KC Weed News – October 2013

King County, Washington
(http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/weed-news.aspx)

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Weed of the Month: Floating primrose-willow (*Ludwigia peploides*), a Class A noxious weed in Washington state

I recently had the pleasure to accompany Ben Peterson, our aquatic weed specialist, to see what remains of the one known infestation of floating primrose-willow in Washington state. Floating primrose-willow (*Ludwigia peploides*) was first found in 2004 growing in a wetland along Taylor Creek, a tributary of the Cedar River. Although its cousin water primrose (*Ludwigia hexapetala*), also a Washington state noxious weed, was already established in southwest Washington, the Taylor Creek population was the first known occurrence in the state of this particular invasive *Ludwigia* species. When it was discovered, the infestation was alarmingly large and dense, but fortunately it was fairly localized and had not spread beyond the one wetland where it was found. It is still not known how the plant got there originally, but it is possible it was used as an ornamental species somewhere nearby.

Floating primrose-willow, also known as creeping water primrose, is an aquatic plant that can be found in freshwater up to 10 feet deep or growing along muddy shorelines. There are three subspecies: *glabrescens*, *Montevidensis*, and *peploides*. The differences between the subspecies are subtle and hard to distinguish, but none of them are native to Washington. Two of the subspecies (*glabrescens* and *peploides*) are native to parts of the southern United States and one, *Montevidensis*, is native to South America.

Floating primrose-willow has fleshy, reddish stems that generally float along the water's surface or creep along the ground, with flowering stems that are more or less prostrate but can also emerge a foot or so above the water's surface. The flowers are rather showy, bright yellow with 5 petals, and grow on stalks from the leaf axils. The leaves are usually roundish or egg-shaped but are variable in size and shape, have untoothed edges and light-green pinnate veins (like a feather), and grow alternately on the stems (unlike the very similar native water purslane, *Ludwigia palustris*, which has an opposite leaf arrangement and inconspicuous green flowers).

When introduced outside of its native range, floating primrose-willow can spread quickly and aggressively and become a serious nuisance species. In France, for instance, a small 400 square foot patch grew to cover 320 acres in five years. The plant can form dense, sprawling mats that clog waterways, impede navigation, hinder irrigation and water drainage, increase sedimentation and reduce oxygen in the water. It is generally unpalatable to water fowl and wildlife and can displace edible native plants. As with many aquatic plants, floating primrose-willow is mostly spread through fragmentation, although it also appears to produce viable seeds. The similar water primrose has invaded irrigation canals in southwest Washington where it has caused considerable damage and proven to be very difficult and costly to manage.

Given the potential risk of this plant to our waterways, I am happy to report that in the wetland on Taylor Creek the population of floating primrose-willow has been much reduced from its original size of a solid 4,500 square feet to a few scattered small patches. Even more importantly, so far, knock on wood, the plant has been contained to the original area of infestation. The plants have been treated with aquatic herbicides and/or hand-pulling every year since their discovery in 2004, keeping them from spreading and greatly reducing the density of the population. However, it is a testament to how difficult this plant is to control that 10 years of chemical treatment and hand-pulling has failed to eradicate this relatively small population.

During my visit to the Taylor Creek wetland, I was able to see first-hand what makes floating primrose-willow so difficult to eradicate. The plants are deeply rooted and grow mostly out in deep water in a muddy-bottomed ponded wetland. They have waxy leaves that resist spraying and they are growing mixed in with desirable natives in a high quality wetland. Over the years of treatment, a beaver dam and restoration activities have added disturbance and increased flooding to make the control effort even more challenging. To even get to the plants to control them these days takes a dry suit, a flotation vest and a lot of courage and agility to carefully spot spray them without injuring the native plants growing around them, and without sinking into the deep mud or falling off the floating logs. Watching Ben accomplish this task was more than a little nerve-wracking and made me glad to be the one keeping watch from the shoreline.

My advice is to keep a careful eye out for this plant in ponds and wetlands, because once it is established in a waterway, I'm not sure it could ever be completely eradicated. For more information, see our web page on floating primrose-willow and please let us know about any suspected populations in King County. Outside of King County, please contact your local county noxious weed program or the Washington State Noxious Weed Control Board.

Weed tips for October

Fall is a great time to control many noxious weeds. In the cool, autumn months after the rains start up again and before the hard frosts of winter, there is a window of opportunity for controlling many weeds. Weeds that are actively growing now and building up roots are available for control with herbicides or

manual methods like digging. Some prime targets for fall weed control include Canada thistle, bull thistle, milk thistle, spotted knapweed, garlic mustard, sulfur cinquefoil and tansy ragwort. Digging and even hand-pulling is very effective in the fall when the soil loosens up with the rain and before it gets too soggy and heavy to work. Also, some weeds are germinating from seed now, so this is a good time to spread cardboard and wood chips or other mulch in order to keep weeds from developing and to prevent germination of other weeds in the early spring.

Do your research before applying chemicals for fall weed control. For large infestations of really tough weeds, herbicides may be the most cost-effective way to go, but make sure to do your research first to minimize risk to the environment, protect personal safety, and maximize effectiveness. Fall treatment can work on perennials and biennials before they start to die back but there's no point in spraying annual weeds that have gone to seed (they are done growing). However, if there are seedlings where plants went to seed earlier this year, chemical treatment can be a helpful way to reduce spring weed problems, especially for winter annuals like milk thistle and garlic mustard. In pastures, aminopyralid (e.g. Milestone) is one chemical that is useful in the fall on many broadleaf weeds and won't kill the grass. Away from grassy areas, glyphosate (e.g. Roundup, Aquamaster) is effective for fall treatment of many perennial weeds and woody plants like blackberry. If you choose to use herbicides, carefully follow all label and safety directions and only apply chemicals where and when it is legal and safe to do so. For help choosing safer products for home use, call the Garden Hotline for help at 206-633-0224 (y en Español), find safer product choices at GrowSmartGrowSafe.org, or contact us with any questions.

Think about doing blackberry control in the fall. Both of our invasive blackberry species, Himalayan and evergreen, are still growing quite actively in October. Fall can be a good time to control blackberry while minimizing impacts on native vegetation, which is going dormant, and birds, which nest in the spring and are less likely to be impacted at this time. Digging up blackberry is easier in the fall when the soil is looser than in the hot, dry summer months. If you choose to use herbicides, spraying blackberry foliage with glyphosate is effective until leaves start to turn color and die back. When digging up blackberry, avoid exposing soil near streams and rivers where it will wash into the water during the storms and high waters of the winter. In sensitive areas, make sure to use hand-operated tools only, not heavy equipment that can increase erosion and soil damage. For cutting, there are heavy-duty blades that can be used on weed trimmers or brush cutters or there is the always effective, if time-consuming, long-handled loppers. Digging roots out with a shovel works fine, but somewhat easier is a claw-style mattock that can hook onto the base of the plant and help you lever out the root ball. After you remove the blackberries, it's a great time to plant hardy native shrubs and trees that will provide habitat for wildlife, improve water quality and protect the soil (see www.kingcounty.gov/gonative for suggestions).

Targeted stem treatment methods can control invasive shrubs and trees without hurting other plants. Although stem treatments can work more slowly in the fall than in the summer, they are still effective and may reduce harm to adjacent plants. Woody species like holly and laurel can be controlled with a targeted application of herbicide just inside the bark where sugars are being transported down into the roots. Another method is to apply herbicide directly to the basal bark mixed with an oil carrier that will allow the herbicide to penetrate the bark. There are many tools out there developed for forestry weed control such as the EZ-Ject lance or you can use simple tools like a sharp hatchet and a spray bottle. Products that can be used for these methods, such as triclopyr and glyphosate, will have instructions for how much product to use and the best timing. Targeted stem treatment can reduce the risk of herbicide getting on surrounding vegetation, especially when most plants are dormant. As with all herbicide use, carefully follow the directions and cautions on the label and avoid use when chemicals will wash off into streams and surrounding vegetation.

Control invasive vines now to reduce weight on trees over the windy, rainy winter. Our wet, windy winters are a big challenge for trees, especially when they are weighted down by mounds of English ivy or Clematis (old man's beard) vines. These vines can create a sail effect, catching the wind and creating more stress on the trees in strong winds. Also, both ivy and clematis can develop into thick, heavy stems, so it is like having lots of small trees growing all over your tree. English ivy vines can add over 2000 pounds to a large tree, making it hard for even the sturdiest Douglas fir to stay up in a windstorm. Also, vines can make it tough to know how healthy a tree is and can mask problems with rot and dead limbs. It's best to clear the trunks now of all ivy and clematis vines, allowing the upper vines time to die back and dry up before the winter storms begin. If you are unsure how healthy the tree is under all those vines and it is anywhere near buildings or trails, make sure to get an arborist or forester to check for you before it becomes a safety hazard.

Good fall pasture management will reduce weed problems next year. The same practices that help you protect healthy pasture soils and reduce erosion will also reduce your pasture weed problems. It's important to keep livestock off saturated soils to avoid damaging pasture plants and leaving openings for weeds. Weeds do much better in compacted soils than grasses so protecting your soil in the wet months will help reduce weed issues. Also, any exposed soil is an opportunity for a weed to take hold, so make sure to spread an appropriate pasture seed mix over any thinly vegetated areas or where there was a lot of traffic over the summer. To get ready for the winter, control the weeds, fertilize, and add lime to reduce your work in the spring. Also, storing manure under cover will help reduce the amount of weed seeds blowing into it and will improve the quality of the manure for mulch. For more information on pasture management, contact your local conservation district office. In King County, contact the King Conservation District.

Take note: all King County phone numbers are changing (or have already)

As of October 14, 2013, the King County Noxious Weed Control Program phone number will be **206-477-9333 (206-477-WEED)**. In addition, program staff will all have new phone numbers as of October 14. Email addresses, cell phone numbers and the website will remain the same. This change is part of a county-wide phone system upgrade that will significantly reduce cost and increase efficiency throughout county government offices. For a complete list of new program staff phone numbers, please email us at noxious.weeds@kingcounty.gov.

Gardeners beware: *Euphorbia* sap can cause severe eye injury

Many of the plants in the *Euphorbia* genus share a common hazard. The plants produce a milky latex sap that can cause severe eye inflammation and skin irritation and can be poisonous if ingested. If you are weeding these plants and get the sap in your eyes, you should immediately use an eye wash solution or irrigate with water, and quickly seek medical attention or contact Washington Poison Center at 1-800-222-1222. We have received several reports of people getting serious eye injury from these plants when they accidentally wiped their eyes after coming in contact with the sap. A detailed description of the eye injury risks can be found in the article Exposure to *Euphorbia lathyris* latex resulting in alkaline chemical injury: a case report, available online at www.jmedicalcasereports.com.

A few *Euphorbia* species like leafy spurge (*Euphorbia esula*) are noxious weeds that have caused significant losses in rangeland and wildlife habitat. Many other *Euphorbia* species are highly valued ornamental species that are commonly used in gardens and landscapes in our area. Some of these ornamental *Euphorbia* species, such as mole plant or caper spurge (*Euphorbia lathyris*) are also very weedy and often show up uninvited in gardens and backyards. To prevent eye and skin injury, always

wear gloves and eye protection when removing any *Euphorbia* species and take extra care to avoid getting sap near your eyes.

State Noxious Weed Control Board sets public hearing for 2014 noxious weed list

(Excerpted from 9/26/2013 news release of the Washington State Noxious Weed Control Board. Contact Alison Halpern, Executive Secretary 360 902-2053, ahalpern@agr.wa.gov for more information or photos of the proposed noxious weeds)

The Washington State Noxious Weed Control Board (WSNWCB) will hold a public hearing to take comments on proposed rule-making changes to the 2014 state noxious weed list. The hearing will be on Tuesday, November 5 from 1 p.m. to 3 p.m. at the Confluence Technology Center, 285 Technology Center Way, Wenatchee, WA 98801.

Comments will be accepted by mail, email and in person. Mail written testimony by 5 p.m. Monday, Nov. 4, 2013 to: WSNWCB; PO Box 42560; Olympia, WA 98504-2560 or send comments by email to noxiousweeds@agr.wa.gov. You can also attend the public hearing to provide written or verbal testimony in person. Oral testimony at the hearing will be limited to three minutes per person, with an additional opportunity to speak, if time allows. The WSNWCB will vote on the proposed rule changes during its regular meeting, on Wednesday, November 6 at 9:00 a.m., in the same location as the hearing. This meeting is also open to the public.

The WSNWCB has several proposed changes for 2014, including four additions to the noxious weed list. These include:

- Lesser celandine (*Ficaria verna*, also known as *Ranunculus ficaria*) a small, low-growing plant of moist areas. Emerging early in the growing season, often before native ephemerals, it can form dense patches that outcompete native plants. Its vegetative reproduction through bulbets and tubers makes it very difficult to control once established. Lesser celandine has been proposed as a Class B noxious weed, which would be designated for control in Snohomish, Skamania, Stevens, and Pend Oreille counties.

- Giant reed (*Arundo donax*) is a bamboo-like grass considered highly invasive in many southern states, where it can rapidly colonize and form massive, monotypic stands in riparian (river bank) habitat. However, there is a great deal of interest in this fast-growing plant as a biofuel, and as a sustainable substitute for tree-based paper, flooring and other construction building material, and as reeds for wind instruments. The WSNWCB is considering listing it as a Class B noxious weed, to be designated for control in areas susceptible to invasion such as rivers, wetlands, and open irrigation waterways. The intent is to support the careful and responsible cultivation of this potential crop while being prepared to control it should it escape into these aquatic systems.

- The WSNWCB is also considering grouping all nonnative cattails (*Typha* species) and their hybrids into one Class C listing. These nonnative wetland plants are considered invasive because they can dominate marshes more aggressively and tolerate deeper water and more flooding than our native cattail (*Typha latifolia*). Because the nonnative cattails and their hybrids look similar to each other, and our native cattail is more easily distinguishable, it is simpler to group the nonnatives together as one noxious weed listing. As a Class C noxious weed, control would not be required by the WSNWCB, though county weed boards may require landowners to control it where it is becoming problematic.

- Russian olive (*Elaeagnus angustifolia*) is common in Eastern Washington and is regarded by many as a nasty tree with thorny branches. Sometimes sold as an ornamental and for use as wind breaks, Russian olive is quite invasive, particularly in riparian habitats, and is literally a real pain to work around and/or control. It has been proposed as a Class C noxious weed for 2014, which means that control would not be required by the WSNWCB, though county weed boards may require landowners to control it where it is becoming problematic.

- Japanese eelgrass (*Zostera japonica*) has returned for a third year of deliberation, as it still poses a complicated dilemma in Washington. The WSNWCB had listed Japanese eelgrass as a Class C noxious weed on commercially managed shellfish beds only in 2012 and then adopted a proposal to remove the modification and list it as a Class C noxious weed in 2013. For 2014, the WSNWCB is considering a proposal to reinstate the original listing language of 2012.

- The WSNWCB will also be considering the reclassification of velvetleaf from a Class A noxious weed to a Class B noxious weed and buffalobur from a Class A to a Class C noxious weed, along with several Class B designation changes.

- Finally, the board is proposing to simplify yellow-flowered hawkweed listings. Nonnative hawkweed (*Hieracium*) species can be hard to identify down to species and tell apart, so the board is considering taking its 11 hawkweed noxious weed listings and grouping them into two easier-to-tell-apart subgenus groups.

Visit www.nwcb.wa.gov/whatsNew.html for more information about the listing proposals and how to testify at the hearing.

Do you know your King County Weed Board representative?

Perhaps not as much in the public eye as other representatives, the King County Noxious Weed Control Board members act on the public's behalf to do the important work set out by the State Noxious Weed Law (RCW 17.10). The Board sets county weed control priorities, annually adopts the county weed list, and administers the Noxious Weed Control Program throughout the County according to the requirements of RCW 17.10. The Board is composed of five voting volunteer members and one non-voting member from WSU Extension, currently Jennifer Andreas (who we are very fortunate to have given her expertise in integrated pest management and especially biocontrol methods of weed control).

Voting Board members represent the five County weed districts. See our website for descriptions of the districts or click here to download a weed district map. The Board is appointed by the County Executive and confirmed by Council. Members serve terms of 4 years and can be re-appointed if they choose to continue. If you are interested in finding out more about getting involved with the Board, contact Steve Burke for more information.

Current Voting Board Members:

- **Scott Moore, District 1**. First appointed in 1998, Scott is currently the Chair of the Board. He resides in north Seattle and is active in a wide range of native plant and watershed restoration projects. Scott works for Snohomish County Surface Water Management where he is involved in a wide range of invasive plant management and restoration projects. He brings native and invasive plant ecology and restoration expertise to the Board and seeks to increase public awareness about the impacts of noxious weeds.

- **Becky Chaney, District 2**. Becky came to the Board in 2012 and lives and works in the Carnation area, where she is sole proprietor of Pacific Northwest Environmental Design, working with clients engaged in forestry and agricultural production. She has done projects for diverse clients ranging from the City of Sammamish to Jubilee Farm and Camp Korey. Becky is also an active volunteer in the community with a variety of groups including the Washington Native Plant Society and the Upper Snoqualmie Weed Watchers. Becky believes that all environmental interventions involve balancing competing needs.

- **John Browne, District 3**. John was first appointed in 2002 and resides on Vashon Island. He owns and operates a commercial native plant nursery on Vashon Island and has experience with tree planting and orchard management. John brings considerable horticultural expertise to the Board as well as a desire to balance the needs of agricultural and horticultural producers with environmental and ecological protection. John is also active in his community with a variety of environmental and horticultural groups.

- **Grace Stiller, District 4**. Grace joined the Board in 2008 and resides part time in Newcastle and part time in Grays Harbor County. She is well known in Newcastle for her enthusiastic and energetic Newcastle Weed Warriors group, which engages people of all ages in the fight to protect Newcastle natural areas from the impacts of invasive plants. Grace works with schools in the area to engage and recruit students to participate in local stewardship activities and to increase environmental curriculum in the schools. In addition, Grace manages her small farm in Newcastle, primarily raising poultry and goats, and is also an avid gardener. Grace also has been active with 4-H programs.

- **Clint Bostwick, District 5**. Clint was first appointed in 2002 and is from Enumclaw. Although living part-time in Nevada now that he is retired, Clint has volunteered to continue serving on the Board as long as needed. He is a retired right-of-way vegetation management specialist for the Bonneville Power Association. This position has given him the opportunity to work with many landowners removing and controlling noxious weeds and other invasives. Clint brings a wealth of knowledge, Board history and a balanced perspective to this post.

Board Meetings and Public Input:
Weed Board meetings are held monthly throughout the year and are open to the public (see the schedule online – but call first to confirm meeting time and location). The next meeting is scheduled for **October 16, 4pm to 6pm, at the Mercer Island Library, small meeting room**. Once a year, following the adoption of the State Noxious Weed List by the State Weed Board, the King County Weed Board reviews the changes in the state list and adopts the King County Noxious Weed List. The County Noxious Weed List reflects both the requirements of State Law WAC 16-750 and the priorities of the King County Noxious Weed Board. The Weed Board encourages public comment and input to help set the priorities of the noxious weed program each year. For more information or to contact the Weed Board, contact Steve Burke at 206-296-0290 or steven-j.burke@kingcounty.gov.

King County Weed Board seeks applicants to represent rural Weed District 5

Weed Board District 5 includes a large part of rural King County, stretching from the Enumclaw Plateau, through Maple Valley and Covington and up through the forest lands on the east side of the county to Skykomish. The King County Noxious Weed Control Board is welcoming interested residents of this area to apply to the Weed Board and particularly encourages farmers who have an interest in reducing the impacts of noxious weeds on agricultural lands and natural resources in King County. Noxious weeds

affect us all, but the impacts are particularly serious on agricultural resources. The King County Weed Board is very interested in increasing representation from the county's farming community on the Board.

The Weed Board directs and oversees the King County Noxious Weed Control Program and helps set priorities for the King County Weed List and the activities of the noxious weed program. Board members are key advisors for the program and contribute their experience and expertise to the running of the program. They are also very important advocates in the county for ensuring that county resources are used wisely and effectively toward the goal of minimizing the impacts of noxious weeds on the natural and economic resources of the county, while staying in compliance with the state noxious weed law. For more information about the Weed Board and application information, please contact program manager Steve Burke at 206-205-6927 (or after, October 14, 206-477-4657).

Get muddy for a good cause in a beautiful place

Join Conservation Northwest and partners for a fall planting party to restore and connect habitat near Snoqualmie Pass in the I-90 corridor. Volunteers will be planting native plants all around the Gold Creek pond area. **The next planting party is OCTOBER 19, 2013, from 9:30 am to 3:00 pm.** Please **RSVP** to Jen Watkins or sign up on their website: http://www.conservationnw.org/getinvolved/calendar/i-90-gold-creek-planting-party/

Gold Creek is an essential pathway for wildlife moving north and south in Washington's Cascades (see the Wildlife Corridor Map for the area). Beginning in 2007, Conservation Northwest and partners began restoration efforts to combat invasive plants and restore native plants to the area. Not only is Gold Creek an important place for wildlife, it also offers popular and important recreation opportunities including picnic areas, an ADA accessible trail, and trail access to the Alpine Lakes Wilderness. They are seeking volunteers to join us in the effort to improve Gold Creek for wildlife and human uses! Organizers will provide beverages, snacks, work gloves, and tools, but volunteers should bring a lunch and extra water. If you have your own favorite gardening gloves, feel free to bring those as well.

Volunteer to music in the West Duwamish Greenbelt

Located in West Seattle near the Duwamish River, the West Duwamish Greenbelt is the largest contiguous forest in Seattle, stretching from West Seattle to Burien. Nature Consortium hosts volunteer work parties year round three times per week. Currently they are working Tuesday, Thursday, and Saturday from 10am-2pm in the West Duwamish Greenbelt located in West Seattle. Each work party begins with a short informal forest ecology workshop, and they spend the remainder of the time performing various restoration activities, including planting native trees and shrubs, removing invasive species, mulching previously-planted areas, and more. Musicians perform for volunteers at many of the restoration work parties.

This group works rain or shine and they recommend that volunteers dress appropriately with long pants, warm and dry layers, closed toed shoes and rain gear as needed. They provide gloves, tools, a light granola bar snack (feel free to bring a lunch) and a jug of water. Please bring a refillable water bottle. Sign up today on their website www.naturec.org/forest-restoration/.

October work party dates:
Tuesdays: 10/1, 10/8, 10/15, 10/22, 10/29
Thursdays: 10/3, 10/10, 10/17, 10/24, 10/31
Saturdays: 10/5, 10/12, 10/19, 10/26

Snoqualmie Watershed Forum seeks applicants for citizen representatives

Do you live in the Snoqualmie or South Fork Skykomish Watersheds? Are you a farmer, forestland owner or other resident of unincorporated King County? Do you care about the environment? If so, you may be interested in serving as a citizen member of the Snoqualmie Watershed Forum. Since 1998, local governments in the Snoqualmie Watershed have been working together to recover threatened salmon populations and to improve watershed health through their participation in the Snoqualmie Watershed Forum. The Forum coordinates implementation of the watershed's salmon recovery plan and makes recommendations on the expenditure of grant funds for habitat restoration projects, water quality improvement actions and other activities. The Forum is currently seeking interested applicants for a citizen ex-officio seat to represent unincorporated King County residents in the watersheds. Please feel free to forward this on to any other interested individuals. To learn more about the Forum and to download application materials, please visit the website at http://www.govlink.org/watersheds/7/. The application deadline is Monday, October 14, 2013.

Interesting connection between potatoes and the noxious weed buffalobur

This story comes from Wikipedia, but was brought to our attention by a local landowner who discovered the Class A noxious weed buffalobur growing on his property where he had been growing potatoes. Buffalobur (*Solanum rostratum*) is native to parts of the southwestern United States including Colorado and, according to the article, the insect that became known as the Colorado potato beetle was also native to the area and was in fact first discovered in 1824 on specimens of buffalobur collected from the Rocky Mountains. Evidently, the insect soon abandoned its host species for the much tastier and closely related potato plant (*Solanum tuberosum*) being farmed the area. The insect was first reported on potatoes in eastern Nebraska in 1859 and then expanded its range rapidly eastward on potato crops over the next two decades. It is considered a serious pest of potato crops. It's hard to know what the moral of the story is, but it is a fascinating tale of plants, insects and pests.

Weeds in the news

Microbes Facilitate the Persistence, Spread of Invasive Plant Species by Changing Soil Chemistry
Sep. 26, 2013 -- Invasive species are among the world's greatest threats to native species and biodiversity. Once invasive plants become established, they can alter soil chemistry and shift nutrient cycling in an ecosystem. This can have important impacts not only on plant composition, diversity, and succession within a community, but also in the cycling of critical elements like carbon and nitrogen on a larger, potentially even global, scale. Clearly, both native and exotic plants form intimate relationships with bacteria in the soil that facilitate the extraction and conversion of elements to biologically usable forms. Yet an unanswered question with regard to plant invasions remains: could the changes in soil biogeochemistry be due to an advantage that invasive plants get from interacting with their microbiome? (See the link above for the full article).

Noxious weed alert - Thistle (from San Juan County)
Thistles are common, recognizable weeds in the San Juan Islands, yet there are several thistles that are native to the US, one of which is located in the county. Our local native is known as Indian, short-style or clustered thistle (*Cirsium brevistylum*) and can be confused with bull thistle (*C. vulgare*). (See the link above for the full article).

Hunting? Don't Spread Noxious Weeds in Idaho's Backcountry
Sep. 26, 2013 -- During Idaho's hunting seasons, thousands of people traverse Idaho's backcountry. So the threat of spreading noxious weed seeds from infested areas is at a high level, state weed officials

warned. “Most noxious weeds are now in their seed stage, and that means it’s crucial for people who are traveling in Idaho’s outdoor regions to be careful and not accidentally pick up and spread noxious weeds and weed seeds from one area to another,” said Roger Batt, statewide coordinator for the Idaho Weed Awareness Campaign. Even a few seeds can start a new noxious weed outbreak, the campaign’s press release said. (See the link above for the full article).

Invasive species: How they got here, and what we can do
August 30, 2013 -- When one of the world’s worst invasive species, the Argentine ant, showed up along Oak Bay Avenue this summer, it joined a legion of other aliens making themselves comfortable on Vancouver Island. The tiny insects drew attention for their international fame — they now exist on every continent except Antarctica — but there are many more species that don’t get as much notice. The Capital Region Invasive Species Partnership, a local branch of the Coastal Invasive Species Committee, has identified 78 invasive-plant species alone as priorities. Sixty-six of those have already established themselves in the region, and another 12 species are likely to establish if introduced. (See the link above for the full article).

Spartina control in British Columbia gets a boost from Washington’s Spartina program
August 22, 2013 – The WSDA Spartina crew was up in British Columbia this summer, helping to treat spartina populations. This is the first time aquatic herbicide applications have been used in Canada. Washington has made excellent progress in combating spartina and controlling populations up north will greatly help Washington’s effort to eradicate this tough noxious weed from the beaches and mudflats of Puget Sound and Washington’s coast (see the link above for the video).

Soil scientist suggests fallow tillage to organic farmers
August 21, 2013 -- A soil scientist at Cornell University suggests organic farmers use tillage to control weeds without sacrificing their soil structure. Charles L. Mohler, senior research associate at Cornell's Department of Crop and Soil Sciences, described a technique of fallow tillage as part of a crop rotation approach. He presented several rotation practices during a webinar sponsored by the USDA's Natural Resources Conservation Service. Crop rotation cannot solve all of a farmer's weed and pest problems, he said, but manipulating the weed seed bank over several years can be effective. (see the link above for the full article).

Prehistoric Europeans spiced their cooking (with garlic mustard)
August 21, 2013 -- Europeans had a taste for spicy food at least 6,000 years ago, it seems. Researchers found evidence for garlic mustard in the residues left on ancient pottery shards discovered in what is now Denmark and Germany. (See link above for the full article).