

Knotweed Treatment in the Cedar River Municipal Watershed

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Why is Knotweed So Bad?

- Completely takes over, creates monoculture
- Disrupts food chain
- Provides no food, nesting habitat
- Degrades fish habitat
- Destabilizes streambanks



Control Methods Tried

- Digging – spread infestation
- Burying –regrew from under 9 feet
- Cutting – 6 years - unsuccessful
- Covering –
8 years,
unsuccessful →



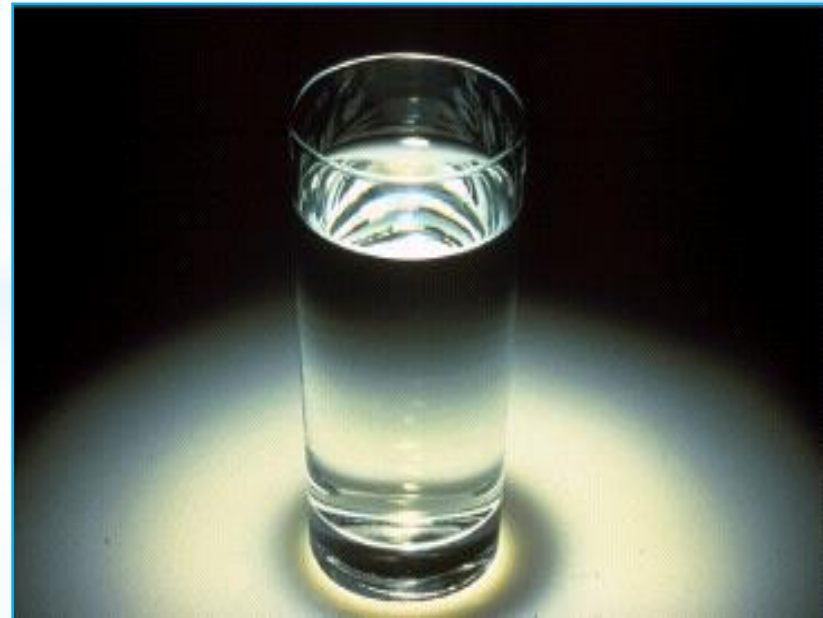
Imazapyr

- EPA rating: low or non-toxic to people and animals
- No measureable adverse effects on mammals, birds, macro-invertebrates, fish
- No bio-accumulation
- Less toxic than Roundup

*US Forest Service Summary of Herbicide Effects to Wildlife, 2005
EPA, Re-registration Eligibility Decision for Imazapyr . EPA 738-R-06-007*

Drinking Water Safety

- Water sampling, testing after each application
- No imazapyr detected in municipal water supply
- Detection limit
0.02 parts per billion



Knotweed near Ed Center before 2010 treatment



Spring after first treatment, May 2011



One year after first treatment, August 2011



Blackberry encroaching one year after first treatment



One year after second treatment, Sept 2012



Locust taking over one year after second treatment



One year after third treatment and KCD restoration grant, Sept 2013

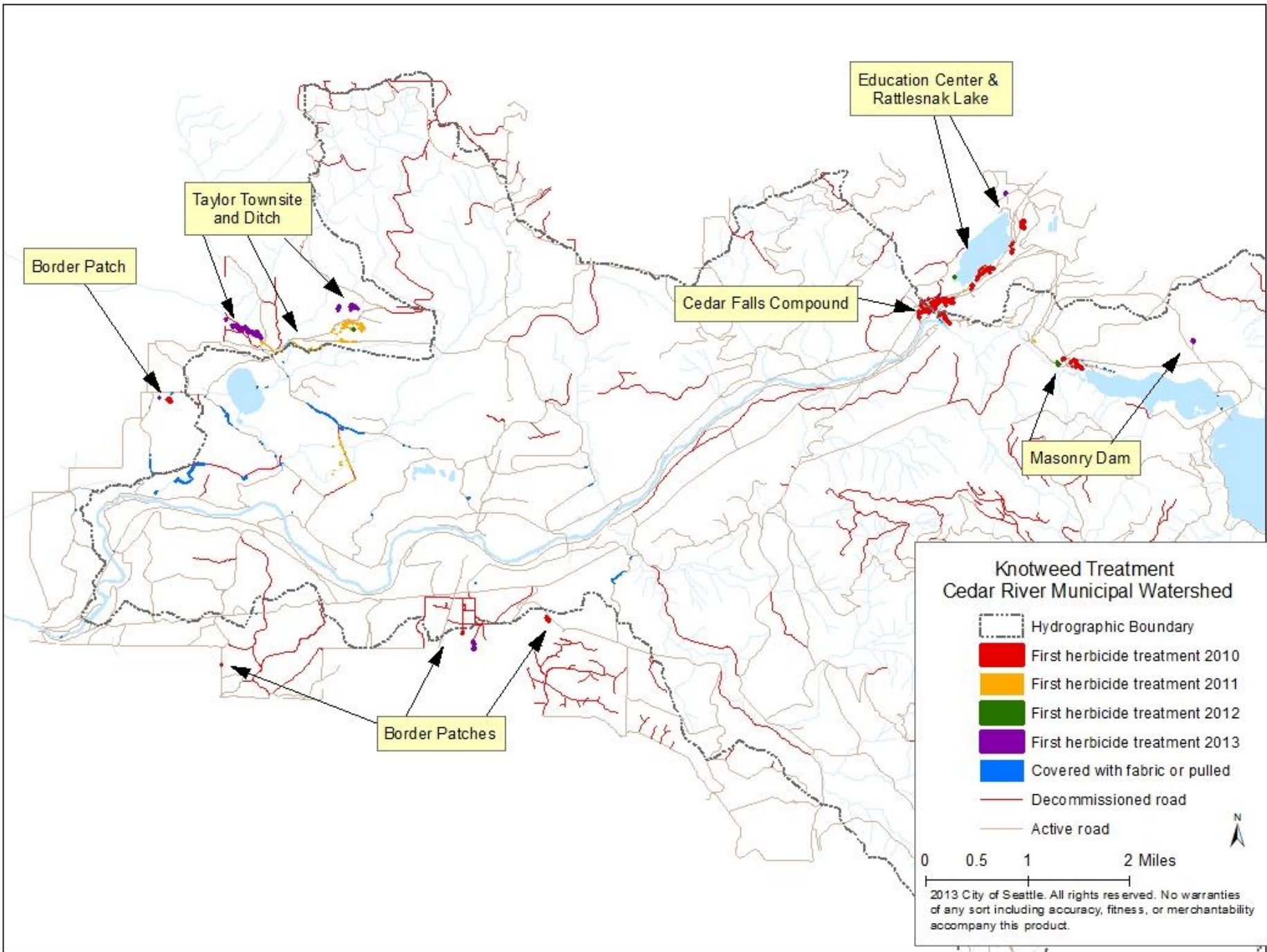


One year after fourth treatment and continued KCD restoration grant, Oct 2014



After 5 treatments, July 2015 - Knotweed still growing





Year	Amount Imazapyr (oz)	Area treated (acres)	Application Rate (oz/acre)
2010	334	7.7	43.4
2011	678	15.6	43.5
2012	241	15.9	15.2
2013	163	18.01	9.1
2014	120	18.01	6.7

Knotweed Ordinance History

- First ordinance: 2010-2012
- Second ordinance: 2013-2015
- Current proposed: 2016-2018
- Limits (all three)
 - Imazapyr to treat knotweed
 - Water quality testing
 - Annual reports to City Council

How Many Treatments Needed?

- Latest western WA data: 8+ consecutive years, >98% mortality
- Data from watershed: 5 years insufficient



Herbicide Treatment 2010-2015

Number Acres	Number Treatments
<i>7.72</i>	6
<i>7.86</i>	5
<i>0.28</i>	4
<i>2.15</i>	3

Site Restoration

- Education Center - 3.5 acres
 - Clear blackberry, locust, ivy, scots broom, mullein, foxglove
 - Plant ~2000 native trees, shrubs
 - Spread hundreds of yards of mulch
- Taylor Townsite – 9 acres
 - Clear blackberry, mullein, foxglove
 - Plant ~7000 native trees, shrubs

Questions?

