



CPKC Integrated Vegetation Management Program

Kahnawake 2025





A CULTURE OF SAFETY

Operating safely is foundational to who we are. Our goal is to be the safest Class 1 railroad in North America.

In 2023, CPKC led the industry with the lowest FRA-reportable train accident frequency among Class 1 railroads, building on Canadian Pacific's legacy of 17 consecutive years of industry leadership.

CPKC is building on that unwavering commitment to safeguarding our people, our communities, the environment and our customers' goods.



Operating Safely

The Vegetation Management Program at CPKC reflects our unwavering commitment to one of our core values: **Operate Safely**.

This program actively supports:


- **Employee Safety**
- **Public Safety**
- **Environmental Safety**
- **Operational Safety**

As an integral part of CPKC's comprehensive preventative maintenance and safety initiatives, the Vegetation Management Program is essential to ensuring safe train operations across all the communities and regions we serve.



Railroad -Vegetation Risks

- **Hinders Safety Inspections and Maintenance:**
 - Limits visibility and access, delaying critical operations.
- **Impedes Drainage**
 - Vegetation on the ballast can impede drainage increasing the risk of derailments
- **Obstructs Crossing Sightlines:**
 - Increases the risk of collisions at crossings due to reduced visibility.
- **Disrupts Safe Train Operations:**
 - Causes issues such as tree strikes, vegetation brushing against rolling stock, and other operational hazards.
- **Poses Safety Risks:**
 - Endangers employees and the public due to poor walking conditions and the presence of hazardous trees.
- **Reduces Moisture Control:**
 - Creates shade that prevents proper drying of track ballast and ties, leading to potential infrastructure issues.
- **Increases Fire Risk:**
 - Dense vegetation heightens the likelihood of fires along the railway.



Adirondack Sub - July 2017 – No annual herbicide application in 2017 - Kahnawake First Nation

Vegetation Program Elements

The annual Vegetation Management Program focuses on two key components:

- **Herbicide Application:**

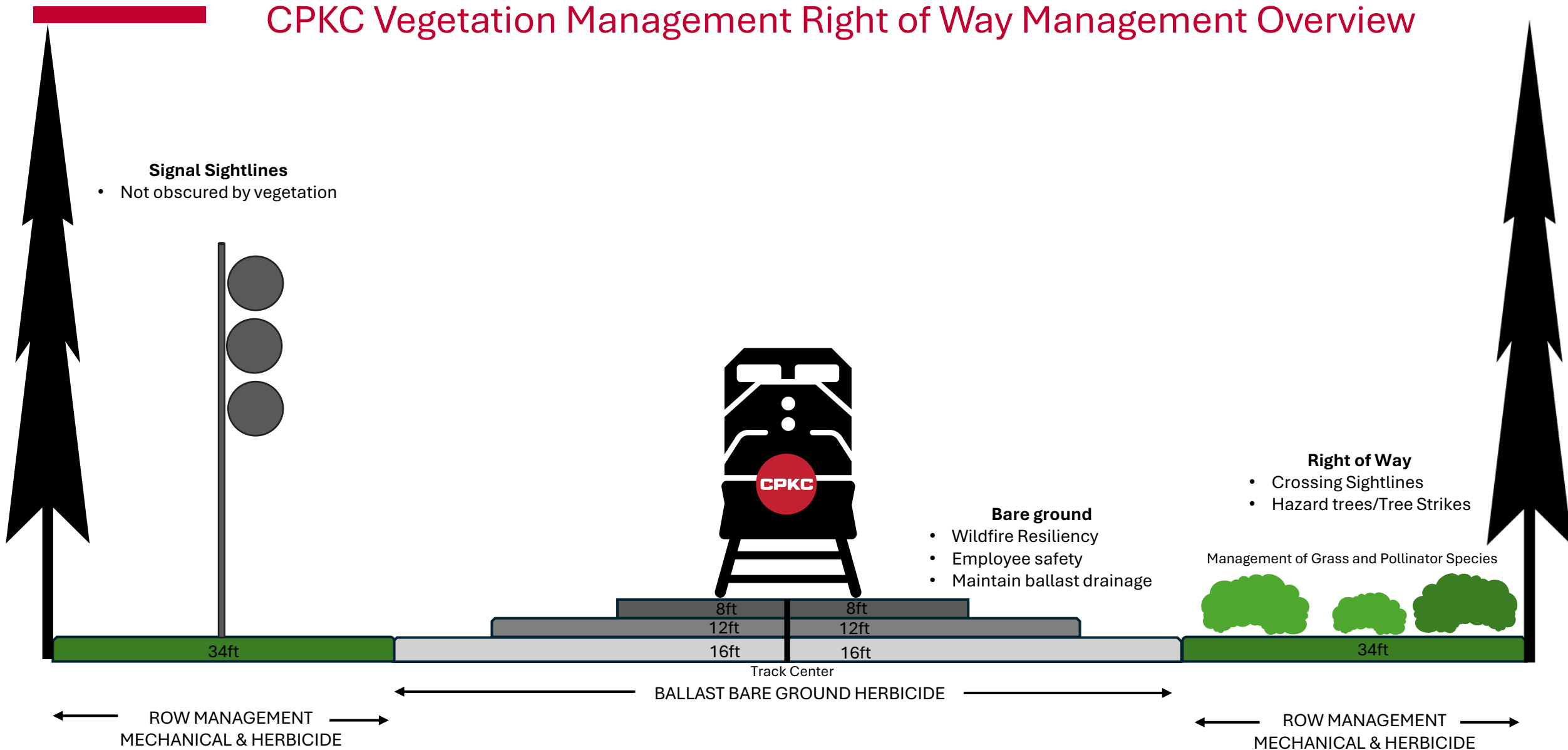
- Utilizes **spray trains** for mainline coverage.
- Includes **hi-rail and hand applications** in yards, around signal bungalows, at crossings, and in other critical areas.

- **Mechanical Cutting:**

- Deploys crews and **specialized equipment** to remove brush and larger vegetation
- Addresses vegetation that **encroaches** on infrastructure, **obstructs** sightlines (e.g., signals and crossings), or **creates hazards** such as collision risks or power disruptions.



CPKC Vegetation Management Right of Way Management Overview



CPKC Ballast Weed Management Program

- The gravel/rock bed that the track sits on
- One mile of track at a 16ft wide spray pattern equals 0.8 hectares of area



CPKC Ballast Weed Management Program

Objectives

- reduce the potential for derailments and other accidents and injuries by maintaining a weed free ballast section
- Ensure a safe operating environment for our employees and the public



CPKC Ballast Weed Management Program

Hi-Rail Spray Trucks & Off -Track Equipment

- Herbicide application to yard tracks and spur lines
- CPKC infrastructure applications for forest fire mitigation
- Precision application through GPS technologies



Hi-Rail Shrouded Boom Ballast Spray Truck



Hose & Hand-Gun



Herbicides to Control Vegetation



EFFECTIVE

Effectively control brush and weeds, then break down after application



EFFICIENT

Herbicides control the entire plant and often require only one application every few years. This eliminates the need for more frequent mechanical treatments



SAFE

Registered for use by the Pest Management Regulatory Agency who is an agency of Health Canada

CPKC Annual Herbicide Application Program

Herbicide Application

- 16ft wide herbicide application to the ballast section of the Right of Way to control weeds and grass to facilitate safety for track structure, track inspections and fire prevention.

Anticipated Annual Application

- First Week of June

Spray Equipment

- Hi-Rail Spray Truck

Application Frequency

- One annual application

Licensed Herbicide Contractor/Applicator

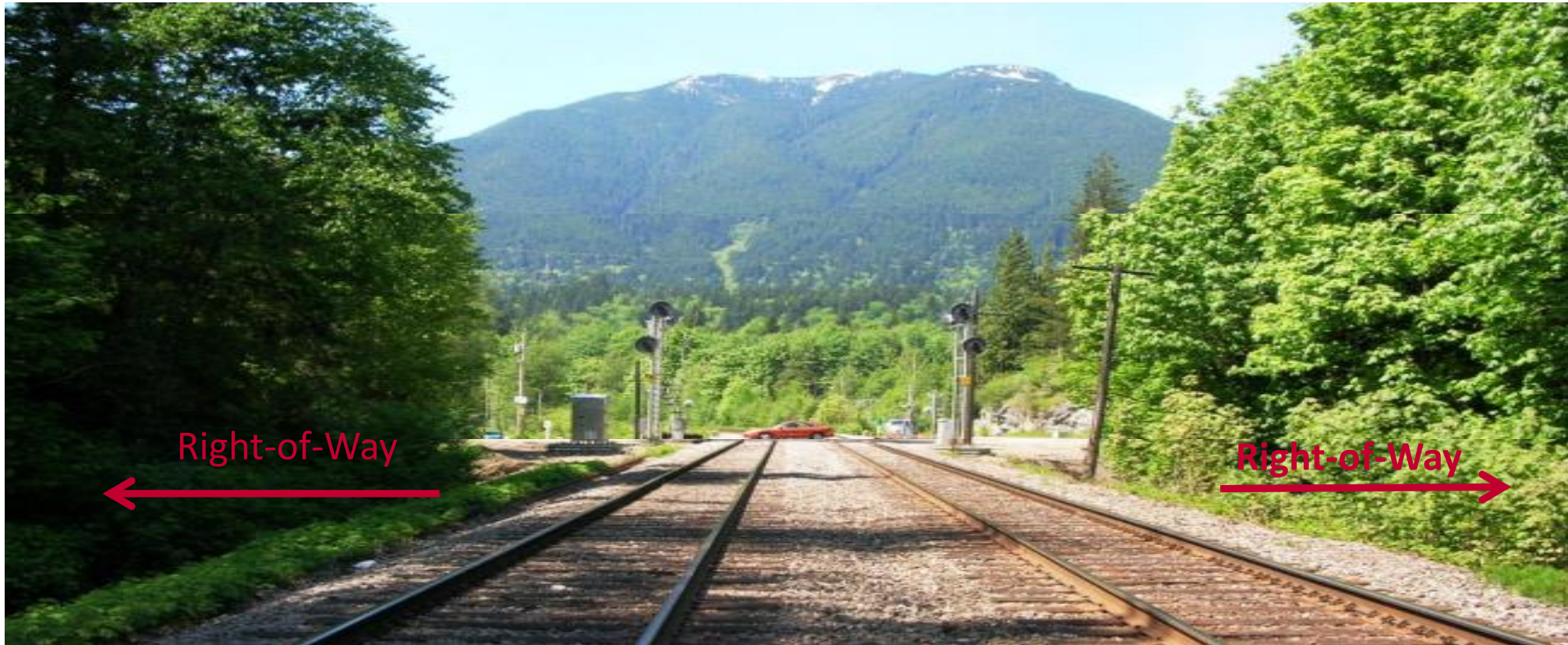
- All herbicide will be applied by a provincially certified licensed applicator following all label directions

Certified CPKC Contractor

- Contractor and contractor personnel meet all federal and CPKC specific railway training(Canadian Railway Rules Card, ErailSafe, ISN Networkd)



Right of Way Vegetation Management Program



CPKC Right-of-Way Vegetation Management Program

Objectives

- avoid measures (e.g. pruning) that increase the stem density of species that are incompatible with railway safety and to encourage plant communities on the ROW that:
 - require minimal maintenance and are self-sustaining
 - are non-invasive and do not attract wildlife to tracks



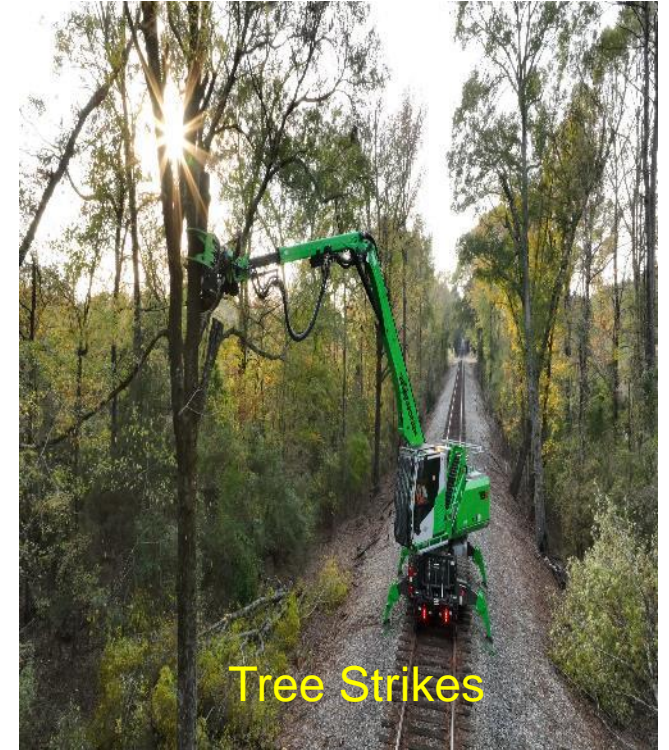
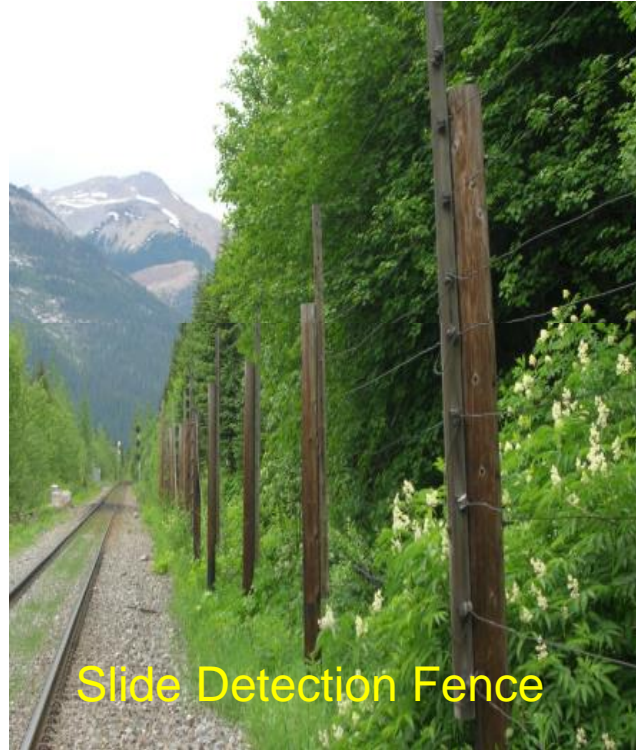
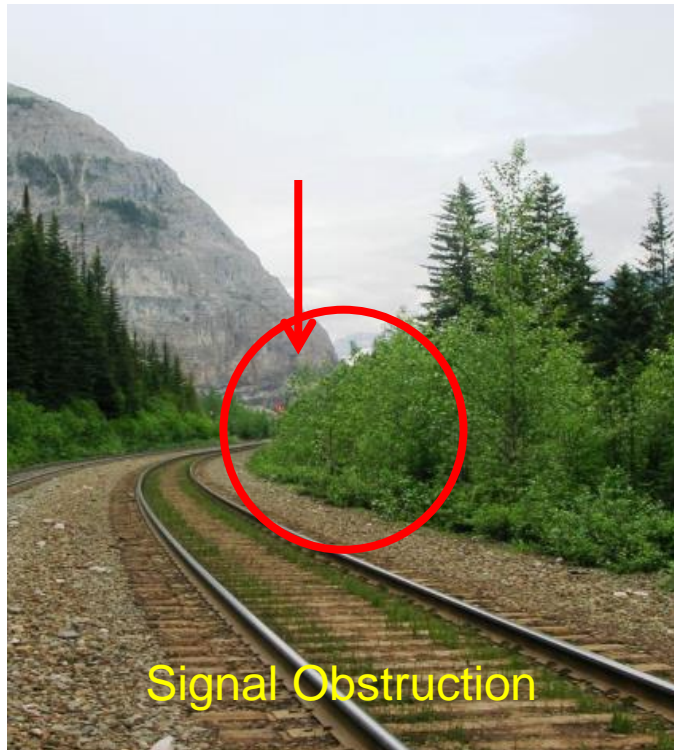
CPKC Right-of-Way Vegetation Management Program

- Brush on the right-of-way can impede sightlines at crossings



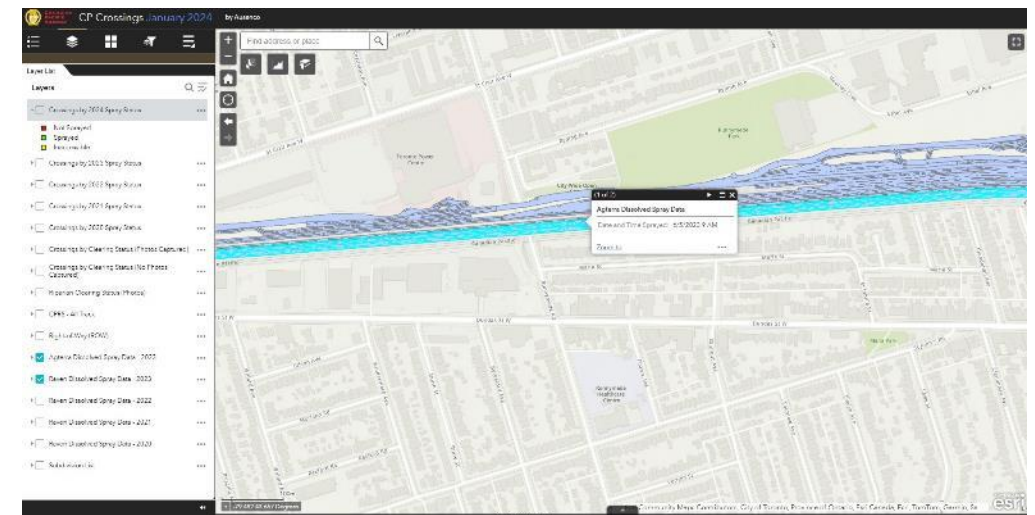
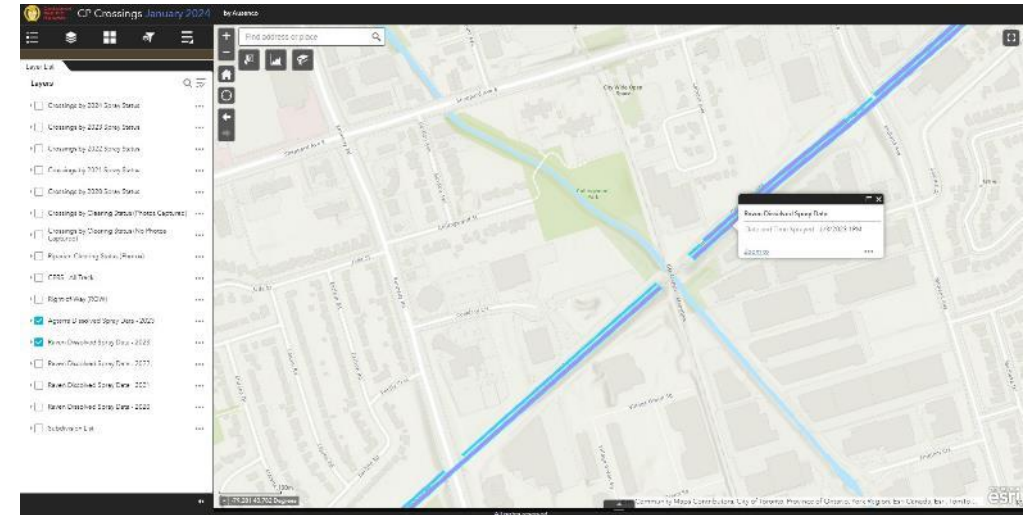
CPKC Right-of-Way Vegetation Management Program

- Brush and trees on the right-of-way can impede visibility of Central Traffic Control (CTC) signals and can interfere with the function, inspection and repair of track side safety infrastructure



CPKC Vegetation Management Technology

- GIS Portal developed to track annual program crossing compliance and herbicide application programs
- mobile applications to capture field level data
- onboard GPS enabled herbicide application equipment logs all herbicide application
 - area sprayed, herbicide mix, weather data, etc
- real-time herbicide program tracking
- mechanical crossing sightline data including post clearing pictures
- data to support environmental compliance issues



CPKC Vegetation Management GIS Portal



CPKC –Proactive Vegetation Management

Planting Railway-Compatible Species for Sustainable Vegetation Management

Objectives & Benefits:

- **Pollinator Habitats:**
 - Support species like Monarch Butterflies and honeybees.
- **Slope Stability:**
 - Promote soil retention and prevent erosion.
- **Hydroseeding:**
 - Encourage grass and wildflower growth after construction activities.
- **Crossing Sightline Management:**
 - Focus on low-growing species for enhanced visibility.
- **Fire Resiliency:**
 - Improve natural fire barriers along the railway.
- **Invasive Species Management:**
 - Control the spread of non-native plants.

Future Initiatives:

- **Pollinator Plots:**
 - Planned for 2025 along the Kansas City to Shreveport corridor and the Twin Cities.
- **Support & Collaboration:**
 - Consultants and contractors will be engaged to assist with planning and executing proactive vegetation management.



Questions?

