



Stormwater

CONNECTIONS

Spring 2007

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Are You Paint Savvy?

One of the most striking ways to transform the look of a room or building is to paint it. A less attractive part of the project is preparation and clean up. Knowing how to manage paint and paint waste can save you time and, if done properly, prevent a clean-up nightmare. Plus, any waste that escapes into storm drains can cause environmental damage to local waterways.

Start with a checklist and plan ahead!

Buy the right amount

Know how much paint you need before you go to the paint store. Painting projects require about one gallon of paint to cover 400 square feet of smooth surface. Some paint jobs may require two coats of paint depending on the quality of paint you choose or the type of surface you are painting. With the right amount, you won't need to store it afterwards or, figure out how to get rid of it.

Choose latex paint

For most projects, latex paint is a better choice than oil-based paint. Water-based products continue to improve, and every year more products, such as stains, can be found on store shelves. And, now there are even healthier options with low- or zero-VOC (volatile organic compound) paints that cause less air pollution. If you need oil-based products, keep in mind that they contain flammable and toxic solvents and clean-up make take more time.

Select the right color without wasting paint

Do you buy quart after quart of paint trying to find the perfect shade? Paint retailers can help you find the right color without wasting lots of paint and money. In most cases, a color sample can be scanned into their computers to help mix a match. With some brands, smaller sample sizes may be available.

Outdoor painting

If painting prep involves scraping or sanding, use tarps to collect debris. If pressure washing is involved, never let run-off or any paint debris run down driveways or into storm drains.

Not quite done?

If you're using latex paint and are not quite done, save time and trouble. Wrap paint-soaked brushes and rollers in airtight aluminum foil or plastic bags and store them in the freezer. To use again, just let them sit at room temperature for 20 to 30 minutes.

Cleaning up

Brush excess paint onto soon-to-be painted surfaces, newspaper or cardboard. Let newspaper or cardboard dry out then discard into the garbage.

Latex paint: Wash brushes and rollers in inside drains with soap and water. Never clean them on the lawn, driveway or street.

Oil-based paint: Use thinner to finish cleaning brushes. Never put flammable products such as oil-based paint or thinner down any drain or into the garbage! Recycle thinner by storing it in a closed jar until particles settle. Strain the clear liquid through a coffee filter and reuse. This saves money too, because you can buy less thinner.

What is proper disposal?

An empty container is any container that contains less than three percent of its original contents. They are considered solid waste and can be disposed of in the regular garbage. Throw empty or dried out paint cans (latex and oil-based) in the garbage with the lids off.

What is paint waste?

Solvents, paint, rags, paint chips and dust, paint and solvent containers.

For questions about hazardous materials and their disposal, contact Lane County Household Hazardous Waste Facility at 682-3111. Remember, improper disposal violates Oregon law. For a free paint waste brochure and/or paint project list, call 682-2739.



Liquids are not allowed in the trash. For small amounts of latex paint (two inches or less,) remove lid, let it dry it out. To help paint solidify, add kitty litter or sawdust and allow to dry before placing in the garbage. Take containers with more than two inches of latex paint or any oil-based paints to the household hazardous waste collection site.



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Celebrate Earth Day at EWEB Plaza Saturday, April 21st

Join us for the 8th annual Earth Day Celebration — an environmentally based event that has something for everyone. This year's event features entertainment throughout the day at two music stages, the John H. Baldwin Film & Lecture Series, educational activity booths, a kids' activity room, a book swap and sale, a Procession of all Species Parade and more.

Free LTD bus service is available the day of the event, with shuttles from Saturday Market, downtown, and EWEB's River Edge Plaza during event hours. The event is produced by the Earth Day Steering Committee and See Development, Inc. The event theme is Spirit of Sustainability. For more information visit www.earthdayoregon.com

STORMWATER TIP:



Fireworks contain chemicals and heavy metals. If you plan to use fireworks this summer, please sweep up and dispose of debris in your garbage can.



Streambanks "Green Up!"

Last year, four sections of streambank along Amazon Creek Channel had collapsed, leaving big chunks of missing soil. Synthetic mesh "socks" filled with organic material were installed with large rocks supporting the edge along the creek (below left). These repaired banks are now "greening up." Native willow cuttings planted last fall plus various grasses and native riparian herbs have sprouted, providing slope stability and erosion control.



Native willow cuttings, grasses and riparian herbs have sprouted on this repair project between Polk and Garfield Streets, providing slope stability and erosion control.

Eyesore Ditch or Channel?

On first glance, it may be hard to imagine that ditches, swales or backyard drainage channels could serve a useful purpose. But appearances can be deceiving. Ditches and swales provide a place for stormwater runoff from roads, roofs and other hard surfaces to travel through from one place to another. During the rainy season, they may keep water from spilling onto roadways where flooding or build up of large pools of water can occur. Or, if they are lined with grass, they help filter and absorb pollutants in the runoff first, and then convey the water.

Either way, ditches and swales near your house are part of a broader neighborhood network for managing stormwater runoff and reducing flooding. If you fill your portion of the swale or ditch with plants, rock, or bark mulch you might affect a neighbor's property, damage the neighborhood stormwater pond, or make it easier for more pollutants to enter a nearby water body.

Here's an example of an innocent mistake made by one homeowner who thought the ditch outside his house was unsightly, and decided to beautify it with English ivy. While the natural ditch was designed to easily convey water away from the road, the ivy-filled ditch was less capable of transporting water. The ivy, which is an invasive non-native plant, began encroaching on nearby native plants and became a nuisance to manage. Similarly, a ditch or swale filled with bark mulch or undersized gravel can clog drainage pipes and send material into a stormwater pond or stream.

Does this mean you can't do anything with a swale or ditch? Not necessarily. Just remember that it's an important part of your neighborhood drainage system and was designed for the benefit of your site. If you want to make changes, check with the staff at the Permit and Information Center or call 682-8400 to make sure you are not covering up a public drainage easement.

To dispose of grass clippings or yard debris, consider these options. Grass clippings can be used as mulch around plants in your yard, or put into a compost pile. Local waste haulers provide yard waste containers that can be put out on designated trash pickup days. Larger items like branches or brush can be taken to several local yard debris recyclers such as Rexus or Lane Forest Products. For additional information about mulching and composting, contact Anne Donahue, Compost Specialist, at 682-5542.



Smart Landscaping Tips

Now that the sun and warmer weather are making regular appearances, more people are pulling out garden and lawn tools, ready to move into action outdoors. As you or someone you hire begin to make changes or improvements to your yard, keep in mind that even the simplest of activities can contribute to water pollution. What can you do? Take note of the tips below and make sure that what you are doing is good for both you and your environment.

Plan and plant with care

Know the needs and benefits of the plants you use:

- ☞ Trees and shrubs have good root systems that help prevent erosion.
- ☞ Ground cover needs less water and work than a lawn.
- ☞ Placing plants with similar needs together saves water, work, fertilizer, and your time.



Native shrubs are low-maintenance favorites.

Native plants have their advantages

Native plants need less water, fertilizer and pesticides than non-native plants. Some examples of native flowering shrubs include: red-flowering currant (left) indian plum, Pacific ninebark, twinberry, snowberry, Oregon grape, mock orange, and red twig dogwood.

Less lawn means less work

Lawns require more water, maintenance (fertilizer, weed killer, mowing) and time than other planting options.

- ☞ Consider adding more natural landscaping like trees, shrubs, ground covers or lawn alternatives.
- ☞ Ground covers choke out weeds and prevent erosion. They're attractive and need little care once they're established.



A variety of groundcovers offer interesting texture with little effort.

The pitfalls of misplaced bark mulch

- ☞ Avoid using bark mulch near paving, ditches, storm drains, and on steep slopes where it's likely to wash away.
- ☞ Bark mulch clogs storm drains and can cause flooding.

Water with restraint

- ☞ Water only as much as the ground can absorb. Water running down your driveway and into the street or ditch is water wasted.
- ☞ Mulch with compost or grass clippings, especially around plants that need lots of water.

Be careful with chemicals

- ☞ Chemicals that kill insects, weeds, moss, and rodents can also injure or kill the plants, organisms and animals you want. Use the least toxic method of pest control.
- ☞ Use the minimum amounts, follow directions, and apply with care. More is not better.
- ☞ Pull a weed, pick a bug off a leaf.
- ☞ Make sure pests are still around before using a chemical control.

- ☞ Keep chemicals, including fertilizer, off sidewalks, streets and driveways so they don't wash into storm drains that lead to our rivers and streams.

Healthy soils support plant growth

- ☞ Enrich your soil by adding compost and organic matter.
- ☞ An outbreak of disease and pests in your garden may mean that your soil's bacterial immune system is out of balance.
- ☞ To learn more about composting and soil health, contact Anne Donahue, Compost Specialist, at 682-5542.

Manage landscape material stockpiles properly

- ☞ Soil, compost, bark or rock should be stockpiled on your property. If stockpiling on the street is your only option for a limited duration, keep it contained and never place it on or near a storm drain.
- ☞ Never hose sediment from your driveway or on the street into a storm drain. Sweep and dispose of in garbage cans, compost piles or haul away.
- ☞ If you use any heavy equipment on your property, make sure it doesn't track mud in the street. If it does, sweep up promptly. For questions about erosion prevention and construction site management, call 682-8498 or e-mail: pwersion@ci.eugene.or.us.

Be responsible for proper disposal

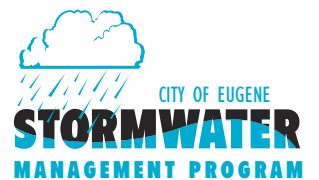
- ☞ Buy only chemicals you can use or share with a neighbor.
- ☞ To dispose of the containers and any leftovers, follow the package instructions.
- ☞ To dispose of hazardous materials, call the Lane County Household Hazardous Waste Facility at 682-3111 to make an appointment.

Caring for your lawn in an environmentally sensible way can have a bigger impact than you think. It may only be a small piece of land, but all the lawns across the country cover approximately 30 million acres — enough to fill an area the size of Mississippi. Remember, any type of runoff leaving your property should only be water. If it contains chemicals, soil, or any other materials, it ultimately makes its way to the streams and rivers that help make this community such a great place to live.

For free handouts on healthy soils, moss removal (on your roof), alternative pest control, or safe use of pesticides and fertilizers, call the Stormwater Management Program at 682-2739.



The rich variety of trees, shrubs and groundcovers in this yard require a minimal amount of water in the summer and stay pest free all year.



Stormwater Connections is published by the City of Eugene Public Works Department to enhance awareness of stormwater and related surface water management issues.

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Wetland Interpretive Signs Inform Visitors

Take the Tsanchiifin Walk in the West Eugene Wetlands any time of year and you will encounter remnants of the rare Willamette Valley wet prairie habitat flourishing through restoration and protection activities. Currently less than one-half-of-one percent of this habitat remains. The ¾ mile trail, just north of the Fern Ridge Bike Path where it intersects Danebo Avenue, offers an easy walk through the wetlands. Look for kestrels on the hunt for their next meal, signature marks left behind by a beaver, and dragonflies slicing through the late summer heat. Listen for Pacific chorus frogs throughout winter, the croak of a great blue heron gliding overhead, and the western meadowlark as it welcomes spring with its distinct warble. Six new interpretive signs along the trail, illustrated by artist Denise Dahn, colorfully illustrate the habitat: the life cycles of the Pacific chorus frog and dragonflies, the key roles of tufted hairgrass for wetland habitat, a spotlight on the little brown bat, and an overview of the present site, as well as its history of human uses.



Formerly known as the Balboa Trail, the Tsanchiifin Walk was renamed in honor of a local band of the Kalapuyan people who occupied the southern end of the Willamette Valley until the 1900s. Past land uses, attempts to mitigate those uses and natural conditions create a complex mosaic of upland and wetland habitats. Previous drainage for agriculture and dairy farms, and later the use of the site as an airport (Thunderbird Air Park) in the late 1940s and as a drag strip (Balboa Drag Strip) from 1968 until 1979, have left human-made ditches, portions of a paved runway and gravel taxiways.

Today the restored wet prairie provides clean water and homes for wildlife, as well as opportunities to learn more about the ecosystem and human impact on the natural world. Restoration and education take top priority at this site. In 2006, 886 students visited the West Eugene Wetlands through Williamette Resources and Education Network's (WREN) education program. For more information about education programs offered in the wetlands call 683-6494 or visit www.wewetlands.org.

The Tsanchiifin Walk is directly across from the future site of the West Eugene Wetlands Education Center, and the standing West Eugene Wetlands Office, a red farm house at 751 S Danebo Ave. Parking is available at this site. If the front door is open, help yourself to maps and brochures. The gate is open 6 a.m.–11 p.m. every day of the year.



WEST EUGENE WETLANDS

TSANCHIIFIN WALK

DISCOVER A DIVERSE SYSTEM OF INTERCONNECTED LIFE

The plants and animals of the Willamette wet prairie are interconnected in this dynamic system of life. Long ago, the Kalapuya (kal-a-poo-ya) people were an integral part of this dynamic world. Tsanchiifin (san-cheef-in) was the name of the local band of Kalapuyan people who occupied the southern end of the valley.

Now, like the Kalapuyan culture, only remnants of the original wet prairie remain. Much of the remaining prairie has been disturbed by other uses at one time or another.

Walk this trail to enter the world of the Tsanchiifin. Here you can see remnants of the vast wet prairie that once covered the Willamette Valley. Along the trail you will learn about some of the plants and animals that lived here during the time of the Tsanchiifin and still rely on the wet prairie today.

Help protect the plants and animals of the West Eugene Wetlands:

- Stay on walk and bike along the trail.
- Stay quiet, sit, or lie down (standing and lying).
- Remove the garbage if you cannot carry it.
- Leave plants and animals where you find them.
- Use camp stoves and cooking equipment.
- Use wildlife-friendly repellents.
- Encourage to help look for and remove these items.

Leave your trash in the car or the West Eugene Wetlands:

- Don't feed birds.
- Take photos/videos.
- Report on them.
- Make a journal.
- Take time to reflect.

It is almost the end of the school year, and Mr. Whitley's class has its well-planned lesson where they will go on their last field trip. Steve and Esther decide to help. They ask their father to take them to the wetlands to find out what there is to see and do as they can report back to Mr. Whitley. Take the pictures based on each sign as help Steve and Esther find out more about the wetlands as the class can decide where they will go.



Dragonflies

Iridescent, jeweled "mosquito hawks"

Dragonflies are common in the Tual-tuk-wah Prairie. From swimming larvae to flying adults, each part of this super predator's life cycle is closely linked to the various parts of the wet prairie. You can commonly see dragonflies between May and August.



The life of a dragonfly begins when an adult female dragonfly lays eggs on the surface of the water or inside the stems of aquatic plants, just below the water's surface. Eggs are laid in Amoson Creek or in a flowy pond that holds water year around.



Young dragonflies - called nymphs - spend all their time in the water. They hatch from eggs about two weeks after being laid and live in water for one to three years. The nymphs feed on mosquitoes or mayfly larvae or just about any other creature smaller than themselves. When prey swims by, they catch it by shooting out their lower lip, much like a frog catching food with its tongue.



When the nymphs are ready to become adults, they climb vertically out of the water on the stem of a plant. Spitting their skins, the adults emerge. A few hours later, their wings slowly unfold, dry, and harden, and they are ready to begin their new stage of life in the air.



Adult dragonflies cannot walk at all. They do everything while flying - hunt, feed and mate. With huge compound eyes and the ability to fly 35 miles per hour, they are like helicopters with jaws and 30,000 eyes! They catch prey by sweeping it up in their basket-like legs.



Here and Esther see many types of dragonflies. There are over 30 different species in the West Eugene Wetlands. Unlike most dragonflies, some come in so many different colors. Here, they help them find the tree that are alike.

Do you see a place that dragonfly nymphs could live? (Remember, water has to be there all year long.)

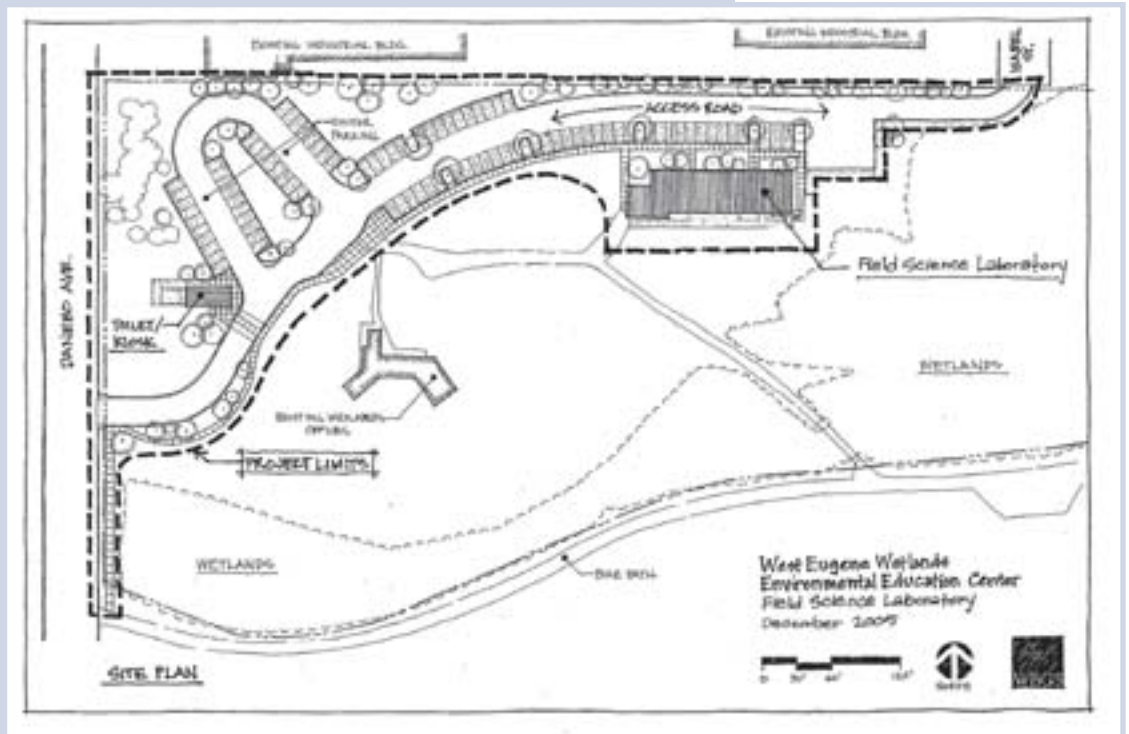
Here and Esther discovered so many new things at the wetlands. This was a great day to go back to all Mr. Hibley that the wetlands are a great place to visit on a field trip.

West Eugene Wetland Education Program and Center

Final designs for the West Eugene Wetlands Education Center are unfolding this year as project partners work with the community and Rowell-Brokaw Architects of Eugene to capture the latest in information and ideas. \$1.75 million is needed in order to break ground in spring 2008.

The center will support the current education program and will include a community auditorium, classrooms, resource library, and field science laboratory. The building is being designed to meet the highest standards of Leadership in Energy and Environmental Design (LEED) certification and will demonstrate how sustainable building techniques can be applied in an economically sound and environmentally friendly manner.

One issue associated with the wetlands is the treatment of water. The West Eugene Wetlands Education Center will be a model of sustainable strategies for water management. All water, including storm and sewer water, will be kept onsite, using seasonal and permanent ponds, landscaping, and use of permeable surfaces such as asphalt and concrete. Scientists and educators will work together in this living laboratory to teach our community how we are tied to



natural systems and how we can make changes individually and collectively in order to lessen our impact on the environment. Learn more about the West Eugene Wetlands Education Center at www.wewetlands.org.



Car Wash Kits for Fund Raising are Fish-Friendly

As the sun peaks out from behind rain clouds and temperatures rise, many fundraising groups are hosting car wash events to help fund their programs. When that happens, it's not uncommon to see soapy water spilling into parking lots and out into storm drains. These storm drains flow directly into ditches, streams, and rivers, along with soap, oil, and road dirt.

A new pilot project is being offered in the Eugene/Springfield area to prevent pollutants from entering our local waterways and better educate and assist fundraising groups and inform local citizens. Using models from other communities, the cities of Eugene and Springfield have developed fish-friendly car wash kits for non-profit groups to use FREE of charge. These kits contain sump pumps that divert wash water to wastewater treatment sewers or onto a grassy or vegetated area, giving fish a break!

The kits include all of the parts necessary to turn a car wash event into a fish-friendly one, including easy-to-follow directions and a display board sign advertising the car wash event as "fish-friendly." Careful consideration is given to make sure the kits will work properly with the car wash location. For that reason, kits must be used at a "certified" site.

The kits are available, FREE of charge, to Eugene/Springfield non-profit groups including: schools, youth groups, and church groups. We recommend that you plan ahead and make sure the kit is available and compatible with your preferred site.

Remember that if soap and residue from washing your car flows into a storm drain, it will travel, untreated, into local streams and rivers where fish and other wildlife can be harmed.

To learn more about this program or to borrow a kit, call these numbers:

*Eugene: 682-2739
Springfield: 726-3626*

able and compatible with your preferred site.

Drivers, you can help protect our waterways too. Next time your car is dirty, look for a fish-friendly car wash sign! If you wash your car at home, be sure to use a spray nozzle, use a minimal amount of soap (if any), and divert run-off away from the street.

Thanks to the Sierra Club's Many Rivers Group and Oregon Clean Water Action Project for helping make this project possible.

"Eco-Biz" Certified Auto Shops are Helping the Environment

Being sensitive about the environment is good business! The Ecological Business Program (Eco-Biz), sponsored by the Lane County Pollution Prevention Coalition (P2C) and the Northwest Automotive Trades Association, recognizes auto-related businesses that reach the highest standards in minimizing their environmental impact. Participating businesses take the necessary steps to reduce water and air pollution, and hazardous and solid waste.

In the first year of the voluntary program in the Eugene/Springfield area, five auto businesses went through the inspection process to become Eco-Biz certified (see sidebar). Businesses in the program use Best Management Practices to keep pollutants from entering the stormwater system and the local airshed. Businesses also conserve natural resources by reusing and recycling fluids and solid wastes on site. Educating employees in good environmental practices is another key element of the program.

"The Eco-Biz program really educated us on the safe handling of different wastes that our shops produce and what to do with them for minimum impact to the environment," said George Rode, president of Euro Asian Automotive. "The Eco-Biz team also showed me ways to eliminate waste from entering the waste stream, using bulk containers to eliminate the usage of aerosol cans and using more bulk oils, eliminating plastic oil bottles. They also educated us about the difference between wastewater (sewer) that gets processed and the stormwater drains that go directly into the Willamette River. We have become much more conscious about checking for oil leaks in vehicles for we now know that all oil that leaks on the streets in Eugene/Springfield ends up in the Willamette River. We feel that with this program and the education they provided, we can make a small difference in the world we live in."

The Lane County Pollution Prevention Coalition fosters environmental stewardship through technical assistance and education of Lane County businesses and citizens. The Eco-Biz program is one of the first multimedia (air, water, solid waste) certification programs in the nation. If you would like more information about P2C, agency members and the Eco-Biz program, call 682-8625 or visit p2c.org



These Eco-Biz-certified shops in Lane County have taken extra, voluntary steps to be certified as an environmentally-friendly businesses:

Autohaus
1502 W. 7th Avenue
541-683-5050
www.autohaus.bz/

Wayne's Garage
27 E. 27th Avenue, Eugene
541-342-3941
333 Q. Street, Springfield
541-746-7142
www.waynesgarage.com

Mac's Radiator & Repair Inc.
2270 W. 11th Avenue
541-344-0253
www.macsradiator.com

Small World Auto Center Inc.
2090 W. 11th Ave
Eugene Oregon 97402
541-683-6475
www.smallworldauto.com

Euro Asian Automotive
1917 Franklin Blvd.
Eugene, Oregon 97403
541-485-8227

Eugene/Springfield shops (not open to the public)
State Motor Pool –
Glenwood
Laidlaw Transit – Eugene





wetlands & waterways

The West Eugene Wetlands: Restoring and Enhancing a Fragile Habitat

Wetlands provide important functions in our community, including reducing the risk of downstream flooding, improving water quality, and providing habitat for a wide variety of plants and animals. A central goal of the West Eugene Wetlands Program is to restore wetlands that have been previously degraded so that they can provide these functions at their highest potential. This article briefly describes the process generally used by the Wetlands Program to restore and enhance wetlands.

Site Planning



The first step in the planning process is to develop a Habitat Enhancement Plan (HEP) for the site. The HEP typically includes an assessment of the historic and current conditions, and a description of goals for the site. Each plan also has a series of recommended implementation steps so that the project goals can be met. HEP's often have goals for wetland hydrology, native plant and animal communities, public access, and recreation.

Site Preparation

Using the information gathered during the site planning stage, actions are taken to prepare for restoration. Typical actions can be divided into two main categories. The first category improves the hydrology of the site by removing berms, dikes, or levees, installing water control structures, or removing agricultural drainage ditches. The second category reduces or eliminates the presence of non-native or invasive plant species, using techniques such as smothering, hand weeding, mowing, and weed whacking.



Seeding and Planting

Introducing native species is very important to the success of our restoration projects. As we only use seed native to the southern Willamette Valley, much of our seed is hand collected or grown out by local farmers under contract. Our native seed mixes typically include 60 to 70 different species of grasses, flowering plants, sedges, and rushes. Seeding is accomplished by a combination of broadcast seeding and no-till seed drilling. We typically plant our sites in the fall just before the rainy season begins.



Maintenance, monitoring and remedial actions

After seeding and planting, we monitor the site for erosion and run-off issues throughout the winter. Early in the spring we assess the vegetation on the newly seeded areas and, if necessary, weed out non-native or undesirable species. We compare current site conditions to our original project goals. If results are consistent with our goals, we continue to monitor the site. If the results don't meet our expectations, we re-think our strategy and develop additional actions to help reach the project goals. This "adaptive management" approach has led to a very high success rate in our restorations.

For more information about wetland restoration projects, contact Trevor Taylor, Wetland Program Supervisor, at 682-4888.



Hard work and attention to detail can lead to a successful restoration project.





Meet Lily and learn more about Eugene's streets, parks, and water systems at our annual **Public Works Day**, Thursday, May 17 from 8 a.m. to 3 p.m. at 1820 Roosevelt Blvd. It's fun and free! For more information, call 682-4800.

Wiggling Workers Convert Kitchen Scraps into Plant Food

Most of us only think of worms when we are digging in our gardens or getting ready to go fishing. What you might not know is that worms are actually hard workers when it comes to helping out around the house. They are master composters, and they will eat kitchen scraps so you'll have less trash to carry out to the curb. The rich compost they create will be great for your garden, too!

It is easy to build a simple bin where worms can go to work recycling kitchen waste. Supplies you will need are:

- A covered box: A 12 to 18-inch deep wood or plastic box, about 16 x 24 inches wide and long, with drainage holes in the bottom. This could be anything from an old drawer to a fancy plastic storage tote. Worms like dark places, so no clear plastic please, and the cover should block light on the top. You may want to place a tray under the bin to collect any water or worms that come out through the drainage holes.
- Bedding: A mixture of shredded newspaper, cardboard, brown leaves, dry grass clippings, sawdust or straw (some of each or just a few) with a couple handfuls of sand or soil mixed in.
- Food: Kitchen scraps including fruit and vegetable scraps, tea bags, used coffee grinds and filters, and egg shells. Avoid meat, dairy products, greasy foods and pet waste as these things will make the bin smell bad.
- Air: Keep the bedding loose so the worms can breathe.
- Water: Worms need to be moist but remember—they cannot swim!
- Worms: Red worms are best for making compost, and can often be found in aged manure or compost heaps or at fishing tackle shops. Other earthworms (the ones you dig up in soil) will not work in this type of bin.



Red worms (also known as red wigglers or compost worms) are usually 1½ to 4 inches long and can live 4 to 5 years. Their bodies are dark reddish-brown with light yellow stripes between each segment. Each worm can produce a cocoon with two to 20 eggs inside every seven to 10 days. Baby worms take 60 to 90 days to reach adult size.

To assemble your worm bin

- Drill eight to 12 dime-sized holes in the bottom of your bin. You can line the bottom with screen to keep worms from escaping. Place the bin on bricks to allow water to drain.
- Fill your bin two-thirds full with your bedding mixture.

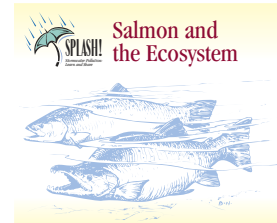
Compost is decayed organic material, like the dark rotten leaves you find on the forest floor. Bacteria, mites, beetles, millipedes and sow bugs are other organisms that help to digest these materials in nature (and in your food bin!). Compost is full of nutrients that are healthy for all of your garden plants.

- Wet the bedding down until it feels like a wrung-out sponge. Fluff to create some air pockets.
- Add red worms and cover with a burlap sack, old carpet or other lid with holes that allow some air flow.
- Add food once or twice a week by burying it under a layer of bedding. Place the food in a different spot each time to keep the worms moving around the bin. If the bedding seems dry, sprinkle on enough water to keep the worms nice and moist.

Worms don't like the cold, so keep your bin in a place where the temperature is between 45 and 80 degrees (a warm garage, protected porch, or indoors in the winter). In warmer months, keep the bin outside and away from direct sun or heavy rains.

In three to six months, the bedding and food waste will have completely disappeared, and the bin will be full of dark, fluffy compost. There also will be new worms, and worm egg cocoons which look like tiny lemons. Empty the bin onto a plastic sheet, collect the worms to use in your next bin, and spread the compost on vegetables and flowers in your garden.

For more information about worms, compost and recycling, visit the City's web site at www.eugenerecycles.org



Teachers: For more information about SPLASH! Stormwater Learn and Share, and Salmon and the Ecosystem, call 682-8482.