

# Stream Team

## NEWSLETTER

Olympia • Lacey • Tumwater • Thurston County

**FREE**



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Sept-Oct-Nov 2011

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**ON THE COVER:** Stream Team volunteer, Andrew Davis peers into a shellfish while visiting Henderson Inlet. Photo taken by Rhonda Davis.

# Volunteers Needed!

## Get Involved WITH STREAM TEAM!

- **Get on our email list** to receive weekly emails with upcoming events and the electronic version of this newsletter! Send an email request to [Streamteam@ci.lacey.wa.us](mailto:Streamteam@ci.lacey.wa.us) and we will add you today! (Your email will not be shared with anyone outside of Stream Team).
- **Receive this quarterly newsletter** in your mailbox by sending your name and mailing address to [Streamteam@ci.lacey.wa.us](mailto:Streamteam@ci.lacey.wa.us).
- **Visit [www.streamteam.info](http://www.streamteam.info)** to learn about upcoming events and volunteer opportunities!

### 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

#### 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:

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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.





## FREE Henderson Inlet Watershed Tour

**Sun., Sept. 18 • Noon – 4 p.m.**  
**Pre-Registration Required**

Join Stream Team as we take a close, personal look at the Henderson Inlet Watershed.

Climb aboard a deluxe tour bus and visit several sites to learn about potential impacts to the watershed and innovative ways of dealing with

those impacts. The tour will visit a regional stormwater facility, local small farming operation, and the day will end at a local Community Shellfish Farm. We will enjoy fresh shellfish samples and hear about how small shellfish play a huge role in protecting water quality.

At each site, we will learn from local experts. These professionals will offer an in-depth perspective on the challenges of stormwater pollution and its effect on our water resources.

This popular tour fills up fast! We have limited space, so please register early. For more details, or to register for this free tour, please contact Laura Huron at [streamteam@ci.lacey.wa.us](mailto:streamteam@ci.lacey.wa.us) or 360-438-2672.

## Nisqually Watershed Festival

**Sat., September 24**  
**10 a.m. – 4 p.m.**

**FREE Family Event**

**Nisqually Wildlife Refuge**

*(Located off of I-5 at Exit 114)*

This year's festival includes numerous exciting entertainment acts, educational activities and exhibits for kids of all ages.

The main stage will feature reptiles, birds, music and dancing. The Red Salmon Story Tent will be back along with the Drain Dare trailer and Fin, the Wild Olympic Salmon. There will be activities and exhibits from many conservation-minded agencies and organizations including fish printing, plywood fish painting, a touch tank and much, much more.

Bring your appetite; the famous Nisqually Salmon Bake will be on the grill again this year. This event is **FREE**, except for the food, so come out and celebrate the Nisqually Watershed.

**If you would like to help volunteer at Stream Team's booth or with the Drain Dare, contact Chris Maun at 360-754-3355 ext. 6377 or [maunc@co.thurston.wa.us](mailto:maunc@co.thurston.wa.us)**

### Did you know?

The Nisqually is the only watershed in the United States with its headwaters in a national park (Mt. Rainier NP) and its delta in a national wildlife refuge. Along its 78-mile course, the glacial river traverses forested, mountainous terrain and rolling farmlands in three counties, several small towns, the Nisqually Indian Reservation and the Fort Lewis Military Reservation before it enters Puget Sound.

**Volunteers Needed!**

## STREAM TEAM VOLUNTEER OPPORTUNITIES

*See more events on page 15*

**NISQUALLY WATERSHED FESTIVAL**, Saturday, September 24.

Sign up for any 2-hour shift between 10 a.m. and 4 p.m.

Contact Chris Maun at [maunc@co.thurston.wa.us](mailto:maunc@co.thurston.wa.us) or 360-754-3355 ext. 6377.

**RETURN OF THE CHINOOK SALMON**, Sunday, October 2.

At Tumwater Falls Park. Sign up for any 2-hour shift from Noon to 4 p.m.

Contact Debbie Smith at [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us) or 360-754-4148.

# salmon



PINK  
spawning phase



PINK  
searun phase

## When and Where to See Salmon

Every fall, we can delight in watching the return of the adult Chinook and chum salmon from the Pacific Ocean to their natal rivers and streams to spawn. This year, you can also enjoy viewing the pink salmon, which return to Washington rivers and creeks in odd years on a two year life cycle.

SALMON	WHEN	STREAM	VIEWING LOCATION
Chinook	September	Deschutes River*	Tumwater Falls Park
Pink	September	Mashell River**	University of Washington Pack Forest
Pink	September	South Prairie Creek	Veteran's Park in Town of South Prairie
Chum	November	Kennedy Creek***	Kennedy Creek Trail
Chum	November	McLane Creek*	McLane Creek Nature Trail

\* These locations will be staffed with knowledgeable Stream Team Salmon Stewards on most weekend days from 11 a.m. – 3 p.m. Tumwater Falls will also be staffed most weekday evenings.

\*\* Nisqually River Pinks are best viewed in the Mashell River tributary. Estimated return of pink salmon to the Nisqually River system is between 120,000 to 350,000 adults. To view pinks at the University of Washington Pack Forest enter the gate for 200 Road, near the junction of Highways 161 and 7. Do not park in front of the gate. A trail map can be found at [www.packforest.org/education](http://www.packforest.org/education)

\*\*\* For more information: [www.masoncd.org/Kennedy](http://www.masoncd.org/Kennedy)

## Pink Salmon (*Oncorhynchus gorbuscha*)

**Other names:** humpy, humpback salmon

**Average size:** 3-5 lbs., up to 12 lbs.

Male pink salmon develop a large hump on their back during spawning, hence the nickname humpback salmon. This is the smallest of the fall-spawning Pacific salmon. Pink salmon spawn in two year cycles. In Washington, pink salmon runs mainly occur in odd-numbered years.

**SPAWNING** - Pinks use the lower reaches of large rivers and some tributaries, often very close to saltwater. Because their fry move directly to sea after emerging, the closer they spawn to saltwater the better. The shorter journey reduces predation and increases survival. Sometimes pink salmon spawn right in saltwater, avoiding freshwater altogether.

Pinks have a very regular life history, living for nearly two years in salt water before returning to spawn the next generation. This is why pink runs in Washington only occur every other year; there are no one-year-old or three-year-old fish to establish runs in the other years.

**REARING** - As mentioned, pink fry do not rear in freshwater. Immediately after emerging, they move downstream to the estuary and rear there for several months before heading out to the open ocean. Because of this, pink fry have no spots (parr marks), which provide camouflage for other species in streams, but are bright chrome and ready for open water.

*Pink life cycle information from Washington Department of Fish and Wildlife web site.*



## Viewing Salmon with Respect

Please stay off private property. Be safe if stopping next to the road or at bridge crossings. Do not disturb spawning salmon. Stay back from the stream side, be quiet and observe this amazing feat of nature. Keep dogs at home or in the car, so fish are not spooked and redds are not disturbed. If you must bring the dog along, keep the dog on a leash and by your side away from the stream. Spawning salmon are a host to a microorganism that can be fatal to dogs. Even after spawning is over, salmon carcasses and the soil around them can still host the toxic microorganism.





CHUM  
spawning phase



CHUM  
searun phase



## Welcoming Home the Chum Salmon to McLane Creek

Whether you are new to the area or have lived here for years, it is always a sight worth seeing to view the chum salmon spawning in McLane Creek at the McLane Creek Nature Trail. The nature trail is located off of Delphi Road. A short walk along the trail, past the beaver pond and through an array of native trees and shrubs, will take you to the creek where the big and colorful chum return to spawn every fall. With their dark purplish-black coloring, they are truly a magnificent sight to see as they dig their nests and vie for optimal spawning positions.

Every year, Stream Team trains Salmon Steward volunteers to greet people walking along the nature trail and answer questions people may have about this wild, native run of chum salmon. The chum return to spawn in early November through mid-December, once the rains have helped the water levels to rise. Look for a Salmon Steward at the viewing deck located near the creek on the weekends in November and early December. For more information, contact Ann Marie at [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us) or 360-754-3355 ext. 6857.

*Note: the McLane Creek Nature Trail is part of the Capitol State Forest and is a WA State Dept. of Natural Resources (DNR) Recreation Site. Beginning July 1, 2011, vehicles will need to display a Discover Pass when visiting state recreation lands managed by the WA State DNR and WA Dept. of Fish & Wildlife. For information about how to purchase a \$10 day pass or \$30 annual pass, visit [www.discoverpass.wa.gov](http://www.discoverpass.wa.gov)*

### Salmon Important in Norse Culture, Too

Salmon appear not only as important characters in the Native American origin stories but are featured in other cultures of the world as well.

In Norse mythology, when Loki (the god of mischief, trouble and strife and a shape shifter) tricked Hod (blind god, a son of Odin) into killing Baldr (god of light and beauty), Loki jumped into the river and transformed himself into a salmon in order to escape punishment by other gods. When Loki, in his salmon form, attempted to leap over a net intended to capture him, Thor grabbed him by the tail with his hand. And, this is why the salmon has a tapered tail to this day.

## Test Your Knowledge About Chum Salmon!

Chum salmon are amazing fish with specific, unusual and fascinating life traits, which differentiate them from other species of Pacific Salmon.

### True or False:

1. Chum salmon reside in their steam of birth for longer than any other species of Pacific salmon.
2. Chum salmon are the most widely distributed species of Pacific salmon.
3. Chum salmon are strong jumpers and can easily leap barriers such as fallen logs, cascades and waterfalls.
4. Chum are poor migrators. They travel short distances in salt water.
5. Chum are also known as dog salmon due to the strong canine-like jaws that mature males develop.
6. The fossil record indicates that chum salmon were present on earth six million years before present.
7. Less dominant "satellite males" are pushed to the side by bigger, stronger dominant males and almost never successfully fertilize the eggs that females deposit in the nests that they excavate in the streambed gravel.
8. Chum are listed as a threatened species in Puget Sound.
9. The Nisqually River features the latest chum salmon run on the west coast.

**Answers on page 13.**





## Fall is Ideal Planting Time

When many people think of planting, they think of spring, but fall is an even better time to add new shrubs and trees to our landscapes. In the fall, the soil is still warm from the summer, which encourages root growth. Roots continue to grow through the winter, at least until the ground freezes. Trees and shrubs planted in the fall have an advantage over those planted in the spring because they have more time to adjust before the hot summer months. Fall-planted roots grow faster, and the plants become established more quickly.

Our rainy Pacific Northwest fall and winter seasons provide an ample amount of water to help the new plantings get established. Cooler weather also means fewer pest and disease problems, as well as less competition from weeds. By the time summer finally arrives, the fall-planted shrub or tree is far better equipped to deal with heat and drought, largely due to its well-established root system.

Fall is also a great time to get involved with Stream Team at one of our many streamside planting projects. Come join us in protecting our local water resources at one of these fun projects!



**Inspired  
to put some  
native or drought  
tolerant plants in  
your yard?**

A large variety of plants will be for sale at the annual **“Water-Wise” Plant Sale** held by the Native Plant Salvage Foundation on October 2. The WSU Extension office is located at 5033 Harrison Avenue NW in Olympia. Come early for the best selection! Experts will be on hand to help you select plants for the site conditions in your yard. For more information go to [www.nativeplantsalvage.org](http://www.nativeplantsalvage.org)



## Fall Planning Tips

### Naturescaping for Water & Wildlife Workshop

**Thurs., November 3 • 6 – 9 p.m.  
Tumwater**

Fall is an ideal time to do some research and make plans for your lawn and garden. If you are interested in learning how to turn your yard into a lovely year-round landscape that attracts birds, butterflies and amphibians, then this workshop is for you. Attend this **FREE** workshop to learn:

- Planting for four season interest
- Landscaping for tricky areas like slopes
- Easy ways to minimize lawns
- Water-wise ideas for your landscape
- How simple landscape changes can save you time and money

Erica Guttman, WSU Native Plant Salvage Project, will teach the class. Registration is required, and space is limited. To register, or for more information, contact [nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com) or 360-867-2166.

### Fall Planting Projects

**Sat., October 8 • 10 a.m. – Noon  
Percival Creek at Sapp Rd., Tumwater**

Contact Debbie @ 360-754-4148  
or [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us)

**Sat., September 10 • 10 a.m. – Noon  
Allen Creek Planting @ Scott Lake, Olympia**

Contact Ann Marie  
@ 360-754-3355 ext. 6857 or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Yelm Creek Tree Planting

**Sun., October 9 • Noon – 2 p.m.**

Contact Ann Marie  
@ 360-754-3355 ext. 6857  
or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Spurgeon Creek Tree Planting

**Sun., October 16 • Noon – 2 p.m.  
Circle Hawk Farm near Rich Rd.**

Contact Ann Marie  
@ 360-754-3355 ext. 6857  
or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)



# Why do YOU Volunteer?



## Ask Josie Coury.

*Josephine Rose Coury graduated from Capital High School in June and plans to attend Dartmouth College in September. She is a full IB diploma candidate and plans to major in Pre-Medicine and Music. In addition to Stream Team, while a high school student, Josie was also involved in orchestra, debate, Capital Lakefair, student leadership, swim team and a number of other activities.*

**Q When and why did you get involved in Stream Team?**

**A:** I first saw a pamphlet for Stream Team when I was eating breakfast at New Moon Café about two years ago. I thought it seemed like an interesting program and decided it would be fun to get involved.

**Q What kinds of activities have you done with Stream Team?**

**A:** I have planted trees and also helped maintain existing tree planting sites.

**Q Do you think these activities are important?**

**A:** Our environment is always important and should be taken care of! Something as simple as planting new trees can significantly improve and assist our local ecosystem.

**Q Do you have a favorite activity or time?**

**A:** My favorite was when we were planting baby trees by a creek, and the rain began to pour down. It was a hot day, and I'll never forget how refreshing and invigorating the precipitation felt!

**Q Why is it important for young people to be involved in activities that help our environment?**

**A:** Well, it is important to get active in one's community, and the environment is one of the best and most rewarding ways. We can't just take from nature and never take the time to give back.

## What to Expect at Your First Stream Team Planting Event

- A Stream Team Coordinator will meet you at the site, where you will sign the registration form and Waiver of Liability\*.
- You will then be shown what needs to be done and how to do it.
- Tools and gloves are provided for all volunteers, though you are welcome to bring your own if you prefer.
- Bring a water bottle to keep hydrated while you work.
- Stream Team revegetation events occur rain or shine, so dress for the weather and always wear sturdy shoes or boots.
- There are no bathrooms available at most project sites, so you should plan ahead.

\* Volunteers under the age of 13 must be accompanied by a parent or guardian. Volunteers under the age of 18 must have the Stream Team Waiver of Liability signed by a parent or guardian. The Stream Team Waiver is available at [www.streamteam.info](http://www.streamteam.info)





Stream Team volunteers plant native shrubs along the Deschutes River in Tumwater.

# A River Flows Through It

## Thurston County's Deschutes River

The Deschutes River is the only stream flowing almost entirely within Thurston County into Puget Sound that is large enough to be called a river. Although smaller and less famous than the similarly named river in Oregon, the Deschutes River in Thurston County runs 57 miles from its headwaters in Lewis County, past Rainier and through Tumwater, until it reaches Budd Inlet in South Puget Sound. It drains a total area of 162 square miles.

Thurston County owns park land, including Deschutes Falls Park, in the upper Deschutes. This property has a spectacular view of a waterfall and unique rock formations. Unfortunately, the park is closed to the public at this

time. Much of the upper Deschutes is characterized by forest and timber land, including land owned by Weyerhaeuser. The middle Deschutes is home to many small farms. The lower Deschutes is mostly urban, with the mouth flowing into the man-made Capitol Lake before it enters Puget Sound via Budd Inlet.

The name "Deschutes" comes from the French for "of the falls." The series of falls along the river have played an important role in the human settlement of the area. The first human inhabitants of the area were native Coastal Salish groups. The ancestors of what is now known as the Squaxin Island Tribe used the lower end of the Deschutes River and Budd Inlet to harvest salmon and shellfish.

The oldest permanent American pioneer settlement in Washington was in Tumwater. In 1845, Michael T. Simmons led the first group of settlers to Tumwater Falls. The city was named New Market. The city's early growth was influenced by the close proximity to the power-generating falls of the Deschutes River, nearby saltwater access and abundant timber.

Another pioneer in the Simmons party, George Bush, a free black man, led a second group south to the prairie area surrounding the middle Deschutes. The decision of the group to settle north of the Columbia River was made in part because an Oregon law prevented black people from owning land.



Though Washington was still a part of the Oregon Territory, the ban was not enforced north of the Columbia River.

Early American settlers used the power of the falls on the lower Deschutes to mill lumber, when a wooden dam was constructed across the middle falls. Soon after, the falls were used to produce electricity. In 1896, Leopold Schmidt founded what became known as the Olympia Brewing Company in Tumwater along the Deschutes River. They used the nearby artesian wells to brew their beer and the slogan "It's the Water" to promote its products.

The falls on the lower Deschutes River also had an influence on the species of fish in the river. Unlike most rivers in the Pacific Northwest, the Deschutes did not have a native run of salmon. It is widely believed that the falls prevented the Deschutes from having a native run. In the 1950's, local fishermen built fish ladders around the falls and imported Chinook salmon from the Green River to start a Deschutes salmon run.

Today, the Washington State Department of Fish and Wildlife (WDFW) operates a fish facility at Tumwater Falls Park. Each fall, the WDFW facility harvests 4.8 million eggs from Chinook female salmon. The eggs, and milt from the male salmon, are transported to a hatchery for incubation. In the spring, the juvenile Chinook salmon are brought back to the Tumwater Falls facility and placed in holding ponds for a few weeks to "imprint" on the water of the Deschutes River.

Historically, the Deschutes River flowed naturally into Budd Inlet at the bottom of Tumwater Falls. Thirteen foot tides were recorded at the falls. In 1911, a plan was developed to dam the river to create a reflecting pool for the Capitol building. Forty years later, in 1951, the dam and surrounding Deschutes Parkway were constructed at what is



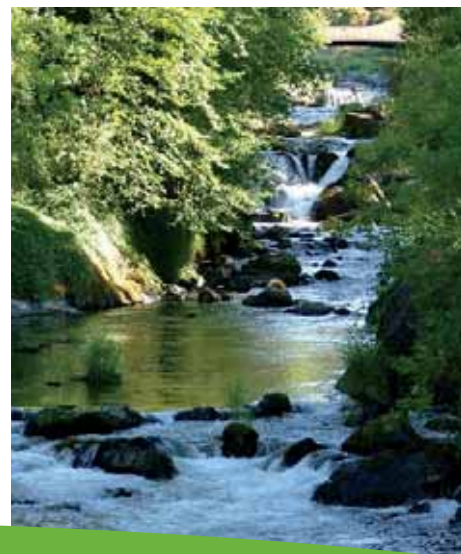
The Chinook salmon egg-taking operation at Tumwater Falls Park can be seen on Monday, Wednesday and Friday mornings from late September through early October. Stream Team Salmon Stewards will be on hand to answer questions from the public during these times as well as evenings and weekends. Come down to see the spectacular annual sight of the returning salmon!

now 5th Avenue in downtown Olympia. This created a fresh water lake where the estuary had once been.

Another alteration to the Deschutes River watershed occurred when Black Lake Ditch was created in the 1920's to drain wetlands for agriculture and industry. The ditch connected Black Lake to Percival Creek and Budd Inlet. Because of the ditch, Black Lake now drains in two directions: south to the Black River and onward towards Grays Harbor via the Chehalis River and northeast to Percival Creek, Capitol Lake and Puget Sound.

The Deschutes River is under pressure from growth, resulting in many small, uncontrolled sources of pollution entering the river. Water quality monitoring revealed that measurements of pH, dissolved oxygen, temperature, fine sediment and fecal coliform were not optimal, thereby triggering the TMDL (Total Maximum Daily Load) process. The TMDL process was established by Section 303(d) of the Clean Water Act to establish limits on pollutants that can be discharged to the waterbody and still allow state standards to be met.

There has been recent discussion on whether to remove the 5th Avenue dam and to at least partially restore the estuary. The Capitol Lake Adaptive Management Plan (CLAMP) was developed with scientific research and local political input. CLAMP recommends estuary restoration. There is heated local debate over the issue. Two groups, pro-estuary Deschutes Estuary Restoration Team (DERT) and pro-lake Capitol Lake Improvement and Protection Association (CLIPA), have been formed to represent both sides of the issue. This debate is sure to continue into the future, and so will the importance of the Deschutes River to the wildlife and people who benefit from its resources and beauty.





# First Flush: Keep Fall Rain Runoff Clean and Clear

Fall is upon us, and the fall rains will soon come pouring down. During the dry summer months, pollutants have built up on impervious surfaces, such as rooftops, lawns, roadways, parking lots and farmland. These pollutants can include pesticides, fertilizers, heavy metals, automobile fluids, pet waste and more.

When the first fall rains reach the ground, the stormwater runoff picks up the pollutants that have accumulated on the land during the summer. The initial return of fall rains is often referred

to as the “first flush.” The first flush of stormwater runoff carries with it higher loads of pollutants because they have accumulated over the dry season. Whether it is spring, summer, winter or fall, polluted stormwater runoff flows over impervious surfaces into ditches, swales or storm drains and eventually flows to local water bodies or infiltrates into the ground.

A 2011 study by the Washington State Department of Ecology, “Toxics in Surface Runoff to Puget Sound: Phase III

Data and Load Estimates” (Publication No. 11-03-010), reported detections of pollutants in stream samples at higher concentrations when there had been rain events as compared to when they sampled streams during dry periods. The study monitored for eleven classes of toxic chemicals, including pesticides, herbicides, metals, oil and grease, polychlorinated biphenyls (PCBs) and more. The first flush storm that was monitored contained a higher level of oil and grease, total petroleum hydrocarbons and other contaminants compared to subsequent storms.

The impacts of the first flush needs to be further studied, but it is apparent that higher levels of toxic chemicals are found in streams during rain events. Whether it is the first flush, or storm events throughout the year, this study shows that stormwater runoff carries toxic pollutants to our streams, lakes and Puget Sound.

The pollutants come from a variety of sources and activities. The good news is, there are things we each can do to help prevent polluted runoff from entering our streams, lakes and Puget Sound.



## Below is a list of things you can do to help keep our waters clean and clear this fall:

- Aerate your lawn to improve soil and grass health and reduce runoff over your lawn.
- Use a slow-release, organic fertilizer (make sure to test your soil first so you know exactly what nutrients your soil needs). **Go to [www.streamteam.info](http://www.streamteam.info) to view a copy of Grow Smart, Grow Safe: A Consumer Guide to Lawn and Garden Products** and to learn more about natural yard care.
- Instead of fighting moss with chemicals, check your soil pH. If it is too acidic, your soil may need some lime. Reducing shade by pruning nearby trees may also help.
- Use the leaves you rake as mulch in your garden. They provide plants with protection from the cold winter and provide nutrients to the soil as they decompose.
- Replace unused lawn areas with native and/or water-wise plants.



Fall is a Great Time to Plant! Attend the free Naturescaping workshop on Nov. 3 to learn more about landscaping with native and water-wise plants (see page 6 for more info.)

- De-chlorinate your hot tub or pool before draining with acetic acid/Vitamin C.
- Bag and trash your pet's waste.
- If possible, sweep instead of pressure washing. If you do pressure wash, make sure to direct pressure washer wastewater to pervious areas such as lawns or gravel and not down the storm drain. Do not use cleaning chemicals with the power washer.
- Make sure to properly store and dispose of hazardous materials, such as oil, gas, fertilizer, pesticides and household cleaning products. You can safely dispose of hazardous materials at Thurston County's HazoHouse.
- Check your vehicle for oil leaks and fix leaks as soon as possible.

**In case of an accidental spill or to report illegal dumping in Washington waters, including storm drains and ponds, call:**

**WA Department of Ecology  
24-hr. Emergency Spill Hotline  
360-407-6300**

**Thurston County  
Hazardous Waste Hotline  
360-867-2664  
Monday – Friday, 8 a.m. – 5 p.m.**

**For more ideas on how you can keep pollution out of stormwater, go to Stream Team's website at [www.streamteam.info](http://www.streamteam.info)**





## Eating Wild Mushrooms:

# 5 Important Rules

- 1 Always be 100% sure of identification.
- 2 Always cook your mushrooms thoroughly.
- 3 Only eat a small amount when trying a new type of mushroom.
- 4 Only try one type of mushroom at a time, and wait 24 hours for any reactions.
- 5 Only eat mushrooms that are in good condition.



## The Elusive but Delectable Chanterelle

The days begin to cool and the nights are often filled with the light rain of early autumn. You venture out into the deep woods, a carpet of needles beneath your feet. You breathe in the rich, moist humus smell of fallen leaves, moss and soil. Quietly, you scan the forest floor... the hunt is on. Ah, there it is... its funnel-shaped bright golden cap practically glistening through the leaf litter. The elusive chanterelle!

Chanterelles are fungi but are not a true gilled mushroom. The cap is fleshy, the wavy rounded cap margins tapering downward to meet the stem. The gills are not the usual thin straight panels hanging from the lower surface of the cap but have rounded ridges that are shallow and widely spaced. At the edge of the cap, they are forked and interconnected. The chanterelle's aroma is described as apricot or peach-like.

Like all mushrooms, chanterelles favor moist, rich organic conditions, and usually emerge after a period of extended rain. Fungi feed on plant material and release nutrients, which, in turn, are used by other plants. The fruiting season for these chanterelles begins in May and continues through October. During the autumn season, they become difficult to find, as they are hidden beneath the bright fall leaves that litter the forest floor. But, they are worth the hunt!

### Mycofiltration

Mycofiltration is a form of filtration using fungi (mushrooms) to clean polluted waters. Mycofiltration has been developed by local expert Paul Stamets of Fungi Perfecti, using fungal mycelium as a biological filter to remove harmful bacteria such as *E. coli* from agricultural runoff.

Some fungi species are notorious for absorbing and concentrating pollutants such as petroleum-based chemicals and heavy metals. These fungi are purposely used to treat stormwater runoff to remove pollutants. So, how does this work? Fungi have networks of underground mycelium that produce enzymes that break down hydrogen and carbon chains, which effectively eliminates petroleum-based toxins carried by stormwater.

Although mushrooms are delectable, you should avoid harvesting mushrooms that grow along busy roads or other contaminated areas such as stormwater ponds because the fungus absorbs and concentrates heavy metals and toxins in the fruiting body. Remember to follow the five important rules to eating wild mushrooms!



# Pacific Pond Turtle

The Pacific pond turtle (*Actinemys marmorata*), formerly known as the western pond turtle (*Clemmys marmorata*), is the only native freshwater turtle in western Washington and on the Pacific Coast. This turtle ranges from the western coast of Baja California, Mexico and the U.S. to British Columbia, Canada; but is an Endangered Species in Washington and not found locally, and a Species of Concern in all states.

The adult pond turtle is medium-sized and ranges from 6-8 inches in length and weighs 1-2.4 pounds. Its color ranges from brown or greenish-brown on the upper shell (carapace) with dark flecks, streaks or marbling on the shell. The lower shell (plastron) is black and yellow. The head and legs are dark with black flecks or yellow markings.

These turtles live in ponds, lakes, wetlands and streams. Although pond turtles spend much of their lives in water, they require terrestrial habitats for nesting. In Washington, the species overwinters in mud bottoms of lakes and ponds or in upland habitats adjacent to water bodies. Pond turtles are generally shy and hide in aquatic vegetation, but they can be seen basking on floating logs and rocks and occasionally on pond and river banks.

The pond turtle is long-lived. It can live up to 50-plus years but reproduces slowly. Females take an average of 10 years before they are sexually mature and lay about ten eggs a year. Nesting occurs from May to mid-July in soils with limited vegetative cover adjacent to water.

The initial decline of the pond turtle in Washington was due to commercial exploitation for food. Other major reasons for local declines and extinctions have been the draining and filling of wetlands for development and the loss of upland, stream and pond habitat. Predation of small juvenile turtles by introduced non-native (exotic) predators, such as bullfrogs and bass, and the capture of turtles for "pets" have also led to the decline and local extinctions of the Pacific pond turtle.

For further information on the Pacific pond turtle, please visit <http://wdfw.wa.gov/publications/pub.php?id+00398>

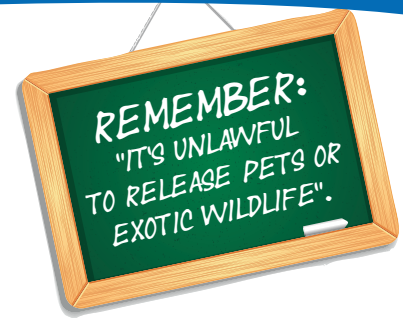
## Did you know?

**Historically, the western pond turtle occurred widely in the southern Puget Sound lowlands, but it is now locally extinct. In Washington, the Pacific pond turtle currently occurs in only a few small populations in the Columbia River Gorge and a small pond complex in Pierce County, where turtles have been reintroduced from captive brood stock. They have also recently been spotted near Edmonds.**

## What is being done to save the Pacific pond turtle?

- Control and elimination of introduced predator species
- Control of introduced, non-native turtles, such as the red-eared slider turtle, which carries disease
- Education to teach people to leave turtles in their habitat
- Land conservation to preserve essential turtle habitat
- Captive breeding programs to raise native turtles for reintroduction to the wild such as the 20 year old Western Pond Turtle Recovery Project sponsored by the Woodland Park Zoo.





## Wildlife in the Classroom

As the school year begins, educators may be considering adopting classroom “pets” to offer learning opportunities to students. Before bringing an animal, including insects, into the classroom, have a plan for the animal’s care after it’s no longer needed for education.

Classroom and home pets should never be released into local habitats. Many classroom pets are not native to our region. When they are released into the wild, they cause problems for native wildlife by spreading disease or eating native species and disrupting local ecosystems.



### Answers to Chum Quiz continued from page 5 :

1. **False.** Actually, chum salmon move quickly out of their natal stream, usually within just a few weeks of emerging from stream-bottom gravel, and into the brackish water of the estuary. They spend several months growing and developing in the estuary before heading out to open waters.
2. **True.** Chum range widely, from northern California to Alaska and as far afield as Korea and Japan.
3. **False.** Chum are the poorest jumpers of the Pacific salmon. Impediments such as logs and small falls that would not stop other species of salmon, such as Chinook and coho, can easily stop upstream chum migration. Thus, chum tend to dig their redds (nests) in medium-sized gravels in small streams or at the lower end of larger streams.
4. **False.** Chum can travel vast distances as they return to their place of birth in order to spawn where conditions are ideal. For example, one run of chum travels over 2,000 miles to spawn in Yukon River tributaries, deep in the Yukon Territory of Canada.
5. **True.** The anatomy of male chum undergoes a startling transformation as they prepare to leave salt water and enter the fresh water of their natal stream. Chief among these is a change from a sleek hydrodynamic shape for efficient swimming in marine waters to developing a hooked, toothy jaw for doing battle with other males in a struggle for mating dominance.
6. **True.** They coexisted briefly with the now extinct “saber tooth salmon” that was six feet in length and weighed around 350 pounds! However, the saber tooth salmon was not a voracious predator like all modern Pacific salmon but was a filter feeder.
7. **False.** Genetic testing reveals that smaller, but sneakier, “satellite males” can fertilize up to 25% of a female’s eggs.
8. **False.** Chum are the most common species of Pacific salmon in Puget Sound with large runs present in many rivers and streams. This is due, in part, to the fact that they out-migrate from their freshwater birth place quickly, thus not relying as much on high quality in-stream habitat.
9. **True.** The Nisqually chum run in Muck Creek commences as late as mid-January, months after most chum runs are over!



# Help the salmon find its way from Puget Sound to your local streams!





# ▽ Stream Team Events

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

## SEPTEMBER

### McLane Creek Nature Trail Work Party ♥

**Thurs., Sept. 8 • 1 p.m. – 3 p.m.**  
McLane Creek Nature Trail  
To register, contact Ann Marie at [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us) or 360-754-3355 x6857

### Allen Creek Planting @ Scott Lake ♥

**Sat., Sept. 10 • 10 a.m. – Noon**  
Help plant trees along Allen Creek.  
To register, contact Ann Marie at [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us) or 360-754-3355 ext. 6857

### Tumwater Community Day

**Sat., Sept. 10 • 10 a.m. – 1 p.m.**  
To volunteer in the Stream Team booth, contact Debbie at 360-754-4148 or [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us)

### Salmon Steward Chinook Field Training ♥

**Sat., Sept. 17 • 10 a.m. – 1 p.m.**  
Tumwater Falls Park  
To register, contact Debbie at 360-754-4148 or [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us)

### Henderson Inlet Watershed Tour ♥

**Sun., Sept. 18 • Noon – 4 p.m.**  
To register, contact Laura at 360-438-2672 or [lhurson@ci.lacey.wa.us](mailto:lhurson@ci.lacey.wa.us)

### Nisqually Watershed Festival

**Sat., Sept. 24 • 10 a.m. – 4 p.m.**  
Nisqually National Wildlife Refuge  
To volunteer in the Stream Team booth or the "Drain Dare" trailer, contact Chris at [maunc@co.thurston.wa.us](mailto:maunc@co.thurston.wa.us) or 360-754-3355 x6377

## OCTOBER

### Return of the Chinook Salmon Celebration

**Sun., Oct. 2 • 10 a.m. – 4 p.m.**  
Tumwater Falls Park  
To volunteer in the Stream Team booth, contact Debbie at 360-754-4148 or [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us)

### Percival Creek Revegetation Project ♥

**Sat., Oct. 8 • 10 a.m. – Noon**  
Percival Creek at Sapp Rd., Tumwater  
Contact Debbie at 360-754-4148 or [dmsmith@ci.tumwater.wa.us](mailto:dmsmith@ci.tumwater.wa.us)

### Yelm Creek Tree Planting ♥

**Sun., Oct. 9 • Noon – 2 p.m.**  
Yelm. Contact Ann Marie at 360-754-3355 ext. 6857 or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

### Spurgeon Creek Tree Planting ♥

**Sun., Oct. 16 • Noon – 2 p.m.**  
Circle Hawk Farm near Rich Rd.  
Contact Ann Marie at 360-754-3355 ext. 6857 or [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us)

## NOVEMBER

### Naturescaping for Water and Wildlife Workshop ♥

**Thurs., Nov. 3 • 6 p.m. – 9 p.m.**  
Tumwater Fire Hall  
To register, contact Native Plant Salvage Project at [nativeplantsalvage@gmail.com](mailto:nativeplantsalvage@gmail.com) or 360-867-2166

### Salmon Steward Chum Field Training ♥

**Sat., Nov. 12 • 10 a.m. – Noon**  
DNR McLane Creek Nature Trail  
To register, contact Ann Marie at [finanam@co.thurston.wa.us](mailto:finanam@co.thurston.wa.us) or 360-754-3355 x6857

## COMMUNITY EVENTS

### Stormwater Pond Workshop

**Sat., Sept. 17 • 9 a.m. – Noon**  
Tumwater City Hall  
To register, contact Chris at [maunc@co.thurston.wa.us](mailto:maunc@co.thurston.wa.us) or 360-754-3355 x6377

### Olympia Rain Garden Tour

**Sat., Sept. 17**  
*Sponsored by People for Puget Sound, City of Olympia Stream Team and WSU Native Plant Salvage Project*  
Tour downtown, east and west side to see the lovely variety of rain gardens your neighbors and businesses have constructed to infiltrate stormwater into the ground. Stay all day, or tour just one part of town. Also, learn about the City of Olympia's new rain garden incentive.

- 10 a.m. . . . .** Meet at Olympia Timberland Library for overview and tour nearby locations
- 12:30 p.m. . . .** Meet at San Francisco Street Bakery and tour three nearby locations
- 2:30 p.m. . . . .** Meet at Olympia Food Coop- West Side and tour three locations

For more information or to RSVP (not required) contact Patricia Pyle at [ppyle@ci.olympia.wa.us](mailto:ppyle@ci.olympia.wa.us) or 360-570-5841

### NPSP Water-Wise Plant Sale

**Sun., Oct. 2 • 11 a.m. – 4 p.m.**  
4131 Mud Bay Rd. NW, Olympia  
For more info., visit [www.nativeplantsalvage.org](http://www.nativeplantsalvage.org)

**EARN YOUR FREE "P.S. I LOVE YOU" BAG**  
by participating in  
four types of Stream Team events:

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



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





# Stream Team

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## The Salmon Are Back!

Check out the article on page 4 to find out where you can go to view Chinook, pink and chum salmon returning to local streams to spawn. *This is a once-a-year event you won't want to miss!*