Beavers, Nature's Engineers

Washington Department of FISH and WILDLIFE

What is a beaver?

A beaver is a rodent. Other rodents include mice, rats, chipmunks, squirrels, pikas, and more.

Northern Pika

Photo taken at Northwest Trek Wildlife Park

But unlike most other rodents, beavers are semi-aquatic, meaning they also live in water.

ECOSYSTEM ENGINEERS

What's the first thing you think of when you hear the word, "beaver"?

Student answers here

Beavers are commonly associated with the dams they build. Dams are structures that hold water.

Beavers build dams to create ponds because beavers move more easily in water than on land.

Ponds allow them to escape from predators, and increasing the size of the pond allows them more access to vegetation for foraging around the pond.

Because of their building abilities, beavers are commonly referred to as "ecosystem engineers".

Beaver dams alter ecosystems by raising water levels and creating wetlands.

Beavers create their own habitat, and habitat for many other species!

Beaver Dams

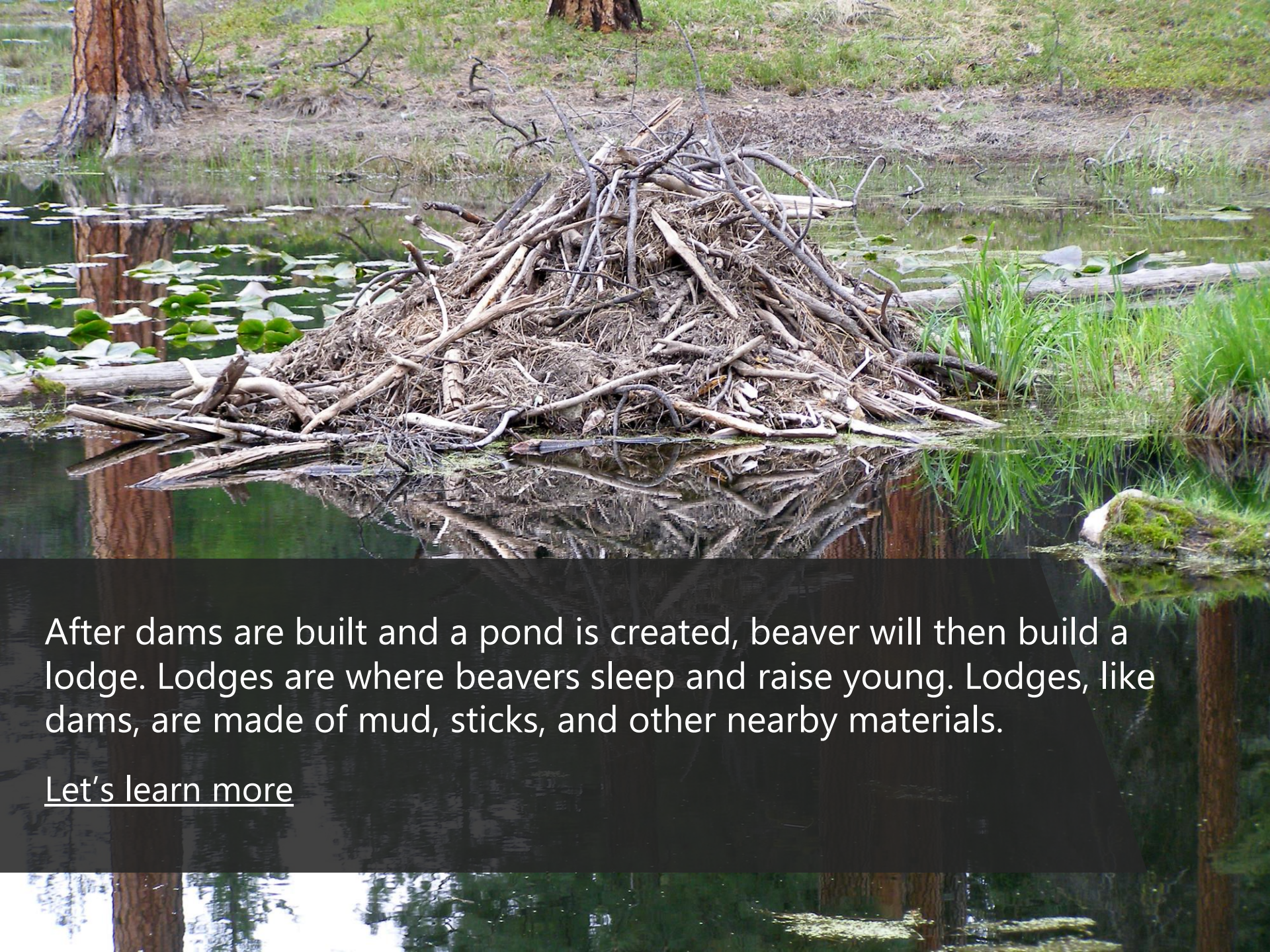
Beaver dams are built from mud, sticks, small trees, grasses, and leaf litter.

Let's watch how they build now!

Beaver Dams

But why are these dams important? Here are just a few reasons:

- Dams slow streams and rivers while also **creating ponds** that slowly release water during hot summer months when stream flows are low.
- This allows for better habitat for aquatic (water) species such as fish, amphibians, invertebrates, birds, and plants to live year-round.
- Dams help increase ground water and increase riparian (river/stream) habitat.



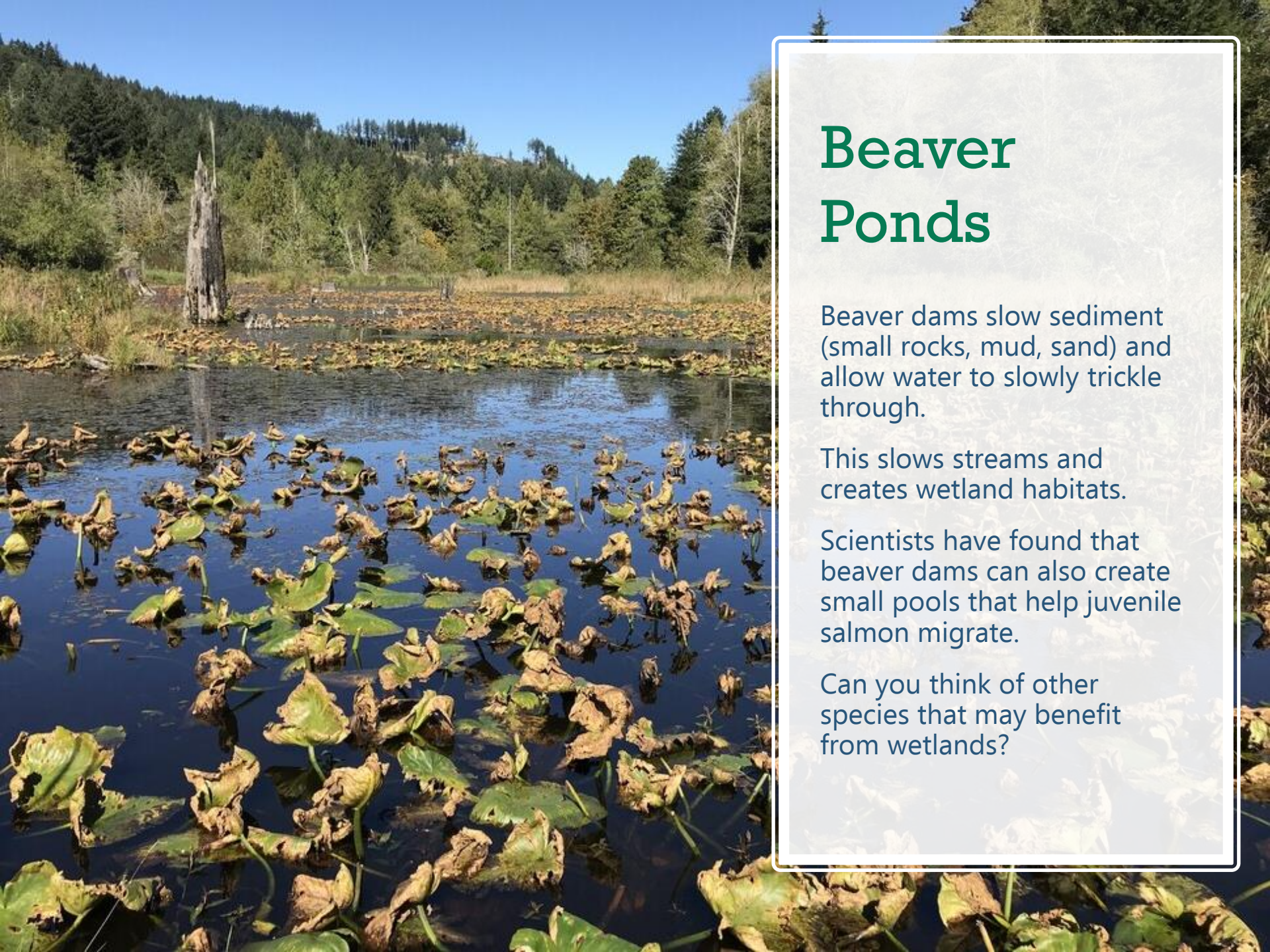
After dams are built and a pond is created, beaver will then build a lodge. Lodges are where beavers sleep and raise young. Lodges, like dams, are made of mud, sticks, and other nearby materials.

Let’s learn more

Beavers continue to work on their dams and lodges throughout their life.

Like true engineers, they spend a lot of time to maintain these structures once they are built.

Even with all their hard work, sometimes their dams fail.



Beaver Ponds

Beaver dams slow sediment (small rocks, mud, sand) and allow water to slowly trickle through.

This slows streams and creates wetland habitats.

Scientists have found that beaver dams can also create small pools that help juvenile salmon migrate.

Can you think of other species that may benefit from wetlands?

Tougher Ecosystems

Beaver dams also increase groundwater (water under the ground).

Scientists are finding as wildfires increase, areas where beavers build dams are protected because of increased ground and surface water.

Watch this video to see how it works!

Photo from: "Smokey the Beaver: beaver-dammed riparian corridors stay green during wildfire throughout the western United States"

Tougher Ecosystems

Dams and ponds also help reduce temperatures of water, making riparian areas more suitable for species like salmon.

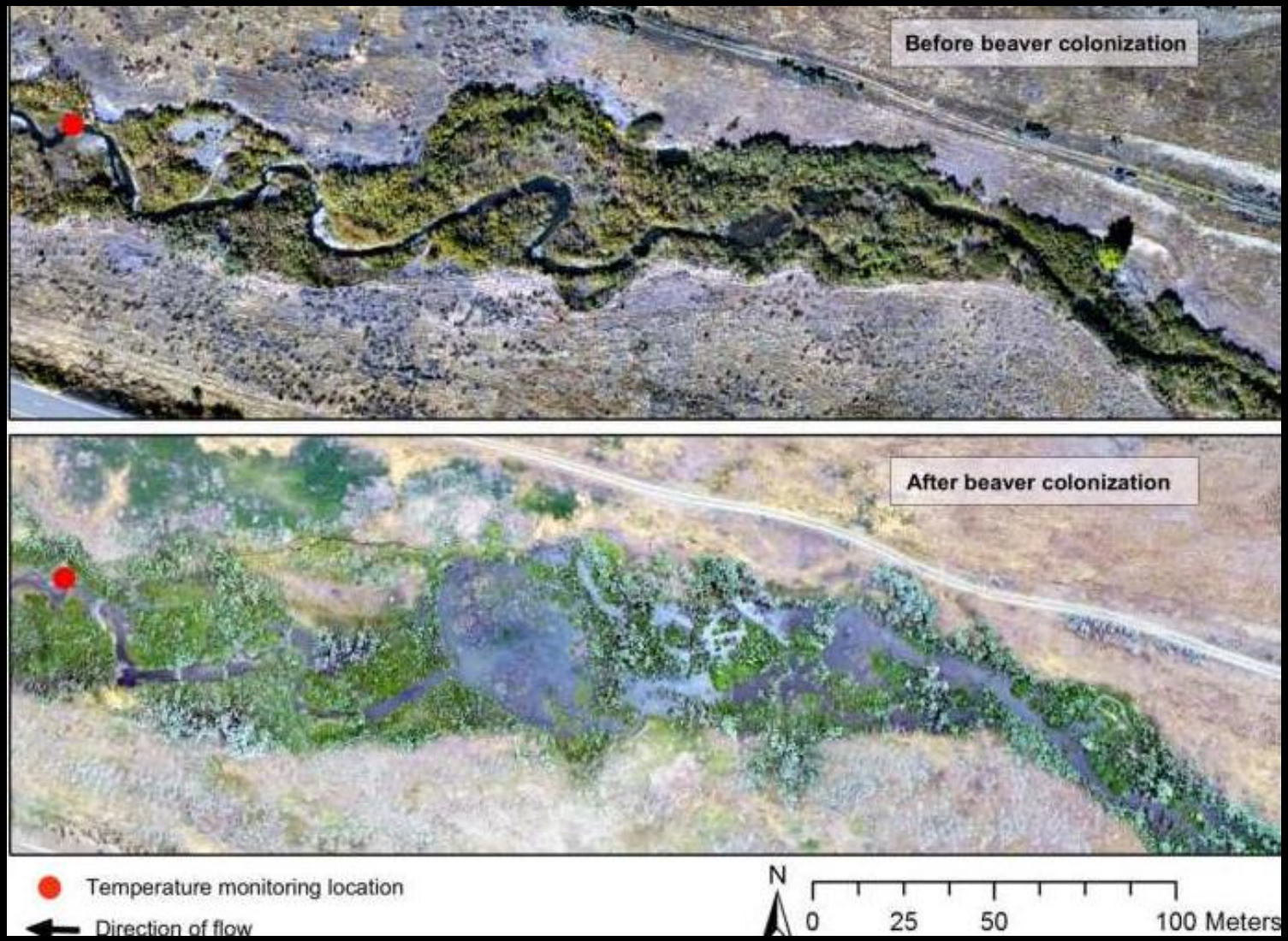


Photo from: Library of Public Sciences

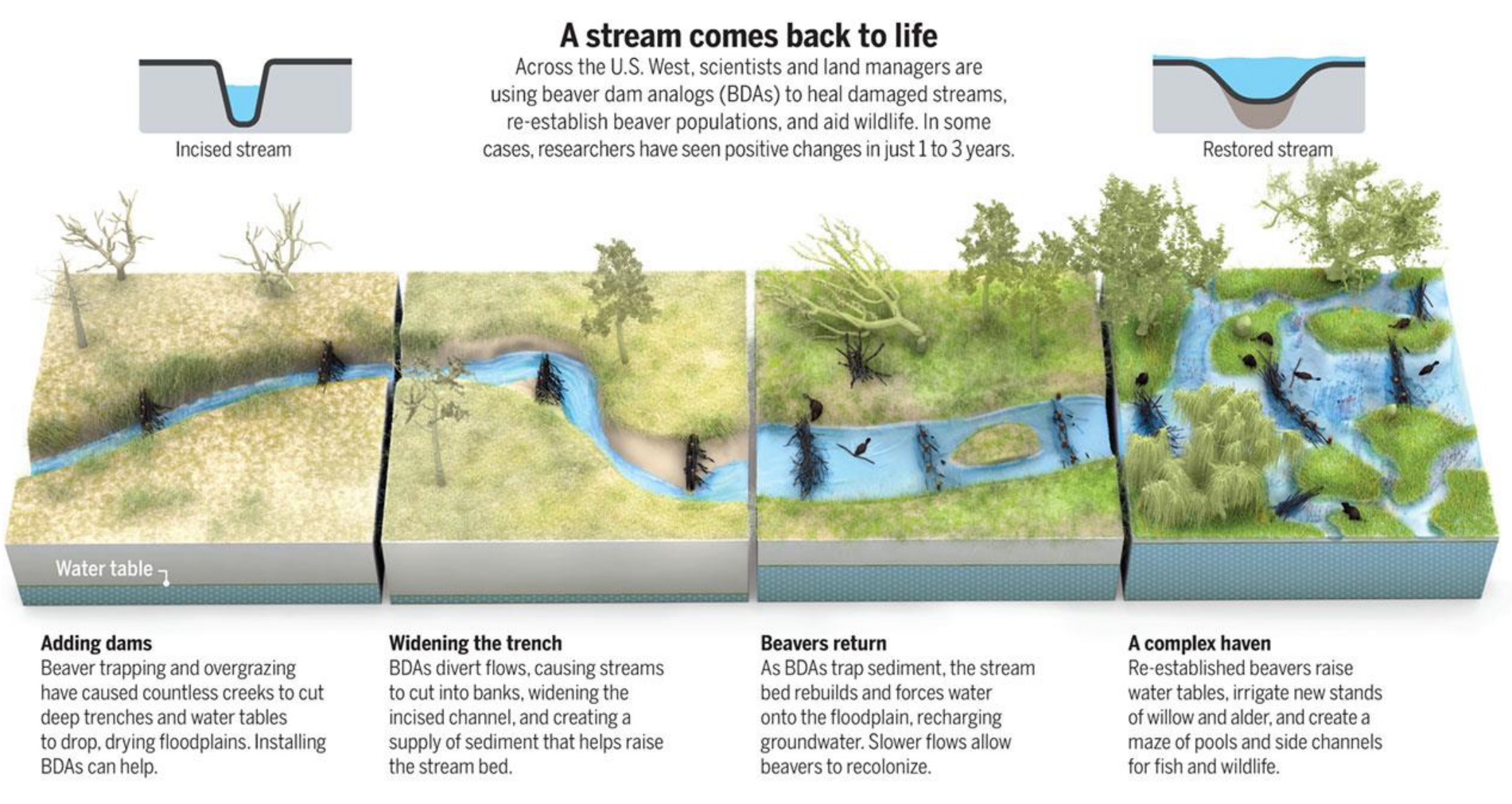
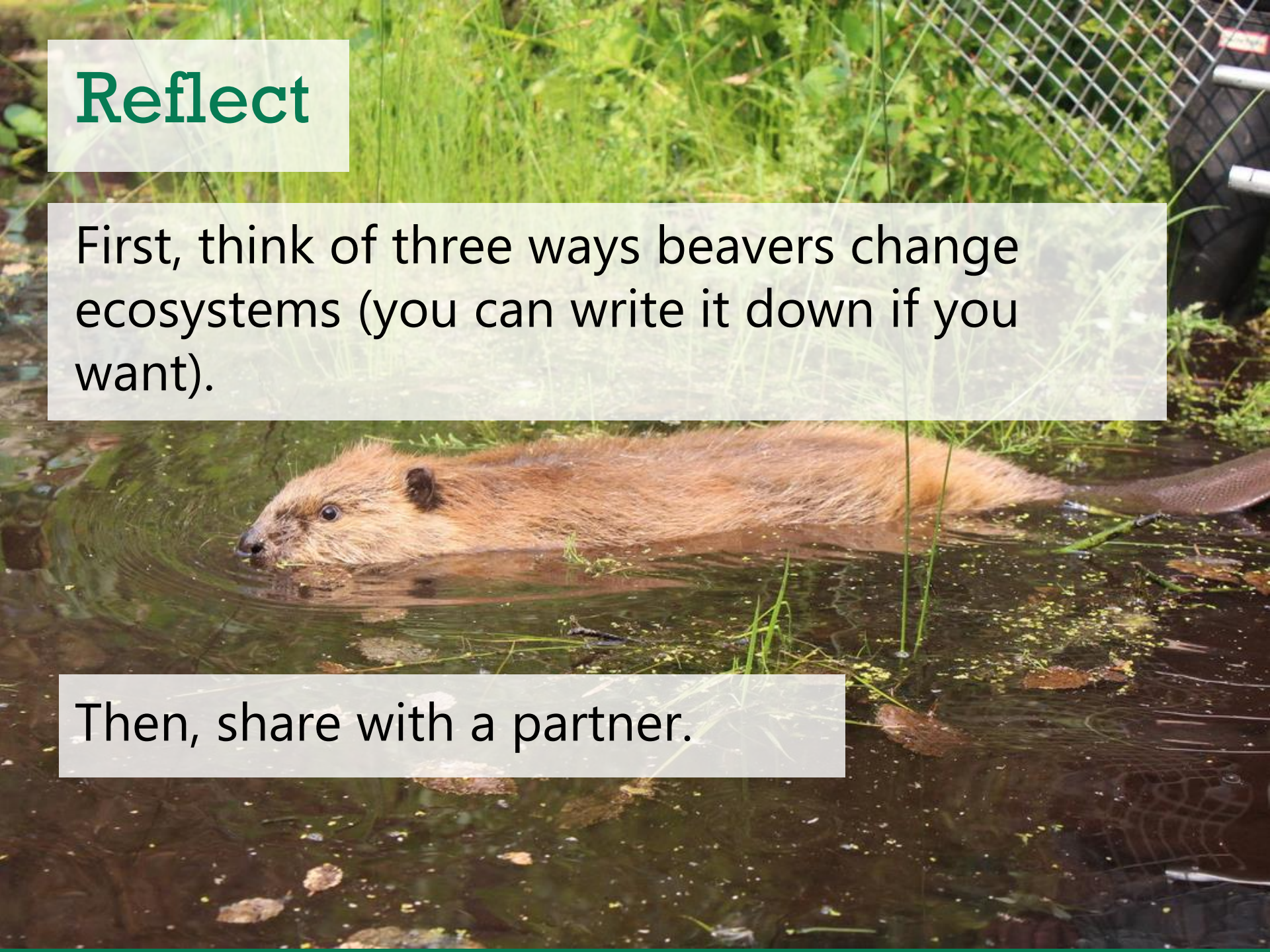


Photo from: [Science Magazine]

Reflect

First, think of three ways beavers change ecosystems (you can write it down if you want).



Then, share with a partner.