PERSLETTER Olympia • Lacey • Tumwater • Thurston County



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ON THE COVER: Lifetime Stream Team volunteer, Miles is captivated during Marine Creature Monday. To attend a free Marine Creature Monday this summer, see page 5 for more info.

Time to Drain and Clean your Pool or Hot Tub?

How to Protect our Waters

Most pools and hot tubs are typically treated with chemicals, usually chlorine, in order to control bacteria and algae growth. While water is re-circulated and filtered, most pool and hot tub owners will eventually drain the water in order to clean inner surfaces and refill with new, fresh water. Unfortunately, both hot tubs and pools can become sources of unexpected pollution if drained improperly.

By law, water that has been treated with chemicals should never be discharged onto surfaces, including driveways, alleys and roads, that drain to storm drains, as most runoff eventually goes to surface waters such as lakes, streams and Puget Sound. Pool and hot tub water treated with chlorine and other chemicals can be toxic to fish and other aquatic organisms.

To properly drain and dispose of pool or hot tub water, turn off the chlorinating system or stop adding chlorine and other chemicals a minimum of 10 days prior to draining. This will allow chlorine to dissipate. De-chlorinating tablets can also be used to speed this process up. In the case of pools, test for the presence of chlorine with a colorimetric test kit. If present, allow chlorine levels to diminish before draining. Be sure to consult your owner's manual regarding the proper way to drain and refill your pool or hot tub!

For large quantities of water, the best option, if possible, is to drain to a wastewater system (sanitary sewer system). Check with your City's wastewater utility or LOTT (the local sewer treatment utility) for specific requirements. Generally, mid-day during dry summer months are the preferred time. Note: your bill will not likely increase for this discharge, as you pay a flat rate for wastewater treatment.

For smaller quantities, such as a hot tub, de-chlorinated water can be discharged into the ground in vegetated areas. Periodically, move the drain hose in order to not over-saturate one area of your property. Never discharge into a septic system!

With these steps complete, you can refill your hot tub or pool and enjoy!



STREAM TEAM MISSION

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

Steam 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

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

DESIGN & LAYOUT:

Azure Summers Graphic Design design@azuresgd.com

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

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Interested?

Do a web search! There are local goat rental businesses to help you use this environmentally-friendly land clearing method. As with any business, be sure to check references of their work.

Goats, Sheep and Pigs...Oh, My!!

Since the early 1990s, the West Coast has seen a surge in using goats for land clearing. Goats are natural browsers, preferring to eat leaves, twigs, vines and shrubs. They are agile and will get up on their hind legs to reach a tasty treat, as well as sure-footed on steep slopes and rocky terrain. Since they will eat just about anything, they should not be used in areas where there are plants that are not meant to be eaten. Fencing off plants isn't always effective since goats are clever and can find ways to bypass a fence or other barrier. Stormwater ponds with steep sides, the type that are fenced and not landscaped, are perfect for goats. Other potential sites for using goats for clearing include hillsides, fence lines and disturbed sites that are overgrown with blackberries and other invasive weeds.

Goat renters have become busy, thriving businesses, with government, military, commercial and residential customers all wanting natural vegetation control.

Why use animals for vegetation control?

- Goats clear the land without burning fossil fuels and making lots of noise.
- Goats can replace herbicides and/or power equipment.
- Goats will eat Himalayan blackberry, Scotch broom, English ivy and horsetail, to name a few common invasive weeds that can occupy disturbed sites.
- Goats can graze on slopes and other tricky areas where people and equipment cannot get to.

- Goat hoofs can aerate the soil, and their droppings add fertilizer to soils that are devoid of nutrients.
- Goats do not compact the soil the way that heavy equipment does.
- Goats eat and digest flowers, seeds, leaves and stems of plants. Weed wackers just cut them up into small pieces and scatter them.
- Pigs can be brought to the site after the goats to root out blackberries.
- When the vegetation is grassy, sheep are preferred for grazing on the short, tender grasses, clovers and forbs close to the soil.
- Goats, sheep and pigs are a great neighborhood or community attraction!
- Goats, sheep and pigs can be useful for site preparation for environmental restorations, large and small, as well as for maintaining stormwater ponds.

There are two ways to hire goats: either hire two or more for the season, or a shorter amount of time, with the home or business owner keeping an eye on the goats, together with weekly visits by the company. Or hire a herd of 20 to 100 goats to get a big job done quickly. When renting a herd of goats and/or installing temporary fencing to confine the goats to a particular area, wranglers stay with the goats around the clock to ensure the safety and health of the goats, and that they are not causing problems, such as eating the wrong plant or compacting the soil, and/or getting loose.

There can be negative effects from using goats: they can eat the cherished plants in the garden accidently, they can overgraze, and compact the soil and cause erosion problems. Be aware of these potential problems and plan accordingly. If you are interested in trying goats, sheep or pigs for vegetation management, be sure to check references to ensure that you select a company with good practices.

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Phytoplankton Identification Workshop

Wed., June 20 • 6–8 p.m. LOTT Wet Science Center, 500 Adams St. NE, Olympia

Phytoplankton are found in every water body from puddles and streams to the world's oceans...including right here in South Puget Sound! While microscopic in size, these organisms are responsible for food and oxygen production, atmospheric temperature regulation and harmful algal blooms. This two-hour workshop will introduce you to these fascinating organisms, and teach you how to identify over 25 species found here in Budd Inlet and discuss issues of emerging concern.

Workshop includes power point presentation and hands-on viewing of summertime plankton using microscopes. Workshop instructor is Aimee Christy of the Pacific Shellfish Institute.

For information, contact Patricia Pyle at ppyle@ci.olympia.wa.us

What do My Carpets have to do with Stormwater Pollution?

Time to clean your carpets? Before you start, have a plan for properly disposing the wastewater. Dirty wasterwater from carpet cleaning can contain dirt, soap, grease, oil, solvents, carpet fibers and other pollutants. If these pollutants enter into our local waterways, they can harm the plants and animals that live there.

Did you know...

Many storm drains throughout Thurston County lead directly to lakes, streams or Puget Sound...UNTREATED! That is why it is illegal to dispose of carpet cleaning wastewater into any storm drain or drainage ditch.

To report an illicit discharge

into a storm drain, drainage ditch or stormwater pond, go to your stormwater utility's web site or call the Department of Ecology at

360-407-6300.



If you are planning on cleaning your carpets, or hiring someone to do so, here are some steps you can take to ensure the dirty wastewater doesn't pollute local waterways:

- Vacuum before cleaning the carpets. This will help minimize the amount of debris in the wastewater.
- If your home is connected to the *sewer system*, dump the dirty wastewater into a toilet or utility sink.
- If you are on a *septic system*, do NOT dispose of the wastewater into your toilets or sinks. Instead, discharge the wastewater to your lawn or landscaped area, where it can slowly infiltrate into the ground. Stay 200 feet from your well, streams, wetlands or other water sources. Be careful not to discharge into an area with sensitive vegetation.
- When selecting a carpet cleaning company, make sure they take their wastewater to the LOTT Wasterwater Treatment Facility in Olympia.
- NEVER pour wastewater onto a driveway, street or parking lot.



Curious About our Nocturnal Flying Friends...BATS?

BAT LECTURE (REGISTRATION REQUIRED)

Fri., June 15 • 7:30 p.m. • Traditions Cafe and World Folk Art, 300 5th Ave. SW, Olympia For more information, or to sign up for this free lecture, contact Michelle Stevie at mstevie@ci.olympia.wa.us or 360-753-8336.

BAT WALK (NO REGISTRATION NECESSARY)

Fri., June 15 • 9:30 p.m. • Heritage Park Capitol Lake

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

Would you like to know how bats feed by using echolocation, or how mothers care for their young? Learn the basic facts and dispel some of the common myths about bats.

Bats have had declining numbers over the past 50 or more years. It is believed that the loss of roosting habitat needed for maternity colonies is largely responsible for this decline. Locating new colonies and searching out their commute routes and feeding areas are fascinating pursuits, as well as important for protecting vital roost locations.

Using electronic devices called bat detectors, we can eavesdrop on the echolocation sounds that bats use to guide their navigation in the dark (like sonar). Recordings of these sounds can be used to determine the species of bats under observation and what they are doing – such as feeding or just passing through. Stream corridors are important landscape features for bats, both for foraging and for their value as commute pathways between roosts and feeding locations. Studies have shown more bat activity along streams and rivers than in forests, fields and other natural features.

On a typical summer night at Capitol Lake, well over 3,000 bats may be seen feeding as they skim low over the water's surface. Many of them are Yuma bats and little brown bats, who have made the 8-mile trip from the Woodard Bay Natural Resource Conservation Area to feed at the lake.

Join Stream Team for a fun, fact-filled presentation and learn about bat life history, habits, habitats, where local 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 of Cascadia Research will instruct on basic bat biology and habitats, as well as dispelling age-old myths.

Want to Learn More About the **Marine Creatures Residing in Puget Sound?**



Attend Marine Creature Monday at Boston Harbor Marina.

This year, Stream Team will pair with retired volunteer marine biologist, Joe Hiss and diver, Craig Brown and associates. Divers will bring marine creatures up from the bottom of the Sound and biologists will talk about their habitat needs, and what is required to keep Puget Sound clean gently released back into Puget Sound.

Sign-up is necessary to keep the group size small. For reservations or more information, contact Michelle Stevie at mstevie@ci.olympia.wa.us or 360-753-8336.

Boston Harbor Marina is privately owned, but the owners graciously allow this activity on their docks. All nonswimmers and children under six must wear a life jacket while on the docks (bring your own or loaners are available at the marina). All children must be accompanied by an adult.



Giant Pacific Octopus

As marine biologist David Jamison is fond of saying, "We have many giants in Puget Sound" ...including, the world's largest octopus!

The giant Pacific octopus inhabits the intertidal zone to depths of nearly 2,500 feet. They range from southern California, northward along the coast of North America, across the Aleutian Islands, and southward to Japan.

Most individuals have an arm-span ranging from 7 to 20 feet in diameter and they can weigh up to 400 pounds. Females are generally larger than males. Octopuses tend to be small in warm tropical waters and larger in colder waters such as Puget Sound and the North Pacific.

Octopuses are mollusks, like clams, mussels and snails; although they are more advanced, with highly developed eyes and brains. The octopus belongs to a smaller group of mollusks called the cephalopods, which means "head-foot"; it is named because its "feet" (arms) are attached to its head. These amazing mollusks have been roaming the oceans for more than 450 million years!

An octopus has eight arms attached to the head around the mouth. Each arm has rows of suckers along the length of its arms which has many nerves. The giant Pacific octopus has two rows of suckers per arm and may have as many as 1,600 suckers total. They can actually taste with their suckers!

Octopuses are equipped with their own

unique tools for penetrating hard mollusks and crustacean shells. They use their hard beaks, which are located in the mouth, to break up food and a barbed tongue to scrape up juicy prey.

The body of the octopus is called a mantle and has no bones. The mantle is a soft structure that looks like a bag, and it moves as the octopus breathes. Inside the mantle are the stomach and other organs, including three hearts.

Two hearts located at the end of each of the two gills pumps blood through the gills, and the third heart pumps the blood through the body. Octopus blood is pale blue. When the octopus breathes in, water flows over the gills and fills the mantle. When it breathes out, the water is forced out a tube called the siphon. If an octopus is trying to escape a predator, it can force water through the siphon rapidly and jet itself backwards.

The octopus has several adaptations that help them escape or hide from predators; they can temporarily blind an attacker by squirting ink at it, they have the ability to change colors, and, due to its soft body, it is able to squeeze into small spaces to hide.

What are the giant Pacific octopus's predators and threats? Humans are one of the main threats to octopuses as humans eat octopus, as well as capture them for display and use them for fish bait. Marine mammals, such as harbor seals, sea otters and sperm whales predate on octopus, and only the largest fish, such as halibut and ling cod, are a threat to adults. A threat to Giant Pacific Octopuses is the low dissolved oxygen levels in Hood Canal in the summer months. Low oxygen levels are probably a natural condition of Hood Canal, but there are many ways that human actions have made it worse. (See Summer Activities pages 8 & 9.)

Adult octopuses feed on crabs, clams, snails, small fishes and even other octopuses. The octopus feeds at night and typically pounces on its target, wrapping its prey with its arms and using its beak to break open hard-shelled prey.

Most octopuses live only one or two years, whereas the giant Pacific octopus is one of the longer-lived species. Females can live to about three and a half years and the males to approximately four years.

A female octopus will lay thousands of eggs and protect them until she dies. The giant Pacific octopus lays about 50,000 eggs and tends them for about six months. During this time, she does not eat but spends all her time protecting the eggs from other animals, such as sea stars and crabs. She will only produce one nest in her life.

When the babies hatch, they are about the size of a grain of rice, and they rise up to the surface layer of the ocean as zooplankton, where they stay about six weeks. When they grow large enough to survive on the bottom of the ocean, the juvenile octopuses drift down again. It takes almost 3 years for them to grow to be as big as their parents.

Paddle to Squaxin 2012

On July 29, the Squaxin Island Tribe will host the 24th annual Canoe Journey in Olympia. The journey is an intertribal celebration of Pacific Northwest canoe culture and tradition. More than 100 canoes will land at the Port of Olympia with thousands of people joining together to welcome each arrival.

In 1989, the Canoe Journey event, originally called the "Paddle to Seattle," was organized as a revival of the canoe culture traditions and the Native American contribution to the Washington State Centennial. Today, tribes from Washington, Oregon, Hawaii, Canada, New Zealand, Japan and the Seminole Tribe in Florida participate.

"The power of the canoe journey reaches into the very depths of the spirit, mind and body of our tribal people. The canoe journey is so powerful in helping to retrieve, revive and empower tribal people," said Charlene Krise, Squaxin Island Museum Executive Director. "We gain a positive outlook for the present and future generations."

"The Squaxin Island Tribe has chosen to honor the Teachings of Our Ancestors as our guide for Paddle to Squaxin 2012. These teachings are the center of our lives and cultures," Krise said. "Our ancestors teach us that we must care for our elders, each other, our children, and the earth because each is a part of our past, present and future. The Canoe Journey is a reflection of this connection."



Courtesy of Northwest Indian Fisheries Commission

For centuries, Pacific Northwest tribal people navigated the waterways

in intricately carved dugout canoes. The Salish Sea – the body of water that encompasses Puget Sound, the Strait of Juan de Fuca and the Strait of Georgia in Canada – was the central force that connected canoe cultures for intertribal communication and trade. But early federal government mandates outlawed many tribal traditions, resulting in the near loss of the art of canoe building and ceremonial practices.

This year, the tribes will blend modern science with traditional ways by collecting water quality data during the Canoe Journey. As paddlers make their journey, a 15-pound probe about two feet long will be towed behind several canoes. The probe samples the water at set intervals to measure temperature, dissolved oxygen, salinity and nutrients. Unlike samples taken from a motorboat, the readings from a canoe aren't tainted by exhaust and propeller turbulence.

As the canoes arrive at the host site on July 29th, each canoe family will ask for permission to come ashore, according to their own culture and protocol. Paddles are raised, signifying "we come in peace." The Squaxin Island Tribe will then host a week of traditional potlatch ceremonies and festivities with daily performances by dancers, singers and storytellers. Potlatch ceremonies and performances will take place on the Squaxin Island Reservation.

The public will be welcome, but is asked to respect ceremonies while in the protocol tent. For more information about this event, please visit www.paddletosquaxin2012.org

Boston Harbor Beach Seine

Tues., Aug. 14 • 6 p.m. • Boston Harbor Marina, 312 73rd Ave. NE, Olympia

What do Puget Sound juvenile salmon and the Pacific staghorn sculpin have in common? They both utilize the shallow waters of the nearshore environment to rest and feed. These fish are critical to the larger marine food web. Join Washington State Department Fish and Wildlife fish biologist, Larry Phillips for a beach seine at Boston Harbor. Meet at Boston Harbor Marina. The seining location is a short walk away. Participants will help unroll a seining net in the nearshore area and pull the net to shore to see what was caught. Larry will identify and talk about the fish and other marine creatures that are found in the net.

To register, or for more information, contact Michelle Stevie at mstevie@ci.olympia.wa.us or 360-753-8336.



CHECK BEFORE YOU SWI Remember, swimming beaches receive stormwater from everything uphill - including yards, roads, rood parking lots. Before you swim, check to see if the is safe, especially if it has rained a day or two befor

Did you know? Most beach closures are due to

TIP! You can help reduce bacteria levels by alw

picking up pet poop and fixing leaking septic system MORE INFO: www.facebook.com/WABEACH or www.ecy.wa.gov/programs/eap/BEACH

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KNOW BEFORE YOU DIG

Several naturally occurring algae can produce toxins in shellfish that can be harmful to humans when consumed. Because there is no way to distinguish between toxic and nontoxic shellfish, check to see if a beach is approved and open for recreational shellfish harvesting before going to the beach.

TIP! To help protect our shellfish beds, use fertilizers sparingly on your yard, pick up pet poop daily and maintain septic systems regularly.

MORE INFO: www.facebook.com/WAshellfishsafety or www.doh.wa.gov/shellfishsafety.htm

WASH YOUR CAR AT A COMMERCIAL CARWASH ...or on the lawn! Car washing on the road or

driveway is a favorite pastime, but sends soap, automotive fluids and metal dust and grime to local creeks and Puget Sound through the stormdrains.

Did You know? Water from commerical car washes is often cleaned and recycled on-site and any waste is sent to the LOTT wastewater treatment plant.

TIP! The most environmentally friendly way to wash your car is at a . commercial car wash, but the lawn is the next best option.

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PROPERLY DRAIN YOUR POOL OR HOT TUB

Chlorine and other chemicals from your pool or hot tub can be toxic to aquatic plants and animals if improperly drained. Make sure that you are properly draining your pool or hot tub. For more information, see page 2.

SCOOP IT, BAG IT, TRASH IT!

Pet waste not picked up and disposed of washes into storm drains which carry polluted runoff to our recreational beaches jeopardizing our health and harming or killing fish and wildlife. Pet waste should be scooped, bagged and thrown in the trash; every dog, every doo, every time.

Did you know? Stream Team supplies free pet waste bag holders to residents to attach to your leash? Send an email to streamteam@ ci.lacey.wa.us to find out how you can get yours!



Featured Stream

The headwaters of Percival Creek are located at Trosper Lake in Tumwater. From there, it flows north through Tumwater and the campus of South Puget Sound Community College and meets up with Black Lake Ditch. The creek then parallels and crosses Highway 101 in Olympia and flows through Percival Creek Canyon, along the base of the Courthouse Hill area to Percival Cove off of Capitol Lake.

In the hustle and bustle of today's lifestyle, this little gem of a creek is often overlooked as it flows through the urban areas of both Tumwater and Olympia. Many local residents are unaware of Percival Creek's nearby presence as they shop at Costco, visit the Capitol Auto Mall or do business at the Thurston County Courthouse.

The Percival Creek watershed covers 4,712 acres. It flows for 5.6 miles, 5.5 miles of which are available habitat for anadromous species. Species which use the creek include Chinook, coho, chum and cutthroat trout. In addition, bull trout are found in the nearshore area near the mouth of the creek.

Percival Creek bears the name of a prominent pioneer sea captain, Captain Sam Percival, who owned a saw mill at the mouth of Percival Creek. The Percival basin was logged, and the logs were processed at the sawmill. After logging, rail tracks on an earthen berm were built across the mouth of Percival Creek, creating Percival Cove on the southwest side of Budd Inlet.

Percival Creek: Urban Treasure

Before pioneers, like Sam Percival, brought changes to the landscape, the Squaxin Island Tribe harvested shellfish from lower Budd Inlet near the mouths of Percival Creek and the Deschutes River. Back then, the journey of Percival Creek was less complicated, and Percival Creek flowed from Trosper Lake more directly to Puget Sound, via Budd Inlet.

A major change occurred to the watershed in 1922: the digging of Black Lake Ditch from the north end of Black Lake to Percival Creek. Black Lake originally flowed only to the south into the Black River and the Chehalis Watershed, terminating at Grays Harbor. The ditch at the north end of the lake



Up until 2007, Percival Cove was used by WDFW to rear yearling Chinook salmon, as well as to imprint the Deschutes system in hatchery fish reared elsewhere. Due to large numbers of fish and their food pellets, as well as the cumulative effects of impacts from the whole watershed, WDFW could no longer meet Department of Ecology water quality standards for nitrates and sediment loads. Thus, the Percival Cove rearing site was abandoned after the 2007 rearing season. Juvenile Chinook are now reared in the holding ponds at Tumwater Falls Park. The gate at Percival Cove is planned to be eventually removed by WDFW.

The first major urban development of the modern era in the Percival Basin was the Ken Lake development in the 1960s. Many other residential developments have followed, and, today, more than 50% of the basin area is urbanized. This urbanization has increased stormwater flows and its negative impacts on water quality in Percival Creek.

Local governments began making improvements to the creek and its riparian buffer in the 1990s, including the replacement of a fish-blocking culvert at Chapparel Drive by City of Tumwater. The City of Olympia replaced a culvert at Mottman Road on Black Lake Ditch, created a constructed wetland stormwater treatment area at Black Lake Meadows and installed two fish ladders on lower Percival Creek.

Percival Creek, at South Puget Sound Community College, is one of the original benthic macroinvertebrate monitoring sites for Stream Team. Tumwater Middle School students perform chemical monitoring at four sites along the creek



now connects Black Lake to the Percival/ Deschutes Watershed in the opposite direction, terminating at Puget Sound's Budd Inlet. Black Lake now is part of two watersheds; it's an unusual, and unnatural, occurrence!

The second major change was the creation of Capitol Lake in 1951. This man-made, freshwater lake replaced the estuary of lower Budd Inlet. This created quite a change for the mouth of Percival Creek. Where it once flowed into a saltwater estuary, it now flows into fresh water, and the transitional estuary area disappeared. This had an impact on salmon and other fish and wildlife populations in Percival Creek ecosystem. Deschutes Parkway now crosses the mouth of Percival Creek. Sediment transport has been impacted, gradually turning the mouth of Percival Creek at Percival Cove into a shallow basin.

Another change to Percival Creek came from the installation of a "gate" by Washington Department Fish and Wildlife (WDFW), on the lake side of the bridge by Marathon Park. The gate is in place during the fall and encourages the hatchery run of Chinook up into the Deschutes, so that the fish can be harvested for their eggs and milt. This in turn, also encourages other species, including some native Percival coho, up the Deschutes. WDFW opens the gate in mid-October after they have harvested enough eggs and milt for the season.

in Tumwater and previously monitored a site in Olympia in Percival Canyon. Thurston County performs ambient monitoring at the mouth of Percival Creek.

In the past twenty years, macroinvertebrate samples collected by Stream Team volunteers have shown Percival Creek to be of "moderate biologic integrity" for aquatic life. Student volunteers have found acceptable pH levels and mostly adequate to good levels of dissolved oxygen and nitrates; high temperatures, high turbidity and fecal coliform have occasionally been found. In 1995, student monitors found an alarmingly high level of fecal coliform in Percival Canyon. This information lead government staff to the discovery and repair of a leaking sewer line in the canyon.

Stream Team volunteers have been very active in the Percival Creek watershed. Habitat enhancement projects on both sides of Black Lake Ditch have been undertaken by Thurston County and Olympia Stream Teams. Reed canary grass was so thick that the channel was in danger of being completely choked out by this invasive species of grass. Willow and red-osier dogwood stakes were planted along the banks, and native trees were planted in the upland area. The sites, especially Black Lake Meadows, needed additional plant protection due to the presence of beaver.

A twelve-acre property north of Sapp Rd. along Percival Creek has been the site of an on-going Tumwater Stream Team habitat enhancement project. Hundreds of volunteer hours have been logged at this site. The property was deeded to the Sapp family by President Ulysses S. Grant and served as a dairy for early Tumwater. The land was subsequently used to graze beef cattle and horses. Upon the development of Streamland Estates, the riparian piece of property became the property of Tumwater Parks and Recreation. It is slated to become an urban wildlife-viewing park.

The livestock-related land use had a heavy impact on the riparian corridor along this portion of the creek. Most of the native trees and shrubs had been removed. Reed canary grass was planted



to feed the livestock. Over time, the soil became compacted and the removal of native vegetation caused temperatures and sediment loads to increase and exacerbated damage from flood/drought events. The native salmon almost disappeared from the stream.

Over the past ten years, Stream Team volunteers have planted and maintained over 10,000 native trees and shrubs on the property. The site is now home to deer, many species of birds and other wildlife. Two years ago, three Chinook salmon made it to the Sapp Road site to spawn. Unfortunately, they were all male, but at least salmon are returning!

Interested in learning more about local salmon runs? Become a Salmon Steward! See details on page 12.

Stream Team Summer 2012 Newsletter • www.streamteam.info • 📑 Thurston Stream Team

It Happens Only Once per Year: Become a Salmon Steward!

In late summer, returning adult salmon attract people to public viewing locations to watch these amazing fish on their return journey to fresh water streams and rivers to spawn. Visitors have lots of questions about the salmon while watching them at the 5th Avenue Bridge in Olympia, Tumwater Falls Park and McLane Creek Nature Trail.

Do you like to talk to people? Do you enjoy being outdoors and sharing your enthusiasm and knowledge? You can become a Salmon Steward volunteer educator—answer questions and tell people about the Deschutes and McLane Creek salmon runs. Trainings are provided. The Deschutes Chinook salmon run begins in mid-

August and continues through mid-October. The McLane Creek chum run begins in November and continues through early December.

TRAININGS: New Salmon Stewards attend two classroom sessions and three on-site sessions.

Aug. 15 Pacific NW Salmon Lifecycle (Classroom) • 6:30 – 9 p.m.
Aug. 18 5 th Avenue Bridge and Dam (On-site) • 10 a.m. – Noon
Aug. 29 Threats to Salmon (Classroom) • 6:30 – 9 p.m.
Sept. 15 Tumwater Falls Park (On-site) • 10 a.m. to 1 p.m.
Nov. (TBA) . McLane Creek Wild Chum Run

Experienced Salmon Steward, Linda Hurtado

Both classroom sessions will take place at the City of Olympia City Hall, located at 601 4th Avenue E. On-site trainings will take place at the 5th Avenue Bridge, Tumwater Falls Park and McLane Creek Nature Trail.

Trainers include staff from the Washington State Department of Fish and Wildlife and General Administration, Cities of Olympia and Tumwater and experienced Salmon Stewards.

To sign up or for more information, contact Patricia Pyle at ppyle@ci.olympia.wa.us or 360-570-5841, or visit www.streamteam.info

Get Your Feet (Boots) Wet This Summer!

STREAM BUG MONITORING TRAINING DATES Tues., June 19 or Mon., July 9 • 6 – 9 p.m. • McLane Creek Nature Trail*

Every summer, Stream Team volunteers get up close and personal with local streams as they help gather "stream bug" samples. These aquatic insects spend part of their lifecycle at the bottom of streams and are great indicators of stream health. "Stream bugs" have varying levels of tolerance for habitat disturbance and pollution, so their presence or absence helps indicate the water quality and health of the stream.

Stream Team volunteers have been gathering "stream bug" samples since the mid-1990s. Over the years, Stream Team has grown from sampling a handful of streams to sampling twenty streams throughout Thurston County - thanks to the help of Stream Team volunteers! You can help gather samples, too. No experience is necessary. Simply sign up for one of the training sessions listed below. At the training, you will learn how and why "stream bugs" are used as indicators of stream health and you'll have a chance to observe the monitoring protocol. The training session will be held at a local 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. Volunteers under the age of 13 must be accompanied by an adult. Monitoring usually takes between three to five hours per site, depending on the site. The monitoring window begins in late June and runs through mid-August.

For more information, or to register for a training session, contact Ann Marie 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 parking pass is required for this site. A van pool will be available for this training, or you can purchase a one-day or annual Discover Pass. For information on purchasing a pass, go to: www.discoverpass.wa.gov. To register for the vanpool, contact Ann Marie by email or phone.







Small Leaks: Big Impact Vehicle Fluids in our Waterways

A drip here, a little trickle there... it all can add up to big trouble for our local waterways when those drips and leaks are automotive fluids. Power steering, transmission and brake fluids, motor oil and gasoline leaking from vehicles fall onto roadways and parking lots. Rain washes these fluids into storm drains, most of which flow directly to the nearest water body.

An uncontained spill, allowed to enter the storm drain system during an automotive repair, can do damage on a rapid and devastating scale. According to the U.S. Environmental Protection Agency, one gallon of oil can contaminate one million gallons of water. Oil allowed to flow down storm drains, whether by the gallon or by the drop, can contaminate our local streams, lakes and Puget Sound.

The chemicals contained in automotive fluids have a hazardous effect on area wildlife, and can pose a threat to our drinking water supplies by contaminating groundwater. Oil and other greasy fluids can coat the feathers of birds and harm the gills of fish. Chemicals added to oil and other vehicle fluids during the refining and manufacturing process add to this harm. Vehicle fluids also typically contain metals from

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mechanical wear and corrosion of engine parts, transaxles and brake pads.

Most radiator coolant ingredients, ethylene or propylene, will eventually break down in water into less harmful substances. However, puddles of coolant, especially those that are ethylene-based, pose a poisoning risk to both animals and humans, especially dogs, cats, birds and children. Coolant which is allowed to reach our waterways contributes to higher biological oxygen demand (BOD) levels, which can have a detrimental effect on wildlife.

In addition to the health impacts of vehicle fluids leaks into our waters, there is a public financial impact as well. According to the Washington State Department of Transportation, it costs \$319,000 per lane mile to implement stormwater runoff Best Management Practices to mitigate harmful substances carried by stormwater along our state's highways.

To determine if your vehicle is leaking fluids, give it 'the cardboard test'. Place a large piece of cardboard under your vehicle and leave it overnight. Check the next day to see if there are any leaks. To help determine what may be leaking from your vehicle, the location of the leak and the color can often be diagnostic.

ON WHITE CARDBOARD OR PAPER	
Lt. to Dk.Brown	Oil. Light brown if changed often; dark brown if changed infrequently.
Lt. Brown	With a rotten egg smell. Lube oil coming from center of rear axle or manual transmission.
Lt. Yellow to Dk. Brown	Brake fluid. Becomes darker as it gets older and absorbs water.
Amber	With a gas odor. Gasoline.
Clear	Power steering fluid or water.
Green	Radiator coolant.
Red	Radiator coolant, automatic transmission or power steer- ing fluid.
Blue	Windshield washer fluid.
Orange, Pink or Yellow	Winter windshield washer fluid.

POSSIBIE SOURCE

If you find that your vehicle is leaking fluid, the fix may be easier and cheaper than you think! Often, it is just a matter of a small part, such as an oil plug, that needs replaced or simply screwed on tighter or with threads aligned properly. Take your vehicle to a local mechanic to have the leak diagnosed. Tell the mechanic what color the fluid is and from what area of the vehicle it seems to be leaking. Use your cardboard test to help narrow it down.

If the repair is within your budget, get it fixed immediately. This will prolong the life of your vehicle, protecting your investment as well as our waterways. If you are unable to repair the leak right away, place cardboard, drip pans or newspaper under your car while it is parked until you can get it fixed. An absorbent material, such as sand or kitty litter, can be sprinkled on spills, swept up and placed in a bag in the trash.

When making vehicle repairs at home, keep your work space tidy. Keep tools, vehicle parts and stored fluids up off the ground and under cover. Place a drop cloth under your vehicle while you are working on it. Use absorbent materials to catch any drips or spills. Bag and dispose of any contaminated materials, including used oil filters and empty motor oil and vehicle fluid containers, in a covered trash bin that will be hauled to a landfill. Containers which held vehicle fluids are not recyclable.

Used vehicle fluids should be placed in clearly labeled containers with tight-fitting lids and taken to the Thurston County Hazo House. Used motor oil may be recycled at a number of locations. For details, and to find a nearby recycling location, visit: http:// www.co.thurston.wa.us/health/ehhw/ pdf/used_oil_bro.pdf





\bigtriangledown Stream Team Events

JUNE

Trees of Washington Field Class 💗

Sat. June 9 • 10 a.m. – 4 p.m. Olympia

Learn about the trees and shrubs that are found in various types of South Sound habitats, such as prairies, upland, shorelines, and streamsides. Following a morning in the classroom, travel by bus (provided) for a fieldtrip to a local nature trail to learn to identify native trees, shrubs, ferns and perennials.

To register, contact Native Plant Salvage Project at nativeplantsalvage@gmail.com or 360-867-2166.

Sea Cinema Film Festival

Sat., June 9 • 5 – 11 p.m.

Capitol Theater 206 5th Ave. SE, Olympia Free family-friendly film festival in celebration of World Oceans Day featuring local films, documentaries, short films and featured speakers from OAR Northwest. For a description of the films, www.pugetsound.org/seacinema

Bat Lecture 🞯 (With Optional Bat Walk to Follow)

Fri., June 15 • 7:30 p.m. Traditions Café and World Folk Art 300 5th Ave SW, Olympia Registration required. See page 5 for details.

Bat Walk 💓

Fri. Jun. 15 • 9:30 p.m.

Heritage Park @ Capitol Lake No registration necessary. See page 5 for details.

Stream Bug Monitoring Training

Tues., June 19 • 6 – 9 p.m. OR Mon., July 9 • 6 – 9 p.m. McLane Creek Nature Trail • To register, or for more information, see page 12.

Phytoplankton Identification Workshop 💗

Wed., June 20 • 6 – 8 p.m. LOTT Wet Science Center

500 Adams Street NE, Olympia No registration necessary. See page 4 for details.

JULY

Stream Team Booth @ Tumwater 4th of July Celebration

Wed., July 4 • 3 – 10 p.m. Tumwater Valley Golf Course To volunteer for a shift in the booth, contact Debbie at dmsmith@ci.tumwater.wa.us or 360-754-4148.

Marine Creature Mondays 🥪

Mon., July 16 & 30 11:30 a.m. OR 1 p.m. Boston Harbor Marina 312 73rd Ave NE, Olympia Registration is required. See page 5 for details.

AUGUST

Marine Creature Mondays 🥪

Mon., Aug. 6, 13, 20, 27 11:30 a.m. OR 1 p.m. Boston Harbor Marina 312 73rd Ave NE, Olympia Registration is required. See page 5 for details.

Boston Harbor Beach Seine

Tuesday, Aug. 14 • 6 p.m. Boston Harbor Marina 312 73rd Ave NE, Olympia See page 7 for details.

Shoreline Walks

Aug. 1 – Sept. 15 • Sat. mornings at 10 a.m. • Wed. evenings at 6 p.m.

Walk is approximately one hour. Meet by Bay View Thriftway on the boardwalk facing Budd Inlet and the 4th Avenue Bridge. See back cover for more info.

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

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 gualifying events.

2012 Salmon Stewards Training Dates

New Salmon Stewards attend two classroom sessions and three on-site sessions. See page 12 for details.

Aug. 15 Pacific NW Salmon Lifecycle (Classroom) • 6:30 – 9 p.m.	
Aug. 18 5 th Avenue Bridge and Dam (On-site) • 10 a.m. – Noon	
Aug. 29 Threats to Salmon (Classroom) • 6:30 – 9 p.m.	
Sept. 15 Tumwater Falls Park (On-site) • 10 a.m. to 1 p.m.	
Nov (TBA) McI and Creek Wild Chum Run	



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

> Have this FREE newsletter MAILED or EMAILED to you quarterly! Send request to streamteam@ci.lacey.wa.us

FREE Shoreline Walks

Aug. 1 – Sept. 15 • Wed. evenings at 6 p.m. & Sat. mornings at 10 a.m. • Meeting place: The boardwalk facing Budd Inlet, by Bay View Thriftway and the 4th Avenue Bridge. (Look for the sign. Walks are approximately one hour long.)

This year, the theme for the Olympia downtown shoreline walks will focus on the present and future. The walk will follow the same route as last summer, but the talking points will focus on: What's up with the summer water quality of Budd Inlet? What is going on with Capitol Lake? And how is the city addressing sea level rise? These topics and other new bits of information will be woven into the story of Budd Inlet.

The walking route is flat and easily accessible. The route is approximately 1.5 miles, making a loop starting from the 4th Avenue Bridge next to Bayview Thriftway to the Kissing Statue and to Capitol Lake, and ending at the 5th Avenue dam.

Walks are led by trained volunteer docents called Sound Stewards. The walk is free! Registration is not necessary; just show up 10 minutes before the start time.

