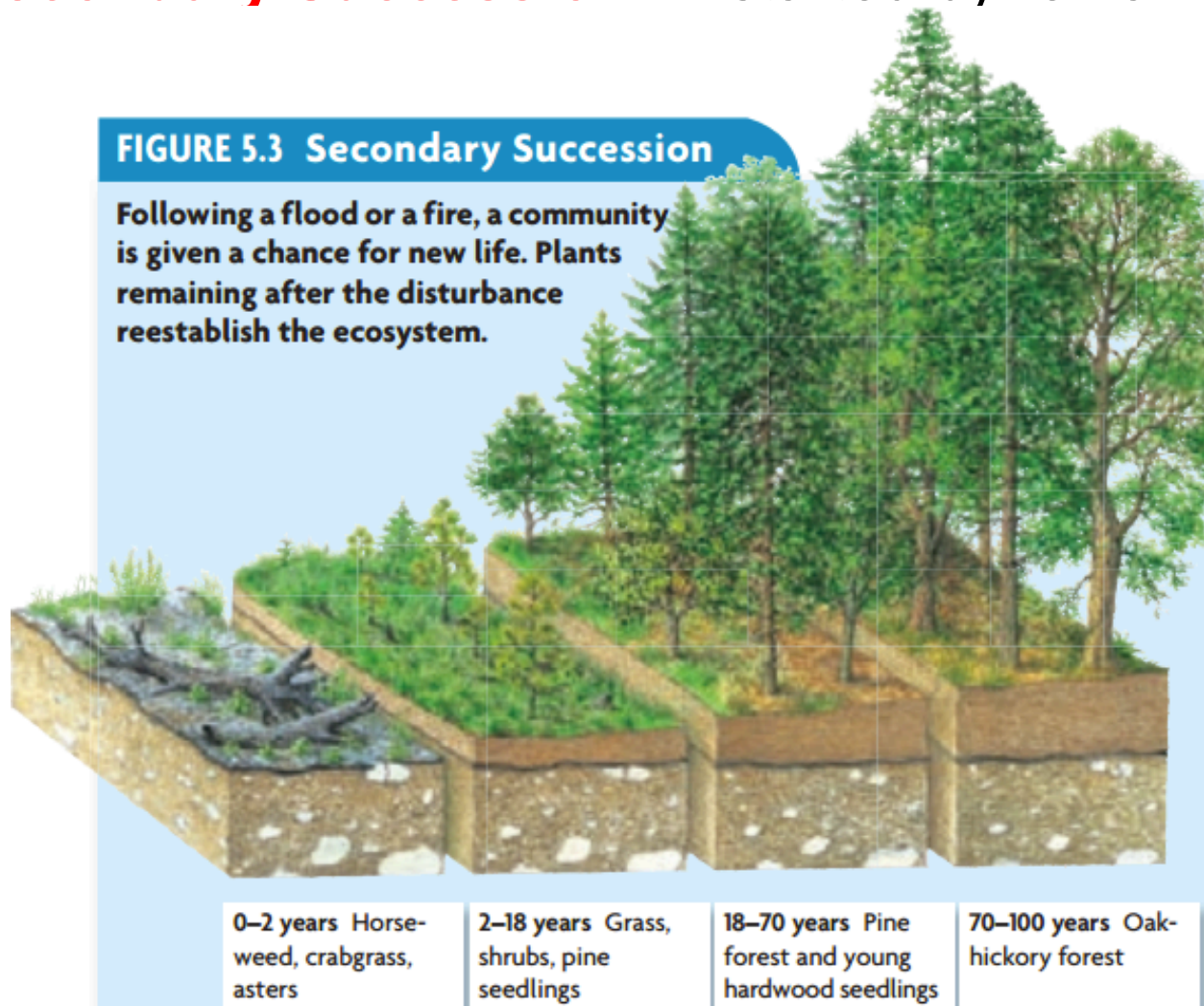
Lichens break down rock to form soil.



Low, growing moss plants trap moisture and prevent soil erosion.

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- There are **two** types of succession.
 - 2. Secondary Succession** — started by remaining species



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- ▶ **Secondary Succession** occurs in an area that is previously uninhabited.
 - Begins in a place that **already has soil** and was once the home of living organisms
 - Occurs faster and has **different pioneer species** than primary succession
 - Example: **after forest fires**



Fire is important in helping forests return nutrients to the soil. Secondary succession uses these nutrients to grow.

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▶ Climax communities

- A stable group of plants and animals that is the **end result of the succession process**
- Does not always mean big trees
 - Grasses in prairies
 - Cacti in deserts