

Integrated Vegetation Management Program

PURPOSE AND NEED

The Alaska Railroad Corporation (ARRC) operates a railroad system encompassing over 600 miles of mainline, branch and rail yard tracks and associated facilities and equipment. ARRC provides both passenger and freight services on its rail system, and spends millions of dollars each year to improve and maintain infrastructure. Vegetation management ensures safe rail operations and protects ARRC's infrastructure investments.

Operational and Employee Safety

- Vegetation on the track bed makes inspection of the track and trains difficult and hazardous
- Plant growth hinders or prevents automated equipment operation (switch heaters, broken rail and other detection devices, for example)
- Overgrown weeds hide walking hazards and contribute to slips, trips and fall injuries.
- Roots create uneven, heaving surfaces, posing danger to employees working along the track.
- Vegetation accelerates rail and tie deterioration, contributing to derailment risk.
- Absent effective inspection and control, vegetation could impair track bed integrity.



Overgrown vegetation poses many risks and dangers.

Public Safety

- Increased derailment risk poses a safety risk to ARRC's passengers.
- Overgrown bushes block track line-of-sight, especially along curves.
- Overgrown vegetation obscures signs and signals that warn the public.
- Vegetation causes heaving and slippery conditions at road/rail crossings.
- Dry vegetation can fuel brush fires.

BACKGROUND

- ARRC has always used, and continues to use, mechanical (ballast cleaning, brush cutting, mowing, chain saws, clippers) and manual (pulling, cutting, grubbing) vegetation control methods with limited and temporary success. Vegetation is a steadily increasing problem.
- ARRC has tested numerous alternative methods (steam, hot water, radiant heat, abrasion, flaming and burning) with no lasting success. (See separate fact sheet on "Alternative Methods")
- To address part of the critical problem, ARRC applied for herbicide use permits from the Alaska Department of Environmental Conservation (ADEC), beginning in 2006. After addressing public and agency concerns (including type of herbicides, water buffers, and Alaska-based herbicide research), ADEC approved permits beginning in 2010.
- In 2008, ARRC commissioned the University of Alaska Fairbanks (UAF) Alaska University Transportation Center (AUTC) to study herbicide behavior in Alaska's environment, using test sites

on the railroad's south end (Seward area) and north end (Fairbanks area). Study data indicates that herbicides behave the same in Alaska's climate as in other climates, and show that glyphosate degrades rapidly and does not migrate significantly in Alaska soil. (See *separate fact sheet on "Research Project"*)

- In April 2009, ARRC received a letter from the Federal Railroad Administration (FRA), the regulatory agency governing national rail industry safety. Recognizing that ARRC's vegetation situation had grown worse during the past two decades, the FRA issued its strongest warning yet to better control vegetation or face increased fines, slower train speeds and even track closures.
- The FRA warning spurred ARRC to apply for an herbicide permit application to use a glyphosate-based and water-approved herbicide and a surfactant (to help evenly spread the herbicide) on the south end of the railroad. In 2009 and 2010, ARRC also increased mechanical control methods with limited success.
- In April 2010, after considering ARRC's 2009 application for a year, ADEC issued a two-year permit for ARRC to apply herbicides on parts of the rail system south end. Following an unsuccessful court challenge by herbicide opponents, ARRC was able to spray herbicides per strict permit stipulations in late July 2010. ARRC contracted with a licensed and experienced contractor to apply AquaMaster®/ AgriDex® within the Seward Rail Yard and along 30 miles of track between Seward and Indian. Herbicide applications to those sections of track were repeated during the summers of 2011 and 2012.
- In 2011, additional permits were issued for herbicide use in the Anchorage, Healy and Fairbanks rail yards and along the Suntrana, Fairbanks Airport and Eielson branches. In 2012, permits were issued for herbicide use along the Palmer Branch, and along the main line track from Gold Creek to Broad Pass, from Clear to Fairbanks and in the Palmer-Wasilla area.
- In early 2013, ADEC replaced the permitting process with a "permit by rule" system that applies to agencies that apply herbicides on their lands. New regulations require agencies to establish an Integrated Pest Management Plan and to notify the public, owners of affected public water sources and ADEC of planned herbicide applications. ARRC has developed an Integrated Vegetation Management Plan (IVMP) that meets the requirements of these new regulations.

- The goal of the IVMP is to control vegetation with a combination of mechanical and, where and when necessary, chemical methods.

COST AND FUNDING

ARRC funds all vegetation control efforts; no federal or state money is used. Vegetation control spending has increased to address this critical issue. Annual expenditures are a significant part of the overall track maintenance budget. Most of the cost is associated with mechanical control.



A ballast regulator is equipped to scrape weeds along the side of the track bed, which tempers weed growth temporarily.



Ineffective mechanical/manual control in Seward yard prior to chemical application.



Post herbicide control near Seward. Note clear distinction at control area boundary at end of tie.