ALASKA RAILROAD

UAF

PROJECT FACTS

# Chemical Weed Control University Research Project

## PROJECT SCOPE

The Alaska Railroad Corporation (ARRC) commissioned the University of Alaska Fairbanks (UAF) to conduct a multi-year study on the migration and retention of specific herbicides in Alaska. Involving small test sites on ARRC property (track right-of-way or yards), the study expanded on UAF's ongoing herbicide research. The purpose was to collect scientific data to evaluate the use of herbicides AquaMaster® and Oust Extra® and the surfactant AgriDex® as part of an integrated railroad vegetation management program.

UAF's Alaska University Transportation Center (AUTC) is particularly well-suited to conduct the research as the recognized expert on transportation safety and herbicide behavior along transportation corridors in Alaska. AUTC has conducted similar studies for ADOT/PF over the past few years.

Research began in 2008 with test plots on the railroad's south end, between Portage and Seward. Research continued in 2009 to include test plots on ARRC's north end in Fairbanks and a 500-foot section along the 19-mile Eielson Branch track. UAF farm test plots were also included. Some test sites had wells and lysimeters to monitor and measure the presence and movement of the chemicals. The test sites combined did not exceed 20 acres.

## BENEFITS

- UAF research complimented other studies to evaluate herbicide behavior in Alaska.
- ARRC obtained valuable information to answer questions raised about the safety of herbicide use along the rail bed.

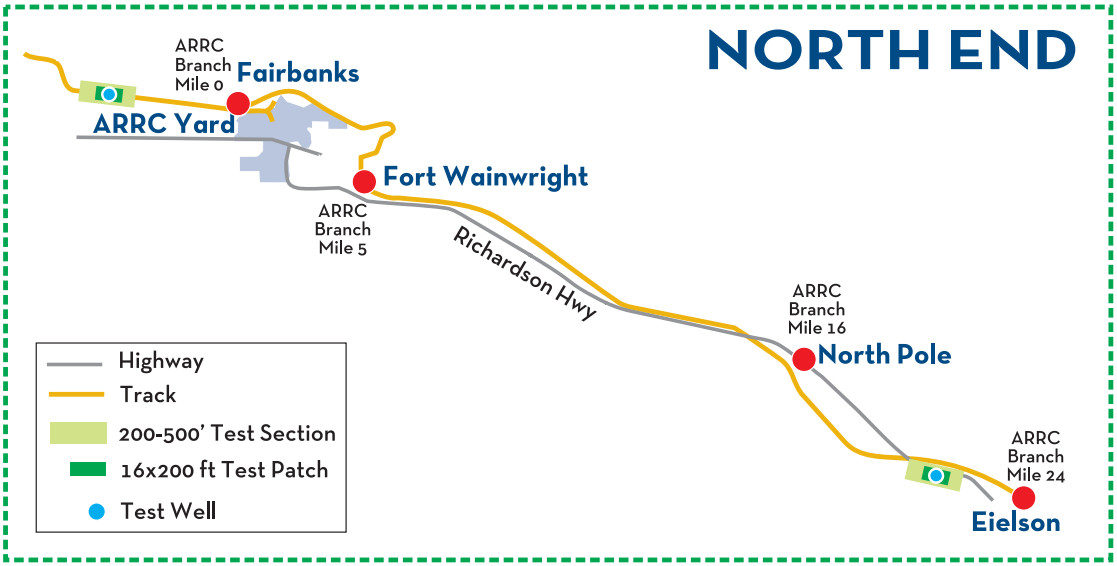
## PROJECT STATUS

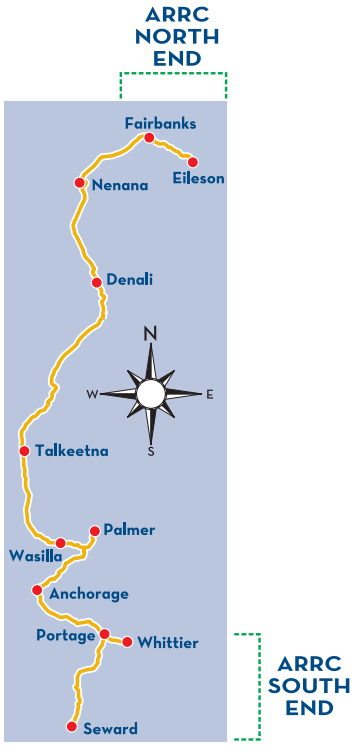
- **Year One (2008)**: Started August 2008. Included two 16-by-200-foot patches (one in Seward Yard and one along the track 25 miles south of Seward) with both Aquamaster and Oust Extra applied. The nonionic surfactant (non-herbicide) Agri-Dex® was used to help to apply the herbicides more effectively. The patches included multiple wells and lysimeters installed to monitor chemical migration and degradation. The 2008 south end effort included another two sites approximately 16 feet by one mile (located at about 39 and 45 miles north of Seward) with only Aquamaster applied and no test wells to be used primarily to observe weed control performance. None of the four test sites on ARRC land encompassed open water bodies. A fifth site was located on UAF property.
- **Year Two (2009).** Started July 2009. Two 200- to 500-foot sections of track (one along the mainline track traversing the UAF Experimental Farm and one along the Eileson Branch) where AquaMaster® and Oust® Extra were applied along with Agri-Dex®. Each section included a 16-by-200-foot patch with wells and lysimeters. Sections did not encompasss water bodies.
- **Sampling and Results (2009 - 2011):** South end test sites were sampled in spring 2009. Sampling at north end test sites occurred in spring and summer 2010. The study concluded in 2011. Results showed herbicides behave the same as in other climates and regions.

## PROJECT COST

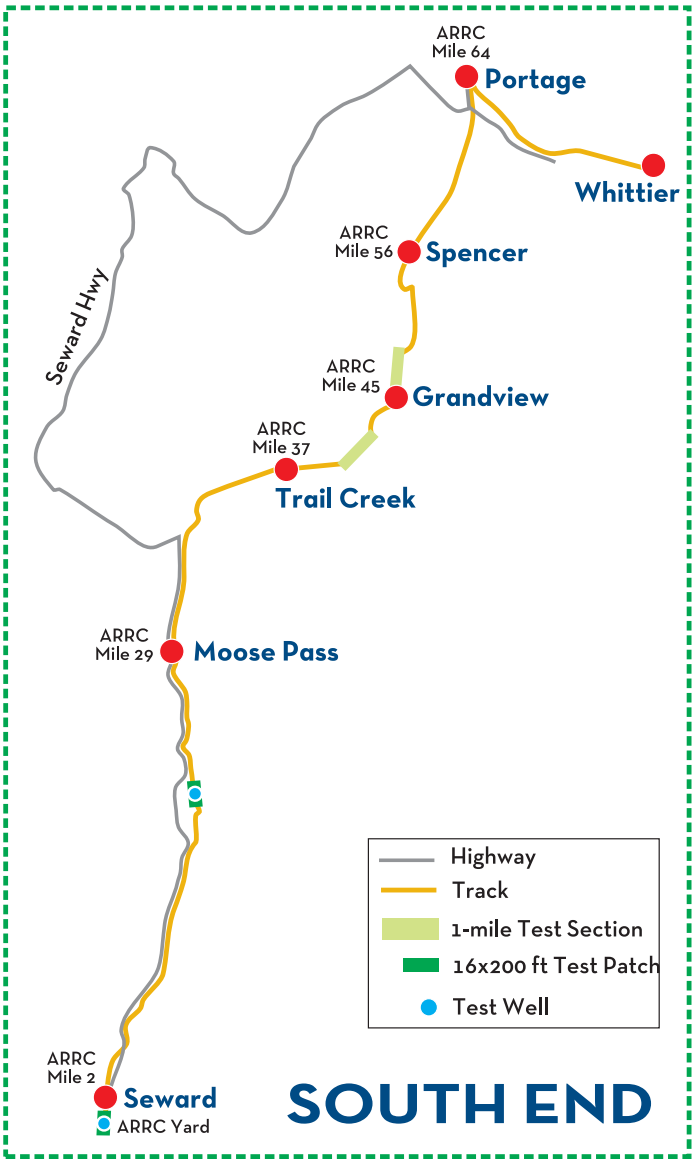
- **2008-2009:** $200,000 with $100,000 funded by ARRC and $100,000 by AUTC.
- **2009-2011:** $200,000 with $100,000 funded by ARRC and $100,000 by AUTC.

March 25
2015


NORTH END
ARRC Branch Mile 0
Fairbanks
ARRC Yard
Fort Wainwright
ARRC Branch Mile 5
Richardson Hwy
ARRC Branch Mile 16
North Pole
ARRC Branch Mile 24
Eielson
Highway
Track
200-500' Test Section
16x200 ft Test Patch
Test Well


ARRC NORTH END
Fairbanks
Eileson
Nenana
Denali
N
W
E
S
Talkeetna
Palmer
Wasilla
Anchorage
Portage
Whittier
Seward
ARRC SOUTH END


Vicinity Map


ARRC Mile 64
Portage
Whittier
ARRC Mile 56
Spencer
Seward Hwy
ARRC Mile 45
Grandview
ARRC Mile 37
Trail Creek
ARRC Mile 29
Moose Pass
ARRC Mile 2
Seward
ARRC Yard
Highway
Track
1-mile Test Section
16x200 ft Test Patch
Test Well
SOUTH END