



Built to be slow

Background reading for teachers

This reading gives you the background for each slide, with sources you can check.

Life history

NOAA Fisheries notes that female spiny dogfish can be pregnant for up to two years, and expects dusky shark populations to take about 100 years to return to healthy levels, partly because females give birth to only 3 to 16 pups every two or three years.¹ Dusky sharks don't mature until around 20 years old.²

The model

The model is logistic growth with a proportional harvest. It is a teaching simplification: real populations vary by age and sex, fishing targets particular sizes, and growth rates are uncertain. The values of r are illustrative, chosen to contrast a slow-growing shark with a fast-growing fish.

Sources

1. NOAA Fisheries. Eight surprising shark facts. [fisheries.noaa.gov](https://www.fisheries.noaa.gov)
2. Ocean Conservancy. Dusky shark. oceanconservancy.org

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