

South Fork Skykomish CWMA Invasive Knotweed Control



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Project Description

The South Fork Skykomish Cooperative Weed Management Area (CWMA) Invasive Knotweed Control Project was established in 2005 in response to the impacts of invasive knotweeds (*Polygonum cuspidatum*, *P. sachalinense*, *P. bohemicum*, *P. polystachyum*) along the South Fork Skykomish, Tye and Foss Rivers. The South Fork Skykomish CWMA's objective is to develop a coordinated approach for controlling invasive knotweeds in the watershed with the goal of restoring or enhancing the quality of the riparian habitat so that healthy ecosystem functioning can return. This will be achieved through eradication of invasive knotweeds from riparian ecosystems in the watershed and encouragement of subsequent re-vegetation activities. Another primary goal is to prevent the spread of invasive knotweeds from semi-populated areas into the Mt. Baker-Snoqualmie National Forest.

The first priority action funded by this project was to complete surveys to determine the extent of knotweed in the watershed. Building on data collected in 2003, this project established the distribution of invasive knotweeds in the Skykomish River Watershed in 2005 and developed priorities for control/eradication with all participating stakeholders. The next priority action was rapid response knotweed control by work crews and volunteers of identified high priority infestations on National Forest, State and private lands. In particular, control efforts were made to halt the upstream invasion of invasive knotweeds in riparian areas which are resulting in displacement of native riparian vegetation and impaired riparian ecosystem functioning.

An action plan for priority infestations of invasive knotweeds was developed based on the size of the infestation, site characteristics, and landowner preference. Control methods utilized an Integrated Pest Management (IPM) approach determined by the characteristics mentioned above.

As of September 30, 2006 the majority of priority sites along the Tye, Foss and South Fork Skykomish Rivers were controlled, however, due to reduced funding in 2006, all priority infestations were not able to be treated. The entire \$8,512.00 of the grant awarded for the South Fork Skykomish Invasive Knotweed CWMA project was spent by the end of September 2006. The project was successful in staying on schedule and achieving the goals set out in the grant proposal. Detailed results and accomplishments are described in the following sections.

Surveys

The King County Noxious Weed Control Program (KCNWCP) completed surveying 15 non-contiguous miles of the mainstem riparian corridor of the South Fork Skykomish and Tye Rivers. Surveys began at the east entrance of Iron Goat Trail and extended downstream past the Miller River confluence (River Mile 28 to 13). Surveys on the Tye, Foss and South Fork Skykomish Rivers were conducted by roadside inspections and streamwalking. In addition, extensive roadside surveys along Highway 2, Iron Goat Trail, and NE Old Stevens Pass Highway were conducted. In 2005, an intensive river rafting survey was conducted on the South Fork Skykomish River from the Beckler River

confluence to half a mile downstream of the Index Creek confluence (River Miles 17 to 7.5) providing an overall view of the knotweed problem in the project area.

Data was collected with GPS data loggers and included: the knotweed species, growth stage of knotweed, area infested, percent cover of infestation, habitat type, proximity to riparian corridor, condition of knotweed, and UTM coordinates. Recommendations for treatment methods were also recorded based on site conditions. An infestation or a site is defined as a parcel, or in the case of large publicly owned lands, distinct locations within a parcel separated by a barrier (road, stream), differences in land-use, or 0.5 mile distance. Within each site or infestation, there may be many discreet patches of knotweed which may change over time. The area of an infestation is defined either as the “gross area” referring to the total area of knotweed infested land or the “cumulative area” which is the sum of the area of the knotweed patches.

Knotweed Control Action Plan

Evaluating site conditions such as land-use, proximity to water, exposure of herbicide to the public, risk of collateral damage to native vegetation, and landowner preference was necessary to determine the preferred treatment option on a site by site basis. Knotweed stem injection with an aquatic formulation of glyphosate was selected as the primary treatment option for sites directly adjacent to riparian corridors and foliar applications of aquatic glyphosate was chosen for re-growth from 2005 treatment and road rights-of-way infestations. An NPDES permit was acquired on May 12, 2006 for the priority knotweed control area to ensure compliance with Federal Clean Water Act requirements.

The grant funding was primarily used for hiring Washington Conservation Corps (WCC) and EarthCorps crews to perform the control work on invasive knotweed infestations and stem injection was the only method used by the crews. Additionally, Woodland Resource Services performed approximately four hours of foliar applications of aquatic glyphosate to re-growth from sites stem injected in 2005. In addition, Mount Baker-Snoqualmie National Forest hired Woodland Resource Services to treat five road rights-of-way sites with foliar applications of aquatic glyphosate. All treated sites followed protocols as specified in the *Decision Notice and Finding of no Significant Impact of the Proposed Treatment of Invasive Plants and New Invaders Strategy – Forest Plan Amendment #26)Management Requirements and Mitigation Measures Included in the Decision* (EA pages 2-11 to 2-15).

Contractor Crew Training and Control Implementation

KCNWCP provided knotweed stem injection training on July 17, 2006 for contractor crews. Crew leaders were then responsible for any subsequent staff trainings and KCNWCP provided quality control and assurance as well as site orientation and logistics.

The methodology for knotweed stem injection was to inject each cane between the lowest two nodes using a 3 ml dose of undiluted AquaMaster/AquaNeat, an aquatic formulation of glyphosate as recommended by the stem injector manufacturer. After injection, each cane was marked with either degradable survey paint or a marking stick to help the applicator distinguish treated versus untreated canes.

Six days comprising 288 hours were provided by WCC and EarthCorps crews for knotweed control. This number is down from 13 days and 770 hours in 2005 due to decreased funding in 2006. WCC crews camped at the Beckler River Campground for four nights to reduce driving time from Seattle, allowing for more on-the-ground control. KCNWCP personnel spent 140 hours between May and September 2006 surveying for invasive knotweed infestations and coordinating control work. KCNWCP staff will begin the monitoring phase of this project in spring 2007. Mortality rates of treated infestations will be assessed during the monitoring phase.

The initial goals of the project were overwhelmingly met in terms of surveys, coordination and recruitment of new CWMA partners, and selecting and treating priority sites. In total, 2.42 net acres of invasive knotweed was treated in 2006 within 21.2 gross infested acres. Two private property owners adjacent to the South Fork Skykomish River began controlling invasive knotweed infestations on their properties in 2006, and efficacy on those sites will be assessed in 2007. KCNWCP donated an injection gun to these property owners to assist them in their control efforts.

Conclusion

The 2006 South Fork Skykomish CWMA priority knotweed control project achieved another successful season that will continue to provide substantial long-term environmental benefits to the South Fork Skykomish riparian ecosystem. Due to reduced funding in 2006, the project saw a decrease in net acreage controlled in comparison to 2005. To be effective over time, this project needs to continue to be a long-term strategic knotweed control program. A significant outcome of the project has been the development of the capacity of the CWMA to implement this long-term strategy.

Photo below left: South Fork Skykomish before control 2005; below right: After control in 2005; bottom photo: South Fork Skykomish August, 2006

