

SHORE STEWARDS NEWS

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The newsletter was compiled by Scott Chase, Island County Shore Stewards Coordinator. Adapted in part from the October 2012 newsletter by Donna Gleisner, with assistance by Janet Stein, Island County Weed Board Coordinator.

Non-Toxic Control of Noxious Weeds on Your Property

Noxious weeds are non-native plants that, once established, are highly destructive, invasive, competitive and difficult to control or eliminate. Some exotic plants arrived here by design because they looked lovely or solved a landscaping or agricultural issue. Others hitchhiked here by ship, train, wind, on animal fur, or poop from migrating birds.

The bad news is some noxious weeds can burn your skin on contact or poison humans and/or horses, cows, goats and other livestock, as well as your dogs and cats. Others can rapidly take over native plant communities (reducing native wildlife populations), clog our waterways, or damage recreational opportunities. Still others significantly reduce crop yields or lower land values.

Chances are you or one of your neighbors might be harboring a foreign invader – on purpose (you bought it not knowing its ‘criminal’ history), it arrived by accident, or you inherited it with the property. Some noxious weeds, like Butterfly Bush, are still sold in the nursery trade. This issue of Shore Steward News helps you identify ten of the most troublesome noxious weeds and how to deal with them effectively. The “top ten” noxious weeds listed are by no means all of the important ones to be concerned about, but are just some of those you may encounter, and which you will want to identify and eradicate from your yard and garden.

Why Control Noxious Weeds?

In the U.S., introduced weeds are spreading and invading approximately 1.7 million acres of wildlife habitat every year. These species have been implicated in many of the natural resource problems the world faces today. It is noted that noxious weeds result in U.S. crop losses estimated at \$26 billion a year! In addition, introduced species are the second leading cause of reductions in biological diversity.

- **Noxious weeds can reduce slope stability.** Several weed types have shallow rooting systems that do not adequately replace soil holding property of the native trees and shrubs they have displaced. Prolific foliage can also hide signs that may alert a landowner about pending slope stability problems.
- **Noxious weeds affect land use.** Infestations of some species can affect the use of property. For example, *Spartina* can ruin beachfront property by altering the fundamental hydro-geology of the intertidal zone. Gently sloping beaches are transformed into high *Spartina* meadows that drop off into deep water. These changes may eliminate activities, such as shellfish production.

- **Noxious weeds affect the economy.** Noxious weed infestations can have serious economic consequences. For example, Scotch broom interferes with the regeneration of Douglas-fir plantations. A recent study estimated that Scotch broom reduces Oregon's total personal income by about \$47 million. This is equivalent to 1,908 annual jobs lost to Oregon's economy due to the presence of this noxious weed.
- **Noxious weeds threaten recreational areas.** Noxious weeds harm lakes, rivers, tidelands, and parks. Some can choke out fishing areas and make swimming and boating unsafe.

Ways to Remove Some Common Unwanted Guests

There are four main methods to control weeds: manual, chemical, biological and cultural. Manual control means digging the plant out (roots and all) or cutting it down - by hand or with machinery. Chemical control means spraying or injecting the plant with a chemical to kill or control it. Biological control uses insects or plant diseases to kill or control the weed. Cultural control involves establishing competitive desired vegetation that will crowd out or slow down the invasion of noxious weeds or creating shade if the weed needs sun to grow. Often an integrated weed management plan involving more than one method will need to be developed to completely eradicate noxious weeds once they are established.

Prevention and early eradication are, by far, the best way to get rid of problem plants. To the non-weed specialist, there is a tendency to avoid taking action. However, the longer you wait to start a control program, the more expensive control becomes and the more damage the species causes. Below are some control tips for the most common culprits around here, with an emphasis on non-chemical control methods

"Top Ten" Noxious Weeds

Garlic Mustard *Alliaria petiolata*

Garlic Mustard is a biennial plant that has a garlic-like odor when it is crushed. It begins as a low-growing basal rosette of kidney shaped leaves with scalloped edges. In year two, it can grow to about 3 feet tall, and the leaves are heart or triangular shaped with coarse teeth. The leaves are topped with small, white 4-petaled flower clusters in very early spring. This fast growing, shade-tolerant plant forms dense stands that can displace native species as it dominates forest floors. Produces up to 6000 seeds per plant in late summer and fall; seeds in soil are viable up to 5 years. To control, yank these out by the roots and discard safely. Do not compost these plants, and remove them before they go to seed.



Spurge Laurel *Daphne laureola*

Spurge laurel is a slow-growing, shade-tolerant evergreen shrub, 1.5 – 5 feet tall, that has escaped cultivation and naturalized in forests and other shady places. It thrives in full to partial shade and well-drained soils. Its primary means of spreading is by birds and rodents eating the berries. The plant, which looks somewhat like a small tree, is found growing in isolated clumps as well as in large, dense stands that out-compete native understory. Oak forests are at greatest risk. The bark is a yellow tinged gray, and the leaves are dark green and glossy, thick and smooth, which are arranged in spirals around the stem, densest at the branch tips. The small yellow-green flowers are inconspicuous and are found at the base of the leaves, in clusters of 2 to 10, and are quite fragrant at night, attracting moths. They bloom in late winter to early spring, followed by berries in early summer. The black, oval-shaped berries, as well as the leaves, sap and bark, are poisonous to humans, cats and dogs, and handling them can cause severe skin irritation. Once established, this plant is very difficult to eradicate.

You should wear gloves and other protective clothing when removing or cutting spurge laurel, due to its toxicity. You can hand pull seedlings and young plants, or use a weed wrench for larger plants, removing the entire root to avoid re-growth. Monitor this area after pulling and cover it with deep mulch to discourage new seedlings. If you have a large population, you can use a weed trimmer (weed whip) for plants up to 3 years old, cutting it as close to ground level as possible, then covering with thick mulch. Wear protective gear when doing this due to the volatile plant toxins!



Poison Hemlock *Conium maculatum*

Poison hemlock, as the name implies, can be deadly toxic to people, livestock, and pets. The toxic alkaloids, most concentrated in the unripe seeds, can be found in all parts of the plant, and even dead canes can remain toxic up to 3 years, so do not dispose of them in your compost pile. This plant is not only toxic when eaten, but toxins can also be absorbed through your skin and respiratory system, so it is extremely important to wear protective clothing, gloves, glasses, and a mask when handling the plant. The poisonous compounds affect the nervous system, producing vomiting, nausea, confusion, burning sensation in the mouth, and even rapid death caused by respiratory paralysis. Seek immediate medical or veterinary attention if poisoning is suspected. This plant can be mistaken for other carrot family members, including parsley, wild carrot (Queen Anne's Lace), anise, fennel, chervil, sweet cicely, and parsnip.

Poison Hemlock is a tall biennial that can grow 8 to 10 feet in height the second year. In the first year, the plant forms low clumps of lacy leaves with reddish or spotted stems, forming a basal

rosette. The second year, it develops large, glossy green leaves that are finely divided like ferns, but are smooth and hairless. The stems are hollow, ribbed, smooth and hairless, with distinctive purple blotches all over. The flat topped flowers consist of small umbrella-shaped clusters of tiny white flowers with 5 petals, growing in 4 clusters. The plant has a musty smell, similar to mouse urine. It can produce thousands of seeds per plant, which remain viable up to 6 years.



Be sure to wear protective clothing, mask, glasses, and gloves when removing this plant. For small areas, dig up or pull plants, removing entire root. Do not mow or cut the plants, which can resprout. Bag and dispose of them in the trash. Monitor the area for new seedlings and resprouts; plant area with grass or other desirable plants to prevent further weed establishment.

Yellow Archangel *Lamiastrum galeobdolon*

Yellow archangel is a fast-growing, herbaceous perennial ground cover that may be either trailing or upright depending on conditions. Commonly sold in nurseries and used in hanging baskets as well as groundcover, this plant easily escapes cultivation from improper dumping of garden cuttings or hanging baskets. When it escapes, it forms dense invasive patches, outcompeting native plant species. It can grow in a wide variety of conditions from full shade to full sun. The hairy leaves are typically variegated with green and silver-grey markings, typically oval-shaped and coarsely toothed. The leaf oils have a distinct, unpleasant odor. The stems are square. The small, yellow flowers are tubular, growing in pairs of clusters close to the stems between leaves, growing 1 – 2 feet tall.

Make sure that you keep this plant from escaping your garden if you are using it as ground cover, and to not dump any plant cuttings from your garden or hanging baskets into natural areas or parks. You should also keep it out of your compost pile. The roots are not deep, so you can easily hand pull or dig up the plants, though this can be labor-intensive in dense patches. Be sure to pull up entire root and all root and stem fragments. This is easiest to do fall through early spring when the soil is moist. If patches are thick, try using sheet mulching consisting of cardboard with 3-4 inches of woodchips on top, or weed cloth. Monitor for growth through gaps in the mulch or along the edges,



Tansy Ragwort *Senecio jacobaea*

Tansy ragwort is a toxic, invasive biennial weed, most often found along roads and trails and in pastures. Animals may avoid eating tansy, but if they do eat it they may become ill or die. If the tansy is accidentally mixed in with hay or silage, the plants are not as bitter to livestock, but just as toxic. The tansy, whether fresh or dry, is poisonous to horses, cattle, sheep, goats, pets, and people, causing irreversible liver damage. Symptoms include diarrhea, swelling, inflammation of membranes, rough coat, blood in feces, and excessive body fluid. Milk produced by cows and goats can contain toxins, as can honey from tansy ragwort. (The honey tastes so unpleasant it can't be sold, however.)



Tansy can grow 2-4 feet tall. The young plants have basal rosettes with ruffled, dark green leaves growing on reddish stems. Mature plants have twice divided, dark green leaves, whitish-green underneath, with deep lobes, rounded at the tip. Flowerheads form flat-topped clusters. Dime-sized flowers are daisy-like, typically having 13 yellow petals with golden centers. (These can be confused with common tansy, which has button like flowers, with no petals and flattened, fern-like leaves.) For small patches, you can control by hand-pulling or digging plants with a shovel, wearing gloves. This is best done when the soil is moist and before the plants flower, removing the whole root, as root fragments can re-sprout. If they have flowered, seal them in plastic bags and put into your trash, not in with your compost or yard waste. Mowing is not a recommended control because the plants will just re-flower at a height shorter than the mower blade.

Scotch Broom *Cytisus scoparius* & Gorse *Ulex europaeus*

Scotch Broom: Originally introduced from Europe for erosion control and as an ornamental, this invasive shrub is common throughout the Puget Sound region, often spotted along our highways. It is a highly aggressive, fast growing shrub that forms dense stands, reducing wildlife habitat and interfering with re-vegetation of wetland buffers and upland sites. This plant is loosely branched with 5-angled, slender-leaved branch stems and deciduous leaves, each with three narrow leaflets up to half an inch long. Scotch broom grows from 3 to 10 feet in height, blooming from April to June. The bright yellow flowers are pea-like, and measure about three-quarters of an inch long. The seed is self-sowing, found in dark brown to black hairy, flattened pea-like pods, which literally explode when ripe, sending the seeds several feet in all directions. Scotch



broom primarily grows in open, dry meadows and along highways and roadsides.

Gorse: Introduced as an ornamental, this spiny evergreen shrub is from the pea family. It is easily identifiable by its spiny thorns on mature stems, instead of leaves, both dense and stiff. The pea-blossom shaped flowers are yellow, and are clustered near the ends of the branches. The seed pods resemble pea pods, and explode similar to Scotch broom. Stands form impenetrable thickets, growing outward and crowding out all other vegetation, forming a center of dry, dead vegetation. Combined with the plant's oil content, this can present a major fire hazard. The roots are extensive with woody crowns, and have nitrogen fixing nodules.



For both Scotch Broom and Gorse, young plants can be pulled, with tools such as Weed Wrenches for yanking out large shrubs. You can also cut the plants to the ground, and then dig them up, monitoring for seedlings in coming years and tearing them out as they appear.

Knotweed Species *Polygonum sachalinense*, *P. bohemicum*, *P. polystachyum*, and *P. cuspidatum* (*Fallopia japonica*)

The four knotweed species (giant, Bohemian, Himalayan, and Japanese) are tall, shrub-like perennial, herbaceous plants that are similar in general appearance. They were introduced from Asia as ornamentals, but have escaped cultivation and are now found in the natural landscape. They grow in large, dense thickets, 4 to 12 feet tall, with reddish-brown, segmented and hollow canes that have thin, papery sheaths and resemble bamboo. The colonies sprout in April and produce small, white-green flowers that appear in July and grow in showy, plume-like branched clusters. Each species has different shaped leaves, with all but the Himalayan having oval or heart-shaped leaves. The Himalayan has an elongated, tapered shape. Giant knotweed leaves can exceed a foot in length. Though they can grow in dry areas, their biggest impact is in moist soil, and along streams and riparian areas, where they can displace all native vegetation, erode stream banks, and change the nutrient cycle at the expense of salmon and other wildlife. Spreading by seed on occasion, the main method of spreading is through rhizomes that can extend 30 feet or more. These aggressive roots can grow through blacktop, and can damage foundations and other infrastructure.

Although small patches can be dug up, eradication can take several years. Prevent new infestations by digging up individual plants carefully and completely, removing the entire root system. If you have small stands, you can cut them once or twice per month during the growing season, covering cut areas with thick black plastic sheeting or geotextile fabric, and weighing the cover down with heavy blocks or rocks, loose enough to so knotweed does not break through. Stomp down any new re-growth under the cover every couple of weeks, removing any new plants found growing around the edges. Leave the cover on until growth is completely halted, repairing and replacing plastic when needed; this can take 3 to 5 years to complete. Contact your county noxious weed control board or coordinator for further advice and assistance in controlling this weed.



Hairy Willow-herb *Epilobium hirsutum*

This Eurasian relative of our native fireweed was originally introduced as an ornamental plant, sometimes as an alternative to purple loosestrife, but escaped gardens and has spread throughout the United States. It can invade and aggressively push out native wetland plants, primarily in moist areas, shorelines, low pastures, fields and meadows, wetlands, stream banks, and ditches. It prefers open, sunny areas, but can also be shade-tolerant. It easily spreads to undisturbed areas, forming dense stands that can impede water flow in wetlands and waterways, as well as reducing food sources and habitat for local wildlife.

This semi-aquatic perennial herb, which is covered with soft hairs, grows up to 6 feet tall, with stems that are erect and branched. The leaves are opposite each other on the stems, and are lance-shaped with toothed edges. The showy pink-purple flowers, which develop July through August, have white centers and four notched petals. The plant has long, narrow seed pods that split open to release numerous seeds with long white hairs, and reproduces through wind dispersal of those seeds. It can also reproduce vegetatively by the thick rhizomes (underground stems). It grows rapidly and spreads mostly in early autumn.

In order to be successful, most control methods need to be repeated over several years. If you have a small infestation, you should dig up the plants, removing as much of the rhizomes and root fragments as possible, destroying them on-site or bagging the plants and disposing in the regular trash. Do not put these in your compost pile. You can cut mature flowering stems at the base in late summer or early fall, before seeds are produced. If plants are in seed, place a bag over the plant carefully, and then cut off the stem before removing the roots. Cover cut locations with black plastic to slow growth and seed production. Have a long-term plan to ensure success, starting in least infected areas first and then moving to the more heavily infested areas. Brush off your clothes and boots prior to leaving the infested area. If you find an infestation of this plant, contact your county's Noxious Weed Control board or noxiousweeds@agr.wa.gov

In Island County, the main distribution has been found around Crockett Lake, near the Coupeville Ferry, as well as other locations on Whidbey and Camano islands. If you spot this plant, contact your Island County Noxious Weed Coordinator Janet Stein at 360-678-7992. Or email her at Janet.Stein@wsu.edu.



Bull Thistle *Cirsium vulgare*

This widespread branching, erect biennial was originally from Europe and Asia, but is now found throughout North America. Growing between 3 and 7 feet tall, it can invade most disturbed habitat, such as trails, roadsides, logged areas, pastures, vacant land, cultivated land, and overgrazed pastures. It can be found growing in dense thicket and outcompeting native plants, as well as forage plants that are desirable to wildlife and livestock. It can reduce growth of tree seedlings when found in forest clear cuts. Bull thistle found in hay may make the hay price decline.



During its two year life cycle, basal rosettes form in the first year, flowering stems and seed in the second year. The leaves have long, sharp spines at the mid-rib and at the tips of the lobes. The leaves are hairy and deeply lobed, with coarse hairs on the leaf tops, which are rough to the touch. Woolly hairs are found on the underside. The bases of the leaves extend down onto the stems, forming spiny wings along the stems. Pink-magenta “gumdrop” shaped flower heads have spines that extend all around the flower head base, and

develop from June to September. Seeds are short-lived on the surface of the soil, but can live many years when buried. Reproduction is only by seed, so preventing the thistle from seeding and making sure the seeds are not spread are the best way to avoid new infestations. Hay contamination is the main method the seeds are spread, so make certain the hay you purchase is weed-free. You can dig up bull thistle with a shovel. Removing the top couple of inches of the root will usually kill it. Cutting the weeds is most effective after they have produced flowers, but make sure that flowering stems are collected and destroyed, before they go to seed. Cultivation and tilling can also control this weed.

Canada Thistle *Cirsium arvense*

Growing up to 5 feet tall, this erect-stemmed perennial is like other invasive thistles in that it reduces quality of forage in rangelands and pastures, and dense infestations can severely damage croplands. The leaves are spiny, lobed and shiny. There are small, weakly spined rose-purple flower heads found in clusters, with seed heads forming cottony tufts. The thistle spreads by seed and through the extensive root system, with seeds lasting years in the soil. The root produces shoots that produce new plants; root fragments that have broken off can also produce new plants.



Do not let this thistle go to seed; put on gloves and dig out the young plants. Repeated mowings before the plant seeds will help weaken the plant. You can smother the plants with black plastic, weed fabric, or a thick layer of mulch.

Photos in this newsletter courtesy of Noxious Weed Control Boards for Washington State, Island County, King County, and Thurston County, as well as WSU Extension in Whitman County.

Have More Questions?

Washington's first weed law was passed in 1881 to fight the spread of Canada thistle, a weed that was accidentally brought by early settlers. In the late 1960s, the state legislature established the state's Noxious Weed Control Board, and authorized counties to establish County Weed Boards. Thirty eight of Washington's 39 counties have such boards, including Island County. Washington's weed program is based on prevention and early detection of noxious weed problems. To learn more about noxious weed control, contact your Noxious Weed Control Board. The Island County Weed Board Coordinator, Janet Stein, can be reached at janet.stein@wsu.edu or (360) 678-7992.

Most noxious weeds can be disposed of at your Island County Transfer Station free of charge. Make sure they are bagged, to prevent spread of seeds, and do not mix them with other vegetation that is not a noxious weed. (In other words, don't mix them with your grass clippings, maple leaves, etc. if you want to dispose of them for free. There is a charge for disposal of vegetation that is not a noxious weed.) For more information on disposal, check out the state's weed disposal brochure at http://www.nwcb.wa.gov/siteFiles/Noxious_weed_disposal_2012.pdf

Resources

1. Chace, Karen Dunn. *How to Eradicate Invasive Plants*. Portland, OR: Timber Press, 2013.
2. Washington State Noxious Weed Control Board, <http://www.nwcb.wa.gov/>
3. Island County Noxious Weed Control Board, <http://ext100.wsu.edu/island/nrs/noxious/>
4. King County Noxious Weed Control Board, <http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds.aspx>
5. Thurston County Noxious Weed Control Agency, <http://www.co.thurston.wa.us/tcweeds/>
5. *Introduced, Invasive and Noxious Plants (Federal Noxious Weeds)*, USDA Natural Resources Conservation Service <http://plants.usda.gov/java/noxious?rtpType=Federal/>
4. *Invasive and Exotic Plants*, Center for Invasive Species and Ecosystem Health, The University of Georgia <http://www.invasive.org/species/weeds.cfm>



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The website for the Northwest Straits Commission can be seen at <http://www.nwstraits.org/>

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Lighthouse Environmental Programs
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Your Shore Stewards Coordinator is Scott Chase, (360) 387-3443, ext 258, or email shorestewards@wsu.edu.

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