Sandy River, Northern Oregon
Knotweed Eradication at a Watershed Scale in the Pacific Northwest
A Success Story
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Note: This success story is about more than eradicating a pestiferous pair of plants from an entire watershed...it is also about building capacity, extending partnerships, and developing a team of dedicated hardcore weed warriors who work in all aspects of stewardship including education, outreach, developing partnerships, and weed management.

The Setting
The headwaters of Oregon's Sandy River gather high up on the glacial slopes of Mount Hood. As the river winds down its 50-mile path to its confluence with the Columbia River, it drops 6000 ft and passes through montane landscapes, upland terraces, pristine old-growth forests, and deep slot canyons. The forested upland terraces of the Sandy River provide habitat for spotted owls, black bears, cougars and elk. The river itself provides excellent habitat for a myriad of native species, including viable wild runs of federally threatened steelhead trout and chinook salmon. Some of the best remaining tracts of low elevation old growth Douglas fir forest in Oregon are in the Sandy River watershed, and these forests are home to several rare and endemic species, including the Oregon slender salamander (*Batrachoseps wrightorum*). Significant portions of the Sandy River system are designated as an Oregon Scenic Waterway and as a federal Wild and Scenic River.

The invaders – Japanese and giant knotweed (*Polygonum cuspidatum* and *P. sachalinense*)
Japanese knotweed and giant knotweed are highly competitive and aggressive non-native, broad-leaved, perennial species native to Asia. A combination of factors allows these knotweeds to rapidly form dense colonies and exclude native vegetation in riparian areas, thereby destroying critical fish and wildlife habitat. Knotweeds tolerate a wide range of soil types from river cobble to rich soil. They start growth early in the spring and grow to a maximum height of 10-15 ft by early June. Because root fragments as small as ½ inch can start new plants, seasonal floods can spread knotweeds to new areas. These plants are documented as major weed problems in the British Isles and in many regions in the U.S. (West, Northeast, Mid-Atlantic, Midwest, Southeast).

Knotweeds became recognized as severe threats to watersheds in the Pacific Northwest only within the last five years. Because the Pacific Northwest has such a high number of flood-prone waterways and associated riparian areas, it is particularly vulnerable to invasion.

Knotweeds were first noticed by staff of The Nature Conservancy (TNC) along the Sandy River in 1996 following severe flooding.

A Success Story
In 1999, alarmed by the increasing amount of knotweeds in and around TNC's Sandy River Preserve, Jonathan Soll of TNC's Oregon Chapter obtained funding through the Oregon

Watershed Enhancement Board, the Bureau of Land Management and the United States Fish and Wildlife Service, and hired a seasonal employee (2000), and then four AmeriCorps volunteers (2001) to work on controlling knotweed along the Sandy River. These folks mapped knotweed populations along the entire lower Sandy River, and more importantly, they began the process of determining a range of effective control methods by performing treatment trials, and carefully monitoring their results. The following year (2002), three of those original four Americorps personnel returned, this time as TNC employees called the Portland Area Preserves Stewardship Team (PAPST), and along with a new batch of AmeriCorps volunteers continued with their mapping, monitoring, control treatments, and outreach efforts. The PAPST now operates all weed management activities for five TNC preserves in the Portland Metropolitan area, works on community outreach and education, leads volunteer and youth work parties, and trains local land managers about the threat and management of invasive species in the region.

What is the current status of knotweeds on the Sandy River? From just 2001 to 2003, the Team reduced knotweed populations along the lower Sandy River by at least 80% and has determined a range of best management practices for controlling knotweeds in the Pacific Northwest. Their outreach efforts have also been successful. The Team works with numerous public and private partners on the Sandy, including over 200 private landowners who have granted access to their property. As a result, they anticipate eradicating this insidious invader from the entire lower river system in 2005. Their next plans are to eradicate knotweeds from the upper reaches of the river and its major tributaries (perhaps as soon as 2006), and to work with Portland Metro Parks & Greenspaces (part of a regional governmental body) to eradicate knotweeds from the nearby Clackamas River. In the process they will continue to leverage their experience and expertise by educating agencies and landowners and supporting regional weed control programs.

While knotweeds are being successfully removed from the Sandy River, other weeds and stresses continue to threaten the natural resources in this region. But, with this invader gone, and with the knowledge, experience, and partnerships built with this project, the entire Sandy River watershed and other watersheds of the Pacific Northwest are one step closer to maintaining a high level of native biodiversity by working together to prevent and manage exotic invasive species.

For More Information

For more information about this project, contact Jonathan Soll, Portland-area Preserves Manager for The Nature Conservancy, Oregon Chapter at jsoll@tnc.org or 503-230-1221.

A review article with more detailed information about Japanese knotweed, including a description of its diagnostic characteristics, range, ecology, and methods for its control, is available on The Nature Conservancy's Wildland Invasive Species Team web site at http://tncweeds.ucdavis.edu/esadocs/polycusp.html.

Edited by: Barry Rice, The Nature Conservancy's Wildland Invasive Species Team
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