

Stream Team

NEWSLETTER

Olympia • Lacey • Tumwater • Thurston County

FREE



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WINTER EDITION
Dec 2011-Jan-Feb 2012

ON THE COVER: Students get to touch salmon eggs at Tumwater Falls Fish Facility following a presentation given by Lee Pilon (see page 6).

Come Kayak with Stream Team

See the Cycle of Life: Bald Eagles Feasting on Salmon



Bald Eagle eating chum salmon
Courtesy of Neil Rettig Productions

Sat., Dec. 17 • 9:30 a.m. – 1 p.m.

The McLane Creek chum salmon have spawned and eagles soar in for a winter feast. Explore Olympia's Mud Bay and the mouth of McLane Creek with Stream Team, the City of Olympia Parks, Arts and Recreation and special guest, Lindsay Wright, a US Fish and Wildlife Service biologist. Lindsay will tour with us to talk about the importance that salmon and bald eagles provide to the ecosystem of the Pacific Northwest.

Space is limited, so registration is required.

Children ages 12–15 may attend with an adult; ages 16–18 with signed permission from parent or guardian. Moderate walking on uneven ground will be required. Kayaks and safety equipment provided. For more information, or to register, contact Michelle Stevie at mstevie@ci.olympia.wa.us or 360-753-8336. Eagles not guaranteed!



New Face to Stream Team

Laura Hurson, City of Lacey Water Resources Intern, has been vital to Stream Team over the past year and a half. As her position ended with the City of Lacey in October, we reflected back on her friendly demeanor with the volunteers, superior organizational skills and love for the outdoors. You will be missed Laura; thank you for all of your contributions to Stream Team and the City of Lacey.

Katie Klaniecki recently joined City of Lacey as the new Water Resources Assistant, an AmeriCorps position with the Washington Service Corps. She is excited to get involved with Thurston County water resource issues from her cubicle, local meeting rooms, classrooms, and while standing knee-deep in a stream with volunteers.



Laura Hurson



Katie Klaniecki

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
eketh@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

NEWSLETTER CONTRIBUTORS:

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Olympia Stream Team; Debbie Smith,
Tumwater Stream Team; and
Chris Maun & Ann Marie Finan,
Thurston County Stream Team

DESIGN & LAYOUT:

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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.



Budd Inlet. Courtesy of the WA State Department of Ecology.

Free Presentation: Shoreline Master Planning

Wed., Feb. 8 • 7 p.m. to 8:30 p.m.
Traditions Café, 300 5th Avenue SW
Olympia

Across Washington, many local governments are in the process of updating their Shoreline Master Programs. Shoreline Master Programs are local policies and regulations designed to manage human use of shorelines. More than 260 Washington towns, cities and counties have marine, lake and stream shorelines that fall under the Shoreline Management Act, passed by voter referendum in 1972. The act requires local governments in Washington State to regularly review and revise their shoreline regulations and policies; however, most jurisdictions have not done a thorough update of their shoreline master programs since the 1970s.

In 2003, the state legislature began providing funding and established a mandatory schedule for updating local shoreline programs through 2014. These updates are a unique opportunity to create a positive future for Washington's shorelines. Find out more about Shoreline Master Programs and where your local jurisdiction is in the process at this talk given by Department of Ecology staff.

For more information, contact Patricia Pyle at ppyle@ci.olympia.wa.us or (360) 570-5841.

New Stream Team Opportunity: AMPHIBIAN SURVEYS

Would you like to know more about our five Pacific Northwest amphibians or learn how to survey amphibian egg masses?



Mosquito eating Frog
Courtesy of Tyson Poeckh, Digital Trinity

AMPHIBIANS OF THE PACIFIC NORTHWEST WORKSHOP

Sat., Jan. 21 • 10 a.m. – 3 p.m.
LOTT WET Science Center
500 Adams St NE, Olympia

Workshop instructor, Dr. Marc P. Hayes is a herpetological ecologist and senior research scientist with the Washington Department of Fish and Wildlife. Dr. Hayes has 38 years of experience working with amphibians and reptiles in locations in Arizona, California, Costa Rica, Florida, Mexico, Oregon and Washington.

The first portion of the workshop will explore the ecology, habitat requirements and unique characteristics of each species and potential changes anticipated because of climate change.

The second portion of the workshop will address how to identify different life-stages of Pacific Northwest amphibians, with an emphasis on egg mass identification for participants that wish to participate in the ALL NEW Stream Team Amphibian Egg Mass Surveys. Amphibian Egg Mass Surveys will occur from February through March or April.

To sign up for this free workshop, or for more information about becoming a Stream Team Amphibian Survey volunteer, contact Michelle Stevie at mstevie@ci.olympia.wa.us or 360-753-8336.



Northern Red-legged Frog Egg Mass

Courtesy of James Bettaso, US Fish & Wildlife Service

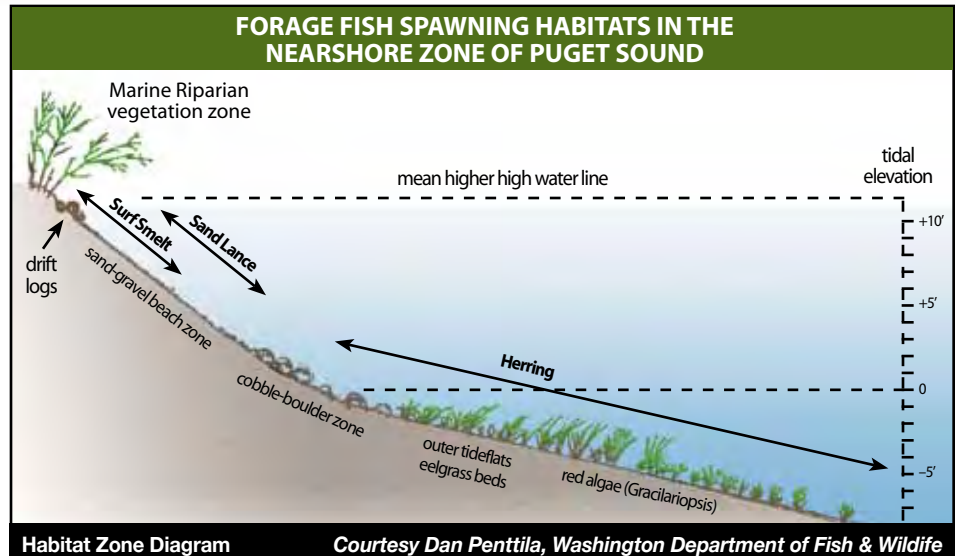
Forage Fish 101: Survival Snacks for Salmon

What are Forage Fish and Why are They so Important?

Six different species of small schooling fish live in the waters of Puget Sound. All of these fish are critically important to our local ecosystem, because they provide a food source, or forage, for larger species of fish, birds and marine mammals. Forage fish play an essential role in the life of local Pacific salmon, as they are the major prey species which salmon depend on for survival.

Spawn (verb):

The act of fish depositing eggs or milt directly into the water



Where do forage fish live?

Three of the six forage fish species spawn within the nearshore zone of our beaches. These species are the Pacific herring (*Clupea pallasii*), surf smelt (*Hypomesus pretiosus*) and the Pacific sand lance (*Ammodytes hexapterus*). Surf smelt and sand lance rely on the upper, sandier beach habitat for spawning, while the Pacific herring uses the blades of eelgrass in the sub-tidal zone of the nearshore to lay their eggs. In Puget Sound, forage fish occupy every estuarine and marine nearshore habitat.

What is the concern? *Habitat loss...habitat loss... habitat loss....*

Since forage fish rely on a healthy nearshore zone for survival, they are especially vulnerable to shoreline development and pollution. Substantial loss of native shoreline vegetation, poor lawn management (application of excessive fertilizer and other chemicals) and shoreline armoring, such as the construction of bulkheads, severely impact our shorelines. These actions affect the upper intertidal zone through the direct loss of and damage to spawning habitat and the interruption of critical sediment (sand and gravel) transport.

For more information about protecting and enhancing our Thurston County shoreline through the **Shoreline Master Planning** process in your area, join Stream Team for a **free presentation**. (See page 3 for details.)

Loss of vegetation increases localized water temperatures and dehydrates eggs spawned in upper tidal areas. Shoreline armoring cuts off the natural supply of sand and gravels that naturally erodes from cliffs and shoreline banks to make up our beaches. Without this naturally occurring supply of beach substrate, the finer beach sand and gravel erode and the substrate coarsens (smaller sands and gravels wash away leaving only larger cobbles). Eventually, only the hard pan clay or rock layer remains, leaving behind a habitat that lacks proper conditions necessary for forage fish spawning.

Less than 20% of the estuaries once found in Puget Sound (and world wide) exist today. Locally, over 90% of the shoreline in Budd Inlet has been modified with armoring and fill. This contributes to a substantial net loss of habitat in south Puget Sound specifically used by forage fish, which, in turn, affects Pacific salmon survival.

Surf smelt (*Hypomesus pretiosus*)

Description:

- Up to nine inches in length.
- Olive green in color with a silver or yellow band on their side.

Range:

- Found in marine waters from Alaska to southern California.
- Common and abundant throughout Washington's marine waters, including Puget Sound.
- Over 200 miles of surf smelt spawning beaches are known to exist along Puget Sound.

Habitat/Spawning:

- Feed on plankton and are preyed upon by many species of fish, sea birds and marine mammals.
- Prefer shaded beaches with over-hanging vegetation.
- Juveniles rear in the nearshore areas.
- Spawn in coarse sand and fine gravel in the upper tidal zone.
- Spawn is deposited at high tide.
- Spawn September through March in southern Puget Sound.



Top: Surf smelt / Bottom: Pacific sand lance
Courtesy of Washington Department of Fish & Wildlife

Pacific sand lance (*Ammodytes hexapterus*): (locally known as candlefish)

Description:

- Five to eight inches in length.
- Green-gray color above the belly with silvery sides.
- Slender lance or sword-shaped body.
- Needle-like nose with dorsal fin along the length of the back.

Range:

- Found in marine waters from Baja to Alaska and the Sea of Japan.
- 140 miles of known Pacific sand lance spawning beaches exist along Puget Sound.

Habitat/Spawning:

- Feed on plankton in the open water during the day and bury themselves in the sand at night to avoid predation.
- Prefer shaded beaches with over-hanging vegetation.
- Juveniles rear in the nearshore.
- They spawn only in mixed sand and gravel beaches in upper intertidal areas.
- Spawn November through February.
- Juvenile Chinook salmon depend on sand lance for 60% of their diet.

WHAT CAN YOU DO TO BECOME A GOOD SHORELINE HABITAT STEWARD?

If you live on a lake, stream or Puget Sound, you should:

- Be a good shoreline habitat steward by learning about shoreline processes and marine life on the beach (visit www.streamteam.info to see our beautiful beach brochures!)
- Keep and maintain a buffer of native shoreline vegetation and trees. (If you live in northern Thurston County, send an email to streamteam@ci.lacey.wa.us to find out if your local Stream Team can help you plant trees and shrubs along the shoreline on your property.)
- Trim tree branches for a better view of the water instead of removing trees entirely.
- In areas of low wave action and low banks, maintain natural shoreline and avoid bank armoring.
- If shoreline protection is necessary to protect property, work with your designer to incorporate "soft armoring" approaches, such as using logs instead of rip rap rock or concrete blocks.
- Replace areas of lawn in your yard with native landscapes. Use alternatives to chemical fertilizers, such as compost or natural slow-release fertilizers.
- Visit www.pugetsoundstartshere.org to learn more ways you can help protect Puget Sound at home.

Guest Speaker

SPOTLIGHT

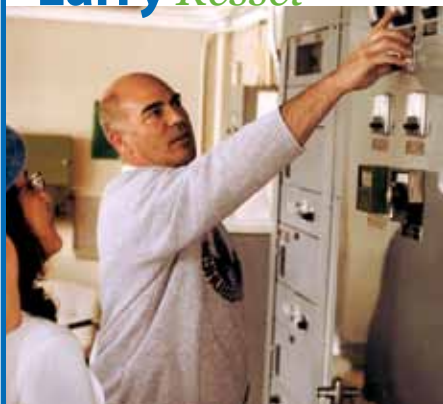
Salmon Stewards continues to be the premier education and outreach Stream Team program. In only a few short months, Salmon Stewards talk to more people than a year of other Stream Team programs combined! Trained volunteers spread the word about salmon and salmon recovery, while providing scientific facts and displacing common myths that people have about salmon. Sometimes, the education is simple facts: such as, "Those are seals, not sea lions" and "Yes, the fish ladder is always open". Other times, the comments and questions get into more complex issues such as fish harvest or the Capitol Lake debate.

Larry, Lee and Larry

In the past 10 years, over 100 volunteers have been trained as Salmon Stewards. Many Salmon Stewards return year after year. The quality of the training is largely responsible for the success of the program. The Salmon Steward instructors are state employees who work in the field. The experience of hearing firsthand information is invaluable for the Salmon Stewards. In turn, the Salmon Stewards interact with over 2,000 people annually, answering their questions with factual information given to them by the experts! Larry Kessel, Larry Phillips and Lee Pilon have been an integral part of the Stream Team Salmon Stewards Training curriculum and we look forward to their high-quality, professional instruction each year.

Larry Kessel has worked for Washington State General Administration (now called Department of Enterprise Services) for 25 years where he has managed Capitol Lake as part of his position for 17 years. Larry oversees 23 properties on the Capitol Campus, including parks around Capitol Lake, and most important for

Larry Kessel



the Salmon Steward training, the dam operation. For six years, Larry has given an on-site talk about the dam operation to Salmon Stewards during the 5th Avenue Bridge/Dam training. Many questions come from the public about the dam, so seeing and hearing about the operation first hand is invaluable for the Salmon Stewards. Larry also supports other groups such as South Sound GREEN's water quality monitoring program and monthly water testing done by Thurston County Environmental Health.

Lee Pilon works for Washington State Department of Fish and Wildlife at the Tumwater Falls Park Fish Facility. The Salmon Stewards need a very clear understanding of the hatchery operation in order to effectively answer questions from the public, and Lee gives a thorough presentation on the process. Lee started working at the Tumwater location in 1996. Right away, he started to assist by giving talks to school groups visiting during the spawning operations of hatchery Chinook. During the past 16 fall spawning seasons, Lee has given presentations to at least 43,000 school children during their field trips to see the salmon at Tumwater Falls Park!



Larry Phillips



Larry Phillips was recently promoted to District Fish Biologist for Washington State Fish and Wildlife, after serving as the Area Fish Biologist since 2003. His duties include working with harvest management agreements, recovery plans and stock assessment for all fish species (inland and anadromous) occupying South Puget Sound. Larry was invited to participate in the Salmon Steward training in 2004. Every year since, he has given a presentation on salmon management for South Sound chum and Deschutes River Chinook including the complexity of co-managing fish stocks and forecasting returns of salmon.

Many thanks to Larry, Lee and Larry for their ongoing support of Stream Team Salmon Stewards and helping to make the program a true success.

Highlighting *Extraordinary* Stream Team Volunteers

Joe Hiss



Lots of people are involved in Stream Team because it's so easy to participate. Stream Team offers many different activities that enable people to pick and choose which events they participate in and volunteer as much, or as little, as their time allows. Among all of our amazing volunteers, there are always a few people who go "above and beyond" providing extraordinary support and enthusiasm for Stream Team. Joe Hiss is one of these volunteers! Joe has been a Salmon Steward, Sound Steward, an educator with Marine Creature Monday at Boston Harbor and participated in various other Stream Team events.

Joe is a retired fish and wildlife biologist with the United States Fish and Wildlife Service. He has had an interesting career with USFW that included working on applied research for salmon and steelhead recovery with many tribal governments in Washington as well as reviewing projects under the Endangered Species Act for their effects on bull trout, marbled murrelets and the spotted owl. He also contributed to the original research completed for the removal of the Elwha Dam!

Joe got involved with Stream Team because he wanted to pass on what he has learned and to tap into his professional background and passion for natural resources, as well as continue to learn. In this regard, he teamed up with marine biologist, David Jamison to learn more about Puget Sound marine life and led his own sessions during Marine Creature Mondays. Joe brings a wealth of knowledge to Stream Team, but equally important, is his love of nature that he shares with enthusiasm when he is leading a program.

Joe is also involved with South Sound GREEN, People for Puget Sound and South Sound Estuary Association. He praises all the people he has worked with, including Stream Team partners David Jamison, Gabby Byrne, Anne Mills and Leila Scharlau as dedicated and compassionate leaders of environmental education.

A big THANK YOU to this year's Stream Team Stewards!

Salmon Stewards: Irene Bergh, Susan Burgoon, Susan Camp, Benji Friedman, Linda Hurtado, Nicki Johnson, Rich Kalman, Saranda Lund, Daisy Ouye, DK Ouye, Wendy Mayer, Carla Michalove, Jessica Moore, Dan Ricklick, Warren Smith, Wendy Tanowitz, Cynthia Taylor, Jeff Vante, Debbie Villines and Joe Townley.

Sound Stewards hosted walks for over 200 participants this summer. Many thanks to these volunteers for learning so much information and leading walks about our local natural history: Darlene Baird, Betsy Brandt-Kreutz, Carolyn Burtner, Maxine Dunkelman, Hank Henry, Helen Henry, Joe Hiss, Linda Hurtado, Caroline Irwin, Nicki Johnson, Wendy Jonas-Ryea, Melody Mayer, Sarah Meyers, Barb Mondau, Robin Munroe, Elizabeth Raybold, John Rosenberg, Jane Sabes, Wendy Tanowitz and Peggy Young.



LOOKING BACK: 2011

WHAT ACTIVITY WILL WE SEE YOU AT IN 2012?

Find out about free upcoming events, festivals, workshops and planting parties through our weekly email list. If you aren't already on our FREE email list, signing up is easy. Send a request with your name and email address to streamteam@ci.lacey.wa.us and start receiving weekly emails today!

(Stream Team only uses this email list for Stream Team activities and never shares your information with anyone.)

TREE PLANTING



HENDERSON INLET
WATERSHED TOUR



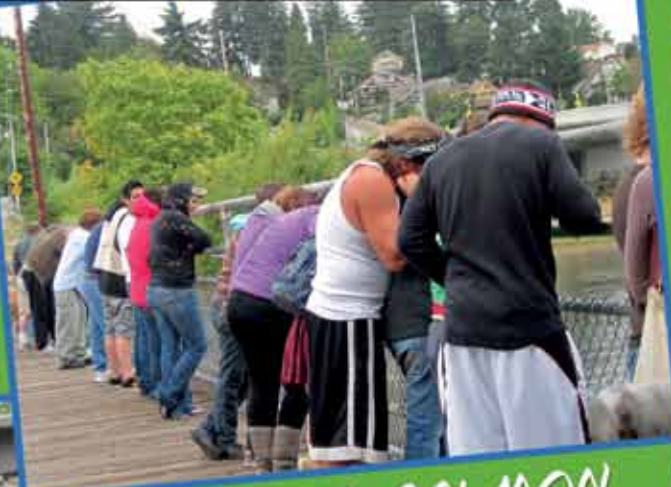
MARINE CREATURE MONDAY



FUN FAMILY EVENTS



BEACH SEINING



SEE THE SALMON



SOUND STEWARDS



STREAM BUG MONITORING



Protecting the Watershed: City of Lacey Purchases 400 Acres of Land

In 2010, the City of Lacey discovered that 400 acres of forest and pasture land just north of the city along Woodland Creek was on the market. The site lies adjacent to its undeveloped 32-acre Pleasant Glade Neighborhood Park site (which is currently active farmland) and 10.5 acres of protected open space. Even though the property falls outside of Lacey's city limits—and three parcels are even outside of its urban growth boundary—the city did not hesitate to find a way to purchase and protect it.

Fox, Palm and Eagle Creeks flow into Woodland Creek within the site. Numerous wetlands and a large beaver pond provide habitat for wildlife and a natural filter for storm water runoff. Preservation of the creeks and surrounding habitat is vital to water quality improvements in Henderson Inlet.

A portion of the property had previously been platted for a 314-unit housing development that had gone into receivership. The remainder of the parcels were zoned single-family residential. Eventually, nearly 1,500 homes would have been built on the properties.

On March 3, 2011, purchase of the land was completed. The majority of the site was named "Greg J. Cuoio Community Park" after Lacey's recently-retired city manager, who was instrumental in making the acquisition occur. Aside from a 68-acre section which will become an active city park, the site will remain natural and include trails and wildlife observation points.

The new acquisition also opens up new opportunities for City of Lacey Stream Team, adding nearly 2 miles of stream to explore, monitor and use to educate residents. Stay tuned for new Stream Team opportunities to improve salmon habitat in this newly acquired land.



New "Stormwater Stewards" Program Now Underway!

A group of 15 talented volunteers from diverse backgrounds have recently been trained as the first class of "Stormwater Stewards," a new volunteer-based program aimed at helping homeowners adopt one or more techniques to prevent stormwater pollution in our local waterways and Puget Sound.

The Stormwater Stewards will be assisting homeowners with site assessments to identify on-site stormwater management opportunities, and to provide technical assistance and resources for implementing changes. The techniques range from simple actions, such as compost-amended soils, mulch and layered plantings, to more involved options such as rain gardens and permeable pavements.

If you live in northern Thurston County and would like to schedule a home site assessment with a team of Stormwater Stewards, or if you are interested in becoming trained in the 2012 class, please contact Erica Guttman of WSU Extension at erica@nativeplantsalvage.org or call 360-867-2166.

DE-ICER...What is the Best Choice for Salmon, Pets and Plants?



Thanks for doing your part to keep pollution out of stormwater and to prevent stormwater flooding!

During the icy months, the best option for de-icing driveways and sidewalks is the snow shovel—it's completely non-chemical, but we recognize that it is not always practical as the only method of ice control. The next best solution is limited and proper use of chemical de-icers. Shoveling and de-icing is crucial for maintaining safe roads, walkways, parking lots and driveways. Unfortunately, many chemicals used in de-icers can pollute streams, lakes and even drinking water supplies if used improperly. They can also harm pets, plants, flooring materials and auto bodies.

Historically, salt and/or sand was used as de-icers, but salt was found to be corrosive and harmful to plant and aquatic systems. Sand, which is chemical free, can be harmful to salmon and other aquatic life when it is swept up by rain or melting snow. The sand can get carried into nearby streams where salmon eggs have been carefully covered with gravel by female salmon. The fine sediment can clog the spaces between the gravel and suffocate the developing salmon. Fine sediment can also clog the gills of salmon and other fish and aquatic organisms that breathe through gills.

Today, there is a variety of chemical de-icers that are less corrosive; however, even these products have a wide range of impacts to water quality, plants, birds, mammals (including pets) and aquatic organisms. The various chemical salts used in de-icers can create a salt-toxic environment for plants, mammals and aquatic organisms.

For a general description of common chemical de-icers go to <http://davesgarden.com/guides/articles/view/1954/>

For a scientific study of the impacts of de-icers go to www.newyorkwater.org/downloadedArticles/ENVIRONMENTANIMPACT.cfm

As mentioned before, the next best solution is to carefully follow the instructions on the bag, especially in determining the amount to apply. It is important to use the minimum amount of deicer necessary, and to remove the snow/ice with a shovel or plow before it melts. The melting snow/ice water is now polluted and can run off into stormdrains and/or the nearest body of water. Remove treated, melting snow to a pervious area like grass or landscaped area..

If you have additional questions about the best practices for deicing, contact one of the Stream Team coordinators, whose contact information is included on page 2.

Did You Know?

It is illegal to put anything other than rain or melting snow into a stormwater drainage facility, such as a storm drain, drainage ditch, swale or stormwater pond?

The Cities of Lacey, Olympia, Tumwater and Thurston County have all adopted and enforce Illicit Discharge ordinances that prevent the discharge of pollutants into storm drainage facilities. Violators can be fined up to \$1000 per violation if they fail to stop the discharge and clean up the pollutants. The jurisdictions have adopted these codes to comply with a Department of Ecology permit issued under the Federal Clean Water Act, known as the National Pollutant Discharge Elimination System (NPDES) permit.

In the event of an accidental spill, or to report illegal dumping, you can:

- Contact your local jurisdiction's stormwater program.
- Call the Hazardous Waste Hotline at 360-867-2664 (Mon. – Fri., 8 a.m. – 5 p.m.)
- Call the Department of Ecology's Emergency 24-Hour Spill Hotline at 360-407-6300 (large-scale spills).

Kids' CORNER

WORD SEARCH

E E S S A M G G E S S G
 R E H A B I T A T P N G
 O L F Y O F N R U I S S
 H G O V F P E R R M P A
 S R R O Y A G R E A A N
 R A A M M E E L Z D W D
 A S G T O H T I J I N L
 E S E N A I B I H P M A
 N A V O L U N T E E R N
 M E C O S Y S T E M E C
 E N I L E R O H S A C E
 Z D S D R A W E T S R P

Amphibian
 Eggmass
 Herring
 Shoreline
 Spurgeon
 Volunteer
 Ecosystem
 Forage
 Nearshore
 Smelt
 Stewards
 Eelgrass
 Habitat
 Sandlance
 Spawn
 StreamTeam

Find Sammy The Salmon

Find Sammy the Salmon hiding 5 times in this newsletter

Enter into a drawing for a free Stream Team prize! To be entered into the drawing for kids ages 12 and under, send an email with your contact information to streamteam@ci.lacey.wa.us with the page numbers that you found Sammy on.

Prize drawing will be held Monday February 20, 2012.

JOKES

Draw a line from the joke on the left to its answer on the right.

What kind of phone does Puget Sound have?

Fryday

Why didn't the oyster share its pearls?

Because the pepper makes them sneeze

Where did the seaweed find a job?

If it waves!

What day do fish hate?

With a sand dollar!

How did the sea star pay for his burger?

The kelp wanted ads

Why do some fish swim in salt water?

Fin-land

Where do salmon go for vacation?

The Car-Tuna

Which fish is the funniest?

A shell phone

How do trees get on the internet?

They log in

How do you know if Puget Sound is friendly?

Because it was shellfish

What Can Kids Do? 10 Tips to Protect Our Water

When it comes to protecting our precious water resources, you're never too young to help! Here are some easy, practical tips to get kids started:

- 1 REMEMBER: ONLY RAIN goes DOWN The STORM DRAIN.** Those grates in the street flow directly to our waterways. Never pour or let anything run off into a storm drain that didn't come from the clouds.
- 2 PICK UP AFTER YOUR PET.** Bag and place all pet waste in the garbage. Pet waste contains fecal coliform bacteria and other toxic stuff. Yuck!
- 3 HOLDING a FUND-RAISING CAR WASH?** Contact your local stormwater educator (listed on page 2) to set up a *Clean Cars Clean Streams* car wash or, better yet, sell car wash tickets available at www.charitycarwash.org
- 4 IF you NOTICE OILY SPOTS where YOUR FAMILY PARKS The CAR,** let your parents know, so they can have any car leaks fixed. Cardboard or a drip pan can be placed under the car until it can be fixed (let your parents do this part!).
- 5 ENCOURAGE YOUR HOUSEHOLD TO USE LESS-TOXIC home CLEANING PRODUCTS.** A list of easy home cleaning tips to help keep our water (and you!) healthy, can be found at <http://www.ecy.wa.gov/pubs/0904017.pdf>
- 6 ENCOURAGE YOUR HOUSEHOLD TO USE LESS-TOXIC yard care PRODUCTS.** Tips for keeping a healthy yard and healthy water can be found at <http://www.co.thurston.wa.us/stormwater/utility/utility-gardening.html>
- 7 Save WATER inside.** Shut off the water when brushing your teeth, take shorter showers, and never use the toilet as a waste basket.
- 8 Save WATER outside.** Shut off the hose when not in use. Don't water streets, sidewalks and driveways; they don't grow!
- 9 MARK STORM DRAINS.** Contact your local stormwater educator (listed on page 2) to borrow a storm drain marking kit for your neighborhood.
- 10 Spread The word!** Tell others about what you've learned.



Create a Back Yard Bird Habitat

Join Stream Team and South Sound Green for a free workshop with special guests Wild Birds Unlimited and Eco Woodworks.

Create a Back Yard Bird Habitat Workshop

Sat., Feb. 11 • 10 a.m. – Noon

Pre-registration required. LOTT WET Center, Olympia

Wild Birds Unlimited will talk about:

- Local species of birds and their habitats
- How we can turn our back yards into a more welcoming habitat
- The different adaptations that birds utilize for survival
- How and where to install bird nesting boxes and/or provide supplemental feeding
- Which supplemental foods to avoid and why

Eco Woodworks local custom woodworker, Dave King will instruct us on building a bird nesting box for your back yard. Bird nesting box kits will be available at no cost, and participants will get hands-on instruction for constructing your bird nesting box kit.

Families welcome (limited to one bird nesting box per family). Space is limited to 25. To register, please contact Michelle Stevie at mstevie@ci.olympia.wa.us or 360-753-8336.

Featured Stream: Spurgeon Creek

Ecology of Spurgeon Creek

Spurgeon Creek originates in one of the many wetland/beaver ponds that are found in the low-gradient, semi-agricultural Evergreen Valley area of unincorporated Thurston County, east of Spurgeon Creek Road. Like many wetlands, this area is fed by springs; however, this little beaver pond is far from ordinary. From the west side of this same wetland, Spurgeon Creek flows and eventually joins the Deschutes River at river mile 5.8. At the other end of this wetland, from its east side, Eaton Creek originates. Eaton Creek (featured in the Summer 2008 Stream Team Newsletter) flows northeast, into Lake St. Clair, and eventually to McAllister Creek which is part of the greater Nisqually River Watershed. Thus, this small beaver pond headwaters and its associated springs, feed two creeks which end up in two entirely different watersheds!

In 2010, the non-profit organization, Wild Fish Conservancy surveyed Spurgeon Creek to “ground truth” the location of the creek and its tributaries, characterize fish species composition and identify habitat restoration opportunities. This survey found that Spurgeon Creek and its associated wetlands provide many spawning and rearing opportunities for a variety of native fish species. In addition to Chinook and coho salmon documented by the Washington Departments of Fish

and Wildlife, Wild Fish Conservancy found populations of several other species, including rainbow trout/steelhead, cutthroat trout, native sculpin, freshwater pearl shell mussels, signal crayfish and Olympic mudminnow, which is a state threatened species.

In addition, this survey documented a total of 12.7 miles of streams in the Spurgeon Creek sub-watershed, 3.5 miles more than previous state maps had indicated. In the near future, Wild Fish Conservancy will post the results of this interesting survey, including field data and photographs, in an interactive web-based map. To view this map, visit www.wildfishconservancy.org

Current Enhancement Projects

Where Spurgeon Creek flows under Rich Road, just south of Lattin’s Cider Mill, Thurston County Public Works will soon replace two 48-inch culverts with a 65-foot bridge. These culverts are old, undersized and partially blocking fish passage. The new bridge will be above the 100-year flood plain elevation and, most importantly, will allow the re-establishment of the creek streambed, increasing fish habitat and allowing for easier fish passage.

Just upstream of the new Rich Road bridge at Circle Hawk Farm, several exciting projects are in the works. The site is located on the main stem of Spurgeon Creek at river mile 1 (one



Signal Crayfish at Circle Hawk Farm
Courtesy of Wild Fish Conservancy

mile up from the confluence with the Deschutes River). Many Stream Team volunteers may be familiar with Circle Hawk Farm, as Stream Team has been busy helping plant trees along the banks of this stretch of Spurgeon Creek.

Pending expected final approval in December by the state Salmon Recovery Board, this project will conserve, through acquisition of a permanent 14-acre conservation easement on the Circle Hawk Farm property, over 1800 feet of Spurgeon Creek riparian habitat and associated uplands. Also, as a part of this project, a pair of failing culverts under the farm driveway will be replaced, resulting in increased fish passage.

The Circle Hawk Farm site currently contains intact and restored riparian buffer conditions, as well as emergent wetlands, meadow, a forested pond and mixed conifer upland forest.

Species that will benefit from this project are Deschutes coho, steelhead, Chinook, coastal cutthroat trout and Olympic mudminnow. The secondary objective of the project is to build on the sustained efforts of community groups and many volunteers (including Stream Team) who have restored the riparian buffer on this property through successive native plantings over the last five years.



Juvenile Coastal Cutthroat Trout at Circle Hawk Farm

Courtesy of Wild Fish Conservancy



▽ Stream Team Events

Directions to planting events and Waiver of Liability forms are available on our website at www.streamteam.info



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.

DECEMBER

Kayak Trip: Eagles & Salmon ❤️

Sat., Dec. 17 • 9:30 a.m. – 1 p.m.

Mud Bay, Olympia

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

JANUARY

Amphibian Workshop & Volunteer Amphibian Monitoring Training ❤️

Workshop:

Sat., Jan. 21 • 10 a.m. – Noon

Training:

Sat., Jan. 21 • Noon – 2 p.m.

LOTT WET Center, Olympia

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

Stream Team Fun Day

Sat., Jan 28 • 1 p.m. – 3 p.m.

Tumwater Library

For more information, contact Debbie
at dmsmith@ci.tumwater.wa.us or
360-754-4148

FEBRUARY

Shoreline Master Planning Presentation

Wed., Feb. 8 • 7 p.m. – 8:30 p.m.

Traditions Café, Olympia

For more information, contact Patricia at
ppyle@ci.olympia.wa.us or 360-570-5841.

See page 3.

Create a Back Yard Bird Habitat Workshop ❤️

Sat., Feb. 11 • 10 a.m. – Noon

LOTT WET Center, Olympia

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

Naturescaping for Water & Wildlife Workshop ❤️

Thurs., Feb. 16 • 6 p.m. – 9 p.m.

LOTT WET Center, Olympia

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

COMMUNITY EVENTS

Winter Walk in the Woods: Winter Twig ID Class

Sun., Jan. 22

10 a.m. – 12:30 p.m. OR 1 p.m. – 3 p.m.

Free guided tour along a popular nature trail to identify native plants
in winter.

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

Annual Native Plant Sale

Sat., Feb. 25 • Noon – 2 p.m.

(Pre-orders begin Jan. 1)

For details, contact Thurston Conservation District at
www.thurstoncd.com or 360-754-3588



Stream Team

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

929 Lakeridge Dr SW
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www.streamteam.info

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If your neighborhood does not have "Dump No Waste - Flows to Waterways" storm drain markers, Stream Team can provide you with a storm drain marking kit. Marking neighborhood storm drains makes a great volunteer project for individuals, families, scouts and other groups looking for community service opportunities. Marking works best in dry weather.



Winter, Spring, Summer or Fall— Pollution & Flooding Affect Us All!

Rake a Drain to Prevent Flooding

Does your neighborhood have storm drains (metal grates in the road also known as catch basins)? Storm drains play a crucial part in carrying stormwater out of your neighborhood. When leaves, needles, branches and other debris fall into the road, they can get swept up by rain or melting snow and clog your storm drains.

Clogged storm drains can lead to localized flooding. There are more than 18,000 storm drains managed by the Cities of Lacey, Olympia, Tumwater and Thurston County. City and County road crews work hard to keep the streets clean and clear, but they need your help -

especially during the fall and winter when the rains and snow are the heaviest.

To help out, grab a rake, sturdy broom or shovel to remove the debris from the road near the storm drain. Discard leaves and branches with your compost in your yard debris bin, and be sure to put any litter in the garbage.

NOTE: Always use caution when working near any roadway.

If the road is flooded, look for "Dump No Waste – Flows to Waterways" markers that are near most storm drains. These markers are intended to remind people that only rain should go down the drain, but they are also a great way to

locate a submerged grate that needs to be unclogged. Even piled up snow can clog a storm drain, because it melts slowly.

It may take more than one person to keep all the storm drains in your area cleared. Talk to your neighbors or homeowners association about "adopting" the storm drains near their homes. Keeping all local storm drains clear of leaves and other debris protects your property and your nearby stormwater facility.

Remember that most storm drains drain directly to our local streams, lakes or Puget Sound. For more information about storm drain care and other stormwater facility components, please visit: <http://www.co.thurston.wa.us/stormwater/publications/other/Maintain2.pdf>