

# Stream Team

## NEWSLETTER

SPRING EDITION  
March-April-May 2011

FREE



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**ON THE COVER:** Lacey Parks and Recreation's Day Campers help Stream Team plant trees and shrubs at Woodland Creek Community Park in Lacey for Arbor Day.

## Doing Some Spring Cleaning? Make Sure You Safely Dispose of Household Hazardous Waste

Are you thinking about cleaning out your house or garage? If so, you may have "hazardous" household products that should NOT be put in the garbage. How do you know if a product is hazardous? Look for the key words: POISON, DANGER, WARNING or CAUTION on the label.

Pesticides, oil-based paint, used motor oil, glues, solvents and some cleaning supplies are all hazardous products and could contaminate groundwater and surface water if they are improperly stored or disposed.

You can safely dispose of hazardous household products at **HazoHouse**, which is located at the Thurston County Waste and Recovery Center, 2418 Hogum Bay Road NE in Lacey. **HazoHouse** is open Friday, Saturday, Sunday and Monday from 8 a.m. to 5 p.m. Service is free for residential residents. For more information about what materials are accepted at HazoHouse, how to properly pack and transport such items, or for directions, you can contact Thurston County Public Works at 360-867-2491 or go to [www.co.thurston.wa.us/solidwaste/hazardous/haz-hazohouse.htm](http://www.co.thurston.wa.us/solidwaste/hazardous/haz-hazohouse.htm)



### STREAM TEAM MISSION

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

*Stream Team is funded by Storm and Surface Water Utility revenues.*

### STREAM TEAM INQUIRIES

#### IN LACEY:

City of Lacey Water Resources Program  
P.O. Box 3400, Lacey, WA 98509-3400

**Attn: Erin Keith**

Tel: 360-438-2687

TDD: 1-800-833-6388

#### 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

#### 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

#### 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

### NEWSLETTER CONTRIBUTORS:

Erin Keith, Lacey Stream Team; Patricia Pyle & Michelle Stevie, Olympia Stream Team; Debbie Smith, Tumwater Stream Team; and Chris Maun & Ann Marie Finan, Thurston County Stream Team

### DESIGN & LAYOUT:

Azure Summers Graphic Design

### 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.



## Join the Stream Team Group on Facebook!

Stream Team members now have a way to interact with each other through the social media site, Facebook. You must have a Facebook profile set up to join. Once you are on Facebook, just go to "groups" and enter "Thurston Stream Team". It's that easy! Now you can learn about upcoming events and view photos of Stream Team volunteer in action. For quality control, the posting of photos, videos and links must be done through the administrator of the site, Tumwater Coordinator, Debbie Smith.



# Become A Sound Steward: Share the Wonder of Puget Sound ♥

Interested in local history and Puget Sound? Do you like to share your knowledge? Consider signing-up to be a Sound Steward Naturalist!

Sound Stewards will lead downtown walking tours weaving together the story of this wondrous place and its people. Talking points (and the training) will include glaciers, estuaries, water, wildlife, people, history, land changes, stormwater and sea level rise. The walk will be semi-scripted with the route and stops designated and talking points provided; although the presentation can be personalized by each Sound Steward. The summer 2011 walk will be around Capitol Lake and the boardwalk by the 4th Avenue Bridge.

The trainings and materials are **free**. Sound Steward guided walks will be offered for free to the general public on weekends from Memorial Day to Labor Day (schedule to be determined by volunteers).

Volunteers will be expected to:

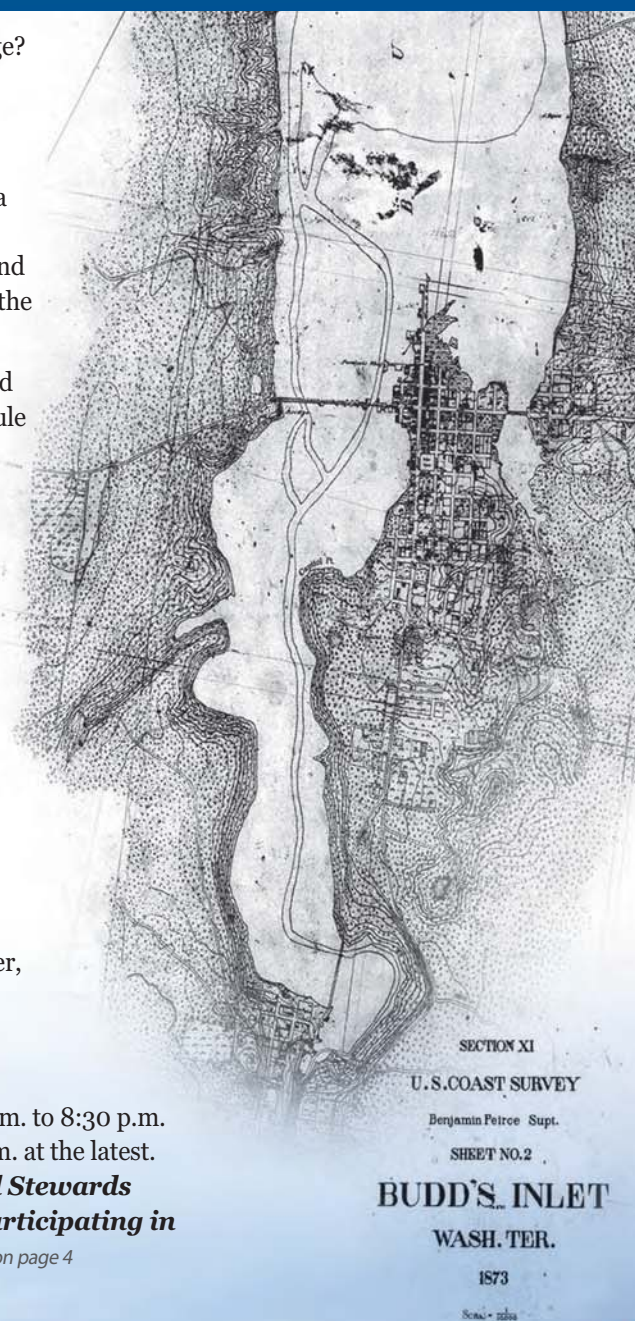
- Attend at least 4 out of the 5 classroom trainings
- Attend one practice walk (field class)
- Lead a minimum of 3 hikes between Memorial Day and Labor Day

## Classroom Training Schedule:

- March 14 South Sound Geology & Estuaries** Wendy Gerstel, Licensed Geologist; Rebecca Mullen from Harbor WildWatch
- March 21 What's Up with Budd? Water Quality of Budd Inlet** Mindy Roberts from Department of Ecology
- March 28 Deschutes/Budd Inlet People History** Ed Echtle, Historian
- April 11 Common Wildlife in and around Budd Inlet** David Jamison, Marine Biologist; Rachel Easton from Harbor WildWatch
- April 25 Stormwater in Downtown Olympia** Eric Christensen, Engineer, City of Olympia Stormwater Utility
- History and Current Issues Related to Capitol Lake** Nathaniel Jones from Washington State General Administration

All classroom trainings will be in the Olympia Center in Room 101-102 from 7 p.m. to 8:30 p.m. Individual classes may end earlier or go longer; although all classes will end by 9 p.m. at the latest.

**Space is limited to volunteers interested in volunteering for the Sound Stewards Program. If you are interested in hearing one of the topics, but not participating in Sound Stewards, please call Patricia to see if there is room.** ▷ continued on page 4





# SOUND STEWARDS

▷ continued from page 3

Optional learning opportunity:  
Visit the Squaxin Island Tribal  
Museum Library and Research Center,  
Washington State Capital Museum, and/  
or Bigelow House Museum on your own  
time. (Admittance vouchers available.)

Field classes that include on-site  
learning and practice walks will occur in  
May. Sound Stewards are only required  
to attend one practice walk; other field  
classes are optional.

Training includes a **free** *Sound  
Stewards Manual* and a *Puget Sound's  
Wildside* book. For more information, or  
to sign up, contact Patricia Pyle at [ppyle@ci.olympia.wa.us](mailto:ppyle@ci.olympia.wa.us) or 360-570-5841.



Courtesy Schiller Grounds Care

## Help Spring Your Lawn into Action the Healthy Way!

Spring is finally upon us. Spring blossoms are awakening and so are our lawns and gardens. When we think of our lawns, we do not often think about the importance of what lies beneath – the soil, water, worms, micro-organisms and nutrients. Each component is vital to the health of the grass that grows in the soil. Healthy soil encourages healthy roots. This, in turn, creates healthy lawns!

### Healthy Soils = Healthy Lawns

Many common lawn care activities can negatively impact the health of soil, which can make our lawns vulnerable to weeds and unwanted insects. Over watering, soil compaction, overuse of chemicals and ignoring soil health all have adverse effects on soil health. Over time, the soils in our lawns can become compacted from foot and vehicle traffic, leaving less room for oxygen and making it harder for water to soak into the soil. Grass roots have a difficult time growing in compacted soils, but some weeds can thrive in them. In addition, the use of pesticides and synthetic fertilizers can kill off beneficial micro-organisms that are essential for creating and maintaining healthy soil.

The good news is that it's easy to improve the health of your soil, and spring is a great time to jump-start the process!



### More than Just Dirt!

Did you know there are over  
4 billion micro-organisms in  
a teaspoon of healthy soil?





## Five Easy Steps To Healthy Soils and Healthy Lawns:

**1. Aerate:** Aerating your lawn removes small plugs of sod and soil, which improves root development by allowing air and water to infiltrate, or soak into the soil. Aeration is the most effective way to loosen up compacted and/or poorly draining soil. You can rent an aerator or hire a lawn care service to aerate for you.

**Tip:** You can leave the plugs on the lawn to decompose or, for a neater look, rake the plugs into a pile and compost them.

**2. Overseed & Top Dress with Compost:** After you aerate, overseed with a perennial rye/fine fescue grass seed mix designed for the Pacific Northwest and top dress with ¼ inch to ½ inch of fine compost. The compost will cover the seed and improve soil health by keeping the soil “spongy” and adding nutrients. If you like flowers, use a grass seed mix with white or red clover. The clover will add nitrogen to the soil to help the grass grow.

**3. Use a Slow-Release Organic Fertilizer:** If you are planning on fertilizing, you can apply a slow-release organic fertilizer prior to top dressing with compost.

Slow-release fertilizers rely on soil organisms and other processes to “release” nutrients at a rate at which the plants can use them. This makes it less likely that the nutrients will wash away. Typical synthetic fertilizers tend to force-feed lawns at rates that are too fast for lawns to fully absorb the chemical fertilizers. Excess chemicals are carried by stormwater into streams, lakes and Puget Sound often contributing to water quality problems, particularly in the warmer summer months..

**4. Use Your Grass Clippings to “Feed” Your Lawn.** The soil in your yard needs nutrients to grow healthy grass all throughout the growing season. An easy and no cost way to provide this nutrition is through “grass-cycling”. Each time you mow, leave the grass clippings on the lawn to provide free nutrients to your lawn. This will also help your soil store more water and stay nice and cool. Also, before you mow your lawn this spring, make sure to remove and sharpen the mower blade, which will make a “clean” cut of the grass blades to help prevent diseases. Next, adjust your lawn mower to cut your grass at a height of two inches. Mow the lawn and leave the clippings on the lawn.

**Studies Show:** It’s best to cut only 1/3 of the grass blade at a time. So, let your grass grow to a height of three inches, and then mow it at a height of two inches. Doing this will help stimulate and maintain healthy root growth.

**5. Just Say “NO” to Weed & Feed!** “Weed and feed” products combine quick-release fertilizer and weed killers. These products spread pesticides all over your lawn and often contain chemicals for pests and weeds that are not even present in the Pacific Northwest! In addition, the chemicals can kill the beneficial micro-organisms that help create healthy soil. It’s much more efficient, cost-effective and healthier for the environment to hand-pull weeds or if hand pulling is not an option, “spot spray” weeds. Weeds often thrive in nutrient-poor, compacted soils. So, the best way to combat weeds is to build healthy soil (See Steps 1 - 4).

### Invest Now for a Healthy Lawn All Year Long

By following these 5 steps to build and maintain healthy soil, your efforts will reflect in a greener thicker lawn! Healthy lawns grow deep roots, which will help to out compete weeds and keep grass green in summertime with less watering. This summer, you’ll spend less time raking your grass, less money on pesticides and more time enjoying your lawn. It may take a little time and energy on the front end, but the investment will be well worth it once you see the results!

### Resources for Creating and Maintaining Healthy Yards

You can view the following resources on Stream Team’s webpage at [www.streamteam.info](http://www.streamteam.info) or contact Thurston County’s **Common Sense Gardening Program** at 360-867-2674 or [www.co.thurston.wa.us/health/ehcsg](http://www.co.thurston.wa.us/health/ehcsg)

- *Grow Smart, Grow Safe: A Consumer Guide to Lawn and Garden Products*
- *The Common Sense Gardening Guide to Natural Lawn Care*
- *Fertilizer, A Common Sense Guide*
- *Weeds, A Common Sense Guide*

# Clean CARS Clean STREAMS



What do clean cars and clean streams have in common? The answer is water. When done *incorrectly*, the polluted rinse water that came off the dirty car can end up in local streams.

## What's the Problem With Washing My Car?

There's no problem with washing your car, but how and where you wash your car does matter. If you wash your car in your driveway or in the street, the grimy soapy water that washes off your car travels down the driveway and street and into the stormwater catch basin (stormdrain). Contrary to popular belief, this dirty wash water does not get cleaned at a wastewater treatment plant before it enters into the nearest stream, lake or Puget Sound.

Dirty car wash water contains toxic pollutants from the car and the soap. According to a recent study done on residential car washing in Federal Way\*, staff estimated that residents annually deposit 190 gallons of gasoline, diesel and motor oil, 400 pounds of phosphorous and nitrogen, 60 pounds of ammonia, 2,200 pounds of surfactants and 30,000 pounds of solid waste into the city's stormwater drainage system. These contaminants can harm fish and wildlife; and pollute streams, lakes and Puget Sound.

## How Can I Keep My Car and Streams Clean?

The best way to keep streams clean when you wash your car is to take it to a commercial car wash. The dirty water from commercial car washes is often pre-treated onsite and piped to a wastewater treatment facility. In addition, commercial car washes are better for the environment compared to using a hose at home because they use water-efficient equipment.

If you do wash your car at home, you can protect our streams by washing your car on the lawn (be careful not to park over your drinking well or septic

drainfield), where the dirty wash water can seep into the ground. Choose a low- or no-phosphate biodegradable car wash soap, and make sure you empty your wash buckets in sinks or toilets that are connected to the sanitary sewer system or pour the dirty wash water over your lawn.

## What About Charity Car Washes?

Charity car washes are intended to raise money for good causes, yet they are often unknowingly held at locations where the dirty wash water can run off into stormwater catch basins and eventually into our streams, lakes and Puget Sound.

There are options for raising money from a charity car wash that will keep our streams clean. The best alternative is to sell vouchers for commercial car washes. Many local commercial car wash businesses participate in the Puget Sound Car Wash Association's Car Wash Fundraiser Tickets or have their own offerings (such as free car wash bay, tickets, proceeds from a day of car washes) to assist local groups with fund raising. Find out more by contacting a local car wash business or go to [www.charitycarwash.org](http://www.charitycarwash.org)

The next best alternative is to make sure the site at which you plan to hold your charity car wash is a *Clean Cars, Clean Streams* site. A *Clean Cars, Clean Streams* car wash site is a site that has been pre-approved by staff at the local stormwater utilities. These sites offer appropriate water treatment, which help prevent polluted car wash water from contaminating streams. If you are planning a charity car wash, simply call one of the numbers listed below. Staff will help you determine which sites are approved sites, and they'll provide you with a **free** *Clean Cars, Clean Streams* Car Wash Kit. The kit includes a bucket, sponges, biodegradable non-toxic soap, hose nozzles and a *Clean Cars, Clean Streams* sign to show your customers that your group cares about water quality, too!



## Lawns act like a filter for car wash water.

Grass and other plants can absorb some of the chemicals and other contaminants in car wash water, thus reducing the amount of pollutants that could end up in the storm drain and our local streams, lakes and groundwater.



## To find a *Clean Cars, Clean Streams* approved site and to reserve a *Clean Cars, Clean Streams* Car Wash Kit, call:

City of Lacey . . . . . 360-438-2687  
City of Olympia . . . . 360-753-8346  
City of Tumwater . . . 360-754-4148  
Thurston County . . . 360-754-4681 ext. #4

\*Residential Car Washwater Monitoring Study, July 2009, Public Works Department, Surface Water Management Division. [www.cityoffederalway.com](http://www.cityoffederalway.com)



## Marine Wildlife of Puget Sound: The Amazing Fish and Invertebrates in Our Back Yard

When most people think of amazing underwater photography of cool marine organisms they think of tropical reefs in Hawaii, the Caribbean or the South Pacific. Yet, our own Puget Sound is home to a rich population of animals—from mild to wild—that you may not be aware of.

Join Stream Team for a free slide show presentation of Puget Sound underwater wildlife given by diver and photographer, David Jennings on Thursday evening, March 10th at 7 p.m. at the LOTT WET Science Center boardroom. David is an avid birder, wildlife watcher, scuba diver and underwater photographer. He is also currently a member of the Pacific Northwest Advanced Assessment Team for REEF (Reef Environmental Education Foundation)—which is an organization of recreational divers who conduct biodiversity and abundance surveys of fish and invertebrates during their dives. David helps conduct surveys from the Salish Sea down to Monterey Bay.

In addition to some eye-popping slides David has taken locally in Puget Sound, he also has some amazing images captured in the Strait of Juan de Fuca and the Olympic Coast National Marine Sanctuary. David will discuss some problems facing Puget Sound and other current marine conservation issues.

For 20 years, Stream Team volunteers have worked to improve streams and Puget Sound through hands-on activities, such as re-vegetation and storm drain marking. These actions help to protect Puget Sound. This talk will enable us to better understand the diversity and beauty of the wildlife that relies on a healthy Puget Sound and the greater Salish Sea.

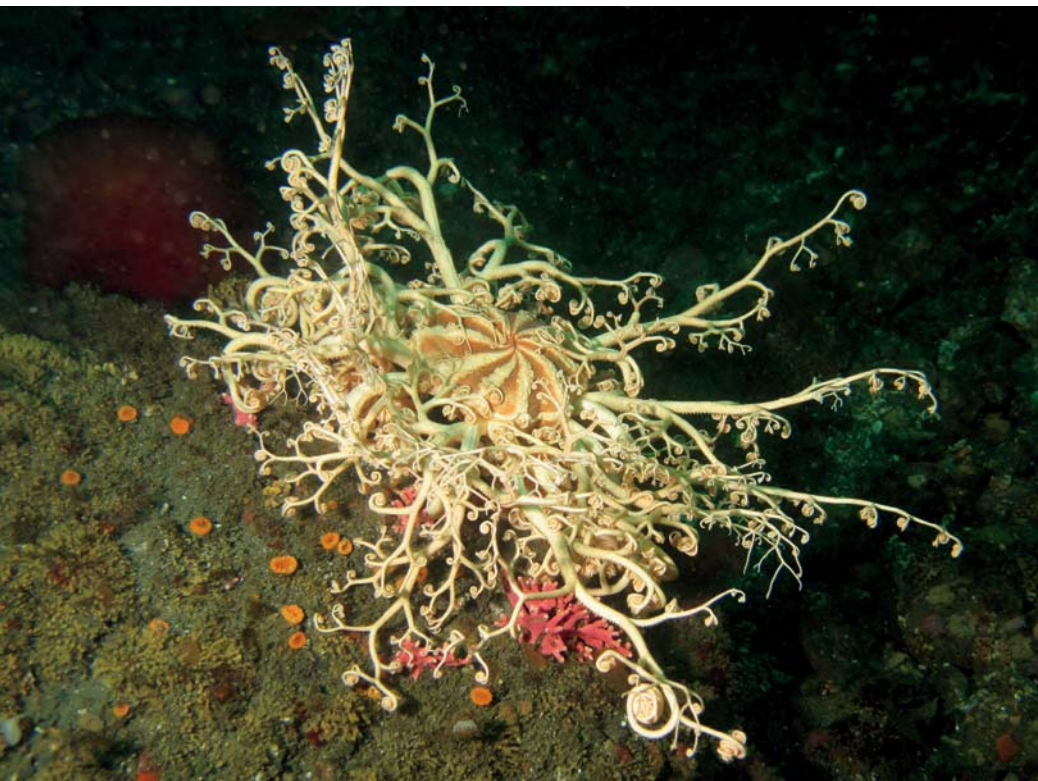


### The Salish Sea

Puget Sound is part of the larger Salish Sea. The Salish Sea stretches from Desolation Sound off the coast of Vancouver Island all the way south to Budd Inlet. It also includes the Straits of Georgia and Juan de Fuca.

### FREE SLIDESHOW: Puget Sound Underwater Wildlife

Thurs., March 10 • 7 p.m.  
LOTT WET Science Center



Photos Courtesy of David Jennings



## Spring Time Brings a Commonly Heard Amphibian: The Pacific Chorus Frog (*Pseudacris regilla*)

One of the first memorable signs of spring is the singing of frogs in the evening. The Pacific chorus frog, also known as the Pacific tree frog, is the most abundant frog species in the Pacific Northwest. These frogs come in many colors of greens and brown and have a characteristic black eye stripe. The adults grow to about one to two inches long. Sometimes as early as January, and through the month of May, you may hear frogs calling. During the peak of the breeding season, large numbers of male chorus frogs gather around our wetlands and ponds to sing for mates. These vocalizations are called “advertisement” calls, and their primary purpose is to attract females. As the male chorus frog calls, female chorus frogs will select their preferred mate. It is believed that female chorus frogs prefer males that make their “advertisement” call more frequently than other males.

Once the selection process is complete, females will swim into the water and lay eggs on pond vegetation and the male will fertilize the eggs. A single female can lay up to 1,250 eggs per year. Eggs are generally laid in clusters of 100 and take several days to hatch. Upon hatching, these tiny tadpoles are at risk of being a tasty meal to snakes, birds and fish. Evolution has resulted in multiple strategies for tadpole survival. Tadpoles can detect their predators and have defensive responses allowing them to escape, as well as the ability to detect if their pond is drying up, so that they can accelerate their development and metamorphose from tadpole to frog.

While the Pacific chorus frog has remained abundant over most of its range, declines in populations are being observed. These declines are due to the destruction of habitat and to the introduction of non-native or exotic species, such as bullfrogs and bass. These non-native species prey upon the native species as well as competing with them for food and habitat. The best way to protect the Pacific chorus frog is by protecting their habitat, which includes forests, streams and small ponds for breeding. Small ephemeral (seasonal) ponds provide good breeding habitat for chorus frogs while often excluding the non-native bullfrog. So, the little wet areas in your landscapes may be prime breeding ground for these tiny, but vocal native frogs!







## Frogs, Toads and Salamanders at Home and Abroad

Washington is home to 27 species of amphibians, including 14 salamanders (all native) and 11 native and two non-native species of frogs. Of the 25 native species of amphibians, two frog species are listed as endangered and six are listed for candidacy for state endangered species. Sadly, this decline in amphibians is not limited to the Pacific Northwest. Worldwide, amphibians are disappearing from streams, swamps, ponds and forests that used to teem with life.

There are 5,743 different species of amphibians reported in the wild. Since 1980, no one has seen 122 of these species and scientists now recognize that 1,856 species are threatened with extinction. In addition, 1,300 species are so rarely seen that they may be disappearing. Scientists attribute this worldwide decline to habitat loss, changing climates, disease outbreaks, invasive species and poisoning by pesticides and fertilizers. Some even liken the extinction of amphibians to the catastrophic extinction of the dinosaurs.

### You can help!

You can take action to help ensure the survival of amphibians. You can assist in invasive plant removal and habitat restoration projects, conserve water at home and school, use biodegradable soaps and detergents, use recycled products, practice natural lawn care (read the lawn care article on page 4), carpool, walk and bike as much as you can, buy local organic and pesticide-free foods and keep learning more about the natural world we all live in.

### If you come across an amphibian

If you come across a frog, toad, salamander or newt in the outdoors, there are a few simple things you can do to make it an enjoyable experience for both you and the critter you found. Please don't pick it up or touch it. Watch it quietly. You can tell more about an animal from watching it in its natural habitat than you can from struggling to control an unhappy captive one.

#### If you need to capture it, follow these tips:

1. Clean hands or use a small container. **Make sure you clean your hands off first of any lotions, chemicals or other foreign substances** that could be absorbed through the amphibian's skin and harm it. Most amphibians breathe and take in moisture through their skin as well as their lungs. Some have no lungs and only rely on their skin for respiration. (Remember it's best not to wash your hands in the water the amphibian is living in; use some from your water bottle.)
2. Keep your hands cool and moist, and handle the animal only as long as you need to identify it. Ideally, keep the animal only a few inches from the ground just in case it escapes your hand/container and falls to the ground.
3. When you are ready to release the critter, make sure the habitat is returned to the state you found it in, and release the animal next to the rock or log you found it under. Remember, put the rock down first, then the amphibian!

*Courtesy of Teal Waterstrat, WDFW*



# Attract Wildlife While Conserving & Protecting Water Resources

**Naturescaping for Water & Wildlife Workshop** Thurs., March 31 • 6 – 9 p.m. • Lacey

**Naturescaping Field Class** Sat., May 7 • 10 a.m. – 4:30 p.m. • Olympia

Learn how to turn your yard into a lovely year-round landscape that attracts birds, butterflies and amphibians with beautiful plants that requires little watering and helps protect our water quality. **Choose one of two classes:** an evening workshop on March 31 or an all-day field class on May 7 with more material and site visits to local landscapes. For the May 7 field class, a morning classroom session will be followed by site visits to local gardens. Bus transportation will be provided.



## Both workshops will cover:

- Water-wise ideas for your landscape
- Keys to attracting birds, butterflies, beneficial insects and amphibians
- Easy ways to minimize lawn space
- How to solve drainage issues with on-site stormwater management
- Planting for four-season interest
- Landscaping for tricky areas like slopes
- How simple landscape changes can save you time and money

Erica Guttman, of the WSU Native Plant Salvage Project, will teach both classes. She will be joined by Linda Andrews, owner of Patterns in Nature Landscape & Design for the more extensive field class on May 7. Both instructors bring decades of professional experience in horticulture and botany, plus a passion for protecting water and creating wildlife habitat.

Registration is required, and space is limited. For more information or to register, contact WSU Native Plant Salvage Project at 360-867-2166 or [nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

*Co-sponsored by Stream Team and WSU Native Plant Salvage Project.*

## Let It Soak In: **FREE Rain Garden Design Workshop**



**Choose from  
two locations:**

**Thurs., April 28 • 6:30–8:45 p.m. • Tumwater**

**Thurs., May 19 • 6:30–8:45 p.m. • Olympia**

Rain gardens provide natural beauty, food and habitat for wildlife, and they help improve water quality. A rain garden is a shallow depression that can be shaped and sized to fit your yard and planted with a variety of flowers, shrubs and grasses. Rain gardens act like a native ecosystem by collecting, absorbing and filtering stormwater runoff from rooftops, driveways, patios and other impervious surfaces that do not allow rainwater to soak in around our homes.

Join us for a free, hands-on workshop to learn how to add one of these lovely features to your yard. The workshop will give you all the details you need to design and install a beautiful rain garden that will manage your home's stormwater drainage while protecting our local water resources.

Participants will receive a FREE, full-color rain garden poster and a FREE copy of WSU's "Rain Garden Handbook for Western Washington Homeowners." Those interested in learning more can join us for a **rain garden installation field day** in early summer for hands-on learning and practice!

Workshops are FREE. Advanced registration is required. For more information, or to register, contact WSU Native Plant Salvage Project at 360-867-2166 or [nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

*Co-sponsored by Stream Team and WSU Native Plant Salvage Project.*



**Rain Garden Installed in Olympia**





Urban Moxlie Creek at low tide emptying into Budd Inlet at East Bay.

### Moxlie Creek Watershed:

- Total watershed is 1,560 acres
- Avg. 27% impervious surfaces (above 10% begins to impair receiving stream)
- Avg. 41% tree canopy
- Watershed Park is 153 acres

### Moxlie Creek is:

- Artesian spring fed; springs originate in Watershed Park
- Only 1.85 miles long; 3,200 feet of the creek is piped under Chestnut Street in downtown Olympia.

## Featured Stream: Moxlie Creek

The best place to see Moxlie Creek is on the loop trail in Watershed Park. Moxlie Creek starts out as an artesian spring at the southern end of the park. As it flows through the park northward towards Budd Inlet, the creek is joined by more springs and groundwater from the forested wetland. After leaving the park, the creek is piped under I-5, through the City of Olympia's Maintenance Yard, then under and along the side of Henderson Blvd. Indian Creek joins Moxlie Creek just before the intersection of Plum Street and Union Ave. Both creeks are piped under Union Avenue and northward 2/3 mile to East Bay. Inside the 6 foot pipe, Moxlie Creek is joined by a network of stormwater pipes that carry the runoff from the roads, parking lots and roof tops from downtown Olympia. At East Bay, the pipe discharges the ancient artesian fresh water, Indian Creek, and today's polluted runoff into Puget Sound.

The mouth of Moxlie Creek used to enter Budd Inlet near Plum and Union. So what happened that led to the creek being piped under downtown Olympia? In 1911,

the wish of citizens to improve shipping was finally realized when Budd Inlet was dredged to make deeper water closer to land and the docks. Prior to the dredging, shipping was limited because of the mud flats (imagine Mud Bay in downtown Olympia). Two million cubic yards of mud was scooped out of Budd Inlet and spread over Swantown Slough, covering the pocket estuary. According to reports, "29 new city blocks" were created with the dredge material. The new Olympia City Hall is located on the former mud flat of Swantown Slough, next to a wooden bridge that was a popular swimming spot for young boys (See the 1873 Coast Guard map on page 3).

Filling in the estuary and piping Moxlie Creek underground was considered progress in 1911, while the resulting impact on wildlife habitat and water quality was not taken into account. At the same time, artesian wells, located in what is now Watershed Park, were being pumped for city drinking water. By 1950, the wells were no longer in use. In 1955, the City Commission decided to log the property

and sell the land for development. Ultimately, the land was saved by citizen action and a special election; although it was not until the 1970's that the land was designated as parkland and the popular loop trail was constructed.

Within Watershed Park, a 36 inch stormwater pipe carries stormwater runoff from the Olympia High School neighborhood. Moxlie Creek has typical urban water quality problems from an excessive amount of stormwater during rain events that scours the streambed and adds pollutants to the creek. Thurston County Environmental Health takes monthly water samples at the mouth of Moxlie at East Bay. Stream Team volunteers collect macroinvertebrate samples within the park in the summer to help monitor the biological health of the creek. Salmon are occasionally spotted in the creek, but the stream does not have a native salmon population.

For Water Quality information on Moxlie Creek, visit <http://www.co.thurston.wa.us/health/ehswat/swater.html>





## Volunteering Has Its Rewards

Volunteering for Stream Team not only brings the personal satisfaction of taking action to protect our local water resources and wildlife habitat, it can also bring rewards in the form of Stream Team Kudos items. Pick up one of the new Stream Team Kudos Cards at one of the upcoming Stream Team events to start tracking your hours to earn Stream Team rewards. Hours can be redeemed for cool Stream Team gear, including a new stainless steel water bottle!

The new Stream Team Kudos Card makes it easy to track your volunteer hours. Just have the Stream Team Coordinator at the event mark the number of hours you volunteer on your Kudos Card. Keep the card in your wallet, and bring it to each Stream Team event when you volunteer. Turn your card in after just a few hours and receive a reward, or hold onto your card until you accumulate more hours to receive a larger reward. It's up to you!



### ***KUDOSCARD*** REWARDS:

- |   |   |
|---|---|
| <input type="checkbox"/> <b>5 Hours</b> = Patch                                 | <input type="checkbox"/> <b>10 Hours</b> = T-Shirt (short sleeved)                    |
| <input type="checkbox"/> <b>15 Hours</b> = Ball Cap or Knit Beanie Cap          | <input type="checkbox"/> <b>20 Hours</b> = Travel Mug or Stainless Steel Water Bottle |
| <input type="checkbox"/> <b>25 Hours</b> = T-Shirt (long sleeved) or Sweatshirt | <input type="checkbox"/> <b>30 Hours</b> = Fleece Vest                                |



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K... CO...

***Calling all***

Stream Team  
artwork to  
Up Here  
Olympia  
April. See  
**details!**

A horizontal number line with five equal segments. The first segment is labeled 10, and the second segment is labeled 7.

|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|

A horizontal bar divided into 7 equal segments. The number 4 is written below the first 4 segments.

A horizontal number line with 6 vertical tick marks, creating 5 equal segments. The number 5 is written below the rightmost tick mark.

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

|   |   |   |
|---|---|---|
|   |   |   |
| 1 | 2 | 3 |

|   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|----|
|   |   |   |   |   |   |   |    |
| 4 | 5 | 6 | 7 | 8 | 6 | 9 | 10 |

**Calling all young artists!**

Stream Team is looking for YOUR artwork to display at the "Wind Up Here" store in downtown Olympia during Arts Walk in April. **See the back cover for details!!**

## Shrimp's hearts are in their heads

## Sea stars can turn their stomach inside out

## Fish are the only vertebrates that outnumber birds

The world's largest amphibian is the giant salamander.  
It can grow up to 5 feet in length!

Answers to the Word Scramble: 1.Volunteer 2.Kudos 4.Educate 5.Protect 6.Restore 7.Friends 10.Salmon 11.Classes 12.Fun 13.Spring Secret Message: Get Involved

Answers to the puzzle in the winter issue: ACROSS 1.PS 2.Workshops 4.Fall 5.Drain 6.Riparian 7.Trees 10.Marine 11.Mulch 12.Steward 13.Stormdrains 14.Spring 15.Native 16.King DOWN 1.Planting 2.Weeding 3.Macro monitoring 7.Tidelands 8.Summer 9.Chum





# Stream Team Events ▽

## MARCH

## APRIL

## MAY

Directions to all tree planting events and Waiver of Liability Forms are available on our website at [www.streamteam.info](http://www.streamteam.info)

### Marine Wildlife of Puget Sound

**Thurs., March 10 • 7 p.m.**

LOTT WET Science Center Boardroom  
500 Adams St., NE, Olympia

### McLane Creek Nature Trail Work Party ♥

**Sat., March 12 • 10 a.m. – Noon**

McLane Creek Nature Trail.

Contact Ann Marie @ 360-754-3355 x6857  
or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Woodard Creek Tree Planting ♥

**Sun., March 13 • 1 – 3 p.m.**

Olympia

For directions or to register, contact Ann  
Marie @ 754-3355 ext. 6857 or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Naturescaping Workshop ♥

**Thurs., March 31 • 6 – 9 p.m.**

Lacey. Registration required.

Contact Native Plant Salvage Project  
@ 360-867-2166 or [nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

### Tumwater Falls Spring Salmon Event

**Sat., April 3 • Noon – 4 p.m.**

Celebrate the release of juvenile salmon.

Volunteers are needed for the Stream Team  
booth. Contact Debbie @ 360-754-4148  
or [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us)

### Rain Gardens Workshop ♥

**Thurs., April 28 • 6:30 – 8:45 p.m.**

Tumwater. Registration required.

Contact Native Plant Salvage Project  
@ 360-867-2166 or  
[nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

### McLane Creek Nature Trail Work Party ♥

**Sun., April 10 • 1 – 3 p.m.**

**Sat., April 30 • 10 a.m. – Noon**

McLane Creek Nature Trail.

Contact Ann Marie @ 360-754-3355 x6857  
or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Naturescaping Field Class ♥

**Sat., May 7 • 10 a.m. – 4:30 p.m.**

Olympia. Registration required.

Contact Native Plant Salvage Project  
@ 360-867-2166 or  
[nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

### McLane Creek Nature Trail Work Party ♥

**Sun., May 15 • 1 – 3 p.m.**

McLane Creek Nature Trail.

Contact Ann Marie @ 360-754-3355 x6857  
or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Rain Gardens Workshop ♥

**Thurs., May 19 • 6:30 – 8:45 p.m.**

Olympia. Registration required.

Contact Native Plant Salvage Project  
@ 360-867-2166 or  
[nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

## Sound Stewards Classroom Training Dates

♥ Read more about the Sound Stewards Program on Page 3.

All classroom trainings will be in the Olympia Center in Room 101-102 from 7 to 8:30 p.m.  
Space is limited to volunteers interested in volunteering for the Sound Stewards Program.

### MONDAYS:

#### March 14 South Sound Geology & Estuaries

Wendy Gerstel, Licensed Geologist; Rebecca Mullen from Harbor WildWatch

#### March 21 What's Up with Budd? Water Quality of Budd Inlet

Mindy Roberts from Department of Ecology

#### March 28 Deschutes/Budd Inlet People History

Ed Echtle, Historian

#### April 11 Common Wildlife in and around Budd Inlet

David Jamison, retired Marine Biologist; Rachel Easton from Harbor WildWatch

#### April 25 Stormwater in Downtown Olympia

Eric Christensen, Engineer, City of Olympia Stormwater Utility

#### History and Current Issues Related to Capital Lake

Nathaniel Jones from Washington State General Administration



**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.





# Community Events ▽

## MARCH

### **Native Plant Salvage**

**Sun., March 20 • 9:30 a.m.**

Registration required. Contact Native Plant Salvage Project @ 360-867-2166 or [nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com)

## APRIL

### **Stormwater Pond Workshops**

**Sat., April 16 • 9 a.m. – Noon**

Tumwater City Hall, 555 Israel Rd. S.W.

**Wed., April 20 • 6:30 – 8 p.m.**

Lacey City Hall, 420 College St. S.E.

Learn how to maintain your neighborhood stormwater pond at this free workshop. Well-maintained ponds help prevent pollution, flooding and erosion.

To register for the workshop in Tumwater, contact Chris Maun at 360-754-3355x6377 or [maunc@co.thurston.wa.us](mailto:maunc@co.thurston.wa.us)

To register for the workshop in Lacey, contact Erin Keith at 360-438-2687 or [ekeith@ci.lacey.wa.us](mailto:ekeith@ci.lacey.wa.us)

### **Procession of the Species**

**Friday, April 22 • 9:30 p.m.**

*Luminary Procession*

**Saturday, April 23 • 4:30 p.m.**

*Procession of the Species*

Downtown Olympia. For more information go to [www.procession.org](http://www.procession.org)

## MAY

### **Black Lake Meadows**

#### **Bird Walk**

**Sat., May 7**

Olympia. This walk is part of the Bird-A-Thon sponsored by Black Hills Audubon Society.

Contact Sheila McCartan @ [schooleymccartan@comcast.net](mailto:schooleymccartan@comcast.net) or 360-951-7251 for more information.

### **Master Gardener Foundation's 19th Annual Plant Sale**

**Sat., May 14**

**9a.m. – 4 p.m.**

Dirt Works @ Yauger Park, Olympia. Includes a wide variety of plants (including native and water-wise plants), tool sharpening and composting demo's.

Contact 360-867-2163 or visit [www.mgftc.org](http://www.mgftc.org) for more info.

### **Lacey Spring Fun Fair**

**Sat., May 21**

**& Sun., May 22**

Saint Martin's University, Lacey. Two days of fun for the whole family! FREE Kidsworld activities, arts, crafts, entertainment, vendors and food concessions.

[www.laceyspringfunfair.com](http://www.laceyspringfunfair.com)

## JUNE

### **SAVE THE DATE!**

### **Sea Cinema Film Festival**

**June 3 & 4 • 6 p.m. – Midnight**

Celebrate World Oceans Day locally with the Sea Cinema Film Festival. 15 FREE films on marine life and oceans, including **Oceans** from DisneyNature. Capital Theatre 206 5<sup>th</sup> Avenue, SE Olympia. For more information go to [www.seacinema.org](http://www.seacinema.org) or contact Gabby at 360-754-9177 ext. 162.

**June 4:**

**10 a.m. Olympia Historic Shoreline Marking Event \***

**11 a.m. Olympia Historic Shoreline Walk**

**TBD Sea Cinema Block Party in front of the Capital Theater**

The Sea Cinema Block Party is a FREE Family-Friendly block party in celebration of World Oceans Day. Includes live music, arts and crafts, hands-on activities, live marine critter touch tank and more! Go to [www.seacinema.org](http://www.seacinema.org) for more info.

\* Meet at Sylvester Park, located at the corner of Capital and Legion Ways SE

## ANY TIME

### **Looking for a FREE Family-Friendly Educational Activity?**

#### **Visit the WET Center! LOTT's new Water Education and Technology Science Center**

**500 Adams Street NE, Olympia**

The WET Science Center offers interactive exhibits to learn about water with special hands-on activities on Saturdays. The center is open **Monday through Saturday, from 10 a.m. – 4 p.m. Admission is FREE!**

For more information contact Susie @ 528-5742 or visit [www.lottcleanwater.org/education](http://www.lottcleanwater.org/education)





# Stream Team

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

929 Lakeridge Dr SW  
Olympia, WA 98502  
[www.streamteam.info](http://www.streamteam.info)

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## CALLING ALL YOUNG ARTISTS!

**Are you passionate about your local streams and Puget Sound?  
Want a chance to show your creative work?**

**WHO:** All young artists (up to 18 years)

**WHAT:** Stream Team is looking for artwork to display at the Wind Up Here store in downtown Olympia during Arts Walk (April 22-24)

**WHEN:** Artists are encouraged to submit their posters to Stream Team  
**BY APRIL 1, 2011**

You can meet other young Stream Team artists and create your piece of art at our FREE workshop (see below) or simply submit your work to Stream Team by the submission date listed above.

**THEME:** *How can we work together to keep our streams, lakes and Puget Sound clean?*

### WORKSHOP:

**Sat., March 26, 10 a.m. – 2 p.m.**

Procession of the Species Art Studio, 311 Capitol Way (in the alley)

To register or to make arrangements to submit your work,  
contact Michelle at (360) 753-8336 or [mstevie@ci.olympia.wa.us](mailto:mstevie@ci.olympia.wa.us)



# Get Involved WITH STREAM TEAM!

[www.streamteam.info](http://www.streamteam.info)