

Ministry of Forests
Lillooet District
in Partnership with
BC Hydro T&D

Final Report:

*Survey and Inventory Noxious Weed Program,
2001
(Bridge-Seton Watershed)*

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August 28, 2001

**** The accompanying 1:30,000 forest development plan maps are crucial to this report, do not allow them to be separated under any circumstances.**

Table of Contents:

1. TOC: pg. 1
2. INTRODUCTION: pg. 2
Thanks, It's a learning process.
3. LOGISTICS: pg. 3
Practical Inventory Technique
vs. Office Procedures
4. HERBACEOUS SPECIES: pg. 5
Noxious or Native,
new species arriving in district
5. INTEGRATED VEGETATION MANAGEMENT: pg. 7
Recommended Techniques and Treatments,
Long-term Environmental Sustainability
6. COMMUNITY INVOLVEMENT: pg. 8
Feedback from residents and visitors concerned about
vegetation management

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Introduction

First, a special thanks to our ministry co-ordinator, Lucy Jones. She was exceptionally helpful, as was the rest of the Lillooet staff.

Studying and managing herbaceous species is a unremitting process of learning, reevaluating, improving, creating safer herbicides, public education, consulting regional NGO's, and interdepartmental co-operation in creating comprehensive **Integrated Vegetation Management (IVM) Programs.**

The Bridge/Seton Watershed is biologically diverse, from fragile alpine meadows to semi-arid terrain. Still, much of the region is isolated and the noxious weed infestation is potentially more manageable than other districts that DJ Silviculture has surveyed. Inter-jurisdictional co-operation is the key. Typically, the worst infestations are in high public access areas; the higher elevations and upper tributaries are relatively pristine, or can become so with minimal treatment.

DJ Silviculture compiled the attached Weed Inventory Records with enough particulars so that creating a single IVM program for the entire district is foreseeable. If the MOF were willing to be the springboard, one contractor can be hired to treat the entire district and the participating jurisdictions such as MOTH, BC Rail, BC Hydro, The Municipality of Lillooet, and participating First Nations could each contribute a calculable percentage of the overall contract. As long as unmanaged properties continue to slip through the cracks, they act as a persistent breeding ground, recontaminating the treated areas.

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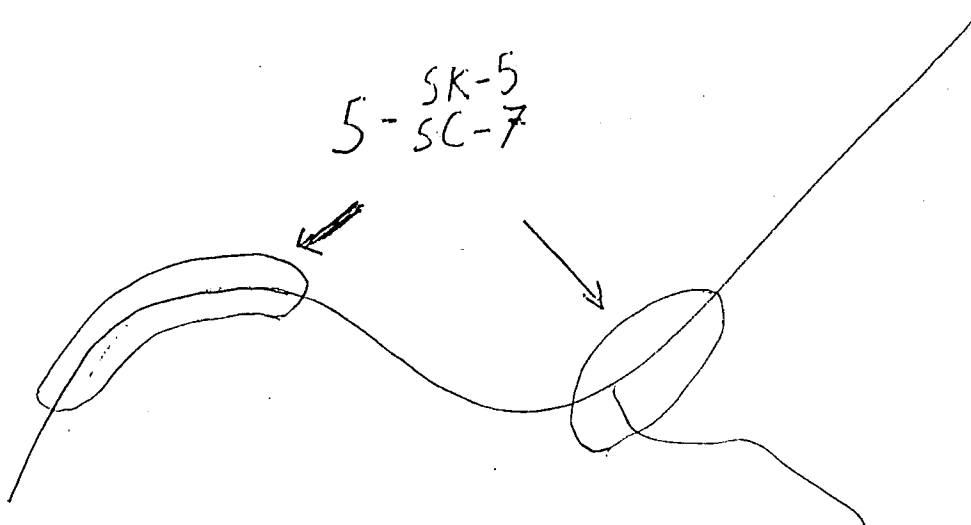
Logistics:

"You are in the backwoods circling about in your 4x4, fog is obscuring your vision, 3 hours wasted, and even with all these navigation tools, maps, GPS, compass, everything makes sense that you should be where you're supposed to be, but you're not..."

Sound familiar? No worries, the scenario is merely to highlight how problematic life can be for a pesticide application unit, and how expensive it can be for the ministry if that unit is not finding its assigned location. We used every precaution to ensure a consistent, practical formula to help make the follow up office work for this report as painless as possible, but weed management is a process that requires constant re-evaluation, improvements are constantly arising in the field that over-ride last weeks decisions...

So for whoever is actually working with the weed inventory records, (Dave Ralston?) here are some pointers that will help both you and whoever is working in the field next year to be more efficient:

1. The numerical identification system used is only a guideline; you are encouraged to re-label these sites on the computer-generated maps in any fashion suitable for your purposes. Here is an example of how it has been done in the past:



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2. Approximately one week into the contract, we were granted leave to record the sites using a numerical code to identify specific polygons on the accompanying map sheets, the hand sketches used during that first week are therefore irrelevant. Although those sketches are still on the first group of inventory records, please refer only to the UTM number and map sheet reference when recording individual sites.
3. There are no universal abbreviations for weed common names, but long names do not fit on the maps. Our suggested abbreviations would work well, but
AN EXPLANATION TABLE MUST BE ISSUED WITH MAP SHEETS:

Spotted Knapweed – SK	Diffuse Knapweed – DK
Hound's Tongue – HT	Dalmatian Toadflax – DT
Yellow Toadflax – YT	Sulphur Cinquefoil – SC
Blueweed – BW	Canada Thistle – CANTH
Common Tansy – CT	Burdock – BURD
Bull Thistle – BULL	Oxeye Daisy – OXEYE
Nodding Thistle, NODTH	St. John's Wort – SJW
Hoary Alyssum – HAL	

4. The information provided in the details section of the individual weed inventory records compounds itself by date, if that makes any sense. Basically, generic information given on day 1 that will be valuable to a person reading the record for day 2 is expected to have read the day 1 record first, or the day 2 information will seem incongruous.) Therefore, life will be easier for whoever works with these records if they proceed by the original recording dates rather than by the geographic regions.

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Noxious or Native?

The First Nation's people, as well as many entrepreneurial wild-crafters are harvesting herbaceous species, (berries, foliage, bark, and roots) from the local forests for edible, medicinal, and ceremonial purposes. These concerns are enforcing a more thoughtful approach to IVM programs. It is crucial that herbicide applicators identify the target species and leave the rest untouched.

Fortunately, August was the ideal season for species identification; shoots, as well as mature, flowering, and seeding versions of the plants are available for identification. For example, it is easy to misidentify the native graceful cinquefoil for sulphur cinquefoil in the early spring. Depending on when this inventory gets used in the field by treatment teams, we highly recommend that Herbicide Application Units be given strict orders to trust the inventory mapping process, regardless of what they see in the spring.

For another example, the native hawkweeds that are abundant in the upper tributaries of the Bridge/Seton watershed, is a harmless alpine flower; its spring shoot is identical to the highly competitive and noxious - Orange Hawkweed. Seasoned herbicide applicators, working in good faith, will commonly over-ride this inventory mapping and using their own judgement, treat an area not recorded herein. Although commendable for dedication and initiative, such applicators can easily waste ministry resources for no worthwhile purpose.

Less frequent species to consider for addition to target list:

- ✓ Russian Thistle (tumbleweed) – common in Frazer Valley, but uncommon in upper tributaries, recommend treating in upper tributaries before it spreads, it is recorded on inventory records.
- ✓ Creeping Buttercup – only found in one cattle grazing region, ought to be treated before spreading.
- ✓ Hoary Alyssum – noted in small pockets throughout region.

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- ✓ Parasitic Dodder – present in rare pockets feeding on alfalfa, recorded on inventory in details section, ought to be treated while still manageable.
- ✓ Stinkweed – recorded in rare pockets throughout region, ought to be treated before it spreads; it taints the taste of milk and meat from grazing animals.
- ✓ Mullein – though common as sporadically occurring individuals throughout region, it is particularly disruptive in rare dense pockets, these occasional pockets (noted in details section of inventory records) should be treated.

Species present that might be tabled for further discussion:

- ✓ Kochia – decorative looking plant, population growing throughout region,
- ✓ Bladder Campion – a few pockets recorded in region, apparently harmless
- ✓ Curled Dock – common in Carpenter Lake REC sites, mature plants are ugly and scratch campers' arms and legs
- ✓ Baby's Breath – although pretty, it is rare in this region and all one has to do is observe the Princeton airport area to see how quickly it can take over.

Native herbaceous species to avoid during treatments:

- ✓ all berry producing plants
- ✓ Cow Parsnip, (sometimes called Indian Celery) eaten by locals
- ✓ Red-root Pigweed – seed cluster similar to quinoa, shoots harvested for salads, seeds harvested for making flour
- ✓ Pineappleweed – used as chamomile-like herbal tea by some, it generally a harmless roadside species.

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IVM – Integrated Vegetation Management

It is extremely frustrating to be doing your best, thoroughly treating an area, only to come around a corner and discover a fenced-in abandoned field saturated with knapweed, and know that those seeds will re-contaminate the area you are working so hard to bring under control.

The only real way to control these noxious weeds is to create an IVM program for the entire area. In many municipalities, abandoned lot owners suffer the indignity of enforced weed treatment programs, where the lot owners get billed for the contractor's treatment if they don't do it. This may sound predominate, yet the worst contributors to the entire Bridge/Seton Watershed noxious weed infestation are those unmanaged properties.

The notion that chemical treatment alone cures the problem contributes to recontamination. In the places where the noxious weeds are the only plants growing, reseeding is essential. Noxious weeds are the most competitive herbaceous species in existence. Therefore, when Tordon 22k kills off the broad-leafed species, if there are no grasses to survive, only noxious species re-grow in these spots; this is especially common in riparian sensitive areas where glyphosate (roundup,) bio-release, or cultural control has been recommended, reseeding is essential for IVM.

Chemical Comparisons

Although **Transline** appears more expensive than Tordon 22k at first glance, it is actually more economical:

- 1) **Transline** leaves more non-target species growing, therefore reducing the need for replanting and retreating next season.
- 2) Because it leaves the *green effect* with more greenery surviving the treatment, observers and residents feel less endangered by environmental contamination, which improves public enjoyment of UREP sites and reduces administrative time spent defending weed control initiatives.

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- 3) Unlike Tordon 22k, it leaves native berry plants and other native woody species growing, therefore reducing erosion, while removing noxious weed contamination.
- 4) Many herbicide applicators are reporting that Transline is more user friendly, causing less negative stress on the worksite.
- 5) Unfortunately, Transline does not work on Hound's Tongue or Dalmatian Toadflax. Other than those two species, Transline is recommended as a replacement for Tordon 22k in all treatment sites. Contractors must have a **dual tank system** on their trucks so they can quickly switch between chemicals.
- 6) The dilution rate is higher with Transline, so the price per litre is irrelevant; the cost per hectare is comparable to Tordon 22k.

Community involvement: feedback

- ❖ The aboriginal community is bluntly against chemical treatment, yet many of the bio-releases we observed in the Seton-Portage area were clearly not working on diffuse knapweed. Because of this political concern, recommending a solution for the I.R. land is outside of our expertise, other than presenting them with information about the more environmentally friendly Transline.
- ❖ People interviewed who were harvesting wild plants and berries state that they want more herbicide warning signs; yet they are **dissatisfied with the current information provided on warning signs**. They would prefer that the warning signs state a specific date that harvesting wild plants will be acceptable, e.g. – **“this area will be risk-free for all forms of public use anytime after JUL28, 2002, or after the first rainfall following JUN15, 2002.”** Any information that is more useable to laypeople would be appreciated. One person summed it up, “who knows what the heck ‘picloram or glyphosate’ are, other than the fact they sound horrific.”
- ❖ Visitors at UREP's mentioned that they come to enjoy the natural beauty of the Lillooet region and would prefer if the warning signs were more subtle, yet still visible. Bright red, white, and black are offensive; **lime green, perhaps?**

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