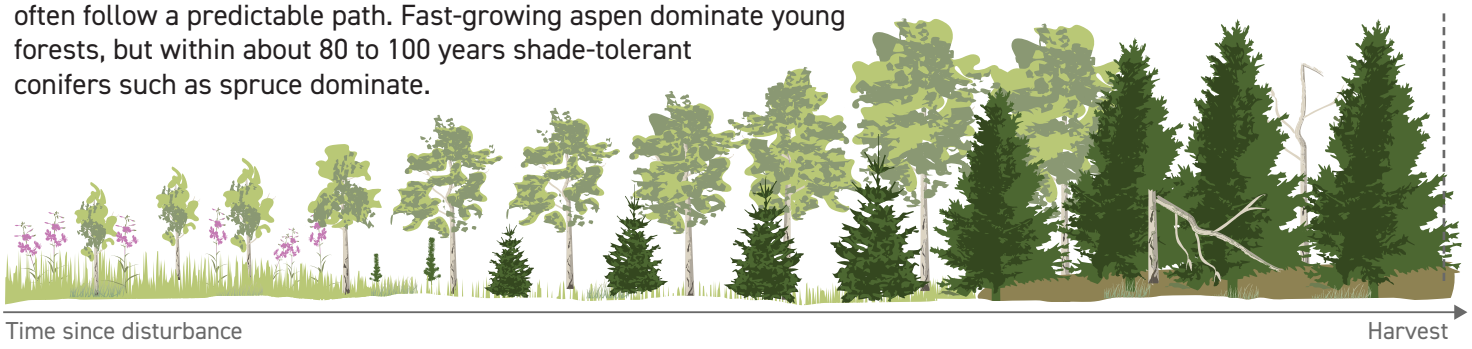
WHY HERBICIDES ARE USED IN FORESTRY IN ALBERTA

HERBICIDES ARE COMMONLY USED AS A FOREST MANAGEMENT TOOL - BUT WHY?

NATURAL FOREST SUCCESSION TAKES TIME

Following a disturbance like fire or harvesting, boreal mixedwood forests often follow a predictable path. Fast-growing aspen dominate young forests, but within about 80 to 100 years shade-tolerant conifers such as spruce dominate.



COMPETING VEGETATION CAN SLOW OR EVEN PREVENT CONIFER REGENERATION

Sun-loving plants that appear soon after a disturbance compete with conifers, delaying their growth. In many cases, these conditions run counter to sustainable forest management practices and goals.

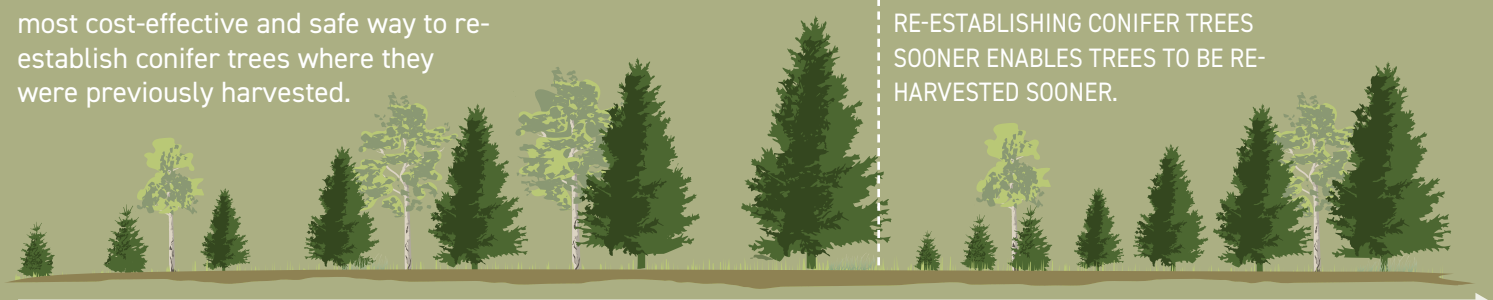
ASPEN COMPETITION SLOWS CONIFER GROWTH

GRASS COMPETITION CAN PREVENT FOREST REGENERATION

HERBICIDES ACCELERATE CONIFER REGENERATION AND GROWTH

Selective use of forest herbicides is often the most cost-effective and safe way to re-establish conifer trees where they were previously harvested.

RE-ESTABLISHING CONIFER TREES SOONER ENABLES TREES TO BE RE-HARVESTED SOONER.



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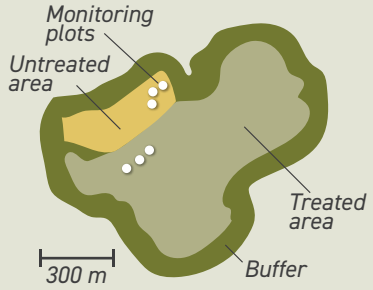
FOREST HERBICIDES DID NOT HAVE LONG-LASTING EFFECTS ON PLANT DIVERSITY

UNDERSTORY PLANT AND TIMBER RESPONSES WERE COMPARED 20–25 YEARS AFTER HERBICIDE APPLICATION

Trees and understory vegetation were measured at eight sites in the boreal mixedwood forest 20–25 years after herbicide application. Nearby areas that were planted but not treated with herbicides were also studied as a comparison.



WHERE HERBICIDES WERE APPLIED...

CONIFERS DOMINATED THE CANOPY

Spruce and pine were consistently more abundant where herbicides were applied.

FEATHERMOSSES WERE MORE COMMON

Areas without a herbicide treatment had very low moss cover, compared with high average feathermoss cover (nearly 30%) in the areas that received herbicide treatment.

OVERALL PLANT DIVERSITY WAS UNAFFECTED

Even though the herbicide treatments clearly changed the forest canopy, the diversity of (non-feathermoss) understory plants did not change on average.

THINGS TO KEEP IN MIND

This study was limited to a small number of herbicide monitoring installations suitable for this study and caution should be used before extrapolating findings beyond these forest types. Future continued monitoring, or other larger studies, could help further inform our understanding of forest responses to herbicide treatments on the landscape.

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