



# ALASKA RAILROAD INTEGRATED VEGETATION MANAGEMENT

## FREQUENTLY ASKED QUESTIONS (as of 02/02/2011)

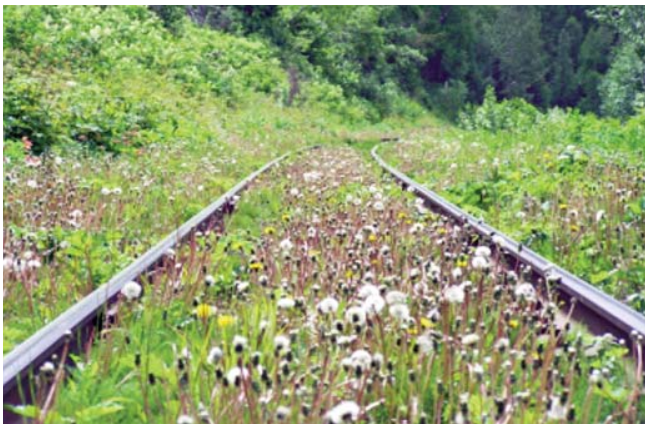
### What is the purpose and need for using chemical weed control products to manage vegetation on Alaska Railroad property?

Mechanical and manual methods of control alone do not adequately control vegetation on the track. Vegetation around railroads must be controlled for several primary safety reasons, including to:

- Ensure the track is visible, allowing inspectors to see the condition of ties, rail and fasteners and to correct any defects that could result in derailment;
- Clear walking areas around the track in order for train and track maintenance crews to work safely and avoid slip, trip, and fall injuries;
- Keep brush from blocking line-of-sight at crossings and to maintain visibility of signals and signs critical to safe train movement; and
- Eliminate plants and roots that hold moisture and impede drainage, which degrades the track structure. For example, ties rot faster in moist conditions and a soggy ballast (track bed) becomes unstable, offering decreased support to the track.

Secondary reasons for vegetation control include.

- Remove potential fuels that cause wild fires and threaten timber bridges and trestles;
- Protect capital investments recently completed on the Railroad's track and infrastructure; and
- Prevent the spread of invasive, noxious weeds.



*Overgrown weeds on the track bed are nearly impossible to eliminate with non-chemical methods.*

### Why do we need to use chemical weed control?

Methods we use now — mechanized rail-based brushcutters, off-rail hydroaxing, wayside manual cutting — are effective only within limited ranges. None of these methods gets to the key problem — vegetation growing between the rails and to the ends of the crossties. So-called “alternative methods” such as steam, infrared, hot water, and burning have been tested extensively but proven ineffective. The size of the problem is overwhelming... 500 miles of mainline and branch track, 100 miles of yard track, and weeds that continue to grow all summer long. The railroad needs effective, enduring area coverage.

### Why do we need to use chemical weed control now?

Manual and mechanical methods are not enough. These methods cannot adequately address the critical area between the rails and ties, as is clearly illustrated by photo on this page. Each year, the Federal Railroad Administration (FRA), the national regulatory agency for U.S. railroads, fines the Alaska Railroad for failing to meet federal safety mandates with regard to vegetation in and around the track. The FRA has formally notified ARRC that the situation is safety critical and must be corrected. During summer 2009, the FRA identified 130 vegetation-specific violations along ARRC's tracks.

### What is at risk?

Approximately 40% of ARRC freight is classified as hazardous material, and ARRC transports nearly 500,000 passengers a year. Maintaining the track and roadbed to the highest standards is critical to ensuring passenger safety and environmental integrity. Overgrown vegetation can prevent ARRC track inspectors from recognizing potential track problems that could cause a derailment.

Employees working on or around the track are at risk of injury due to slip, trip and fall hazards. Unchecked vegetation presents a tripping risk by itself, but plant growth also obscures hazards hidden underneath.

Recognizing these dangers, the FRA, as the national regulatory agency for U.S. railroads, deemed the situation to be critical in a letter sent in early

2009. FRA warned ARRC to expect more fines, slowed train speeds and possibly track closures during the busy summer season. At risk is a serious economic hit that will impact not only railroad passengers, but also businesses that rely on the railroad to bring customers to their door steps and to haul freight required to meet business and industry obligations along the railbelt. As noted in the permit application, some examples of fiscal impacts include:

- ***Slower Speeds.*** Requiring trains to run more slowly will cause delays ranging of 1-2 hours along the Seward-Anchorage stretch. In 2008, ARRC transported nearly 70,000 passengers between Portage and Seward, and many of these passengers traveled on to Anchorage for air travel connections. Slow trains could force passengers to choose buses instead, causing highway congestion. Passengers arriving late in Seward could miss scheduled tours and day cruises, negatively impacting businesses.
- ***Track Closures.*** ARRC hauls coal from Healy to Seward. Coal transport by highway is not feasible. Closure of the track between Anchorage and Seward would essentially halt this commerce. Based upon 2009 coal volume, the direct annual impact could be as much as \$30 million, along with job loss at the Usibelli Coal Mine in Healy, at the Alaska Railroad and at the Seward coal terminal.
- ***Fines and Penalties.*** The impact of increased FRA fines for non-compliance is difficult to estimate, however such fines could exceed \$100,000.

#### **Where will the Alaska Railroad apply weed control?**

In general, weed control products are applied on Railroad operating property (rail yards, spurs, sidings, etc.) and along the Railroad mainline and branch line right-of-way within 15 feet of the track centerline. A 2009 herbicide permit application was approved in spring 2010, and in July 2010, herbicide was applied within the Seward Railyard and the 90-mile stretch between Seward and Indian, where vegetation growth is some of the worst. Two new herbicide use permit applications were submitted to ADEC in late January 2011. One permit covers the Anchorage Railyard; the other covers the Fairbanks and Healy Railyards, as well as about 20 miles along the Suntrana (Healy area), Fairbanks Airport, and Eielson (east of Fairbanks) branch lines. If approved, herbicides would be applied during the summer months in these areas, beginning in summer 2011, and through the duration of the permit.

#### **Why apply before the research project is completed?**

The Alaska Railroad is regulated by the Federal Railroad Administration (FRA). On April 15, 2009, the FRA notified ARRC of the serious nature of the vegetation problem. The ARRC took immediate actions in response to this letter, including the application to ADEC to use herbicides.

The ARRC in conjunction with the Alaska University Transportation Center (AUTC) began a multi-year study (2008-2011) on herbicides in the Alaska environment. The ARRC had planned to wait until the study was complete before applying for another permit but FRA pressure moved up the permit application process.

The first year of AUTC research focused on the south end of the railroad, precisely in the area proposed in ARRC's 2009 permit application. Preliminary results from south end test plots were available in spring 2009 and data from this 2008-09 research activity indicates that the AquaMaster® herbicide used in concert with the Agri-Dex® surfactant behaves similarly to how they behave in other climates and regions. The second year (2009-2010) of the research focuses on test plots on ARRC's north end, where a 2011 herbicide use permit is focused.

#### **Who governs weed control products and uses?**

Weed control product types and application methods are regulated by both federal and state governments. The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for regulating pesticides, including herbicides. EPA evaluates new pesticides/herbicides, reviews registered pesticides, regulates pesticide manufacturers, and enforces pesticide requirements. EPA and states register or license pesticides for use within the country. States may place more restrictive requirements than the



***Optimally, the Alaska Railroad track would be free of weeds, providing an uncompromised platform for train movement.***

EPA. Pesticides must be registered by EPA and the state before use and distribution. The Alaska Department of Environmental Conservation, Division of Environmental Health oversees the state Pesticides Program. The Alaskas Railroad is accountable, through a state-issued permit, for the proper storage and use of EPA and State registered weed control products.

#### **Does the public have a chance to review and comment on the herbicide use permits?**

Yes. The Alaska Department of Environmental Conservation (ADEC) is responsible for developing and issuing a permit. Public comment is actively solicited as part of the permit process. In addition to public comment periods, ADEC has the authority to require public hearings. As with the 2009 permit, the process for the two 2011 permits will provide ample opportunity for public input, including public hearings and 45-day comment period.

#### **Where and when are 2011 public hearings scheduled?**

Public hearings noted below will be held from 4:30 to 6:30 p.m. They began with a brief presentation, followed by public comment.

##### **PUBLIC HEARING LOCATIONS:**

- **ANCHORAGE:** Friday, February 18, 2011  
Howard Johnson Hotel  
239 W. 4th Avenue
- **FAIRBANKS:** Tuesday, February 22, 2011  
Princess Riverside Lodge  
4477 Pikes Landing Road

#### **What is the timeline for the 2011 permit process?**

Each permit includes a 45-day public process.

- **ANCHORAGE:** The Anchorage permit process started January 28, with the hearing February 18, and the comment period ending on Wednesday, March 16.
- **FAIRBANKS/HEALY:** The Fairbanks/Healy permit process started February 2, with the hearing February 22, and the comment period ending on Monday, March 21.

ADEC will review comments made during the hearings and submitted during the comment period. Once ACEC makes a formal decision, the public has 40 days to appeal. It is possible that a permit could be issued in time to apply the herbicide during the 2011 growing season.

#### **What type of weed control and other products will be used?**

The general use herbicide AquaMaster®, (active ingredient Glyphosate) and nonionic surfactant Agri-Dex®. The active ingredient is commonly available over-the-counter in home and garden stores under various brand names including Roundup and Rodeo. Three quarts of AquaMaster® will be applied per acre of right-of-way. (Note: an acre is roughly equivalent to about a mile of the railroad track bed). Agri-Dex® is not an herbicide, but rather is used to help spread the herbicide more effectively. The formulations, concentrations, application methods and handling requirements are listed in the railroad's state issued permit.

#### **How will the Railroad apply the weed control products?**

A licensed contractor will use a special vehicle equipped to travel on the rails. Low-volume, low-pressure ground-directed attachments will be used to apply the weed control products. This method is designed to limit potential for wind to carry the chemicals away from the target area. There may be additional spot application by licensed contractors using hand-operated pump-spray tools.

#### **Will an Alaska Railroad representative accompany the licensed contractor during the application process?**

Absolutely. An Alaska Railroad representative, who is also a licensed applicator, will accompany the Railroad's contractor at all times during application activities. There will be additional ARRC supervision from the district in which the work is being done.

#### **What about aerial spraying?**

Aerial spraying will not be used.

#### **What about streams, lakes, and other areas that are important to fish and wildlife?**

AquaMaster® is specifically designed for safe use in and around water. As an extra precaution, the 2011 permits specify a minimum 25-foot water buffer, which exceeds buffer distances specified by government agencies. Proposed products are designed to adhere to soil, and therefore will not "carry" outside the target area.

The proposed program is designed to respect this 25-foot setback. The track will be patrolled ahead of the application and weed control will not be applied within 25 feet of any surface water. The patrol car will carefully mark the limits of the weed control areas.

### How will subsistence users in the areas know their food is safe?

When used according to manufacturer directions and in the concentrations prescribed by the manufacturer, the proposed weed control products will break down rapidly after contacting soil, and do not pose any threat to fish, wildlife, or humans. (For details, visit web sites listed at the end of this fact sheet).

In addition, herbicides will not be applied outside the railyards or the railroad's right-of-way (ROW — i.e., the tracks and the land within 100 feet of either side of the track centerline). For safety reasons, it's never a good idea to be in the ROW and, in fact, the ROW is closed to the public. Impacts to plants outside the railroad ROW are not expected.

### Are there health risks associated with coming into contact with these products and how long does that risk persist?

First, the weed control products won't be applied in areas normally visited by people: The application zone is primarily in the immediate track area. But more important, when used according to the directions, the products have been determined by the federal government to pose little to no risk to human health or the environment. To avoid any unwanted contact with the product, the manufacturers recommend that people not come into an area that has been treated until the product has dried, which can be anywhere from 5 to 30 minutes depending on the weather.

For more information, consult the fact sheets, Material Safety Data Sheets (MSDS), and manufacturer product labels listed at the end of the fact sheet.

### Why doesn't the Alaska Railroad use other methods to control vegetation?

We will continue to use mechanized and manual methods in conjunction with chemicals for an integrated vegetation management (IMV) strategy.

### What do other railroads do?

The same thing we propose — a mix of mechanized and chemical control. To our knowledge, no North American railroad has adopted a completely or primarily non-chemical weed control program.

In Canada, the Canadian National (CN) Railway uses glyphosate, 2,4-D and diuron throughout the majority of their system except for the province of British Columbia (B.C.)

In B.C., the CN uses glyphosate only. CN has used chemical weed control products for a number of years, so that the track is fairly clear of weeds. At this point, only glyphosate is needed to maintain sufficient weed control. The CN buffer zones to water bodies is right to the edge of the water systems, except in the instances of salmon-bearing streams. For salmon-bearing streams, the buffer zone is 6 feet.

### What is the Federal Railroad Administration's position on the use of weed killers?

The FRA requires railroads to keep their tracks free of weeds. The FRA has repeatedly fined the ARRC for excessive vegetation. In its April 2009 letter to ARRC, the FRA confirms that "the growth rate and location of vegetation along the 500 miles of ARRC track continue to get worse.... FRA recognizes that ARRC's vegetation management difficulties have been complicated by its inability to spray herbicides."



*The DBI Company is an industry leader in railroad vegetation management nationwide. DBI's specially-equipped trucks direct weed control products directly at the track bed.*

### What are invasive weeds and what do they have to do with the railroad?

Invasive weeds are non-native weeds that have become so widespread that they threaten local ecosystems. The invasion of exotic weeds is one of the greatest threats to natural ecosystems in the western United States and Alaska. The Alaska Railroad right-of-way is a major vector for the spread of some of these weeds. Keeping the right-of-way weed-free is paramount in controlling the spread of invasive weeds throughout Alaska.

### Where can I find product-specific information about the weed control products the Railroad plans to use as part of its vegetation management plan?

Material Safety Data Sheets (MSDS) and Product Labels are available from the manufacturers' web sites. Additionally, Fact Sheets are available from the Environmental Protection Agency, as well as from other recognized and respected sources.

AquaMaster® (EPA Reg. No. 524-343)

- **Manufacturer (Monsanto) Product Label** — <http://http://www.cdms.net/LDat/ld4BL013.pdf>  
**MSDS:** <http://www.cdms.net/LDat/mp4BL011.pdf>
- **EPA RED Fact Sheet for Glyphosate** — <http://www.epa.gov/oppsrrd1/REDS/factsheets/0178fact.pdf>

Agri-Dex®

- **Manufacturer (Helena Chemical) Label** — <http://www.cdms.net/LDat/ld62E000.pdf>  
**MSDS:** <http://www.cdms.net/LDat/mp62E001.pdf>

### What other information is available about the topic of vegetation management and weed control products?

Third-party information from public and private universities, professional weed management organizations, state and federal government agencies are easily found on the Internet. Some of the most complete information sites include:

- University of Iowa Department of Weed Sciences — [www.weeds.iastate.edu/](http://www.weeds.iastate.edu/)
- U.S. Forest Service — <http://www.fs.fed.us/>
- State of California Pesticide Management Agency — <http://www.cdpr.ca.gov/>
- Cornell University Institute for Comparative & Environmental Toxicology — <http://www.toxicology.cornell.edu/>
- University of California - Davis (UC Davis) Weed Research and Information Center — <http://wric.ucdavis.edu/>
- Weed Science Society of America — <http://www.wssa.net/>

### Who should I contact for more information about the ADEC permitting process?

For questions pertaining to the Alaska Department of Environmental Conservation pesticide permitting process, contact:

Karin Hendrickson  
Environmental Program Specialist  
ADEC Pesticide Program  
1700 E. Bogard Road, Building B, Suite 103  
Wasilla, AK 99654  
Phone: (907) 376-1856  
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## HERBICIDE-SPECIFIC QUESTIONS AND ANSWERS

*The following questions about the proposed herbicide are addressed by the Center for Toxicology and Environmental Health in Arkansas.*

### **What is glyphosate?**

Glyphosate is (N-(phosphonomethyl) glycine). Its active herbicide ingredient is isopropylamine salt, which is water soluble. Glyphosate works by disrupting a plant enzyme essential for plant growth. The enzyme EPSP synthetase is not present in humans or animals, and therefore, the biochemical effects are specific to plants only (not humans, mammals or fish). Glyphosate is (the active ingredient in the herbicide AquaMaster®).

### **How toxic is AquaMaster® / glyphosate?**

Toxicology textbooks use a relative ranking system for chemicals. Glyphosate falls into the “slightly toxic” category and is less toxic than table salt.

### **How toxic is Agri-Dex®?**

Like AquaMaster, Agri-Dex is approved for use in aquatic applications. Agri-Dex is not a herbicide, rather, it is a surfactant that enables glyphosate to adhere to plant surfaces. Agri-Dex is classified as practically non-toxic to both fish and vertebrates.

### **Can glyphosate cause genetic damage?**

Glyphosate has been studied extensively in a wide battery of genetic toxicity tests. The overwhelming evidence indicates that glyphosate does not damage DNA. Regulatory agencies, scientists and researchers conclude that glyphosate is neither mutagenic nor clastogenic (causing chromosome breaks). Thus, glyphosate does not pose a risk of heritable (passed from parent to child) or somatic (body cell) mutations in humans.

### **Can glyphosate cause cancer?**

Numerous regulatory agencies and scientific organizations conclude that glyphosate is not carcinogenic. The EPA uses a cancer study summary ranking system that classifies study evidence into Groups A through D. Group A rankings are chemicals that are known human carcinogens, whereas Group D chemicals are not classifiable as human carcinogens. EPA has classified glyphosate as Group D, because there is inadequate evidence that glyphosate causes cancer in animals and no evidence that it causes cancer in humans.

### **What is glyphosate’s environmental impact?**

Glyphosate binds readily with soil particles, which limits its movement in the environment and makes it unlikely to leach outside target areas. The potential for glyphosate to leach into groundwater has been evaluated in a number of studies which reveal that glyphosate is unlikely to cause groundwater contamination. Glyphosate is readily degraded by soil microbes with an average half-life of two months in soil and two to 10 weeks in water. Most studies show no adverse effect on soil microorganisms. Results from the first year of the UAF study confirm that glyphosate is degraded relatively rapidly in Alaskan soil and does not migrate to a significant degree in the Alaskan soil environment.

### **How can I be sure that glyphosate is safe to use?**

Glyphosate has been the subject of hundreds of health, safety and environmental studies by industry, regulatory agencies and universities. The U.S. Environmental Protection Agency (EPA), Health Canada, European Commission, U.S. Department of Agriculture Forest Service, World Health Organization and other scientists have reviewed this data. Those reviews applied internationally accepted methods, principles and procedures in toxicology and have determined that there are no grounds to suggest concern for human health. Their overwhelming consensus is that glyphosate, when used according to label directions, poses no unreasonable risk to people, wildlife, or the environment.