

Stream Team News

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EDUCATE • PROTECT • RESTORE



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Storm Drain Marking Time Is Here

Warmer and dryer weather is here, which means dry pavement and perfect conditions to apply storm drain markers in neighborhoods throughout Lacey, Olympia, Tumwater and Thurston County. Affixing vinyl discs on curbs and roadways that say “No Dumping – Flows to Waterways” has helped to create a better understanding about the link between storm drains and clean streams and groundwater.

If you, your family or youth group would like to chip in on this important program and help protect local waterways and Puget Sound, please contact your local Stream Team Coordinator. Also, this is a great way for students to earn community service hours.

In Lacey:

call Kim Benedict at 360-438-2687

In Olympia:

call Patricia Pyle at 360-570-5841

In Tumwater:

call Debbie Smith at 360-754-4148

In Thurston County:

call Chris Maun at 360-754-3355 ext. 6377



SALMON STEWARDS

AND

Linda Hurtado's 10th Year as a Salmon Steward

August 19, 2014

at a Special Recognition during the Olympia City Council Meeting at 7 p.m.

Over 150 people have been Salmon Stewards over the past 10 years. Giving of their time and talents, Salmon Stewards have talked to over 20,000 people about local salmon runs.

ON THE COVER: Anne Schuster, Stream Team AmeriCorps volunteer examines a sea star at Boston Harbor during Marine Creature Monday.

STREAM TEAM MISSION

To protect and enhance the water resources and associated habitats and wildlife in Thurston County through citizen action and education.

Stream Team is funded and jointly managed by the stormwater utilities of the Cities of Lacey, Olympia and Tumwater and Thurston County. Stream Team programs meet the requirements for the National Pollutant Discharge Elimination System (NPDES) permit for stormwater.

SPECIAL NEEDS?

Citizens requiring special accommodations can call one of the coordinators listed at least one week prior to an event to make special arrangements.

FIND US ON FACEBOOK:



ThurstonStreamTeam

STREAM TEAM INQUIRIES

360-438-2672 or streamteam@ci.lacey.wa.us

IN LACEY:

City of Lacey Water Resources Program
420 College St SE, Lacey, WA 98503

Attn: Kim Benedict

Tel: 360-438-2687
TDD: 1-800-833-6388
kbenedic@ci.lacey.wa.us

IN OLYMPIA:

City of Olympia Water Resources Program
P.O. Box 1967, Olympia, WA 98507-1967

Attn: Patricia Pyle

Tel: 360-570-5841
ppyle@ci.olympia.wa.us

IN TUMWATER:

City of Tumwater Water Resources Program
555 Israel Road SW, Tumwater, WA 98501

Attn: Debbie Smith

Tel: 360-754-4148 TDD: 1-800-833-6388
dmsmith@ci.tumwater.wa.us

IN THURSTON COUNTY:

Thurston County Water Resources Program
929 Lakeridge Dr. SW, Olympia, WA 98502

Attn: Chris Maun or Ann Marie Pearce

Tel: 360-754-3355 EXT 6377
TDD: 360-754-2933
maunc@co.thurston.wa.us
pearcea@co.thurston.wa.us

NEWSLETTER CONTRIBUTORS: Missy Ayres, Chris Maun, Ann Marie Pearce, Patricia Pyle, Debbie Smith, Michelle Stevie, Cynthia Taylor and Michelle Burton Photography.

DESIGN & LAYOUT: Azure Summers Graphic Design, design@azuresgd.com

Learn & Share: *Become a Salmon Steward!*

Imagine a beautiful sunny day with lots of people watching the “king” of salmon on the last leg of their homeward journey to the Deschutes River to spawn. Within the crowd of people is a Stream Team Salmon Steward answering questions about the salmon and telling the salmon’s story as people watch with excitement and awe. This could be YOU!

Would you like to learn (more) about Pacific Northwest salmon and share what you learned in an “official” capacity as a Stream Team Salmon Steward? This rewarding experience only comes around once a year when adult salmon return from the Pacific Ocean feeding grounds to their natal rivers and streams.

Stream Team trains volunteers to stand at three popular salmon viewing locations:



Late August

► 5th Avenue Dam

September & early October

► Tumwater Falls Park and 5th Avenue Dam

November & early December

► McLane Creek Nature Trail off Delphi Rd SW

Salmon Stewards learn specific information about the Deschutes River Chinook and South Sound chum along with the location where salmon viewing takes place. Viewing locations include saltwater, freshwater, and the salmon processing facility. Each location has its own story related to the history of salmon and people in South Sound. The training is designed to give the information and props needed to be successful as a beginner Salmon Steward. Please register at www.streamteam.info.

Basic Training options:

Date	Time	Location	Content	
Wednesday, August 6	6:30 – 9 p.m.	Olympia City Hall, RM 207	Life Cycle with specific focus on chinook and Chum	<p>► OR attend one training class on Saturday, August 16 from 9 a.m. to 2:30 p.m. with one hour lunch break.</p> <p>Olympia City Hall, RM 207 (class min. 10)</p>
Thursday, August 14	6:30 – 9 p.m.	Olympia City Hall, RM 207	The 4 – H’s: habitat, hatcheries, harvest, hydro (dams)	
Thursday, August 21	6:30 – 8:30 p.m.	Olympia City, Hall RM 207	Advanced Salmon Steward topic: harvest management	
Saturday, August 23	10 a.m. – Noon	5th Avenue Bridge Dam	Docent skills, dam operation	
Saturday, September 13	10 a.m - 1:00 p.m.	Tumwater Falls Park	Docent skills, hatchery operation, history walk	

McLane Creek Chum training:

For trained Salmon Stewards, once the chum are in the creek, a brief indoor training takes place on a Saturday morning in November along with the onsite docent training at McLane Creek Nature Trail. This training typically takes place the second weekend in November.

If there are at least 10 new people signed up to be a Salmon Steward at McLane Creek, then Stream Team will offer another 5 hour basic training in late October or early November.

Help Stream Team Gather *Stream Bug* Samples this Summer!

Stream Bug Monitoring Training Dates:

Tues., June 17 – OR - Thurs., July 10 • 6 p.m. to 8:30 p.m. • McLane Creek Nature Trail*

Do you like being outdoors? Do you like stirring things up? Well, that's what volunteers do each summer when they help Stream Team gather "stream bug" samples from local streams. You too can help gather samples. No experience is necessary! Simply sign-up for one of the training sessions listed above.

At the training, you will learn how and why "stream bugs" are used as indicators of stream health, plus you'll have a chance to observe the monitoring protocol used to gather the samples. The training sessions will be held at McLane Creek where, Dave Spiller, a local fly fishing expert will share his observations regarding "stream bugs."

After the training you can sign up to monitor at one or more sites. Volunteers will be accompanied by trained Stream Team staff at each monitoring location. Monitoring dates are scheduled for varying days of the week to help accommodate busy schedules. Youth under the age of 14 must be accompanied by an adult. Monitoring usually takes between 3 – 5 hours per site, depending on the site and location. The monitoring window begins in late June and runs through mid-August.

To register, go to www.streamteam.info and click on "Register." For more information, contact Chris Maun at 360-754-3355 ext. 6377 or maunc@co.thurston.wa.us.

What is a Stream Bug?

Stream bugs (aka benthic macroinvertebrates) are small critters that live in the bottom of a stream. These critters serve as indicators of stream health because some of them are tolerant of stream pollution and habitat disturbance while others are quite intolerant to such disturbances.



**Please note: The McLane Creek Nature Trail is managed by the Department of Natural Resources. A Discover Pass is required for parking at this trail. A vanpool will be available for this training, or you can purchase a one-day or annual Discover Pass. For information about purchasing a pass, go to: www.discoverpass.wa.gov. To register for the vanpool, go to www.streamteam.info and click on "Register." or contact Chris Maun by email or phone.*



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Contrary to popular belief, mulch mowing does not contribute to thatch problems. Thatch is comprised of grass leaves, stems and roots. It is found above the soil surface and is a natural part of your lawn. Thatch is beneficial to your lawn unless it gets thicker than ½ - ¾ inches deep.
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Mulch Mowing

Mulch mowing or “grasscycling” is a no cost lawn care routine that naturally fertilizes your lawn as you mow. Mulch mowing can save you time, energy and money while helping to keep your lawn healthy and green!

Mulch mowers are specially designed to shred grass finely and blow the clippings back down into the turf, leaving no visible residue or grass to track into the house. They also yield a “green lawn” by leaving a layer of nutrients that will seep back into your soil. The amount of nitrogen that releases back into your lawn almost equals the recommended value of fertilizer. The next time you are in the market for a new mower, consider purchasing a mulching variety, available in gas or electric models at a variety of prices.

You can also use your conventional mower as a mulch mower by removing the bag from the rear and covering the discharge chute, or using the side-discharge to uniformly spray the clippings in a pattern that distributes them evenly on your lawn. (Some mower brands sell mulch mower adaptor kits that will help cut the grass blades into smaller pieces.) A push mower is another alternative that has the advantage of being a great form of exercise, while distributing grass clippings evenly. The disadvantage of these mowers is that the grass will not be shred as finely or blown back into the turf, but you can always mow over the larger clumps or rake them to use in compost or as mulch on garden beds.

To reduce stress on your lawn, it is best to only cut 1/3 of the grass blade at a time. In the spring, this probably equates to mowing once a week. During the summer, it may decrease to once every two weeks. Remember that cutting too much at once stresses the grass. If you want your lawn to be 2 inches tall, mow it when the grass grows to be 3 inches tall. If your lawn has grown 4 inches, set your mower to 3 inches and mow. Wait two days and lower your blades to 2 inches and mow again. As long as you maintain this “2/3 system” the top inch of grass will decompose rapidly allowing for optimum lawn health and accounting for up to 1/2 of your fertilizing needs.

For best results, keep the blade(s) on your mower in optimal condition by sharpening twice a year. Mow when it is dry, slowing down when going through overgrown patches.

Now, relax! No need to rake or dispose of grass clippings. You’ve kept your grass clippings out of the waste stream and from overloading the compost facility. You’ve saved money on your water bill and you’ve reduced your lawn’s need for fertilizer! Mulch mowing helps improve the health of your lawn and the environment at large.

Stream Team Welcomes New Lacey Coordinator

Kim Benedict was recently hired as the Water Resources Specialist at the City of Lacey. Kim is excited to learn about the programs Lacey offers and is looking forward to adding her own flare to them. She is thrilled to be working with such a great team of people at the City of Lacey and with Stream Team.

Kim is a proud University of Washington Alumna with a BS in Environmental Science and a Certification in Restoration Ecology. She is currently pursuing her Masters in Environmental Studies at The Evergreen State College. As an undergrad in Seattle, Kim spent her free time volunteering with local environmental education groups and removing English ivy and Himalayan blackberry at restoration events. After graduating, Kim moved to Aberdeen, WA to spend a year volunteering with AmeriCorps at the Coastal Resources Learning Center. Kim enjoyed her time with AmeriCorps so much that she decided to sign up for a second year! Her second year was spent at the Capital Region Educational Service District 113 in Tumwater working with the Chehalis Basin Education Consortium doing water quality testing, restoration work and other environmental education.

We are very excited to have Kim on our team. She can’t wait to meet the awesome Stream Team volunteers at upcoming events, so make sure to say hi to her when you see her!

This Summer, Be Water Wise!

With population growth and climate change, the need for safe, reliable water is of utmost importance. We must efficiently use our water resources, especially in the summer when it is estimated that nearly 50% of water used for irrigation is wasted due to evaporation, wind, or runoff from inefficient watering techniques (source: EPA's watersense webpage). This summer, be "water wise" with your landscape and lawn with these water saving tips and tricks.

Landscaping Tips

Water wise landscapes are just what their name suggests. They are landscapes that are wise about water, or rather, their caretakers are. These landscapes efficiently use water by means of multiple techniques that require less money and time to maintain. Conserving water puts less strain on water resources during the times when we need and use the most water.

The following seven water wise landscape principles can be used as a guide to creating or improving a water efficient landscape. Whether you are transforming parts of your existing landscape to be water wise or starting from scratch, the principles remain the same.

1. Planning and Design

Take note of existing microclimates of your landscape, including amount of sun, shade, soil type and moisture. Make sure you have picked the right plant for the right place. As an example, plants that require a lot of water should be planted in moist areas where they will naturally receive the water they need. On the other end of the spectrum, plants that don't require a lot of water should be planted in dry areas. This concept is known as hydrozoning because you are creating zones in your landscape that require different amounts of water.

2. Soil Improvement

The structure of your soil will determine its water holding capacity. Clay soils will hold water for longer periods of time, whereas water will run through sandy soils rather quickly. To determine your soil type, you can



obtain a soil test from the Thurston Conservation District (<http://www.thurstoncd.com/soil-testing.html>). Then make amendments as suggested. Without getting a soil test, it is generally beneficial to mix compost to a depth of 10-12 inches of the soil in planting beds. This will improve soil structure and water holding capacity.

3. Practical Turf Area

Lawns are traditionally the receptors of large amounts of water in the summer, but there are several techniques that can be employed to greatly reduce water requirements for lawns. The first technique is to minimize lawn area to places where you need it, for instance, a play area. Lawns will need to be watered through the summer to stay green, so replacing as much area as possible with native plants that require far less water will help lower water consumption. Second, mulch mowing (see

There are many gardening books for the Pacific Northwest and resources online to help you learn about the soil and water requirements of native and non-invasive ornamental plants that are well suited to the Pacific Northwest. Or, attend one of Stream Team's "Naturescaping for Water and Wildlife" workshops, which are held three times yearly, usually in November, February and May.

accompanying article) and mowing high (approximately 2 inches) will reduce your lawn's watering needs. Taller grass also cools the soil and encourages deep roots. If you mow your lawn too short, root growth slows down, making the grass more susceptible to heat and drought. Third, consider letting your lawn go dormant during the summer. Dormancy can be achieved by watering deeply once a month. When the fall rains begin, your lawn will soon be its usual lush green.

4. Efficient Irrigation

When necessary, all areas of your landscape should be deeply watered during morning hours when evaporation is at its lowest. This means soaking the soil and then only watering again when the soil is dry about 2" deep. Not only does this save water, but it causes plant roots to grow deeper in search of water. Watering too frequently can cause roots to suffocate because the soil's air spaces



will remain water logged. This excessive watering ultimately leads to disease as the plants become increasingly stressed from lack of air.

Create an irrigation schedule. Water when your soil is dry about one to two inches deep for lawns and annuals and two to four inches deep for shrubs and trees. Use soil moisture meters to tell how deeply your water is percolating, or stick a trowel in the ground to see how far the water has reached. If using a moisture meter, you'll likely find that once a week in the summer is plenty (even less for shady sites).

Knowing where to water is an important part of efficient irrigation. In your garden, you generally want to water as close to the soil surface as possible, avoiding the plant leaves. Disease can spread if the leaves get watered. Perennials, shrubs and trees have roots that soak up water under their drip line and reach a depth of about 12", so target watering there. Lawns and annuals have roots that extend about 6" deep.

For small landscaped areas or gardens, water by hand using a water wand. To increase water efficiency, you can place a small perforated pipe vertically next to the plant and water directly into it. Porous pipe is an inexpensive drip irrigation method that works by seeping water along its entire length. It is best used on level sites with a short distance

to water. In all cases, the result should be that water soaks directly into the ground rather than running off.

For larger or uneven/slopped landscaped areas or gardens, try drip tubing. You can purchase the tubing either with ultra-low-flow emitters pre-spaced along the tubing, or you can customize the spacing by installing the emitters yourself. To avoid clogging and to keep the flow even, use a pressure regulator and a filter. A pressure-compensating emitter must be used on a slope.

When watering lawns, it is important to remember that **your lawn only needs 1" of water per week in the summer months**. This can easily be measured by placing small cans (a tuna can is 1 inch deep) around the lawn and turning on the sprinkler. Record how long it takes for the can to fill 1 inch. When you water your lawn, split the watering time in two, and water on two different days to ensure the water soaks in deeply (i.e., if it takes 20 minutes for your sprinkler to water 1 inch, then water ten minutes one morning and ten minutes the next morning). Remember that grass does best if the roots are allowed to dry out a little between watering. Your lawn will let you know when it needs a drink by not springing back after you step on it.

Irrigation sensors and timers can be very handy when your landscape has different watering needs. If you have an existing in-ground automatic irrigation system, consider attaching a rain sensor to shut off your system when it rains. These are relatively inexpensive and typically run between \$20-30. Hose timers are also helpful in case you forget to turn off the sprinkler or hose. Just be sure that you are setting the time correctly so you do not overwater.

5. Mulch plant beds

Mulching around plants reduces evaporation from the soil and helps maintain the soil structure by protecting the soil from rain. This allows the soil to continually soak up water because it

remains spongy and porous, rather than becoming compressed from the rain.

Two to four inches of mulch around plants will help retain soil moisture and provide nutrients as it breaks down over time. Mulch also reduces the competition for water between plants and weeds as it suppresses weed growth. To calculate the amount of mulch you need for your area, you can visit <http://www.landscapecalculator.com/calculators/mulch>.

6. Low Water-Use Plants

All native plants have adapted to thrive in the wet, mild winters and dry summers of the Pacific Northwest. Native plants are adapted to our climate, diseases, and pests; and therefore, require less maintenance and care compared to non-native plants. However, there are also non-native species, such as lilac, that are recommended for our temperate climate, are non-invasive and are drought tolerant. When choosing plants, look for plants adapted to Zone 8 of the hardiness zone map. *The Thurston County Common Sense Gardening Handbook* and *The Plant List* from SavingWater.org (found at the URLs below) are useful resources for finding low water use plants.

<http://www.co.thurston.wa.us/health/ehcsg/pdf/PlantList.pdf>

http://www.savingwater.org/groups/public/@spu/@conservation/documents/webcontent/spu01_003855.pdf

7. Appropriate Maintenance

When designed appropriately, a mature water wise landscape should require far less maintenance than one that disregards the water requirements of plants. Watering will need to be consistent through the first three growing seasons, but can then taper off as the plants establish in their environment. Most native/drought resistant plants do not need to be watered after they are well established (usually 2-3 years). Watering after the first few years should occur only when the plants begin to wilt and show signs of water stress.

Featured Beach

Frye Cove



Frye Cove

Frye Cove is nestled in Eld Inlet near Steamboat Island. The beach hosts a spectacular view of Mount Rainier (when the sky is clear) and 1400 feet of saltwater access. You can access the beach through Frye Cove County Park, located at 4000 NW 61st Ave., Olympia, WA.

According to the WA Department of Fish and Wildlife, there are healthy populations of Manila and littleneck clams at the south end of the beach. Oysters have been planted at the north end of the beach. The 67-acre park includes over 2 miles of walking trails, a new playground, a shelter and plenty of room for picnics.

The beach at Frye Cove Park is open to the public for recreational shellfish harvesting (with a valid license) of clams and oysters from January 1 through May 15. Once you've got your shellfish harvesting license, make sure to check for shellfish beach closures before you go out to harvest. (See important links below.)

Thurston County acquired Frye Cove County Park in 1973. The park is named after George W. Frye who owned the property on the shore north of Flapjack Point. Over the years the shoreline in Frye Cove was modified by the addition of concrete and rock bulkheads. Bulkheads modify the nearshore habitat by restricting

the natural erosive processes that contribute to beach formation. The upper shoreline or nearshore habitat is essential for spawning forage fish such as surf smelt and sand lance, as well as juvenile salmon and other marine wildlife.

In 2008 and 2009, the South Puget Sound Salmon Enhancement Group (SPSSEG) completed two restoration projects to improve nearshore habitat along the beach. In 2008, in partnership with Myron Saikewicz and Irene Boldt, SPSSEG replaced a concrete bulkhead with a "soft" shoreline armoring alternative. In 2009, SPSSEG removed 1,000 cubic yards of rip rap bulkhead along 450' of a small pocket estuary and replaced it with a more natural armoring of large woody debris (LWD). The goal of the project was to improve nearshore habitat for marine wildlife and juvenile salmon, including Chinook, chum, coho and coastal cutthroat. To learn more about this project and others like it visit: <http://spsseg.org>.

As you walk along the beach, you may see a great blue heron looking for a staghorn sculpin or a graceful crab to eat, or you may notice green sea lettuce floating in the water or on the beach. On the shore and buried underneath the sand

is a rich nursery of Pacific oysters and various types of clams including: manila, littleneck and butter clams.

There are many more marine organisms that call Frye Cove home. The South Sound Estuary Association hosts "Beach Naturalists" at Frye Cove County Park in the summer. These trained volunteers are on hand various weekends in the summer during low tides to answer your questions about the beach and the marine critters that call Frye Cove home. You can find out more information about the dates and times at <http://sseacenter.wordpress.com/events/beach-naturalist/>.

Frye Cove County Park is not the only hidden gem in Thurston County that provides trails and beach access. You can learn about other publicly accessible beaches by going to: <http://www.streamteam.info/localstreams/>.

If you are looking for something fun and free to do this summer, visit one of the wonderful park beaches or resource areas in Thurston County! If you would like an up-close look at marine creatures, you can attend one of Stream Team's **Marine Creature Monday's** at Boston Harbor Marina in July or August (See page 13 for details.)

WDFW Recreational Shellfishing at Frye Cove County Park & Online Purchasing of License

<http://wdfw.wa.gov/fishing/shellfish/beaches/281140/>

WA State Dept. of Health Beach Closure Information

<http://www.doh.wa.gov/CommunityandEnvironment/Shellfish/BeachClosures.aspx>

South Puget Sound Salmon Enhancement Group: Frye Cove Project Information

<http://spsseg.org/frye-cove-park/>

Priest Point Park *Beach Seine*

Tues., August 12 • 6:30 p.m.

Ever wonder which fishes use our shorelines? The nearshore environment is one of the most productive areas along the shorelines of Puget Sound. Since the 1980's, local Puget Sound tribes have been conducting seine surveys to see just how productive are our nearshore waters. **What have they found?** These areas are rich in sand lance, surf smelt and other forage fish providing a nursery full of nutrient-rich food for juvenile salmon. For this very reason, juvenile salmon from natal streams in northern Puget Sound, such as the Green and White Rivers, can be found in the local inlets of southern Puget Sound.

You can experience the marine fauna found in our local nearshore waters! Join Stream Team and special guest biologist, Larry Phillips, from the Washington Department of Fish and Wildlife, for a beach seine at Priest Point Park.

Participants may help pull the seining net to shore to see the different species that are caught. Larry will identify and talk about the individual species found in the net, and discuss their importance to the health of our nearshore ecosystems and the challenges they face to survive. For more information or to register online, visit www.streamteam.info and click on "Register".



Beware of Poison Oak

Poison oak (*Toxicodendron diversilobum*) is commonly found near saltwater and in many parks with beach access throughout Thurston County.

It can grow as a shrub 3 to 10 feet tall in open areas, or as a woody vine in shaded areas. The oak-like leaves are arranged in groups of three leaflets from a common stem and are about 1 to 4 inches long – hence the old rhyme, "Leaves of three, let it be."

Poison oak produces oil that can be found along the stem, roots and leaves. This oil can cause severe allergic skin reactions. **The oil can be transferred by direct contact from the plant or from objects that have contacted the plant, such as clothing, tools, gloves or pets!** Do not burn any part of the poison oak, as the oil from plant and roots is transferred into the smoke and can cause hazardous conditions to your skin, eyes and lungs.

Poison oak is often hard to spot when it is growing among other plants. **The best way to avoid contacting Poison oak is to stay on established trails at parks and other resource areas.** Plus, staying on trails protects the native plants and wildlife that call these places home!



When Visiting the Beach, Make Sure You Practice Good Beach Etiquette

When visiting the beach, remember that it is home to numerous marine critters and other wildlife. If you pick up a rock to examine it, carefully replace the rock to its original position. Avoid touching any animals you may find – watch and learn instead. Be careful not to trespass onto adjacent private beaches, and make sure to follow all rules and laws for the beach. Please place trash in garbage cans or pack it out. Remember to obtain a license before doing any recreational shellfish harvesting, and make sure to check for beach closures before going out to harvest. When harvesting clams, always remember to fill in your holes!

Bee Friendly to Your Yard

There has been much buzz in local and national media about the trouble facing bees. Colony collapse disorder is affecting bees worldwide. In the U.S., a third of the bee population disappeared in 2010. Bee keepers lost 50 percent of their hives in the winter of 2012-2013. Much of our food supply is dependent on pollination by bees. A decrease in their numbers threatens the security of our food supply.

Scientists agree that this decrease in the bee population is caused by humans. Many theories have been explored as to the specific cause. Some of the suggested theories include lack of food for the bees caused by habitat loss, viruses and fungal diseases. The main culprit which has emerged is the use of pesticides.

Pesticides not only kill bees, they also indiscriminately kill other vital organisms. When it rains, pesticides are washed off and flow into our storm drains. Most storm drains flow directly to the nearest water body. In this way, pesticides sprayed in your yard can become a threat to local aquatic wildlife and fish.

The single most important thing you can do to protect bees is to refrain from using pesticides in your yard. There are alternatives to pesticides to control plant diseases. The following resources can help:

Thurston County's Common Sense Gardening Guides:

<http://www.co.thurston.wa.us/HEALTH/ehcsg/guides.html>

Grow Smart Grow Safe Guide:

<http://www.growsmartgrowsafe.org/>



PHOTO BY RICH HATFIELD, THE XERCES SOCIETY

Things You Can Do to Help Bees

- ✓ Avoid the use of pesticides in your yard.
- ✓ Plant bee-friendly (blooming) plants that are native or non-invasive.
- ✓ Allow clover to grow in your lawn.
- ✓ Keep a shallow dish of water filled with pebbles in your yard for bees to drink.
- ✓ Grow or buy organic food.
- ✓ Educate your family and friends about bees and how to protect them.

To create a bee-friendly yard, plant an array of plants that bloom from spring through fall. Some edible plants that bees love include squashes, tomato, blueberries and sunflowers. Flowering plants which attract bees include Pacific ninebark, salal, Oregon grape, kinnikinnick, orange honey suckle, Russian sage, Siberian iris, lavender, lilac and cosmos.

Never plant non-native wildflowers and other non-native plants that become naturalized or spread and become invasive. To see a list of recommended non-invasive plants, visit www.co.thurston.wa.us/tcweeds/escaped.asp for the Garden Wise, Non-Invasive Plants for Your Garden guide.

Wasps, hornets and yellow jackets are very different from honeybees, mason bees and bumblebees. Many people find wasps, hornets and yellow jackets to be a nuisance in their yards as they can display aggressive behavior. Adults of these species feed on sugary foods and gather pieces of meat to feed their offspring. To avoid attracting these insects to your yard, follow these tips:

1. Keep fruit from trees picked up off the ground,
2. Cover compost piles or place fine mesh over openings in compost bins, and
3. Cover sweet foods, such as fruit or sugary drinks, and meat dishes on picnic tables.

If you have nests of aggressive wasps, hornets or yellow jackets in your yard, there is a safe, local and FREE way to have the insects removed. Mike Juhl, known as the "Bee Man", makes house calls to Thurston County residents. Bee Man Exterminators will remove the pests at no charge to you. The Bee Man uses a pesticide-free vacuum system to remove the insects. He then sells the insects for their venom. The venom is diluted and used to desensitize people allergic to bee stings.

To schedule the Bee Man to come out to your yard, call 360-866-1834. To make an appointment online, or for more information, visit <http://hornetnestsfreeremoval.com/9743/9679.html>.

What's all the Buzz About?

Western Bumble Bee (*Bombus occidentalis*)

- ✓ Once common in the western United States and Canada.
- ✓ Primarily yellow thorax with black abdominal segments, identifying characteristic is a white tail.







Western bumble bees are considered to be excellent pollinators due to the fact that they do not depend on any one flower type. Also, bumble bees are able to fly in lower light levels and cooler temperatures than other bees. Because of its versatility, the Western bumble bee has been commercially reared to pollinate commercial crops.

Like other bees, bumble bees live in colonies consisting of a queen and her offspring. The queen is responsible for laying the eggs and developing the colony. Workers are responsible for most of the food collection, feeding of young and defending the colony. The males' sole function is to mate with queens.

Bumble bee colonies depend on flowers for their nutritional needs. Nectar provides carbohydrates and pollen provides protein. Colonies are annual and depend upon a queen to establish. The queen collects nectar and pollen from flowers to support egg production, which are fertilized by the sperm she has stored since mating the

To Bee, or Not to Bee?

As summer arrives, bees and wasps inhabit yards and other urban and natural areas. While they may seem like a nuisance, many of these insects are beneficial. Bees pollinate flowering plants with their thick furry bodies. According to the WA State Department of Health, it is estimated that insect pollination is needed for one third of our food supply, and most of this pollination is done by bees. Wasps also have a minor role in pollination, generally done by the males. Yellow jackets and paper wasps are advantageous because they feed on insects that damage trees and crops.

Insect	Fun Facts	Identification
Bumble Bee 	<ul style="list-style-type: none"> Establishes new colonies each spring Produces little honey (not enough to harvest for human consumption) Can sting repeatedly (stingers smooth) 	<ul style="list-style-type: none"> Thick body with orange, yellow, and/or black coloring Very furry body Size is highly variable and can be up to an inch long
Honey Bee 	<ul style="list-style-type: none"> Resides in perennial colonies Can only sting once and then dies (stingers barbed, which causes them to get caught in skin and ripped from the bee's body) 	<ul style="list-style-type: none"> Thin wings Sleek abdomen Fuzzy torso Typically 0.75 inches long
Mason Bee 	<ul style="list-style-type: none"> Solitary bees Digs and nests in holes in the ground or in wood Males never sting Females rarely sting 	<ul style="list-style-type: none"> Shiny, dark blue in color
Hornet 	<ul style="list-style-type: none"> Preys on insects Aggressive Can sting repeatedly Can spray venom 	<ul style="list-style-type: none"> Up to 2 inches long Yellow and black or white and black in color
Paper Wasp 	<ul style="list-style-type: none"> Preys on insects Forms annual colonies Rarely aggressive Builds paper nests consisting of wood fibers (single comb) Can sting repeatedly 	<ul style="list-style-type: none"> Up to 0.75 inches long Slender with long legs
Yellow jacket 	<ul style="list-style-type: none"> Preys on insects Forms annual colonies Aggressive Builds paper nests consisting of wood fibers (multiple stacked combs) Can sting repeatedly 	<ul style="list-style-type: none"> Up to 0.5 inches long Yellow and black or white and black

previous fall. During the early development of the colony the queen is responsible for all duties. Once the colony is established she then remains in the nest laying eggs. The production of other queen bees is dependent upon access to sufficient quantities of pollen. The amount available directly affects the number of queens produced.

Threats to survival:

- ✓ Spread of disease from commercial bee industry
- ✓ Pesticides and insecticides
- ✓ Introduced pests and diseases
- ✓ Habitat loss and fragmentation
- ✓ Agriculture intensification
- ✓ Invasive plants competing with native nectar and pollen plants
- ✓ Climate change

So what's the buzz about?

Until the mid-1990's, the western bumble bee was one of the most commonly seen bees. Since then, it has disappeared from half its historic range. This past summer several individuals were identified and confirmed in the Seattle area. If you are interested in more information or in citizen science opportunities, please visit the Xerces Society, a nonprofit group that protects wildlife through the conservation of invertebrates and their habitat www.xerces.org.

Featured Creature

Ochre Sea Stars

(*Pisaster ochraceus*)



Ochre Sea Stars (*Pisaster ochraceus*)

Range	Alaska to Southern California, Puget Sound
Description	<p>Ochre stars usually have 5 arms with many white spines, have a flattened body and are generally star-shaped. They come in a variety of colors including yellow, orange, purple and dark brown. Their life span is up to 20 years.</p> <p>Sea stars are invertebrate animals found only in the marine environment. They lack developed eyes but have "eye spots" at the tip of each arm. These "eye spots" have a simple lens, which are light sensitive and, in some species, are known to detect or "see" favorable habitat.</p> <p>The outer skin of a sea star is covered with neurosensory cells that are highly sensitive to touch and chemical "tastes". Many species have tiny pincers, called pedicellariae, which are very effective in keeping the sea star's surface free of parasites and predators.</p> <p>Inside the sea star skeleton are its internal organs and a water vascular system that operates its numerous tube feet for feeding and locomotion. The internal organs consist of a digestive tract, reproductive organs and a nervous system. Sea stars have no brain or central nervous system.</p>
Habitat	Ochre sea stars are common and are found in the mid and lower intertidal zones on rocky shorelines, under rocks and in rock crevices.
Biology	Ochre sea stars feed primarily on mussels, barnacles, snails and limpets. They use their tube feet to pull apart mussel valves, then insert their stomach to digest their prey. Sea stars are preyed upon by gulls and sea otters. Sea star larvae are a form of zooplankton and, along with phytoplankton, form the basis for most marine food webs.



Are you Crazy about Bats?

From tropical flying foxes to our own little brown myotis, these fascinating flying mammals have many roles that are essential to maintaining ecosystems worldwide.

Join Stream Team and local bat expert, Greg Falxa, for a fun, fact-filled bat talk and walk to learn about bat habitat needs, basic bat biology and their unique life strategies.

Bat Talk (REGISTRATION REQUIRED) • Fri., June 27 • 7:30 p.m.

Traditions Café and World Folk Art, 300 5th Ave SW Olympia

For more information or to register online visit www.streamteam.info and click on "Register".

Bat Walk (REGISTRATION NOT REQUIRED) • Fri., June 27 • 9:30 p.m.

Heritage Park on Capitol Lake, across from Traditions Café, Olympia

Disintegrating Sea Stars?

Sea Star Wasting Syndrome hits our coastlines....again.

From the ocean shorelines of Canada to California and the Salish Sea, sea stars are experiencing mass mortality events from a disease called sea star wasting syndrome. What is the cause? No one knows for sure. Monitoring of our Puget Sound coastlines has found mortality in substantial numbers, and the syndrome appears to be spreading. The wasting syndrome may be caused by a pathogen, but, at this time, the underlying cause is unknown.

Wasting syndrome was first noted along the Washington coast in June of 2013 during monitoring surveys conducted along the coast line of the Olympic National Park. Wasting syndrome has occurred in the past in Southern California (1983-1984 and 1997-1998). Warm water temperatures were believed to have contributed to these die offs. After the 1983 event, the ochre sea star (*Pisaster ochraceus*) was virtually absent for many years along the southern coast of California.

Currently, the disease appears to disproportionately target ochre (*Pisaster ochraceus*) and sunflower stars (*Pycnopodia helianthoides*), with the sunflower star having the higher mortality. Other stars such as the mottled (*Evasterias toschelii*), pink (*Pisaster brevispinus*) and leather stars (*Dermasterias imbricata*) are also being affected.

The sunflower and ochre stars are considered to be “keystone species,” as they have a wider distribution and are more abundant than other species. If a large mortality event of a “keystone species” were to occur, then it is anticipated that it could change the entire species composition of the intertidal and subtidal regions of our marine waters.

Sea star wasting disease is a general description of a set of symptoms that are found in sea stars. The disease is typically characterized by lesions appearing on the ectoderm (inner lining) of the body, followed by decay and eventually death. True wasting disease occurs in individuals when they are in suitable habitat, not stranded high on the beach where they can easily desiccate. The progression of the disease can be rapid, leading to death within a few days.

Numerous universities, aquariums, governmental agencies, recreational divers and citizen scientists are teaming up to survey sea star populations. It is important to identify new disease areas to understand the rate and spread of the disease. If you are a recreational diver or beach walker you can report healthy or diseased sea star observations to the Vancouver Aquarium web page: <http://www.vanaqua.org/act/research/sea-stars>. Information on the geographic extent of the disease is helpful in understanding the origin and spread of the syndrome.

For more information on sea star wasting syndrome or how to monitor, you can also visit the University of California Santa Cruz web site: <http://www.eeb.ucsc.edu/pacificrockyintertidal/data-products/sea-star-wasting>.



Marine Creature Mondays

**Mondays at 11:30 a.m. and 1 p.m.
July 21, 28 August 4, 11, 18, 25 or
special date Friday, August 22 will be
held in Spanish for our “Spanish as a
first language” community.**

How do species such as barnacles and sea stars contribute to zooplankton in Puget Sound, and who eats them? Come find out at one of Stream Team’s **Marine Creature Mondays** at **Boston Harbor Marina!**

Join us as Stream Team pairs with local divers for hands-on viewing of some of the wonders of Puget Sound’s marine life. Divers will demonstrate their equipment prior to diving to the bottom of the Sound to collect various marine creatures for up close viewing. Biologists will talk about the different species found, their habitat needs and what is required to keep Puget Sound healthy. All the marine creatures are kept in sea water for the viewing and then released back into Puget Sound.

For more information or to register online visit www.streamteam.info and click on “Register”. Space is limited. Please register for only one session.

If you will be bringing additional people with you to a **Marine Creature Mondays** session, make sure to register the total number of people as a group. See yellow box on page 15 for additional instructions on group registrations. If you need assistance contact Michelle Stevie at mstevie@ci.olympia.wa.us.



Kids' CORNER



TRY THIS ACTIVITY!

Here is a map of South Puget Sound. The six areas of land are the major watersheds in Thurston County. **Cut out all the pieces and put them together like a puzzle.** Glue them on a piece of poster board. By looking at the finished map, can you figure out the watershed in which you live? Mark with a thumbtack or post-it-note where you live. Into which Puget Sound Inlet does your watershed flow? What are ways you can think of to protect your watershed? For ideas go to: <http://www.streamteam.info/actions/>

WATERSHED PUZZLE

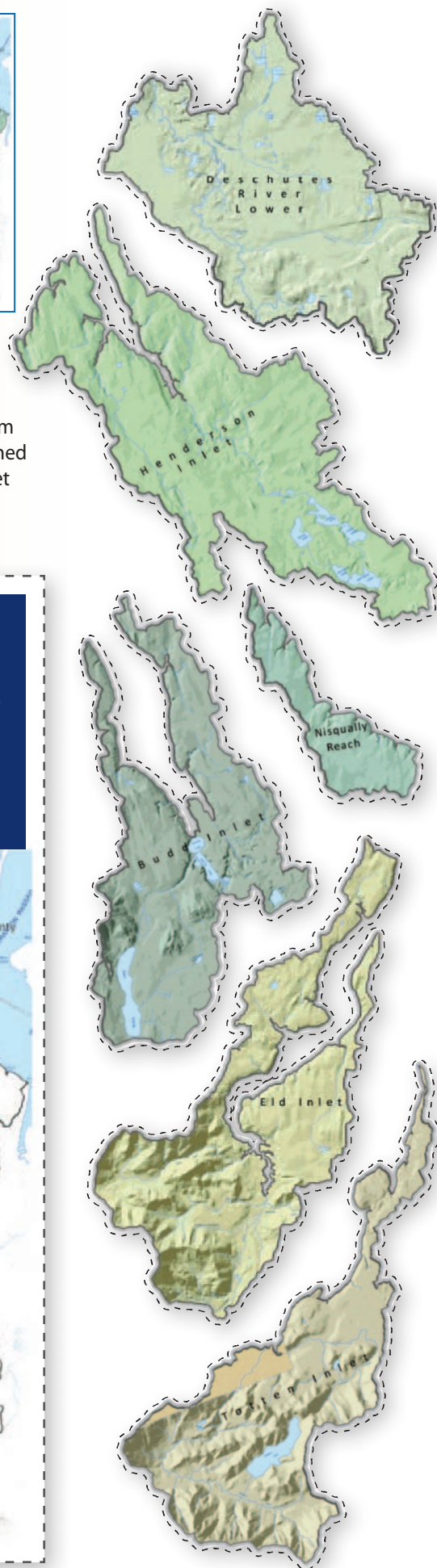
Watersheds are a very important part of the water cycle. Watersheds capture and distribute water across an area of land. When it rains or snows in the mountains or hills, all the water eventually drains down a creek, stream, or an underground aquifer, and ends up in a larger body of water.

In Thurston County, there are six watersheds that drain into Puget Sound. The watersheds are divided at high elevations. This is the point where waters are separated and drain into individual watersheds. As residents of a watershed, we depend on them to provide us with water. It is our responsibility to care for them!



Stream Team

EDUCATE • PROTECT • RESTORE
Olympia • Lacey • Tumwater • Thurston County





Stream Team *Events*

For additional events, event details, or to register, please visit our website and click on "Calendar" or "Register": www.streamteam.info
To talk with Stream Team staff about any of the events listed on this page, please call **360-438-2672**

JUNE

Meet the Trees of WA Field Class

Sat., June 7 • 10 a.m. – 4 p.m.

Olympia

Participants will be introduced to the magnificence of our native trees and four South Sound ecosystems. After the morning classroom session, we'll travel by bus to a local nature trail to learn to identify native trees, shrubs, ferns and perennials. Bus travel for field portion provided. Register online.

Stream Bug Monitoring Training

Tues., June 17 • 6 – 8:30 p.m.

McLane Creek Nature Trail,
Delphi Road, Olympia

See page 4 for details. Register online.

Work Party at McLane Creek Nature Trail

Mon., June 23 • 10 a.m. – Noon

Delphi Road, Olympia

Gloves, tools, snacks and refreshments provided, as well as a temporary parking pass. See page 16 for details. Register online.

Bat Talk

Fri., June 27 • 7:30 p.m.

Traditions Café and World Folk Art,
300 5th Ave SW, Olympia

See page 12 for details. Register online.

Bat Walk (no registration necessary)

Fri., June 27 • 9:30 p.m.

Heritage Park Capitol Lake,
301 5th Ave. SW, Olympia

No registration necessary. Meet at Heritage Park, Capitol Lake.

Bring binoculars if you have them. Bat detectors will be on hand to listen to the bats around the lake.

JULY

Work Party at McLane Creek Nature Trail

Mon., July 14 • 1 – 3 p.m.

Delphi Road, Olympia

Gloves, tools, snacks and refreshments provided, as well as a temporary parking pass.

See page 16 for details. Register online.

Marine Creature Mondays

Mon., July 21 OR July 28
11:30 a.m. OR 1 p.m.

Boston Harbor Marina,
312 73rd Ave NE, Olympia

Registration is necessary to keep the group size small. This event is popular so please only sign up for one event. Register online. For Group registration tips refer to yellow box at right.

See page 13 for details.

AUGUST

Marine Creature Mondays

Mon., Aug. 4, 11, 18 OR 25
11:30 a.m. OR 1 p.m.

SPECIAL DATE:

Fri., Aug. 22 • 11:30 a.m. OR 1 p.m.
will be held in Spanish for our "Spanish as a first language" community.

Boston Harbor Marina,
312 73rd Ave NE, Olympia

Registration is necessary to keep the group size small. This event is popular so please only sign up for one event. Register online. See page 13 for details.

FOR GROUP REGISTRATION instructions go to www.streamteam.info and click on "register" and then look for the sentence located under the blue and green banner near the top of the page: "Need a step-by-step guide to register for an event? Click here."

Priest Point Park Beach Seine

Tues., Aug. 12 • 6:30 p.m.

Priest Point Park: East Bay Drive, Olympia,
main beach trail past Shelter #2

Register online. For Group registration please follow the below guidelines. See page 9 for details.

Salmon Stewards Basic & On-Site Trainings

Several Dates in Aug. & Sept.

See page 3 for details. Register online.

EARN YOUR FREE "P.S. I LOVE YOU" BAG

by participating in four types of Stream Team events:



Wildlife or Habitat Monitoring
Salmon or Sound Stewarding
Tree Planting • Educational Workshop

Look for the "P.S. I Love You" stamp next to the events in our calendar for qualifying events.

OTHER EVENTS

P.S. I Love You: Puget Sound Festival

Sat., June 14 • 11 a.m. – 10 p.m.

Percival Landing and the Olympia Center

Free family fun celebrating Puget Sound, including live music, storytelling, games, educational booths, art activities, shellfish tasting, outdoor recreation and more!

Family movie and short films in the evening at the Olympia Center. Go to www.psfestival.com for more info.

Tumwater 4th of July Festival

Fri., July 4 • 6 – 10 p.m.

Tumwater Valley Golf Course

Volunteer for a shift at the Stream Team booth and receive a FREE Stream Team T-shirt.

Register online.

HOW TO REGISTER:

Go to www.streamteam.info/registration to find detailed instructions on how to register an individual and how to register a group.



Stream Team

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Olympia • Lacey • Tumwater • Thurston County

929 Lakeridge Dr SW
Olympia, WA 98502
www.streamteam.info

Join the Summer Fun at the McLane Creek Nature Trail Work Parties!

McLane Creek Nature Trail Work Parties

Mon., June 23 • 10 a.m. to Noon

Mon., July 14 • 1 p.m. – 3 p.m.

The McLane Creek Nature Trail is the spawning destination of chum salmon, a nursery for young ducklings as well as a home to a wide variety of native plants, amphibians and some very busy beavers. Stream Team uses the trail throughout the year to help people learn about salmon, native plants, stream bugs, wetlands and more. Because the trail is such an important educational resource, Stream Team and WSU Native Plant Salvage adopted the trail in 2012 to assist DNR in its upkeep.

Volunteers are needed to help pull weeds and trim back native plants that are growing into the trail. Join us for a weeding and trimming work party on June 23 and/or July 14. Stream Team will provide gloves, tools, and refreshments. To register, go to www.streamteam.info and click on “Register.” For more information, contact April Roe at 360-867-2073 or roea@co.thurston.wa.us.

