

South Fork Skykomish CWMA Invasive Knotweed Control



2005 Report to the Stakeholders



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Project Description

The South Fork Skykomish Cooperative Weed Management Area (CWMA) Invasive Knotweed Control was established in 2005 in response to the impacts of “Japanese” or 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.

In 2005, the South Fork Skykomish CWMA received funding from the USDA Forest Service, Mount Baker-Snoqualmie National Forest Resource Advisory Committees (RAC), to begin a coordinated knotweed control project in the watershed (Table 1). Invasive knotweeds are highly invasive plants that are presenting an enormous challenge to land managers and restoration groups. Priority actions funded by this project included survey work to determine the extent of knotweed in the watershed and rapid response control by work crews and volunteers on identified high priority infestations on National Forest, state, and private lands.

Table 1. 2005 South Fork Skykomish CWMA Budget				
	Category			
Funding Sources	Survey/Control/ Monitor	Equipment/ supplies	Contractual	Total
USDA- Forest Service		\$500.00	\$9,500.00	\$10,000.00
King County Noxious Weed Control Program	\$12,120.00	\$1,823.44	\$4,000.00	\$17,943.44
Total dollars spent per category	\$12,120.00	\$2,323.44	\$13,500.00	\$27,943.44

This project, which built on data collected in 2003, established the distribution of invasive knotweeds in the Skykomish River Watershed and developed priorities for control/eradication with all possible stakeholders. 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. High priority infestations on the Tye, Foss and South Fork Skykomish Rivers were controlled in 2005.

An action plan for priority infestations of invasive knotweeds was developed based on the size of the infestation, site characteristics, and preferences of the landowner. Control methods utilized an Integrated Pest Management (IPM) approach determined by the characteristics mentioned above. Detailed results and accomplishments are described in the following sections.

Surveys

The King County Noxious Weed Control Program (KCNWCP) completed surveying 21 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 Index Creek confluence (River Mile 28 to 7.5). Surveys on the Tye, Foss and South Fork Skykomish Rivers were conducted by roadside inspections, streamwalking and river rafting. 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 (RM 17 to 7.5). In addition, extensive surveys along Highway 2, Iron Goat Trail, and NE Old Stevens Pass Highway were conducted.

Data was collected with GPS recording 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 provided 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, the proximity to water, exposure of herbicide to the public, and 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 were chosen for all other infestations. An NPDES permit was acquired on June 7, 2005, for the priority knotweed control area to ensure compliance with Federal Clean Water Act requirements.

The grant funding was primarily used for hiring contractors to perform the control work on invasive knotweed infestations and stem injection was the only method used by the Earthcorps and



Washington Conservation Corps (WCC) crews hired by KCNWCP (Earthcorps personnel pictured above). Woodland Resources, Inc., as hired by the Mount Baker Snoqualmie National Forest, treated five road rights-of-way sites in King County 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 training for knotweed stem injection 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 Glypro, 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.

(Photo above: knotweed canes tagged for injections.)



Thirteen days comprising 770 hours (includes driving time from Seattle) were provided by Earthcorps and WCC for knotweed control. In addition, KCNWCP personnel spent 304 hours surveying for invasive knotweed infestations and coordinating control work between May and September 2005. KCNWCP staff began the monitoring phase of this project in early November 2005 and will continue in 2006. 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, 9.3 net acres of invasive knotweed was treated in 2005 within 21.2 gross infested acres. (Photo above: injecting canes with herbicides.)

Conclusion

The 2005 South Fork Skykomish CWMA priority knotweed control project achieved a successful season which will continue to provide substantial long-term environmental benefits to the South Fork Skykomish riparian ecosystem. To be effective over time, this project needs to continue to be the start of 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.



Knotweed along the Tye River a couple of weeks after injections.