

Stream Team

NEWSLETTER

Olympia • Lacey • Tumwater • Thurston County

FREE



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SUMMER EDITION
June–July–August 2013

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ON THE COVER: Six-year-old, Jackson Freds touches his first sea star at Boston Harbor Marina. Bring your family to a free Marine Creature Monday session this summer. See page 7 for details. Photo courtesy of Michelle Burton.

Help Gather Stream Bug Samples This Summer

Stream Bug Monitoring Training Dates

Wed., June 19 OR Tues., July 9 • 6 – 9 p.m. • McLane Creek Nature Trail*
Register online at www.streamteam.info and click on "Register"

Do you enjoy being in or near flowing water? Do you like stirring things up? If so, you might enjoy helping Stream Team gather "stream bug" samples from local streams. Every summer, between late June and early August, Stream Team volunteers work alongside skilled coordinators to help gather stream bug samples from twenty streams in Thurston County.



Stream bugs, aka benthic macroinvertebrates, are small critters that live at 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.

You can help gather samples, too. No experience is necessary. Simply register 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 a local creek where 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.

Staff contact: Ann Marie Pearce
at pearcea@co.thurston.wa.us or
360-754-3355 ext. 6857



**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, contact Ann Marie by email or phone.*

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.

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: Erin Keith

Tel: 360-438-2687 TDD: 1-800-833-6388
ekeith@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 TDD: 360-753-8270
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

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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 Needs You! Become a Salmon Steward.

From mid-August through mid-September, the 5th Avenue Bridge is a gathering place for locals and visitors viewing the salmon. From early September through mid-October, people view the salmon at the holding ponds and river trail at Tumwater Falls Park. Trained Stream Team Salmon Stewards stand at these two viewing locations and tell the story of the Pacific Northwest salmon, including specifics about this salmon run. Later, in November, Salmon Stewards tell the story of the wild chum salmon at McLane Creek Nature Trail when the chum are naturally spawning in McLane Creek.

Don't miss the opportunity this year to participate and become a Salmon Steward. The requirements are easy and fun! You must be willing to read materials, attend training classes, watch training DVD's, love to talk to people and love to be outdoors to share both the wonder of salmon and discuss the human threats to their survival.

Required Training: New Salmon Stewards need to attend two classroom sessions and three onsite sessions.

Basic Classroom Training – includes general information on five salmon species and life cycle, including explanation of hatchery life cycle, and some specifics on Deschutes River Chinook and McLane Creek Chum. Classroom trainings take place at the Olympia City Hall, 601 4th Ave. E, Room 207. Parking is free! Light refreshments provided.

Aug. 15 Basic Salmon Training Part 1 (Classroom) • 6:30 – 8 p.m.

Aug. 21 Basic Salmon Training Part 2 (Classroom) • 6:30 – 8 p.m.

Aug. 24 5th Avenue Bridge and Dam (On-site) • 10 a.m. – Noon

Aug. 29 Basic Salmon Training Part 3 (Classroom) • 6:30 – 8 p.m.

Sept. 14 Tumwater Falls Park (On-site) • 10 a.m. – 1 p.m.

Nov. (TBA) . Wild Chum Run at McLane Creek Nature Trail (On-site)

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

*Staff contact: Patricia Pyle,
ppyle@ci.olympia.wa.us or 360-570-5841*



Come See the Salmon!



Once a year, adult salmon return from the Pacific Ocean to rivers and streams along the west coast to spawn. In south Puget Sound, the Chinook, "king of salmon" returns to the Deschutes River. The Deschutes River Chinook swim through Budd Inlet and Capitol Lake in downtown Olympia en route to their home river. The majority of these salmon are hatchery raised and were released 2 to 5 years ago from the Washington State Department of Fish and Wildlife holding ponds at Tumwater Falls Park. The returning adults start to make an appearance in lower Budd Inlet in mid-August. When the salmon start schooling at the 5th Avenue dam, the public gathers along the walkway to watch the spectacle.

See the Salmon Here! Right in downtown Olympia and at Tumwater Falls Park, the "king of fish", Chinook salmon can be seen near the end of their migration journey from the Pacific Ocean to freshwater to spawn. Don't miss seeing the return of these big salmon – of approximately 20 pounds, jumping the fish ladders, and dodging the seals, while their bodies change colors and shape. Stop by the 5th Avenue Bridge from mid-August to mid-September and Tumwater Falls Park from early September to mid-October.



Bug Spotlight: **LADY BEETLE**

(aka ladybug)

There are over 450 species of ladybugs that are native to North America. They are in the Coccinellidae family and are not true bugs (Hemiptera), so scientists tend to prefer the common name lady beetle rather than ladybug. Other common names include good luck bug and lady-cow.

A female lady beetle deposits her eggs under a plant leaf or on a stem in small yellow clusters. When the eggs hatch into alligator-like larvae, they get busy eating many soft-bodied pests, such as aphids, mites or insect eggs. The larva pupates and then an adult lady beetle will emerge ready to feed some more! Adult lady beetles also feed on aphids and other soft-bodied insects. Female lady beetles also need nectar and pollen to mature and lay eggs. See if you can find some in your yard today!

Are you wondering what to do with your old pesticides or other household hazardous waste?

You can safely dispose of them at HazoHouse, at no cost, which is located at the Thurston County Waste and Recovery Center, 2418 Hogum Bay Road NE in Lacey. HazoHouse is open Friday – Tuesday from 8 a.m. to 5 p.m. Be sure to store all hazardous items upright in boxes or tubs to prevent accidental spills.



If you are interested in learning more

about selecting less toxic methods for gardening, look for the Grow Smart, Grow Safe: A Consumer Guide to Lawn and Garden Products online www.growsmartgrowsafe.org

Tired of Aphids Eating Your Plants? Let Nature Take Care of Them!

Are aphids eating your roses, your lupines or perhaps your lettuce leaves? Luckily, aphids are tasty to a large number of insects, birds and their young. The first thing to do after spotting aphids is to look for signs of aphid predators such as lady beetles, lacewings and predatory wasps. Lady beetle larvae, which look a bit like miniature spotted alligators, can eat about 400 aphids in their pupal stage, and an adult lady beetle can eat over 5,000 aphids in its lifetime (about one year). Many birds, including seedeaters and hummingbirds, feed aphids to their young.

If you do not see beneficial insects right away, don't panic. There is usually a few weeks' delay between the time the aphids appear and when the predators show up. The predators wait until there is plenty to eat! During this time when you are waiting for predators, use a strong spray of water to knock the aphids off your plants. Most dislodged aphids will not be able to return to the plant. That may be all you have to do!

For more details about aphids and other gardening and pest control tips, visit Common Sense Gardening website: www.co.thurston.wa.us/health/ehcsg or call 360-867-2674.



Grow a **BUG GARDEN**



Consider growing a bug garden this year, to attract and encourage beneficial insects.

Beneficial insects eat pests; perhaps the best-known example is lady beetles eating aphids. However, lady beetles are not the only beneficial insects! In fact, most insects in your yard and garden are helpful or neutral. Only a small percentage causes harm.

One helper you've probably seen is the ground beetle, a large black beetle that often has iridescent blue or green coloring. They scurry along hunting for slugs, root maggots, and cutworms. For an introduction to these and other garden helpers, check the bug book that Clark County put together: www.clark.wa.gov/recycle/documents/Bugbook2.pdf

If you choose to purchase and release beneficial insects, make sure they are species that are native to our region. Otherwise our native insects may have to compete with them for food and habitat. Some, like praying mantis, may even eat beneficial insects.

So, what is a bug garden? It is a garden designed to attract beneficial insects. It can be a theme garden, or strategies that you incorporate throughout your existing garden or landscape. Many beneficial insects feed on pests when they are larvae, but need nectar as adults.

A bug garden should include blooming flowers over much of the year. Flowers in the daisy and the parsley/carrot family seem to be especially attractive to beneficial insects. Keep some area a little on the wild side – leave the spent flower stalks standing and leave the mulch area undisturbed for the winter.

Research is still ongoing, but it appears that the duff or debris layer on top of the soil may play an important role to the overwinter survival of many beneficial insects. Of course, do not use any insecticides nearby, as these will kill the helpful bugs as well as the pests. Unfortunately, pests usually recover more quickly as they typically reproduce faster and in larger numbers.

Lacewing larvae and adults have big appetites for aphids, other insects and insect eggs and spider mites. You can

attract them by planting flowers that produce pollen and nectar. Lacewing adults are attracted to the honeydew produced by aphid larva. (<http://jenny.tfrec.wsu.edu/opm/displaySpecies.php?pn=670>)

The garden spider is predatory and eats a variety of insect pests. The best way to encourage them is to not destroy their webs. You can keep them out of your home by weather stripping your doors, sealing up cracks and openings and covering outside woodpiles. Centipedes prey on soil pests and insects such as slugs, worms and fly pupae. Using low-till gardening techniques will help maintain centipede and ground beetle populations.

In addition to eating pests that harm your plants, beneficial insects also help to pollinate plants, create compost by eating plant waste, and are food for birds and other animals that also eat pests. Some beneficial insects even help aerate your soil. So this summer, why not invite some beneficial insects to the garden party, and let them do the pest control for you? As one gardener said, beneficial insects, like ladybeetles are "one of the best guests for your yard". So go on, invite them in!



Priest Point Park Beach Seine

Scientific studies have shown that salmon fry from Northern Puget Sound's Green River watershed and elsewhere feed in Budd Inlet! Come experience the nearshore bounty of Budd Inlet!

Tues., Aug. 3 • 6 p.m. • Priest Point Park, 2600 East Bay Drive, Olympia
Meet at the South entrance across from restroom #2

Register online at www.streamteam.info and click on "Register"

The nearshore and open waters of lower Puget Sound are highly productive. Juvenile salmon, sand lance and Pacific staghorn sculpin all utilize the nearshore environment's shallow waters to rest, feed or spawn. These fish are critical to the larger marine food web and the integrity of the nearshore environments of Puget Sound.

Join Washington State Department of Fish and Wildlife fish biologist, Larry Phillips for a beach seine at Priest Point Park.

Participants will help unroll a seining net and pull the net to shore to see what is caught. Larry will identify and talk about the fish and other marine creatures that are found in the net and their importance to the health of our nearshore ecosystems. All creatures caught will be returned to the water unharmed.

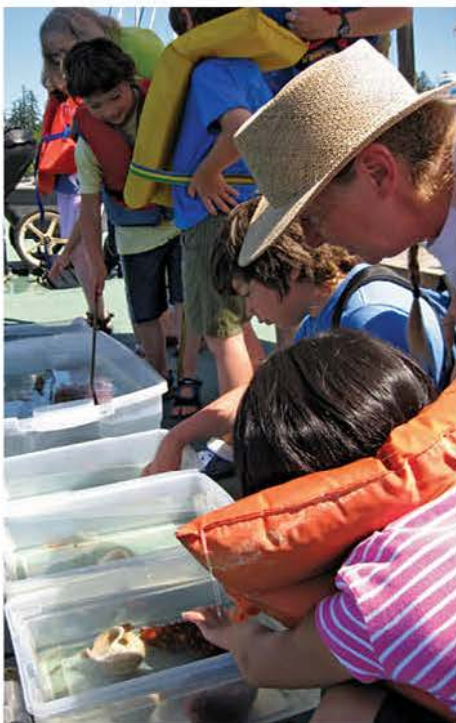
Forest, Stream and Sound Day Camp

3 day camp with additional day option
Grades 1- 4 • July 1- 3 & 5 in the mornings
Hands On Children's Museum



For the first time in seven years, Stream Team's Forest, Stream and Sound day camp returns, in a new partnership with the Hands On Children's Museum. Each day, young naturalists will learn about a different Pacific Northwest habitat. Activities will take place both indoors and outdoors. Young naturalists will use science, art and games to learn about aquatic life, plants and estuaries. For additional information, and to register online, visit www.hocm.org





Marine Creature Mondays



Would you like to see a giant plumose sea anemone up close or touch a sea star? Come to Marine Creature Mondays at Boston Harbor Marina!

Stream Team will pair with local divers and retired volunteer marine biologists, David Jamison and Joe Hiss. Divers will demonstrate their equipment prior to diving to the bottom of the Sound to collect marine creatures for viewing up close. Biologists will talk about each species found, their habitat needs and what is required to keep Puget Sound clean and healthy. All the marine creatures are kept in seawater and gently released back into Puget Sound.

This is one of our most popular events, so be sure to register early!*

MONDAYS AT 11:30 A.M. & 1 P.M.

**JULY
22**

**JULY
29**

**AUG
5**

**AUG
12**

**AUG
19**

**AUG
26**

*IMPORTANT REGISTRATION INFORMATION:

Please limit registration to one session per family. Dock space is limited during each session, so online registration is required. Visit www.streamteam.info and click on "Register". If you are registering a small group or family, click on the session of your choice, then select the "Register as a Group" button below the event details. Under "Volunteer/Group Name" select the drop-down option "Create a new group". This will allow you to tell us how many people will be in your group or family. If this is your first time using our Stream Team website to register, you first need to fill out a profile with your contact information.

Boston Harbor Marina is privately owned, but the owners graciously allow our program on their docks. Be safe: all non-swimmers and children under six must wear a life jacket while on the docks (loaners are available at the marina). All children under the age of 14 must be accompanied by an adult.

Do They Go Squeak in the Night?

Did you know that there are hundreds of bats flying overhead each night during summer?
If we could hear them, what would they sound like?

Join Stream Team for a fun, fact-filled talk and bat walk to learn about bat life history, habits and habitats. Learn where bats spend the day and what they require to raise their young. Learn about our local species of big and little brown myotis and Yuma bats. Special guest speaker, Greg Falxa will provide basic bat biology and dispel age-old myths.

After the bat talk, join us as the day fades to night to listen with bat detectors to these wondrous creatures as they take wing to feed over the lake.



BAT TALK (REGISTRATION REQUIRED)

(with Bat Walk at Capitol Lake to follow)

Fri., June 28 • 7:30 p.m.
Traditions Café and World Folk Art,
300 5th Ave SW, Olympia

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

BAT WALK (REGISTRATION NOT REQUIRED)

Fri., June 28 • 9:30 p.m.
Heritage Park on Capitol Lake,
across from Tradition's Café,
Olympia

Tips from the Lawn Coach

It's summer in Western Washington. This means we have dusted off the sunglasses (if we haven't lost them!) and can finally wear our flip flops. But a few sunny 75 degree days doesn't mean we need to crank up the irrigation system full force. Here are a few quick, simple tips to keep your landscape looking great through the summer, while saving water and protecting our environment at the same time.

① Stop overwatering!

For Irrigation Systems: Often we follow a "set it and forget it" mentality. This means sometime back in April or May, when the irrigation system was turned on, all the zones were probably set for the same time, the same days, and if you have a water budget feature, it was set for 100 percent. Now when summer and those first few days of really warm weather hits, our first inclination is to bump the run times up, or adjust the water budget beyond 100 percent.

The goal should be to work towards 100 percent, not against it. Think of climbing stairs; spring and early summer are the first few steps, using less than 100 percent. Mid-summer, usually mid-July is the top, where you are using 100 percent and then you come down the back side into fall, adjusting the water runtimes back down to less than 100 percent.

Need help to plan a schedule? Here is a quick, simple and easy to use resource to help you in planning your watering scheduling: www.iwms.org/SprinklerCalcB.asp. There's even a setting to have email reminders of when to adjust. Also, sidewalks and driveways don't grow, so make sure the sprinkler heads point to the grass, and adjust if needed.

For hose and sprinkler users: You should not turn the sprinkler on before bed and turn it off on your way out the door in the morning or otherwise, put the sprinkler on and walk away. Hose timers are very simple, inexpensive tools to attach to your spigot and hose that automatically shuts off the water when the time you specify is up. You will likely be adjusting your sprinkler times each week, based on weather, so purchasing an inexpensive moisture meter from your local gardening store will take the guesswork out. It will tell you how moist or dry your soil is before you water, so you can decide how much water your lawn needs.

So what's the benefit of all this work? First, you will save money by not paying for water your landscape doesn't need. If you are on your own well, you'll be saving unnecessary running on your pump. Second, you will control run-off. Lastly, the overall health of your landscape will improve; an over-watered landscape can be just as unhealthy as an under-watered landscape.

② Set your mower HIGH!

You should be mowing to a height of about 3 inches. The turf will be less stressed, require less water, and the soil will also be more shaded. You can also mulch mow, provided you have a properly equipped mower, with well-sharpened blades. Up to 70 percent of the grass blade is water, so returning it to the ground is very beneficial. It's not too late to aerate, but you will need to make sure the ground is soft enough to pull a good plug.





③ Fertilize correctly!

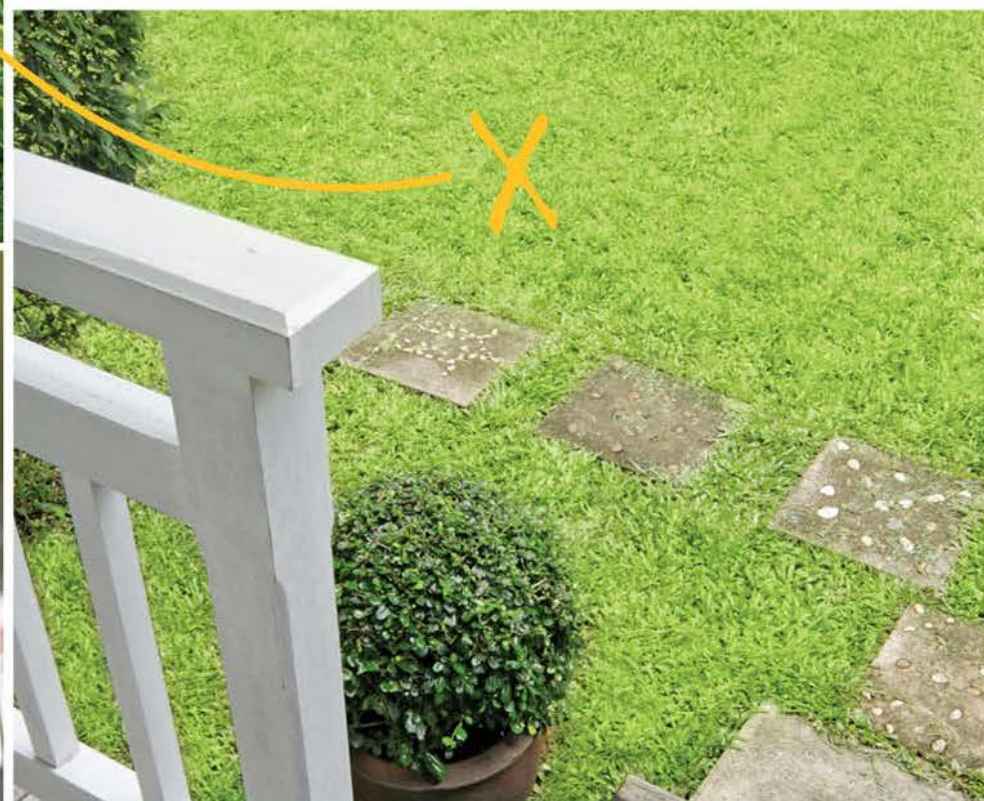
Fertilizing should be done with a slow release organic fertilizer. Remember, all fertilizers now applied to lawns should not have phosphorous in them, unless a soil test is performed first. Read the label on your fertilizer, and follow the directions carefully. Thinking that "if some is good, more must be better," is not the right approach here. Get a soil test done first, then apply fertilizer and lime based on the recommendations from the test analysis. Use the *Grow Smart, Grow Safe Guide* (pictured on page 4) to find fertilizers that are slow release. Products with 50% or more slow release nitrogen will "feed" your lawn slowly through the season with less leaching and waste of nutrients. Don't be afraid to ask a professional expert for help.

④ Less water = less weeds!

By using less water, and keeping your lawn healthy, you are well on your way to fewer weeds. Weeds have shallow root systems, and you know they can pop up just about anywhere. By limiting the amount of water they get, you are discouraging their growth. Also, by performing a thorough cleaning of garden beds and applying a good, clean mulch, beauty bark or compost, you will be helping to limit weed growth and infestation, while improving the soil health, and moisture retention around your plants, trees and shrubs.

About the author:

Rick Longnecker is native Western Washingtonian, landscaper, and dad who wants to be a responsible steward so a thriving environment can be passed on to the next generation of gardeners. Rick is currently working with the City of Olympia on a pilot natural lawn care project. He can be reached via email at rickl@budsandblades.com



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

Summer is finally upon us and the native plants and weeds are spreading into the trails at the McLane Creek Nature Trail. The nature trail, which is located in west Olympia off of Delphi Road, is a wonderful place to visit year-round, whether you would like to see chum salmon spawning, learn how to identify native plants or would like to observe some of the variety of birds that use the wetland ponds.

Stream Team and WSU Native Plant Salvage adopted the trail a few years ago because it is such an important trail for educational purposes. Volunteers are needed to help pull weeds and trim back native plants that are growing into the trail.

Stream Team will provide gloves, tools, refreshments and pizza!

Staff contact: Ann Marie Pearce
at 360-754-3355 ext. 6857 or
pearcea@co.thurston.wa.us

McLane Creek Nature Trail* Work Party



Mon., June 17 OR Wed., July 10 • 4 – 7 p.m.

Register online at www.streamteam.info and click on “Register”



**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. Volunteers will be issued a temporary Discover Pass for this event. Volunteers can count their hours for this event toward earning a complimentary Discover Pass.*



Volunteer in Your Neighborhood: Mark Storm Drains

The water that flows into our storm drains, also known as stormwater, is the largest source of pollution that enters our lakes, streams and Puget Sound. Stormwater is the term used to describe all rain and snowmelt that runs off our yards, roof tops, driveways and roads and into our storm drains. As the water flows to storm drains, it picks up pollutants, such as oil and metal particles from our cars, chemicals and dirt from our yards and bacteria from our pet's waste. Nearly all of the storm drains in Thurston County are connected to pipes, swales and/or ponds that eventually lead to sensitive surface waters, such as Puget Sound. Polluted runoff can also make our waters unsafe for swimming, fishing or harvesting shellfish.

Most of the storm drain markers in Thurston County were installed by Stream Team volunteers, but we haven't marked them all yet...and we need your help to do so! Storm drain markers inform people that all the water entering the storm drain leads to waterways. This is a great independent or small group project. If you are interested, call one of the coordinators on page 2 of this newsletter to get a location (or recommend a location!) and a storm drain marking kit will be loaned to you, with everything you need to get started.

To report an illicit discharge into a storm drain, drainage ditch or stormwater pond, go to your stormwater utility's website or call the Department of Ecology at 360-407-6300.

Use Water Wisely Outdoors This Summer

The climate of the Puget Sound region, particularly the precipitation pattern, is unusual among climate zones on Earth. Whereas most of the world receives its rainfall during the warmer part of the year, the Pacific Northwest receives most of its precipitation during the winter. Summers are the drier time of the year. This unique climate pattern is shared by the area around the Mediterranean Sea, so, often the Pacific Northwest climate is referred to as "Mediterranean".

Our rainfall pattern ensures abundant water from fall through spring. Sometimes it feels as though the rain will never stop! Water becomes a precious commodity in the summer when our wet weather gives way to beautiful sunny days. These rainless days coincide with the growing season. Most yards here, including gardens and lawns, need to be watered in the summer to stay green.

Average water use on a summer day in Thurston County is 2½ to 3 times greater than on an average winter day. In the summer, up to 70 percent of the average water bill is due to outdoor use. Over-watering not only wastes this precious resource, it is the leading cause of disease and insect problems for plants, and it can wash fertilizers and other pollutants into local waterways via storm drains. Using more water than you need also wastes your money!

Follow these tips to use water wisely outdoors this summer



Mow it high and let it lie Set mowing height to 3 inches. When grass is 4 inches high, mulch mow by removing 1 inch of grass and letting it lie. Grass roots will stay shaded and will grow deeper and more water efficient. The clippings you leave also serve as free fertilizer for your lawn!

Use Compost Spread a thin layer of fine compost over your lawn and rake it in to help retain moisture.

Be wise when you fertilize Minimize the use of fertilizers. Synthetic fertilizers force rapid growth, which requires more water. A fall fertilization is all most lawns need for healthy growth. Slow-release, organic fertilizers feed the soil all winter and improve water-holding capacity all year.

Mulch Add mulch to landscaped areas to keep roots cool, reduce weed growth and retain moisture.

Water sparingly Most Northwest lawns only require about 1 inch of water each week, including rain. Use a hose timer to turn off the water automatically.

Let it soak in Water your lawn slowly, deeply and infrequently to moisten the root zone. Turn off your sprinkler at the first sign of saturation, allowing water to soak in.

Water early or late so it won't evaporate As much as 30 percent of water can be lost to evaporation by watering your lawn during the hottest part of the day.

Water efficiently Use soaker hoses and drip irrigation for trees, shrubs, planting beds and vegetable gardens.

Choose the right plant for the right place Pick plants adapted to our dry summers and wet winters. Look for native plants or "water wise" plants. Group plants with similar water needs and water appropriately. Consider replacing some lawn with native or water wise plants.

Let rain do the work If you use an automatic irrigation system, install a rain sensor to shut off your system when it rains. Adjust irrigation timers to match seasonal wet and dry patterns.

Concrete won't grow Adjust sprinklers and hoses so that driveways, sidewalks and streets don't get watered. Avoid watering on windy days.

Time your plantings Wait until fall to plant new lawns and ornamental plants. New plantings require more watering than established plantings.

Be a leak seeker Check for and fix leaks in outdoor faucets, sprinklers, hoses and couplings. Often, all you need is a new hose seal, which are very inexpensive at any lawn and garden store, or many local water utilities even offer them for free!

Slow the flow Garden hoses can deliver over 10 gallons of water per minute. Use a bucket and automatic shut-off nozzle when washing your car. Use a broom and dust pan, not a hose, to clean sidewalks and driveways.

Be creative Wash large household items, such as cars or patio chairs, on the lawn. Drain fish tanks to the lawn or landscaping when cleaning the tank. Sprinkle left-over ice from a party on plants. Even your dog could possibly take his or her summer baths on the lawn!

Featured Lake

Hicks Lake

Located in the City of Lacey between Carpenter Road to the east and Ruddell Road to the west, Hicks Lake is at the upper end of Woodland Creek/Henderson Inlet Watershed. The first of three interconnected lakes that make up the so-called “tri-lakes area”, along with Pattison and Long Lakes, Hicks Lake is the source of Woodland Creek, one of the Henderson Inlet’s major contributing streams. With a surface area of 160 acres, Hicks Lake is fed primarily through a groundwater connection as well as surface water flow.

The tri-lakes watershed area is relatively flat. The surface elevation of Hicks Lake is 162 ft., approximately 12 feet higher than the lowest of the three lakes, Long Lake, which lies at about 150 feet. Like other area lakes, Hicks can fluctuate, rising several feet during periods of heavy winter precipitation and dropping during drier summers. While relatively broad, Hicks Lake is shallow with a mean depth of 18 feet and a maximum of 35 feet.

Hicks Lake is a surprising water body to find in such a densely urbanized area and offers public access for recreation including boating, fishing and power sports such as water skiing. The City of Lacey’s Wanschers Community Park, located at the northwest corner of the lake, features beach and shoreline access, in addition to many other amenities including bank fishing, picnic tables and barbeque grills.

Adjacent to the park is a Washington Department of Fish and Wildlife (WDFW) boat launch. Hicks Lake is a popular fishing lake, and WDFW rules apply. Fish species found in Hicks Lake include introduced sport species, such as brown trout, cutthroat trout, rainbow trout and largemouth bass, black crappie and yellow perch. The lake is stocked for sports fishery by the WDFW.

Like other lakes in the Thurston County, Hicks Lake featured popular resorts which were destinations for tourists during the early part of the 20th century from more urbanized locations, such as Tacoma and Seattle. One such reminder of these earlier times is the Gwinwood Retreat Center, located on the west side of the lakeshore. Gwinwood started its life as a destination lake resort. Here, during the 1910s and 1920s, guests and locals alike flocked to hear popular music from artists like local favorite violinist Paul Stebbin’s Ragtime Orchestra. In addition to music and dancing, resort visitors enjoyed cottage accommodations, fishing, swimming beaches, boating, water toboggans and horseback riding.

The Great Depression of the 1930s impacted all area resorts, as did World War II era gas rationing. While some local lake resorts hung on during the 1950s, eventually they were all sold for private development. While none of the original cottages still stand, Gwinwood still exists as a 29 acre church retreat and rental facility and remains a reminder of this earlier era.

Palustrine wetlands include all non-tidal, freshwater wetlands dominated by trees, shrubs, persistent emergent plants, emergent mosses or lichens, as well as small, shallow open water ponds or potholes. Palustrine wetlands are often called swamps, marshes, potholes, bogs, or fens.

South of Hicks Lake, behind Timberline High School, is a connected palustrine wetland complex of trees, shrubs and emergent vegetation of 162 acres. Water from this wetland flows south through a remnant ditch and into a culvert that flows under Mullen Road just west of Glen Terra Drive, connecting Hicks Lake with the second lake in the horseshoe shaped tri-lakes system, Pattison Lake. Periodically, this culvert can clog with vegetative matter, restricting flow and resulting in problematic high winter lake levels on Hicks Lake. More on Pattison Lake will be featured in a future edition of the Stream Team newsletter!



Featured Creature

Ratfish *The most abundant resident fish in Puget Sound*

The waters of the Pacific Northwest are home to a tremendous number of fascinating fish...one of the most unusual looking, but common, deeper water fishes is the spotted ratfish. It is estimated that there are 200 million ratfish in Puget Sound, which makes up approximately 70% of Puget Sound's fish mass!

Fun Creature Fact:
Ratfish make up 70% of Puget Sound's total fish mass!

Spotted ratfish, *Hydrolagus coliei*, are cartilaginous fish (meaning their skeletons are composed of cartilage, like sharks) and are related to sharks,

rays and skates. They can be found from south Alaska to Baja California. They are primarily brown in color, with hues of gold, blue and green and covered in small white dots that act as camouflage.

The ratfish body is long, up to 38 inches, tapering to a long tail that makes up almost half its body length and does not have scales. The fins of a ratfish are triangular in shape and the dorsal fin (on top of the body) has a sharp venomous spine. Like most deep sea fishes, ratfish cannot regulate the amount of light coming into their eyes, so they have a special adaptation called "tapetum lucidum" that reflects light back to the retina, causing it to glow bright green, similar to cat's eyes.

Ratfish are a deep, cold water

dwelling fish that have been found in depths ranging from 40-3,000 feet! They prefer mud and rocky bottom habitats, and, as their distribution range moves more southward they move into deeper water with water temperatures of 45-48 °F (7-9 °C).

Ratfish are poor swimmers and slowly swim along the saltwater floor tracking their prey. They locate prey primarily through electroreception (the ability to detect electrical currents from muscle movements) and smell. Ratfish have a plate of tiny specialized teeth designed to cut through the hard shells of shellfish and crustaceans. They eat clams, crabs, shrimps, polychaete worms and small benthic fishes, including other ratfish.

Like sharks, ratfish produce only two eggs during spawning and spawn in the spring and fall. The female ratfish releases egg cases and each egg case attaches to the seabed or sediments where it takes approximately one year to incubate, leaving them vulnerable to predation. Hatchlings are smaller (5.5 inches) versions of the adult and are self-sufficient upon hatching.

Currently, there are no conservation measures taken for spotted ratfish as they are so abundant. However, with the restrictions on trawling gear to avoid fish bycatch (incidental, non-targeted catch), ratfish also benefit as less are caught incidentally.

Where can you see ratfish? Visit the Seattle Aquarium or the Oregon Coast Aquarium in Newport, Oregon.



Tapetum lucidum (Latin for "bright tapestry") is a layer of tissue in the eye of many nocturnal vertebrate animals. This tissue layer lies immediately behind the retina and provides a mirror-like surface that reflects visible light back through the retina, increasing the light available to the photoreceptors. The tapetum lucidum produce the familiar eyeshine of nocturnal animals.

Kids' CORNER

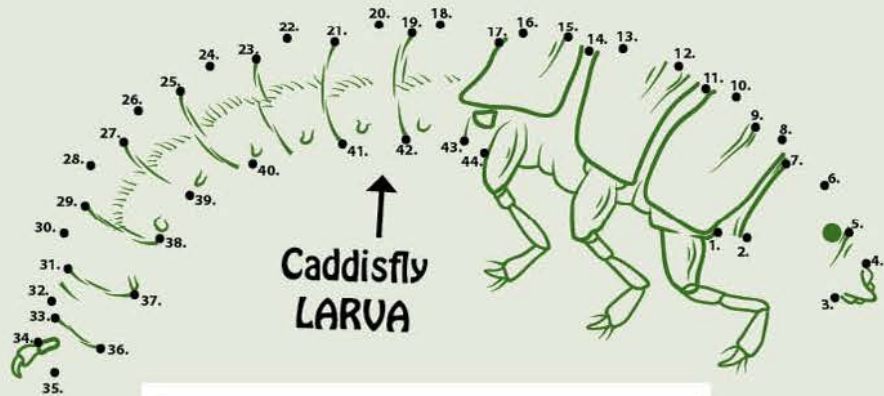
Illustrations courtesy of our very own AmeriCorps volunteer, Anne Schuster

Benthic MacroInvertebrates

Connect the Dots!

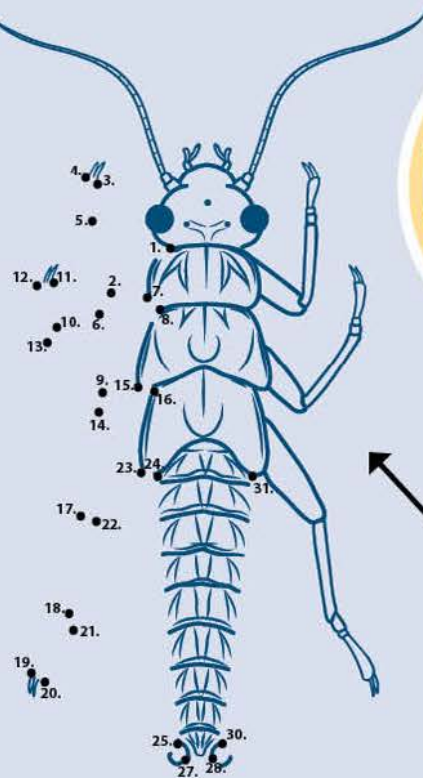
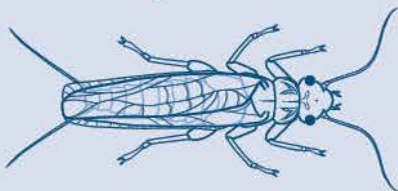
Caddisfly larvae live in the bottom of streams, often making their own houses out of very small rocks or twigs in the shape of a tube around their bodies. They pupate in their rock or twig tube and emerge from the water as a caddisfly adult that looks a lot like a butterfly or moth.

Caddisfly ADULT



Stonefly nymphs are predators on the bottom of streams. If you have them in your stream, it means that there is probably a healthy food web of herbivores for them to eat. They eventually grow 4 wings off of their thorax, and fly out of the water to live for a short time as a stonefly adult.

Stonefly ADULT



Stonefly NYMPH

LEARN MORE
about Benthic Macroinvertebrates by helping collect Stream Bug samples from our local creeks this summer! See page 2 for details.



Stream Team Events

For additional events, visit www.streamteam.info and click on "Calendar". To talk with Stream Team staff about any of the events listed on this page, please call 360-438-2672, or see the inside cover of this newsletter for additional contact information.

JUNE

Trees of Washington Field Class

Sat., June 8 • 10 a.m. – 4:30 p.m.
Thurston County Courthouse, Bldg. 1, Rm. 152
Register online.

McLane Creek Nature Trail Work Party

Mon., June 17 • 4 – 7 p.m.
See page 10 for details. Register online.

Stream Bug Monitoring Training

Wed., June 19 • 6 – 9 p.m.
See page 2 for details. Register online.

Bat Talk & Bat Walk

Fri., June 28
Talk 7:30 p.m., Walk 9:30 p.m.
Traditions Café and World Folk Art,
300 5th Ave. SW, Olympia
See page 7 for details. Register online.

JULY

Forest, Stream and Sound Day Camp

Jul. 1 – 3 & 5, in the mornings
Hands On Children's Museum
See page 6 for details.
Register at www.hocm.org

Stream Bug Monitoring Training

Tues., Jul. 9 • 6 p.m. – 9 p.m.
See page 2 for details. Register online.

McLane Creek Nature Trail Work Party

Wed., Jul. 10 • 4 – 7 p.m.
See page 10 for details. Register online.

Marine Creature Mondays

Mon., July 22 OR 29
11:30 a.m. OR 1 p.m.
Boston Harbor Marina, Olympia
See page 7 for details. Dock space is limited,
so online registration is required.

COMMUNITY EVENTS

5th Annual Sea Cinema Film Festival

Fri., June 7 • 5:30 – 10:30 p.m.
Minnaert Center for Performing Arts
South Puget Sound Community College
FREE! Family-friendly film festival in celebration of World Oceans Day. Local and regional films included, plus free raffle. For info find "SeaCinema2013" on Facebook.

Tumwater 4th of July Festival

Thurs., 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.

"Meet Us on the Beach" Program

Various dates and times June–Aug.
Learn about the critters that call local beaches their home by trained Beach Naturalists. For more details, go to: www.sseacenter.wordpress.com and hover over "Events" then click on "Beach Naturalist".

HOW TO REGISTER FOR EVENTS



Visit: www.streamteam.info and click on "Register"



Select the event for which you plan to register



Click on the register button near the bottom of the "Event Detail"



Follow the instructions to either log in as an existing volunteer or create a new secure profile

AUGUST

Priest Point Park Beach Seine

Tues., Aug. 3 • 6 p.m.
Priest Point Park, 2600 East Bay Drive, Olympia
See page 6 for details. Register online.

Marine Creature Mondays

Mon., Aug. 5, 12, 19 OR 26
11:30 a.m. OR 1 p.m.
Boston Harbor Marina, 312 73rd Ave. NE, Olympia
See page 7 for details. Dock space is limited,
so online registration is required.

Salmon Stewards Basic & On-Site Trainings

Several Dates in August & September
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:

**Macro Monitoring
Salmon or Sound Stewarding
Tree Planting
Educational Workshop**

Earn your own tote bag and show everyone that Puget Sound is in your heart! Look for the "P.S. I Love You" stamp next to the events in our calendar for qualifying events.



Stream Team

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

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



Like Stream Team on Facebook to look at fun and interesting photos of events, share your thoughts with other volunteers, and receive updates about upcoming events!

✓ "Like Us" today at: www.facebook.com/ThurstonStreamTeam

