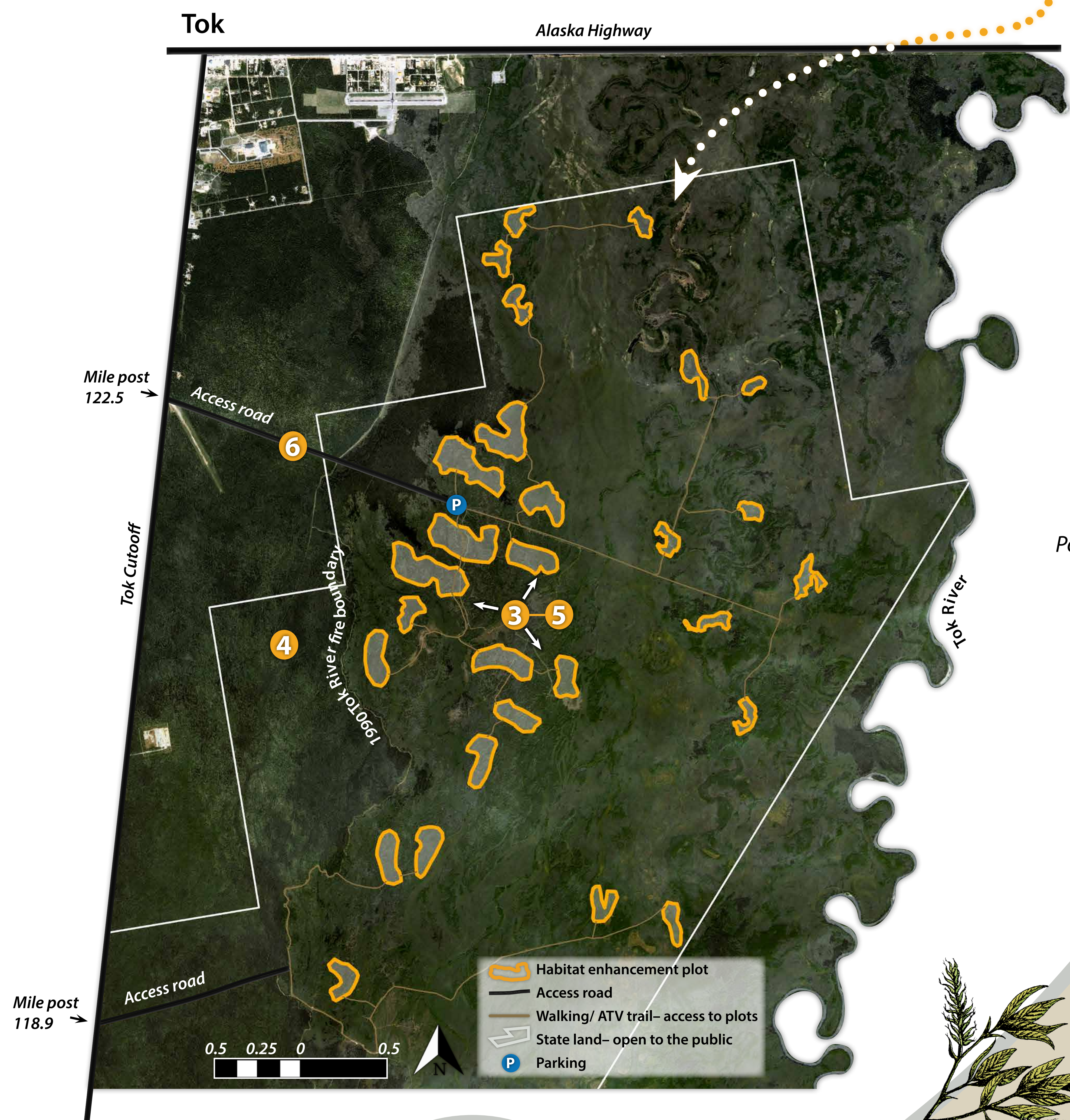
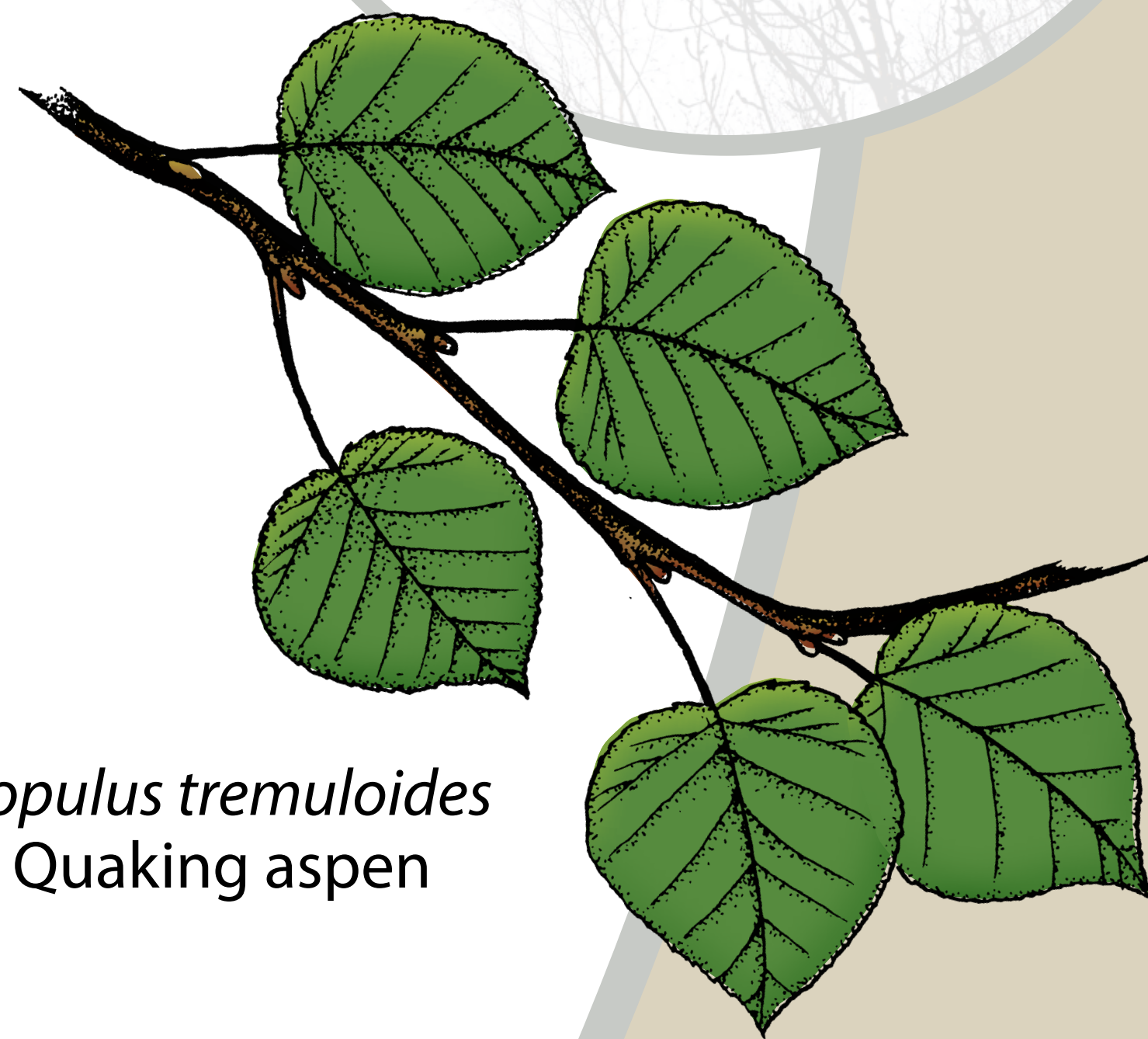


# Welcome to the Tok habitat enhancement project

## ...we're restoring habitat in these plots



In 1990 a wildfire burned the area southeast of Tok. After the fire, aspen and willow thrived. As a result, moose density increased 5-fold. We are working to recreate this quality wildlife habitat near Tok!



### Forest succession

This habitat enhancement project initiates the natural process called succession. Succession is the predictable, gradual, and sequential process by which plant communities change after a disturbance, like fire or mechanical crushing. Each succession stage supports different wildlife. As habitat conditions change, an area becomes less suited for some wildlife, and more suited for others.

### A wildfire that created better moose habitat

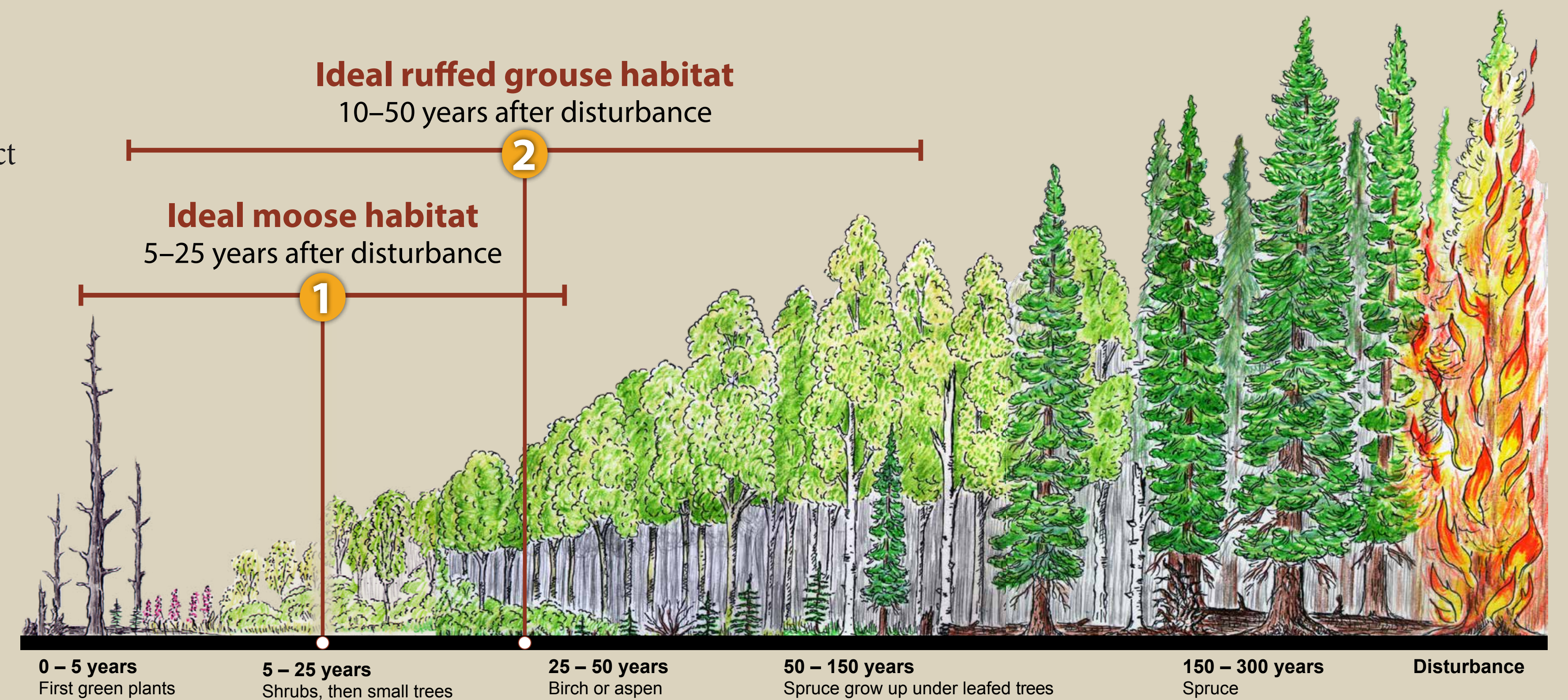
In 1990 the Tok River fire burned 155 square miles of black spruce forest. Once the embers died down, the ecological benefits of the fire began to show. Much of the burned area transitioned from spruce to aspen. This transition improved moose browse quality and availability. As a result moose density in the burned area increased from about 0.19 moose per square mile (1989) to 1.0 moose per square mile (1997). This habitat shift also benefited ruffed grouse and other wildlife, providing greater opportunity for Game Management Unit 12 hunters.

Aspen in the Tok River burn have aged and there is now less quality habitat available to moose and ruffed grouse. New disturbances are needed to regenerate new, young aspen. In 2015 the Alaska Department of Fish and Game in collaboration with the Alaska Division of Forestry and the Ruffed Grouse Society began a habitat enhancement project to do just that.

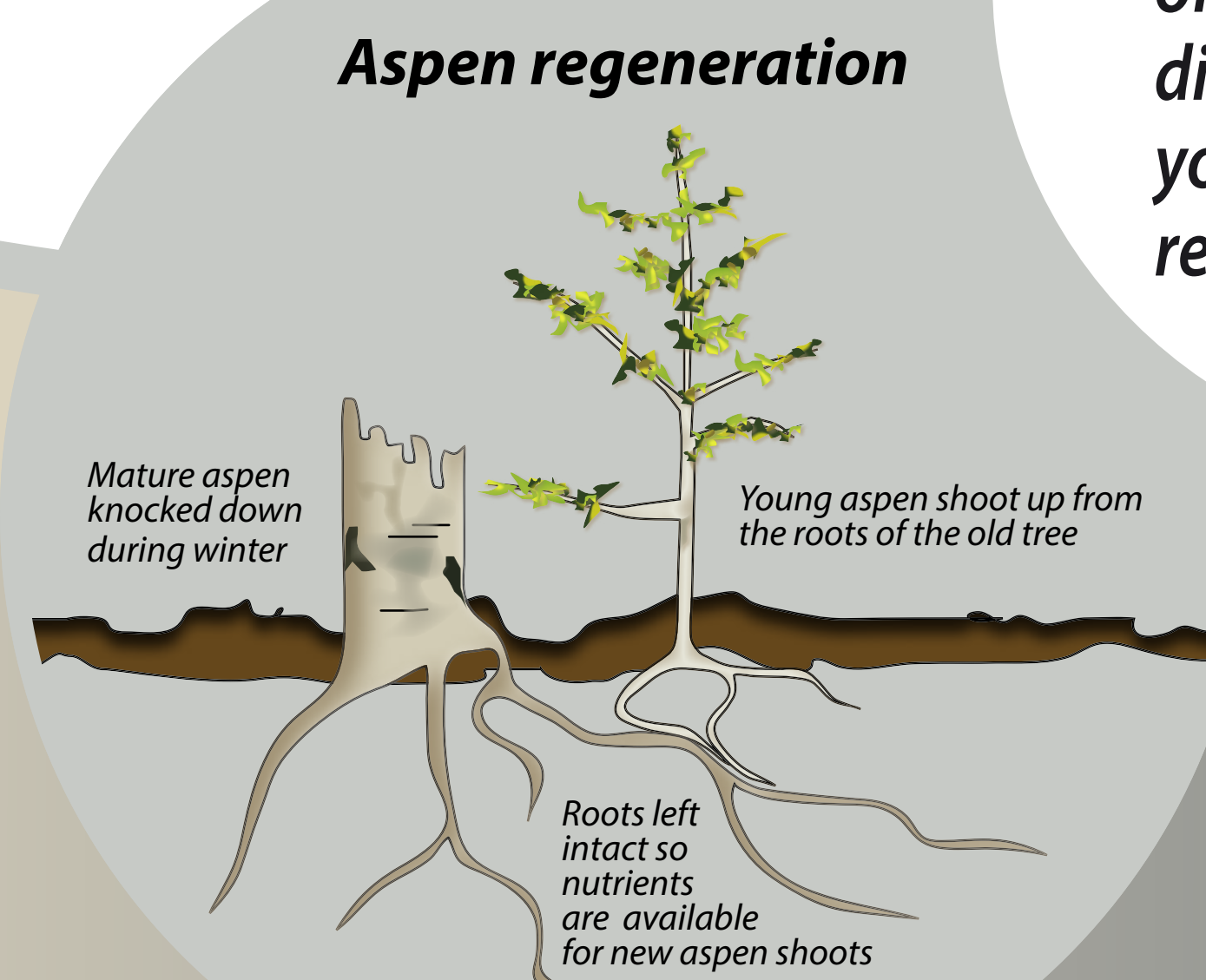
### Recreating habitat that benefits wildlife

There are several ways to artificially mimic the 1990 wildfire and ensure that the area continues to provide quality moose and ruffed grouse habitat. Mechanical crushing is a technique where heavy machinery is used to knock over, and crush trees. This leaves a lot of slash that is difficult to walk through however, so the trees are then roller chopped to break them up into smaller pieces. The roller chopping is key to making the area accessible to hunters. Just like in a wildfire, the dead trees are left on the ground so that their nutrients will return to the forest. This is the technique used in the Tok habitat enhancement project. How does it work?

1. Biologists select aspen-dominated areas where trees are taller than 20 feet.
  - These trees are no longer available to moose for food.
2. The selected aspen stands are knocked over and crushed into smaller pieces.
  - This happens in winter when aspen store their nutrients in their roots.
  - The root systems remain intact even after the trees above ground are destroyed.
3. Young aspen "shoots" grow from the roots of the crushed mature trees.
  - A new, young aspen forest takes the place of the mature aspen forest.
  - Quality habitat is once again available to moose and ruffed grouse.



Aspen can regenerate themselves by growing new "shoots" off roots of trees damaged by a disturbance. In this way, young aspen can quickly replace a forest.



### Moose

During the fall and winter, moose consume large quantities of willow, birch, and aspen twigs.



### Ruffed Grouse

Ruffed grouse use variable-aged aspen stands. Younger, dense aspen provide excellent cover for broods (young family groups) in the summer. Older aspen provide breeding and winter habitat.



### Habitat enhancement plot

Tok habitat enhancement plots (outlined in orange) are irregularly shaped to mimic natural disturbance.



### Mimicking a forest mosaic

Fires burn erratically, depending on wind, moisture, and vegetation. Some areas burn completely while others remain untouched. The result is a patchwork of habitats, called a mosaic, that is key to wildlife diversity. Habitat enhancement plots are distributed across the landscape to mimic this mosaic.



### Roller chopping

Overgrown aspen stands in plots are knocked over with a roller chopper. Stumps and crushed vegetation are left on the ground to increase new plant growth. Almost 500 acres of aspen were roller chopped from 2015-2017.



### Stay on trails

Do your part to help maintain this area for wildlife. Stay on trails when using trucks and off road vehicles.



# Habitat enhancement - more moose and ruffed grouse for the future!

