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Integrated Vegetation Management Association of BC Annual Forum
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A Successful Approach to Strategic Invasive Plant Management in BC Ministry of Highways and Infrastructure Gravel Pits

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Topics

- Historic Approach
- Goals/Objectives
- Strategic Approach
- Logistics
- Reporting
- Results
- Benefits

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Historic Approach

- Multiple agencies treating
- Intermittent treatments
- In consistent scheduling
- Non-residual herbicide use
  - (Potential) multiple treatments per year
- Treating the symptom

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Pathways & Vectors

Gravel Pits and Quarries- contaminated material

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Goals/ Objectives

Goal

- Eliminate weed growth in gravel pit area to reduce further deposit of viable weed seed in soils and aggregate piles to minimize pit as a vector for weed spread by equipment and aggregate removal.

Objectives

- Control weeds during early growth stages, well in advance of flowering stage., when able
- Aggregate/sand piles, gravel banks (**transient**), open loading, parking priority first treatments (manual/glyphosate).
- Hand pull, bag mature plants late flower to early seed stage on transient material
- In other areas that are undisturbed, native, seeded, roadway edges, perimeter fence-line boundaries, etc. IP's controlled by best method(s) or combinations, including: pull/dig and bag, cutting, deadhead, herbicide as appropriate to fire restrictions, weather, site, environment, plant stages and other specifics.

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Strategic Approach

Strategic Management Process

- Pit review
  - species, locations, aggregate piles and material locations, other specifics
- Pit prescription and schedule
- Satellite photos/maps of pit
- Pre-treatment visit with contractor
  - identify treatment areas with specific herbicides, PFZ, restricted areas, sensitive areas
- Monitor treatments
  - efficacy / contract requirement deliverables
- Survey/treatment/monitoring records data to IAPP
- Develop or update pit management plans(s) and visuals file
- Send annual pit treatment files to responsible Area Managers

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Strategic Management Plan for each Pit to Area Managers

Invasive Plant / Noxious Weed Management Plan

- **Purpose:** Eliminate introduction of new weed seed to the existing weed seed bank in the pit soils by developing an integrated management plan for the long term control of noxious weeds / invasive plants using available control methods.
- **Pit Information:**
- **Goals**
- **Objective(s)**
- **Treatment dates**
- **Treatment Information**
  - Treatment Type
    - Herbicide (product), pulling, bagging, cutting
    - Where
- **IAPP input date**
- **Pit Satellite Photo**
  - Areas treated
  - Only herbicide treated area and which product

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Satellite Photos/Maps of Treatments to Area Managers

Areas inside GREEN polygon are inactive areas where aggregate is not being piled and removed or transient or are parking and travel areas. These areas will be treated with Milestone (aminopyralid) at a maximum rate of 0.5 litres product/ha.

Areas inside RED polygons are aggregate or dump piles will treated with Roundup WeatherMax (glyphosate) at a 1.34% solution rate

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Manual Treatments

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Herbicide Treatments

Glyphosate on all species in areas where transient materials (aggregate, sand piles, open banks). Materials that may be removed from pit.

Milestone (aminopyralid) on most broadleaved species where no transient material (parking, roads, perimeter areas, fencelines, vegetated areas,)

Clearview same areas as Milestone, but only blueweed, hoary alyssum, common bugloss

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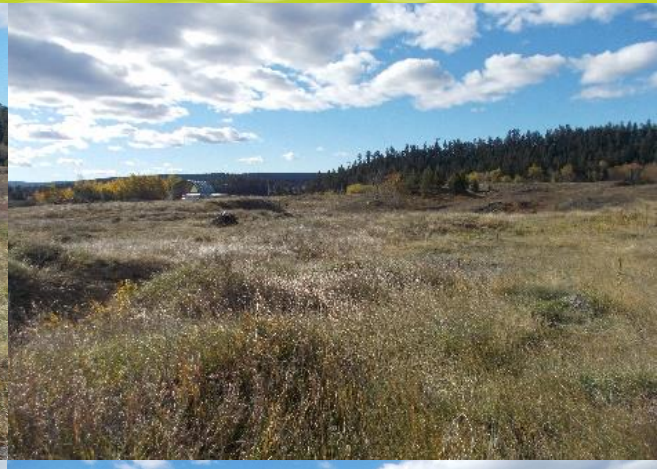
Successful Results 106 Mile Pit



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Herbicide Use Comparison

106 Mile Pit

- 2016 Milestone treatment 4.69 ha, glyphosate treatment 1.6 ha
- 2018 Milestone treatment 0.7 ha, glyphosate 0 ha
- Total 3 years – 2.7 L prod Milestone applied,
  4.8 L prod glyphosate
  Total **(3 yrs) 7.9 L** prod herbicide

If only glyphosate applied over 3 years
21 L product glyphosate/year
Total **3 years 63 L** prod glyphosate

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Control One Weed and Another Grows

Knapweed 2016

Hoary Alyssum 2017

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Milestone Treatment
Spotted Knapweed

Garthwaite Pit

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Control on Adjacent Lands

Walloper Pit

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Roads Leading to Pits

Jewel Pit - Canim Lake

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Roads to Pits Used by Public

Devick Pit

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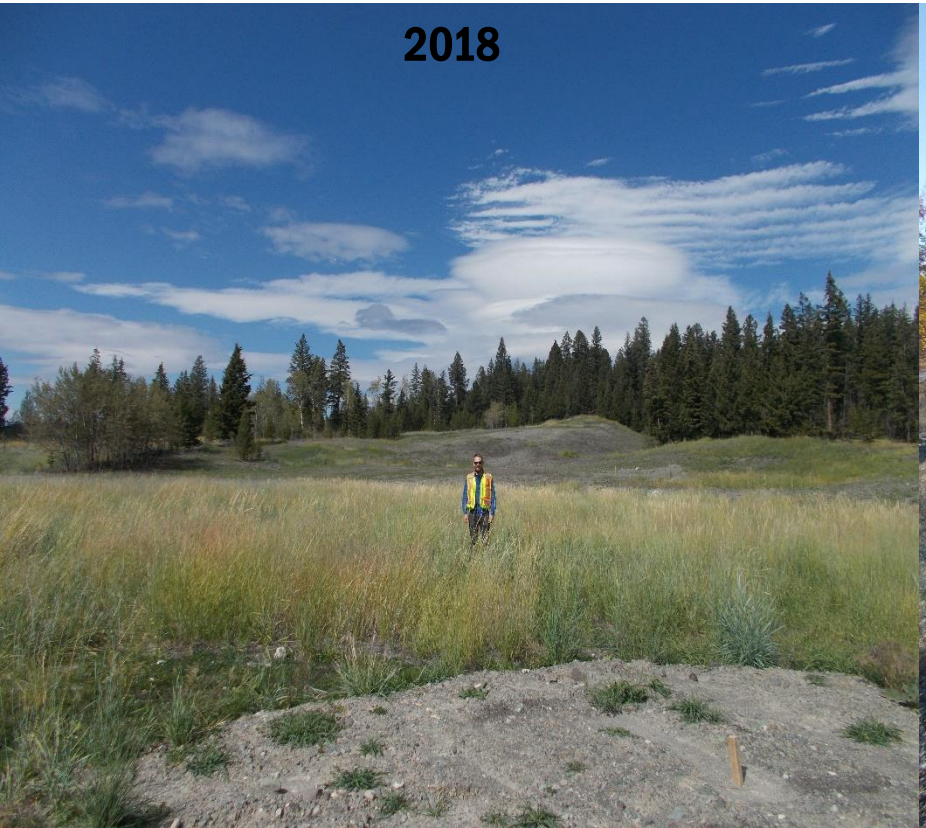
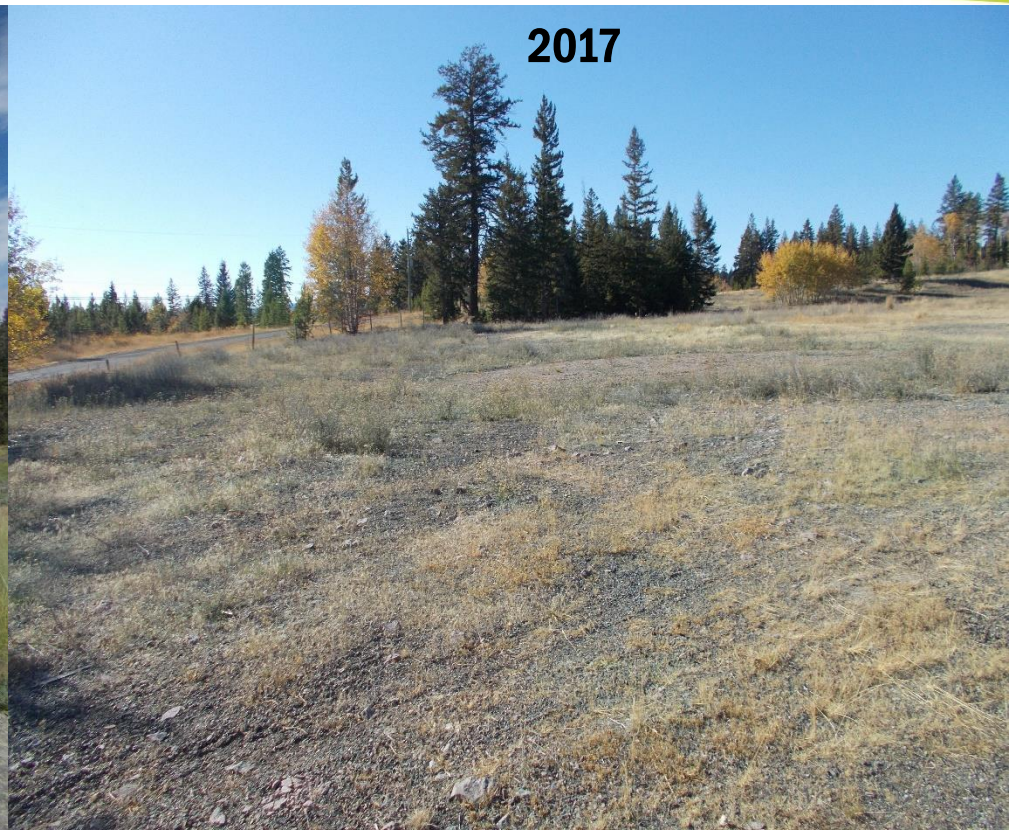
In-Active Pits Still Vector for Spread





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Control on Vehicle Use Areas

Heffley – Tod Mtn Pit

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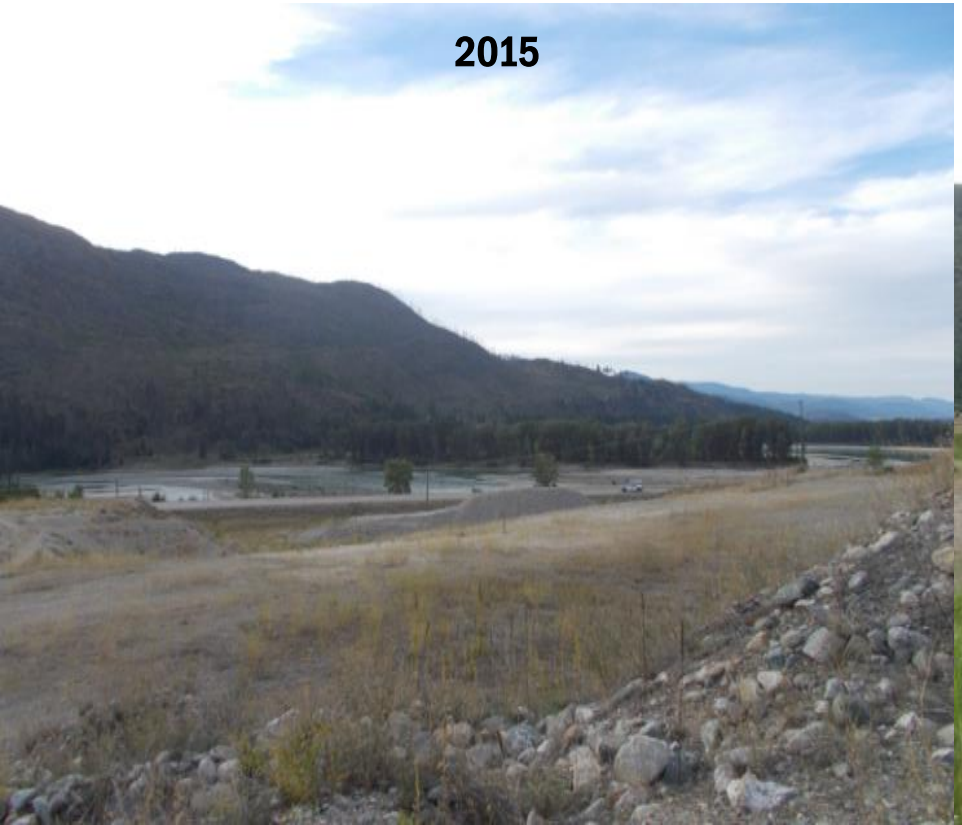
Successful Control can Take Time

Louis Creek Pit

2015



2017

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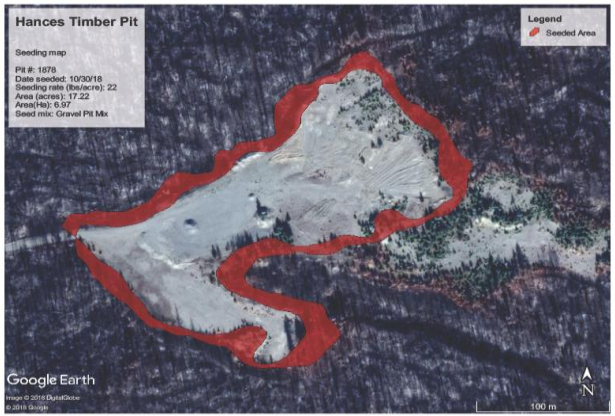
Seeding

Hances Timber Pit - Chilcotin



Centennial Pit – Williams Lk

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Benefits

- IPM Approach
- Reduced herbicide use, less load on environment
- Reduced risk of herbicide resistance to glyphosate
- Less movement and spread of weeds
- Efficient use of dollars
- Pits more resistant to IP invasion

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Thank You for your Attention

Do you have any Questions

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