Weed of the Month: Reed Sweetgrass (*Glyceria maxima*), *Class A Noxious Weed* in King County, Washington

Reed sweetgrass, also known as tall manna grass, is probably more familiar to the gardening community than to weed specialists unless you are from Ontario or parts of the Great Lakes area in the United States. In the Pacific Northwest, reed sweetgrass is occasionally used as an ornamental grass along lakeshores and wet areas, but it has only begun to show its potential as an invasive weed. However, seeing the impact and invasiveness of reed sweetgrass in parts of Canada and the United States, the Washington State Noxious Weed Board and the Washington State Department of Agriculture acted proactively to prevent future problems. In Washington, reed sweetgrass is classified as a Class A Noxious Weed, meaning it must be removed wherever it occurs, and as a Prohibited Plant, meaning it is illegal to buy or sell it in Washington State. The goal is to catch any new populations quickly before they become entrenched and to stop any future introductions. Now the challenge is to get the word out to gardeners and nurseries to make sure it isn’t being planted and to locate any places where it was previously planted or has escaped.

Until this year, there was only one known population of reed sweetgrass in Washington, in a private pond in Snohomish County. Although it had been planted originally, there was no doubt that it had begun to spread aggressively as had been seen elsewhere in North America, so actions were taken to start eradicating it. In King County, we were pretty sure it would show up eventually, but we were still unpleasantly surprised to find not one but two populations of reed sweetgrass this summer.
The reed sweetgrass variety found in Snohomish County and at one of our sites is variegated and quite distinctive with its green and creamy-white striped leaves. However, the other site in King County has non-variegated reed sweetgrass, making it much more difficult to distinguish from its close native look-alike and other tall ornamental grasses. Reed sweetgrass is a *Glyceria*, a genus of grasses that have graceful, open flower stems and are often found in wet areas. The common native species that it most closely resembles is American mannagrass, *Glyceria grandis*, often found in wetlands and shorelines, just like reed sweetgrass. Both are tall grasses with similar flower stems. Reed sweetgrass, appropriately named *Glyceria maxima*, is generally taller (up to 8 feet tall compared with 5 feet for American mannagrass) and the flower spikes tend to be more upright than droopy. However, they are similar enough that it will probably take an expert to know for sure which *Glyceria* you have.

Katie Messick, our aquatic weed specialist, wasn’t entirely sure herself when she discovered the two populations this summer, one on Lake Marcel and one in Renton at a former nursery. A sample of the Lake Marcel population was sent to a *Glyceria* expert in Utah, Dr. Mary Barkworth, who confirmed our fears that it was the European import reed sweetgrass, *Glyceria maxima*. The Renton plants, which are not variegated but otherwise look like the others, were given to local botanist Sarah Cooke for confirmation and she was able to determine that this was also the invasive species. This is the first non-variegated population found in Washington State. Katie then obtained permission from the landowners and controlled both populations this summer and will follow up next year on any re-growth.

We hope that’s the last of it, but it would be naïve to think there are no other populations of this plant in the county. Please check your own gardens and lakeshores for any tall grasses that resemble the pictures on our webpage, especially if they have green and cream striped leaves. Similar to many other invasive plants, this grass is very tenacious and develops massive roots, making control of established populations pretty much a lost cause. However, small populations can be removed with fairly good success. So, as with other invasive plants, early detection and rapid response is the key to stopping reed sweetgrass from creating headaches for us all. If you think you see reed sweetgrass growing anywhere in King County, please contact us right away or report the location online. For more information on this plant, check out our website or contact Katie Messick at 202-296-0290.

**Weed Tips for October**

**Time to look for and control biennials, winter annuals and re-sprouting perennials.** Look for low growing seedlings and rosettes of bull thistle, milk thistle, tansy ragwort, spotted knapweed, goatsrue, garlic mustard and hawkweed. These plants and many others are actively building up their roots so they can grow and flower quickly next spring and summer and it can be a very effective time to treat them with herbicide or dig them up. Please check our Best Management Practices or contact our office for more information and site-specific advice on fall management of noxious weeds.

**Fall color is helpful as well as beautiful.** Changing colors and falling leaves make it much easier to spot evergreen invaders like English ivy, English holly, and cherry laurel, as well as overwintering plants like yellow archangel with its distinctive silvery-green leaves. Also, the soil is getting easier to work as the rains come back, and the cooler temperature makes it easier to work outside. If you want to find knotweed along waterways and roads, it is very easy to spot in the fall as the stems turn first yellow and then reddish brown. It’s not a good time to control knotweed, since the plants go dormant over the winter, but you can start making plans for next year if you know where it is.
Keep an eye out for really big grasses in natural areas. The tall, showy plumes of common reed (*Phragmites australis*) are pretty conspicuous this time of year and we are trying to find it all before the seeds mature. The largest site we know about is near Highway 509’s 1st Avenue bridge, but there are many other small populations out there. Other tall grasses to look for include reed sweetgrass (see article above), *Spartina*, and Andean pampas or jubata grass growing where it wasn’t planted (this last one isn’t a noxious weed but it is being monitored because of its invasiveness elsewhere). Please contact us if you find a suspicious tall grass invading a wetland or roadside.

Remove weedy vines from trees. Look around for English ivy and old man’s beard (wild clematis) draping over the limbs of your trees. Mature ivy branches are busily making little umbrella clusters of green flowers now that will be followed by berries in the winter and spring. Wild clematis is starting to go to seed, so it should be easy to spot with its puffy white clusters of seeds high up in the trees and on hillsides. Trace the vines to the ground and pull up the roots or at least separate the roots from the upper growth. Clear trunks of all strands of ivy and clematis up to chest height and then let the upper stems die back. Remove as much of the root as possible, especially near the base of the trees, to stop the vines from growing back up the trunks.

Scotch broom is a great fall and winter project. Not only is it very easy to find with its evergreen stems, it is easier to pull in moist soil and you are less likely to damage roots of nearby plants. Unlike blackberries, Scotch broom doesn’t have thorns and so makes for an easy work party activity if you can get a few weed wrenches for people to use. Often parks departments have weed wrenches available for work parties on public lands. If you need a weed wrench for your own property, you can borrow one of ours for a week or two. Just contact us at 206-296-0290 or by email to reserve a time and then come to our office in Seattle at 201 S. Jackson, 6th floor (next to the train station) to pick it up.

Plant natives into natural areas. Competition from well-established plants is a great way to reduce weed problems. Healthy native trees and shrubs can help hold back invasive blackberries, knotweed, Scotch broom and other aggressive invasive weeds from taking hold. This is a great time to plant shrubs, trees and perennials. Their roots will get lots of rain over the fall and winter, making them stronger and more able to survive our summer dry period next year. For photos, planting plans and native plant sources, check out the county’s online Native Plant Guide.

Garden Loosestrife: just a weed or GIANT MUTANT CLONE?

*Garden loosestrife* (*Lysimachia vulgaris*) seems to be considerably more aggressive in Washington, and particularly in King County, than it is anywhere else in the country, and possibly worse than anywhere else in the world. Consider the following:

- The average height of the tallest plants elsewhere is about 5 feet, but we regularly find 10 foot tall plants in the shade, and a mature patch is generally well over 6 feet tall.
- In King County, garden loosestrife out-competes and is starting to replace mature cattail stands and has been found establishing under knotweed and overtopping blackberry.
- Garden loosestrife isn’t supposed to like shade at all, but in King County it is growing deep into forested wetlands.
- So far, every “seedling” dug up has been growing from a rhizome fragment.
Nobody else anywhere seems to be working on control of garden loosestrife, so there is little information about how to control it. We are on our own figuring this one out and it is proving to be more challenging than we thought. We are attacking the mystery of garden loosestrife from several angles:

- We’re working with Tim Miller of WSU Extension Mt. Vernon to establish herbicide control trials.
- We’ve sent plant material to the Cellular and Molecular Biology Lab at Salish Kootenai College in Montana to test for polyploidy.
- We’re planning to conduct germination studies on garden loosestrife seeds to see if they are viable (or is the plant only spreading by rhizomes?)

In the meantime, we have several projects aimed at curbing the spread of garden loosestrife and slowly but steadily trying to eliminate it, or at least reduce its dominance where it has already established. Unfortunately, we continue to find new infestations, so we still do not know the whole story and may be missing significant source populations.

For example, the Snoqualmie River valley has numerous locations of this plant on the river and in nearby sloughs. With each flood, new populations show up, often in hard to see and harder to access wetlands and sloughs. Without help from landowners and others, we just won’t be able to find all the populations. Please, if you see garden loosestrife, let us know! Report it online or just give us a call at 206-296-0290 or an email at noxious.weeds@kingcounty.gov.

**New Weeds for King County and Old Weeds in New Places**

One of our main goals is to find noxious weeds as soon as possible after they show up in our county or in a new location, and then to get rid of them quickly before they spread. Prevention is best, but early detection and rapid response are crucial if we ever hope to get ahead of the problem of invasive species. Here are a few new weeds or old weeds in new locations that we found this year:

**Russian Knapweed** (*Acroptilon repens*) – One plant was found (and dug up) on I-90 westbound on the onramp from 161st Ave SE in Bellevue. The plant had been mowed, and may have been there for a season or two, being mowed every year. This is the first time this tough perennial knapweed has been spotted in King County, although it is fairly common east of the Cascades. For photos, distribution and a description see the Burke Museum Herbarium website.

**Reed Sweetgrass** (*Glyceria maxima*) see the Weed of the Month article above describing this new noxious weed for King County.

**European Hawkweed** (*Hieracium sabaudum*) – We added to the few known locations of this Class “A” hawkweed this year. A large population was found at the Fire Training Center near Exit 38 off I-90 and in a few other areas near that exit. A fairly sizable (500 ft) population was found at the onramp to I-90 westbound from Snoqualmie Parkway. We also found the first residential population of European hawkweed in a front yard in Covington. All these populations, and the others identified in previous years, were controlled, but it is disturbing that we continue to find new locations of this hawkweed that was thought to be very limited in distribution in Washington. It is also becoming clear that this is one of the more difficult to control hawkweeds and will take even more follow-up than the other invasive hawkweeds.
**Garlic Mustard** (*Alliaria petiolata*) – We found two brand new locations of garlic mustard in east King County, one reported by a landowner who was familiar with this plant from Portland, and the other was spotted by our staff doing road surveys. First, about 3,000 square feet of garlic mustard was found on the right-of-way of SE 312th St by Lake Sawyer Regional Park in Black Diamond and then a total of 1,200 square feet of garlic mustard was found scattered between three residential properties on E. 6th St in North Bend. Since both of these sites were in flower and fairly large, there probably have been plants there for at least a couple of years. Checking in the area revealed no other locations, so we believe we are catching these populations early enough to eliminate them. All flowering plants were pulled by us or the landowners, except for one property where the area was mowed before we could contact the landowner. We also followed up by spraying the rosettes to reduce next year’s mature plants. Also, in the Lake Sawyer area, information was given to the adjacent homeowners association and posted on their website. We will follow up with more outreach in both communities next year as well.

**Buffalo Bur** (*Solanum rostratum*) was found under a bird feeding station in unincorporated King County this season and in a yard in Seattle (see report on this plant in the August KC Weed News issue). Both of these plants were discovered by the public – the property owner in one case and the 5th grade son of the property owner in the other. We really appreciate these kinds of reports, because we just can’t be everywhere and stopping noxious weeds early is so important.

**Bighead Knapweed** (*Centaurea macrocephala*) – this large, attractive yellow knapweed, sometimes called pineapple thistle, was found being commercially grown on a few flower farms in south and east King County and in Snohomish County and being sold at local farmers markets. Although it is attractive in cut flower arrangements, it also has the potential to be a huge headache if it should escape into natural areas and fields and it is illegal to grow and sell this plant in Washington State. Sadly, the flower farmers had not been informed about this plant and were not aware that there was a Prohibited Plants List. Hopefully we can work next year to increase local farmers’ awareness about the noxious weed list and laws so they don’t waste time and money growing plants they can’t sell.

New locations for old weeds included: yellow nutsedge (*Cyperus esculentus*) in Martin Luther King Memorial Park, orange hawkweed (*Hieracium aurantiacum*) hybrids and sulfur cinquefoil (*Potentilla recta*) in gardens in West Seattle, and a large patch of policeman’s helmet (*Impatiens glandulifera*) in a roadside ditch just outside of the city of Snoqualmie.

**State Adds Species to Quarantine List of Prohibited Plants**

On August 27, Washington State Department of Agriculture (WSDA) held a hearing in Olympia to consider changes to the state quarantine lists that specify which plants are banned from sale in Washington. The lists are contained in Washington Administrative Code (WAC) Chapter 16-752. There are two main quarantine lists, one for aquatic species and one for other noxious weeds, as well as a few related noxious weed rules relating to purple loosestrife and tansy ragwort. These lists are also both included in WSDA’s brochure Prohibited Plants List, although the new species haven’t been added yet.

The goal for the quarantine is to prevent the introduction of invasive plants into Washington. The rules for the two quarantine lists are pretty much the same. Under the noxious weed quarantine, the rules states that:

> It is prohibited to transport, buy, sell, offer for sale, or to distribute plants or plant parts of the regulated species listed in WAC 16-752-610 into or within the state of Washington or to sell, offer for sale, or distribute...
seed packets of the seed, flower seed blends, or wildflower mixes of these regulated species into or within the state of Washington.

Under the wetland and aquatic plant quarantine, the rule states that:

It is prohibited to transport, buy, sell, offer for sale, or to distribute plants or plant parts of the regulated plants, listed in WAC 16-752-505, into or within the state of Washington. It is further prohibited to intentionally transplant wild plants and/or plant parts of these species within the state of Washington.

The rule changes, which were adopted on September 3 and went into effect on October 4, included:

- Addition of the following species to the wetland and aquatic weed quarantine list: floating primrose willow – Ludwigia peploides, variable-leaf milfoil – Myriophyllum heterophyllum, ricefield bulrush – Schoenoplectus mucronatus, and water soldiers – Stratiotes aloides;
- Addition of the following species to the noxious weed seed and plant quarantine: false brome – Brachypodium sylvaticum, shiny geranium – Geranium lucidum, and European hawkweed – Hieracium sabaudum;
- Revision of permit requirements for educational or training materials;
- Addition of language regarding botanical synonyms; and
- Increased clarity and readability by removing obsolete definitions and updating the language.

For more information about the quarantine laws and lists, contact our office at 206-296-0290, the Washington State Noxious Weed Board at 360-902-2053, or the WSDA Nursery Inspection Program at 360-902-1874.

Nov. 4 to 6 – WA State Weed Association Conference in Yakima
The 59th Annual Weed Conference will be held November 4 to 6 in Yakima. This is Washington’s main weed conference for crops, turf, ornamental landscapes, and vegetation management. The conference website is http://www.weedconference.org. This is a good conference for people in the field of weed control and/or vegetation management and those seeking to continue their education and get recertification credits for their pesticide licenses. Register by October 26 to get early registration rates and don’t forget to enter the Photo Contest for cash prizes and instant fame. Here are a few topics that should be of interest to those of us doing weed control in King County:

- The Future of Farming, Present Conditions and Future Challenges of Agriculture in Washington State, Dan Newhouse, new director of WA State Department of Agriculture
- Do pesticides affect salmonids?, Dr. Chris Grue, University of Washington
- Current issues at EPA: 2,4-D, endocrine disrupters, and other topics
- Management of noxious weeds in Washington, Oregon and British Columbia
- Ways to minimize herbicide drift
- Workshops on herbicide application, equipment and personal safety
- Yellow nutsedge control
- Managing pigweeds and common lambsquarters
- Control of yellow archangel and meadow knapweed
- What’s new with aquatic weeds
- Biocontrol in Washington
- Strategies for vegetation management on road shoulders
- Invasive plants of South Puget Sound Prairies
• New products from Dow Agrosciences, DuPont, Wilbur Ellis, Helena, and others
• How to avoid spray mistakes
• WSU Puyallup research results on turf and ornamental herbicides
• And many other topics (see conference schedule online)

Aquatic Weed and Saltwater Algae Grants from Department of Ecology
Ecology will be accepting Aquatic Weeds and Saltwater Algae grant applications beginning October 1, 2009. The following documents related to the Aquatic Weeds, Algae, and Saltwater Algae programs are on Water Quality website (see links):
• Saltwater Algae funding announcement http://www.ecy.wa.gov/biblio/0910072.html
• Saltwater Algae guidelines http://www.ecy.wa.gov/biblio/0910073.html
• Saltwater Algae application http://www.ecy.wa.gov/biblio/ecy070359.html
• Aquatic Weeds funding announcement http://www.ecy.wa.gov/biblio/0910070.html
• Aquatic Weeds application http://www.ecy.wa.gov/biblio/ecy07028.html

There is also a brief explanation on the Freshwater Algae program page about this year’s (nonexistent) grant cycle (http://www.ecy.wa.gov/programs/wq/plants/algae/index.html). For more information, please contact Melanie Tyler, Washington State Department of Ecology (HQ - Lacey), Water Quality Program (Financial Mgmt. Section), 360-407-7489, mety461@ecy.wa.gov.

Knotweed Workshops Popular, Will Be Expanded Next Year
The Noxious Weed Program held several workshops this year for landowners and agency staff on how to control knotweed. These were very well attended, showing us that lots of people in the county are struggling with knotweed and are looking for help figuring out how to get rid of it. Also, people who attended a workshop were eligible to borrow our stem injection guns. Several people took advantage of this opportunity, saving them the expense of purchasing their own. Others learned about and tried other methods or purchased their own equipment. Where we had ongoing grant-funded knotweed projects, we were able to coordinate with the landowners about where we could control the knotweed, where other groups like Mountains to Sound Greenway Trust and Cascade Land Conservancy were working, and where the landowners would need to do it themselves or wait for help as our projects continue to expand down the waterways and into more tributaries. Since knotweed moves downstream, this kind of coordination is crucial to successful long-term control.

Also, although it would be great if we could control all the knotweed in the county, that’s just not possible. It is only by working together that we have a chance to reduce the problems being caused by knotweed. That’s why it is very heartening to see the number of landowners, community groups, cities and others working hard to fight back against the spread of knotweed. All in all, it was a good first step in increasing county landowners’ capacity to manage this challenging weed on their land and we hope to keep moving forward with this effort.

Next year, we will once again offer workshops for landowners and agency staff on knotweed biology and control, including a segment on the stem-injection method. Anyone who attends a workshop will be eligible to borrow a stem injector and will also hear about any grant-funded projects in their area. If you are interested in attending a workshop, please contact Sasha Shaw and you will be notified when the workshops are scheduled. The number and location of workshops will depend partly on the level of interest and will also mainly target those river basins where we are working on knotweed control through grants and partnerships.

Sasha Shaw, King County Noxious Weed Program
www.kingcounty.gov/weeds
If you prefer learning from the comfort of your own computer, check out our new knotweed control videos, as well as our knotweed best management practices, knotweed brochures and other information on our website. Also, we want to keep up-to-date on the latest information on knotweed control, so if you have had success using a particular method or have had problems with a method we suggest, we would love to hear about it. For more information, questions or comments about knotweed education in King County, please contact Sasha Shaw.

Collect Knotweed to Help with Biocontrol Research
Marijka Haverhals with the University of Idaho (marijka@uidaho.edu, 208-301-1216) is requesting help collecting knotweed specimens in our area. The purpose of this knotweed collection is to better understand the distribution of species/biotypes/hybrids and reproduction strategies of invasive knotweeds in the western USA and British Columbia through DNA analysis. This information will greatly help with ongoing biocontrol research efforts and generally benefit knotweed management. More specifically, they are looking for leaf collections from these four species:

- Japanese knotweed (*Fallopia japonica*, syn. *Polygonum cuspidatum*)
- Bohemian knotweed (*Fallopia x bohemica*, syn. *Polygonum bohemicum*)
- Giant knotweed (*Fallopia sachalinensis*, syn. *Polygonum sachalinense*)
- Himalayan knotweed (*Polygonum polystachyum*)

For help identifying these knotweed species, check out our website or contact Marijlka for additional resources as well as the sampling instructions. However, she isn’t especially concerned if you can identify the species since they can do that through the DNA analysis, which is one of the goals of this study. If you want to assist in this effort, here is how it works:

Send an email to Marijka@uidaho.edu and let her know where you are located (mailing address). She will send you a sampling kit (sampling protocol, bags with silica and a return envelope). Once you have collected the samples you just put the pre-stamped return envelope in a mailbox.

If you are interested in helping collect knotweed or if you have any questions about this effort, please contact any of the following people. This effort is supported by the Northern Rockies Invasive Plant Council, the Washington State Department of Agriculture, USDA ARS, and the University of Idaho.

- Marijka Haverhals, University of Idaho, marijka@uidaho.edu, (208) 301-1216
- Dr. John Gaskin, john.gaskin@ars.usda.gov
- Dr Fritzi Grevstad, grevstad@u.washington.edu
- Dr. Mark Schwarzlaender, markschw@uidaho.edu

Knotweed Success on Lower Soos Creek
Crews are just winding up a very successful knotweed control season along Soos Creek, a major tributary of the Green River. This project was implemented with major support from the Washington State Department of Ecology. The control work was carried out by our noxious weed program staff working with Washington Conservation Corps and EarthCorps crews and professional weed control contractors.

Almost all major knotweed patches along the lower five river miles of the creek downstream from the junction of Soos Creek and Jenkins Creek to its junction with the Green River were
successfully treated in August and September. Given how infested this stretch of Soos Creek was, we are all breathing a collective sign of relief.

In addition, this work represents a major logistical accomplishment because of the need to contact many dozens of private landowners as well as numerous public agencies and gain their consent for control. Public land managers of properties with high conservation value, such as Washington State Department of Fish and Wildlife and King County Department of Natural Resources and Parks, provided assistance in surveying their parcels for invasive knotweed. They also participated in developing an action plan for their sites. This included the selection of control methods, monitoring and maintenance protocols, and decisions about whether to replant the area or allow for native plant recruitment.

Major areas of valuable habitat along lower Soos Creek are now far less impacted by knotweed infestations. As a result, re-colonization of native plants from active restoration and natural regeneration is becoming widespread and knotweed is increasingly hard to spot. Kudos to our program staff Monica Wallker, Kimiora Ward and Judy Blanco for making this project such a success!

**King County Knotweed Project Manager Moves On (But Leaves Some of Her Know-How Behind)**

Monica Walker, who managed the King County Noxious Weed Program knotweed projects since 2006 and worked with the noxious weed program since 2001, has moved on to further her education at the University of Idaho. We wish her well in her graduate studies and her future career goals, but we will definitely miss her energy and skills. Since Monica began managing the knotweed projects, they have grown to include not only the upper and middle Green River and Soos Creek, but also the Middle Fork and South Fork Snoqualmie, the South Fork Skykomish, the upper and middle Cedar River and Issaquah Creek. Monica helped to obtain significant grant support from many different sources and developed important partnerships with many land managers in these watersheds and with conservation organizations such as Mountains to Sound Greenway Trust. On all the rivers, Monica worked tirelessly to gain permission from each landowner to control knotweed on the riverbanks, coordinated work between multiple crews and contractors, monitored re-growth and re-treatment needs, and generally got the job done.

In between all this, Monica also helped with numerous knotweed workshops and one-on-one technical trainings with agencies, conservation crews, landowners, community groups, and others. Monica was the main author of the county’s Best Management Practices for Invasive Knotweed Species and she helped develop our knotweed control brochure. And, in case we would miss her too much, Monica allowed us to tape videos of her explaining how to control knotweed with the stem-injection guns she knew so well and with the backpack sprayer she had to lug around up and down so many river miles. Check out the videos on our website. If you are interested in finding out about Monica's position and our plans for filling it, please contact Steven Burke at 206-205-6927.