

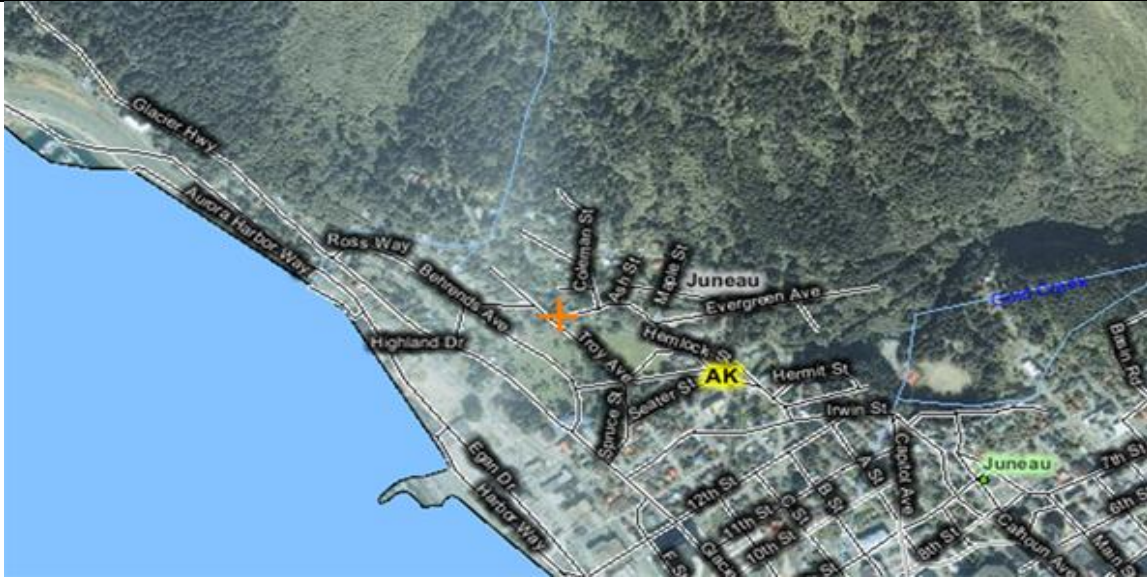
Landowner: Rick Lauber
Date: Aug. 2010
Assisted by: Dana White
GPS Coordinates: 58.30682,-134.42630
Land Cover: Urban neighborhood on the west side of Mt. Juneau, behind resident's home.
Predominant soil: No data available for specified location, NRCS soil survey online.
Size of Area to be Treated: ~200 ft ² , <1/10 A

PURPOSE (Check all that apply)

X	Invasive Weeds	X	Minimize negative impact on soil, water, air, plant, animal & humans
Target Pest Name		Bohemian Knotweed <i>Polygonum X bohemicum, falopia X bohemicum</i>	
Management method (selected alternative)		Injection of Monsanto AquaMaster herbicide. ACTIVE INGREDIENT: *Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt53.8% OTHER INGREDIENTS:46.2%	
Application techniques (i.e., rate, timing, and method)		A hand held injection device that delivers recommended amount of herbicide into targeted hollow-stem plants, 3-5 ml as recommended by Anchorage CES Supplemental label from Monsanto; Bohemian Knotweed, Polygonum bohemicum Inject 5 mL/stem of this project between second and third internode. Note: Based on the maximum annual use rate of glyphosate for these non-crop sites, the combined total for all treatments must not exceed 8 quarts. At a 5mL per stem application rate, 8 quarts should treat ~ 1500 stems; 4mL~1890 stems, 3 mL will treat ~2500 stems. To successfully kill knotweed with herbicides, the active ingredient must move from the leaves, deep into the root system (be translocated) at sufficient concentration to kill the root tissue. For successful translocation to occur, some herbicides should be used at the lowest effective concentration in order to avoid damaging the above ground tissues of the plant before the herbicide is well dispersed in the root system.	
Additional specifications		<p>PPE-Personal Protective Equipment Applicators and handlers of AquaMaster will wear:</p> <ul style="list-style-type: none"> • Long-sleeved shirt and long pants • Chemical resistant gloves made of any waterproof material • Shoes plus socks <p>The benefit of injection is there is little risk to drift and non-target species.</p> <p>The best time for this method is between June and the first frost. September should be the optimal time for application, as the plants energy is going into its roots.</p>	

Other Information:

The soil reference for this area has come from our only reference, and might be outdated.
Soils of the Juneau Area, Alaska 1974
When the last soil reference was made this lake system didn't even exist.
Deducing from surrounding area of the soil type.



Notes:

Anchorage Cooperative Extensions' Recommendation for small stands of invasive knotweed:

Herbicide - Stem Injection: This method has been found to be highly effective, 95% or more control in one year. Though stem-injection is very time and labor intensive because every stem needs to be injected. Stems <0.5 inches cannot be effectively injected. Use a stem injection gun or similar tool. Inject 3-5ml into stem between first and second or second and third nodes if stem is too woody to inject. The best time to stem-inject is from mid-June to first major frost.

To **successfully kill knotweed** with herbicides, the **active ingredient must move** from the **leaves, deep into the root system** (be translocated) at sufficient concentration to kill the root tissue. For successful translocation to occur, some herbicides should be used at the lowest effective concentration in order to avoid damaging the above ground tissues of the plant before the herbicide is well dispersed in the root system.

AquaMaster[®] is a non-selective aquatic herbicide that controls emerged vegetation in environments where water is present. AquaMaster is highly effective on more than 190 species of emerged weeds, including a wide range of annual and perennial grasses, broadleaf weeds and sedges. It works in most aquatic settings better than other weed control options, because it offers application flexibility. Glyphosate, the active ingredient in AquaMaster herbicide, has favorable environmental characteristics, such as degradation over time in soil, sediment, and natural waters, and tight binding to most soils and sediment, which reduces bioavailability soon after application.

This is the method chosen through the USFS, and recommended for use in Southeast Alaska.

This is the edge of a stand of bohemian knotweed that seems to expand uphill into several other residences. I would like to incorporate the other residence in to this plan when I can get their landowner permission. Total area covered is less that ¼ A.

Private Residence 321 Highland Drive: Bohemian Knotweed Injection



9/22/2010

Since none of us have actually used an injection tool before, I arranged for the AACD IPC crew to assist in the treatment of Bohemian Knotweed / Workshop.

The weed warriors have arrived: Invasive Plant Coordinators from around the state have joined forces to inject, mark, and bend all the knotweed stems larger ½ in. or larger. All other stems were clipped above the first or second node and painted with herbicide.

Janice Chumley-Kenai, Roger Johnson-Cordova, Brian Maupin- Homer, Darcy Etcheverry-Fairbanks, Dana White-Juneau, Jessica G.- Metlakatla



We assembled the injection tool and calibrated it for 3ml. We spent 2 hours and used 6 people to participate in the workshop and treatment. Everyone but Jessica used the injection tool, but we all became familiar with the process.

Every stalk (big enough to inject) was injected with 3-5 ml of 100% Aquamaster. The stems too small to inject were carefully painted with 100% Aquamaster and a yellow flag was placed to mark these applications. No other treatment had been done prior to the herbicide application in late September.

*The injector was specially purchased with hardened needles designed to inject hard stemmed knotweeds. After the first half hour of operation it began to feel like it had air or something in the line. We re-calibrated and found that two squirts never equaled more than 5 ml. but this was a disappointment after ordering a \$180 injector to keep the application consistent. After consulting with the company we know the machine is under warranty for one year should it not be worthy, but more than likely the gasket just needs the grease to be redistributed. This particular machine, from JK Injections, is designed to be easily unassembled and reassembled.

Shortly after the injection all the knotweed around town began to show signs of the first frost and turn yellow, including our project. Perfect timing for the injection method (at the end of the growing season), but we will not know the efficacy of the treatment until we see what sprouts next year.

Research, MSDS, and herbicide Label files are too large to attach to this report but have been compiled for the records.

ATTENTION:
This specimen label is provided for general information only.

- This pesticide product may not yet be available or approved for sale or use in your area.
- It is your responsibility to follow all federal, state and local laws and regulations regarding the use of pesticides.
- Before using any pesticide, be sure the intended use is approved in your state or locality.
- Your state or locality may require additional precautions and instructions for use of this product that are not included here.
- Monsanto does not guarantee the completeness or accuracy of this specimen label. The information found in this label may differ from the information found on the product label. You must have the EPA approved labeling with you at the time of use and must read and follow all label directions.
- You should not base any use of a similar product on the precautions, instructions for use or other information you find here.
- Always follow the precautions and instructions for use on the label of the pesticide you are using.

21195F3-25



Complete Directions for Use in Aquatic and Other Non-Crop Sites.

EPA Reg. No. 524-343

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

2006-1

Read the entire label before using this product.

Use only according to label instructions.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

1.0 INGREDIENTS

ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt 53.8%
OTHER INGREDIENTS: 46.2%
100.0%

*Contains 648 grams per liter or 5.4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4.0 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT, (214) 694-4000.

3.0 PRECAUTIONARY STATEMENTS

3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

Remove contaminated clothing and wash clothing before reuse. Wash thoroughly with soap and water after handling.

3.2 Environmental Hazards

Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.

In case of SPILL or LEAK, soak up and remove to a landfill.

3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury. If ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

If it is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Keep container closed to prevent spills and contamination.

PESTICIDE STORAGE: STORE ABOVE 5°F (-15°C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm area 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk containers to mix well before using.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

CONTAINER DISPOSAL: Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

FOR PLASTIC ONE-WAY CONTAINERS & BOTTLES: Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

FOR ONE-WAY DRUMS: Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container.

Private Residence 321 Highland Drive: Bohemian Knotweed Injection

Recommendations and follow up:

Lauber Residence: The injection method of 100% glyphosate has been proven highly successful in the eradication of invasive knotweeds with a 95-98% efficacy after one application. It is likely we missed a stem or did not get enough of the herbicide in the hollow stem to translocate the herbicide to the root system before killing the plant.

Assuming the majority of this stand is killed (which we would know by mid-summer 2011) a second application in August or September 2011 should kill this section of the stand entirely. The Juneau-CWMA has the supplies to finalize this project.

**However, this is a demonstration site because at least two adjacent properties contain large stands of B. knotweed. If these stands are not controlled then there is little potential for long term success of this project, given that the massive rhizomial system is bound to be intertwined between the stands on separate properties.

I would recommend getting the neighbors involved with a cost share project to eradicate B. knotweed from the neighborhood.

Project potentials:

- Base of the Avalanche trail (CBJ?)
- Hodges
- Lauber
- 5 other private residences on Judy Lane (Wakefield, Sherry, etc)
- Chuck Blankenship on the corner of Coleman
- Grummit
- Sue (next to Hodges)

The neighborhood borders the avalanche area and the base of Mount Juneau wilderness. If an avalanche does clear a path it could easily open up a corridor for the plant to pursue up the mountain and continue to take out all native vegetation in its path. B. knotweed creates monocultures that prevent other vegetation from coexisting in the same area and can promote soil erosion on wet and steep slopes.

The new component to this project would require getting the neighborhood association on board, door to door outreach, purchase of herbicide (\$125 per 2 gal) determining the cost share.

An estimated 40-60 hours to inject all the stands in the couple block radius plus door to door outreach