October 20, 2010 End Pesticide Usage to Maintain Grounds in Portland

Good morning, my name is Sabine Hilding. I live on Fairmount Blvd. in Southwest Portland. I am a member of the Alliance for Democracy. This is Joan Horton, Co-Chair of the Alliance for Democracy and a resident of Corbett-Lair Hill neighborhood. Sarah Instenes is a resident of Multnomah Village, though not an AFD member. All of us live in the Southwest, but this problem is city-wide.

We would like to bring up the issue of pesticide usage in Portland. By pesticides, we mean herbicides, fungicides, insecticides, and rodenticides. Specifically we would like to address the issue of pesticides used in landscaping, whether by homeowners, Portland Parks, road maintenance crews, landlords, and especially by landscape companies.

**Before you is a bundle of flyers** from such diverse groups as US Fish and Wildlife, METRO, the local Audubon Society, both the East and West Multnomah Conservation Districts, the Oregon Department of Environmental Quality, the US Department of Agriculture, the Association of Clean Water Agencies, the Backyard Habitat program, OSU Extension Service, the Regional Coalition for Clean Rivers and Streams, and the City of Portland Environmental Services. The flyers are available to the public at sources all over the city. **Their contents are based on thousands of studies and sound science.** 

If you go through the bundle, you'll see highlighted not only an admonition against pesticides of all kinds, but a description of what a sustainable landscape should look like. Essentially, the profile of such a landscape is to leave nature wild and not overly managed. Leave the leaves, keep grasses tall to prevent rain run-off, get rid of lawns, plant native plants to crowd out invasives—as opposed to non-native nursery stock or genetically engineered grasses—use plants appropriate for the microclimate, hand-pull the worst invasive species such as English Ivy, and don't use chemicals or nitrogen fertilizers as they pollute streams.

But factually, despite years of METRO admonitions—"It all ends up in the river"—and warnings about animal death, maiming of birds, weakening of bees, proliferation of pesticide resistant species, algae bloom, and toxicity to humans, pesticides and fertilizers are still widely used as a quick fix to maintain lands in Portland. The **grounds around public and private buildings are treated in this toxic manner**—a pre-emergent in early spring, followed by weed and feed, direct sprays on plants against insects and fungi, perhaps a non-native genetically engineered grass to over-seed, followed by more weed and feed to kill broadleaf plants, which are arbitrarily sprayed-for in one location only to pop up in another next spring. Broadleaf plants include dandelions, which are the only flowers male mason bees have to eat in early spring, and many grasses and flowers mistaken for "weeds." It should be noted that mason bees are the primary pollinators of fruit trees in the urban area.

Brown ground interspersed with non-native shrubs is maintained with regular applications of herbicides and preemergents and nitrogen pellets in order to foster an entirely artificial aesthetic. This aesthetic emerged in urban America in the 1950's, in the decades following World War II, as large chemical companies needed a new market—homeowners and farmers—for wartime chemicals. And still today homeowners associations proceed to fine residents who do not remove or spray broad leaved plants in their front yards.

We have all seen this aesthetic around public buildings, office parks, and in urban gardens: the tell-tale blue-black ground around the monoculture, the compacted soil circles around tree trunks. We have also seen the yellow and brown dying plants along roadways with the trees above damaged by herbicide drift. We have seen homeowners taking it upon themselves to liberally douse public paths in front of their houses to kill any broadleaved plant. Denuding the soil around trees by spraying is considered an antidote to mower damage to roots and tree trunks, but is this really necessary?

An aside: An example of toxic urban landscape maintenance is the 1900 Building on SW 4<sup>th</sup>.

In the urban area, neatness is considered a desirable condition. Property values are associated with this "neatness." A healthy outdoor lifestyle is associated with this "neatness"—kids and the dog rolling around on a perfect lawn. Grasses around poles and along fences are considered messy. Geometric monoculture is the norm in landscaping. But a truly healthy landscape is not geometric. It looks uneven and even unruly at times. It changes with the seasons. Animals eat seeds in "unsightly" brown pods in fall. Soils need decaying leaves. In the course of all this insecticiding and herbiciding, a lot of native animal and plant life dies, water is polluted, and soil is compacted so that it is incapable of sustaining any shrub stuck therein without a continuing cycle of toxic maintenance. This process is not sustainable.

While Portland Parks with its Integrated Pest Management Program may be certified as Salmon Safe, we do not consider it people safe. **Objections from residents are met with rhetorical flourishes. "Would you have the weeds win?" serves to clinch the argument. Parks employees cavalierly suggest that citizens don't know the real science. But each year, pesticides which were once considered safe are banned by the EPA.** And Accord Concentrate, basically glyphosate without the surfactants in Round-Up, wipes out dogwood and white oak along with most other plants. It is a systemic herbicide, and the long term impact of systemic herbicides is not clear.

We do not want to get into an argument in which we have to defend a particular chemical as more or less toxic, while the vested interests shout us down with large applications of false "green" advertising.

We do not want to go head to head with the Parks Department which obviously uses plenty of chemicals, even with IPM, and assures the public that it is all safe and absolutely necessary. Parks also claims that it is uneconomical *not* to use herbicides. Are the spray crews that are hired required to break down their costs separately into labor and chemicals, so that we could see what each costs, and how much is used?

We do not want to beg the question that the usage of chemicals affects the health of the local population, not only animals and plants, but people—in the form of cancers to learning disabilities.

We feel it is not necessary to reiterate the fact that all this stuff is spread around by animals and people on their feet into houses and offices, where it biodegrades much more slowly and pollutes indoor air.

We do want to alert the Council to the fact that landlords (both in office and residential buildings) hire maintenance companies, which can use stronger products than homeowners. Children play in the shrubbery around apartments. Children run barefoot across chemically pelleted grass. **Families in apartments have no choice.** Workers in office parks have no choice.

#### We want to point out that with infill, there is no buffer zone. We can't get away.

When the Parks Department sprays, there (or may not) be signs on the paths, but nearby neighbors do not know.

If you have fruit trees, depending on your neighborhood, there may be no bees to fertilize them as the bees and the plants they eat the rest of the year are gone.

If your neighbor sprays along the property line and the toxic chemicals drift and wash into your garden, there is no ordinance to stop him. There is no protection from stepping on sidewalks bathed in chemicals after a landscape company has "maintained" a yard or a corporate park. Pesticides impact air quality at ground level. And herbicide compacted soils do not absorb water. Nitrogen applications and the various chemical applications wash everywhere in the rain.

This bundle of flyers should be convincing enough. Here are some sustainable solutions.

**1.** We ask that the City of Portland set an example and cease using chemicals to maintain outdoor spaces. Portland should do more to promote a sustainable aesthetic of wild nature.

**A. The grounds around buildings belonging to Portland can be maintained without the use of chemicals.** There are many sustainable methods for this.

**B.** Buildings where Portland rents offices and other spaces are usually run by a management company, which hires a landscape maintenance company that only cares about getting the grounds "cleaned" quickly—mow, blow, spray, squirt, and pellet. That means the company uses chemicals to promote monoculture with the fewest plant species possible. The plants tend to be exotic in origin and not native. The responsibility for this toxic maintenance is distanced from the property owner and from the City of Portland, but it should not be. **C.** Any Portland lands, including those maintained by the City, should be chemical free. We would like to ask the Parks Department to cease the use of Garlon 3A, Accord Concentrate, Competitor, 2-4 D, etc. and other chemicals for routine maintenance of ball fields, along fences, poles, walkways, trails, etc., for anything except the grossest invasive species such as garlic mustard, and only if the population in the area is widely notified and given a choice ahead of time to manually remove the offending plant. Local residents must be given the choice to pull invasives along roadways in front of their houses, and in parks, rather than to be sprayed. Residents who want all parks to be pesticide-free should not be forced to maintain a 1950's aesthetic. Wild nature should be promoted as a desirable condition. The City itself needs to model this 21<sup>st</sup> century aesthetic.

2. We are asking the City of Portland to curb landscape and maintenance companies, which spray and pellet with impunity, by shaping an ordinance.

3. We are asking the City of Portland to send a stronger message to homeowners who are maintaining their few square feet of ground with heavy applications of chemicals that drift, wash, and impact soils and plants, people and animals all around them for blocks, by shaping an ordinance.

4. We would like Portland to begin the process of shaping ordinances against the usage of pesticides in the urban environment. We would be happy to help by synthesizing the knowledge and concerns of a wide consortium of residents. SW Resident, Sarah Instenes

I would like to add that no public area in Portland should be chemically treated without ample warning ahead of time. People in an area should be warned. Also, they should be able to choose whether they want to manually remove an invasive plant on public property before the area is chemically treated.

This spring, I recognized invasive garlic mustard on the hillside between my garden and a public roadway, an area of about 400 square feet.

I had just moved into the house, and was planning what to plant in my garden.

The next day I had off work, I pulled all of this garlic mustard, only to realize afterwards that the area had already been sprayed with a systemic herbicide the day before, which a neighbor told me. I had spent several hours out there pulling without gloves, getting the chemical, which was glyphosate on my skin.

The effects of glyphosate were not immediately apparent so that I did not realize the area had been sprayed.

There were no signs that a spray crew was going to be coming through there.

Gradually, the whole area turned brown, even though I had already bagged and tossed the pulled garlic mustard. The area stayed brown and nothing has seeded there since.

The herbicide, even though I pulled the plants the next day, quickly invaded not only the garlic mustard, which I took out, but also the soil because the native plants on my hillside died too.

I have read that glyphosate exposure is implicated with Non-Hodgkin's Lymphoma, a form of cancer.

People should be warned with plenty of time so that they have the choice to manually remove an invasive weed before chemicals are applied, especially if the area is next to their yards.

#### Are You Ready For Winter?

Winter storms can cause flooding in Portland. If you live or work in a floodplain, keep these safety tips handy.

#### **Check Your Insurance**

Homeowners insurance does not cover flooding. Over the course of a 30-year mortgage, there is a 26% chance that flooding will damage a property in the 100-year floodplain. Flood insurance is available from the National Flood Insurance Program through your local insurance agent. To find out if you live in a floodplain, call 503-823-6892.

#### Stay Informed

Portland radio stations that broadcast updated weather information include KPAM 860 AM, KUFO 101 FM, KEX 1190 AM, KINK 102 FM. KOIN 6, KATU 2, KGW 8 and KPTV 12 are local television stations that broadcast weather and flood information.

#### Stay Safe

- Do not walk in floodwaters.
- If you live or work in a floodplain and you know a flood is coming, shut off your gas and electricity, and move valuable items to higher ground.
- Stay away from downed power lines. Report them to the power company.
- Have an emergency evacuation and communications plan for your family.
- Keep battery powered radios handy with fresh batteries.

#### **Construction Requirements**

Always call the City of Portland at 503-823-6892 before you build on, alter, regrade or fill on your property, or if you see building or filling without a City permit sign posted. A permit is required to ensure that projects do not cause problems on other properties and meet city, state and federal requirements.

To receive City of Portland news, including sewer overflow notifications, log on to www.portlandonline.com/oni and sign up for the Neighborhood Involvement news subscription service. Call 503-823-3042 for more information.

ENVIRONMENTAL SERVICES CITY OF PORTLAND 1120 SW Fifth Avenue, Room 1000 Portland, Oregon 97204

Dan Saltzman, Commissioner Dean Marriott, Director

www.cleanriverspdx.org

Printed on recycled paper. OD 0440

### Every Portland Home is Waterfront Property



ortland has an average of 37 inches of rain a year. That creates billions of gallons of stormwater runoff that washes over roofs, streets, parking lots and other hard surfaces. The stormwater flows into street drains that empty into rivers and streams. It carries dirt, chemicals, metals and other pollutants that can harm fish, wildlife, and people.

Stormwater isn't all bad. Clean stormwater helps plants grow, refreshes groundwater supplies, and keeps streams at levels and temperatures that support healthy

populations of fish and wildlife. Environmental Services uses innovative management techniques to help keep stormwater clean. We work with other city departments, the community and public and private partners to find better ways to use rain as a resource while reducing stormwater pollution.

#### **Your Watershed**

1-5

This map shows Portland's major watersheds. The rain that falls in your neighborhood flows into one of the tributaries, such as Johnson Creek, or directly to the Willamette. What happens on the land affects water quality in Portland's waterways.

Solutions that work require a watershed approach that looks not just at waterways, but also the land and land uses that send polluted runoff to rivers and streams. Restoring our waterways starts with a healthy watershed.

COLUMBIA BLVD

WILLAMETTE RIVER

WATERSHED

**COLUMBIA SLOUGH** 

WATERSHED

(1-84)

JOHNSON CREEK WATERSHED

205

#### **How You Can Help**

- Preserve established trees in your yard and neighborhood.
- Don't overuse fertilizers and pesticides.
- Plant trees, shrubs and ground covers that filter pollutants and reduce stormwater runoff.
- Use non-toxic alternatives to home cleaning chemicals.
- Never dump used motor oil, paint or household chemicals on the ground or in a storm drain.
- Sweep driveways and patios clean instead of hosing them into the street.
- Drive less, use public transportation, bike or walk.
- Scoop pet poop and put into trash.

watershed boundary City boundary

> Learn more about Portland's watersheds online at www.cleanriverspdx.org.

FANNO CREEK WATERSHED WATERSHED

1-5

26

www.oregonmetro.gov



### Household toxic trash Proper disposal, safer alternatives

#### Typical household hazardous products accepted by Metro for safe disposal

Batteries Paints and stains Pool and spa chemicals Pesticides and poisons Automotive products (motor oil, antifreeze) Thinners, solvents Household cleaners and disinfectants Art and hobby chemicals Aerosol spray products Sharps (medical syringes, lancets, etc.) Mercury-containing products (fluorescent light bulbs and tubes, thermometers, thermostats)

**No electronics** (cell phones, computers, etc.)

Household waste only

#### **Questions?**

Call Metro Recycling Information 503-234-3000

Hablamos español



Many everyday products used for housework, home improvement, car maintenance and gardening may contain chemicals that can harm your health or pollute the environment. For proper disposal, it's important never to discard these products in the sink, on the ground, down a storm drain or in your garbage can. Instead, Metro can help you safely dispose of hazardous household waste and discover the benefits of using lesstoxic products.

#### Identifying toxic trash

Being able to recognize which products around the home are hazardous is an important part of ensuring proper disposal. Some products may include words such as "warning," "caution," "flammable," "poison," "danger" or "combustible" on the label. The following descriptions characterize household hazardous products:

**Ignitable** – capable of burning or causing a fire.

**Corrosive** – capable of eating away materials and destroying living tissue.

**Explosive or reactive** – able to cause an explosion or release poisonous fumes when exposed to air, water or other chemicals.

**Toxic** – poisonous, either immediately or over a long period.

**Radioactive** – able to damage and destroy cells and known to cause cancer, mutations or fetal harm.

### Disposing of toxics safely

Metro accepts various types of household hazardous waste for free recycling or disposal. Bring it to one of Metro's two transfer stations year-round, or participate in a Metro household hazardous waste collection event from March to November.

Here's how to prepare, transport and deliver hazardous products for recycling or disposal by Metro:

- Keep products in original containers. Make sure products are properly sealed and leaking containers are secured in secondary leakproof containers.
- Label unmarked containers if certain of contents. If contents are unknown, alert technician upon arrival at Metro.
- Avoid mixing products together, to help prevent dangerous chemical reactions.
- Use containers 5 gallons or smaller only. No drums or plastic bags.
- For safe transport, pack products in sturdy, leakproof boxes and place them in vehicle trunk.
- Keep load to 35 gallons or less.
- Bring sharps in approved sharps container.
- Remain in vehicle upon arrival at facility; a technician will unload your materials. And, please, no smoking.

#### Aerosol cans

If they aren't empty, they should be disposed of as hazardous waste. Use up the contents if possible, and recycle the empty container in your curbside bin.

#### Antifreeze

You can buy antifreeze-recovery systems with recycling containers at many auto supply stores. Used antifreeze can be recycled at Metro's transfer stations and through some private recyclers. Call Metro Recycling Information at 503-234-3000 for locations.

#### Cans of dried paint, empty paint cans

Metal paint cans with little to no dry residue in them can be recycled at the curb – remove and recycle lids. Metal or plastic cans with a small amount of paint left inside can be disposed of in the garbage after removing the lid and letting the paint dry. Bring full or partially full paint cans to Metro.

#### Motor oil

Used motor oil can be recycled at the curb in clear, unbreakable containers with screw-top lids. Used oil filters can be recycled at some locations – call 503-234-3000 for details.

#### **Medical sharps**

Metro conducts a container exchange program for Portland metropolitan area residents, accepting sharps for disposal if they are in approved containers. The program requires a one-time enrollment fee, which includes a new, approved sharps container. Thereafter, participants can obtain one free container per day – additional containers are \$5 each – at Metro's hazardous waste facilities.

### Reducing use of toxic products

Save a trip to the hazardous waste facility and protect the health and safety of your family at the same time. It's easy to get started today.

#### Choose safer alternatives.

Call Metro Recycling Information at 503-234-3000 or visit www.oregonmetro.gov/saferhome for free publications and educational programs on effective, less-toxic alternatives for cleaning, gardening, controlling pests and maintaining a beautiful yard.

Here's a brief list of helpful Metro publications:

- Green Cleaners: Simple Cleaning Recipes for a Safer Home offers cleaning recipes using safe, common household ingredients.
- Grow Smart, Grow Safe provides ratings on fertilizers, pesticides and soil amendments to help readers find lawn and garden products least hazardous to people, pets, wildlife and waterways.
- The Hazardless Home Handbook is a guide to hazardous household products and effective, inexpensive alternatives.

#### Buy only what you need.

Check your inventory before buying new products. If you must buy a hazardous product, get no more than what's needed.

### Share leftovers with someone who can use them.

Exception: old pesticides, which lose effectiveness after two years and may contain banned chemicals (e.g., DDT, Kelthane).

#### Metro offers toxics disposal

at its two household hazardous waste facilities and periodic collection events

#### **Metro Central Station**

6161 NW 61st Ave., Portland From Northwest St. Helens Road (Highway 30), turn east onto Kittridge Avenue and left (north) onto Front Avenue. Go one mile, turning left onto Northwest 61st Avenue. Facility is on the right.

#### **Metro South Station**

2001 Washington St., Oregon City Just off Interstate Highway 205 at the Park Place/Molalla exit (exit 10). Follow the exit to the first traffic light. Turn right onto Washington Street. Facility is first building on the right.

Hours: 9 a.m. to 4 p.m. Monday to Saturday. Closed major holidays. Schedule an appointment for loads larger than 35 gallons or drums larger than 5 gallons. Call Metro Recycling Information at 503-234-3000 for details.

#### **Collection events**

Metro conducts free household hazardous waste collection events at various neighborhood sites from March to November. For details, visit www.oregonmetro.gov/roundups or call 503-234-3000.

#### Household hazardous waste only

Business-generated waste: Call 503-234-3000 or visit www.oregonmetro.gov/ceg to learn about Metro's conditionally exempt generator program for eligible businesses that produce small amounts of hazardous waste.

#### Metro representatives

Metro Council President – David Bragdon

Metro Councilors – Rex Burkholder, Carlotta Collette, Kathryn Harrington, Carl Hosticka, Robert Liberty, Rod Park

Auditor – Suzanne Flynn

www.oregonmetro.gov

Metro | Healthy homes. Healthy families.

### Soil Quality Resource Concerns: Soil Erosion

#### **USDA Natural Resources Conservation Service**

#### April 1996



#### What is erosion?

Wind or water erosion is the physical wearing of the earth's surface. Surface soil material is removed in the process.

#### Why should we be concerned?

Erosion removes topsoil, reduces levels of soil organic matter, and contributes to the breakdown of soil structure. This creates a less favorable environment for plant growth.

In soils that have restrictions to root growth, erosion decreases rooting depth, which decreases the amount of water, air, and nutrients available to plants.

Erosion removes surface soil, which often has the highest biological activity and greatest amount of soil organic matter. This causes a loss in nutrients and often creates a less favorable environment for plant growth.

Nutrients removed by erosion are no longer available to support plant growth onsite, but can accumulate in water where such problems as algal blooms and lake eutrophication may occur. Deposition of eroded materials can obstruct roadways and fill drainage channels. Sediment can damage fish habitat and degrade water quality in streams, rivers, and lakes.

Blowing dust can affect human health and create public safety hazards.

#### What are some signs of erosion?

#### Wind erosion:

- dust clouds,
- soil accumulation along fencelines or snowbanks,
- a drifted appearance of the soil surface.

#### Water erosion:

- small rills and channels on the soil surface,
- soil deposited at the base of slopes,
- sediment in streams, lakes, and reservoirs,
- pedestals of soil supporting pebbles and plant material.

Water erosion is most obvious on steep, convex landscape positions. However, erosion is not always readily visible on cropland because farming operations may cover up its signs. Loss of only 1/32 of an inch can represent a 5 ton per acre soil loss.

#### Long-term soil erosion results in:

- persistent and large gullies,
- exposure of lighter colored subsoil at the surface,
- poorer plant growth.

#### How can soil erosion be measured?

Visual, physical, chemical, and biological indicators can be used to estimate soil surface stability or loss.

#### Visual indicators

- comparisons of aerial photographs taken over time,
- presence of moss and algae (crypotogams) crusts in desert or arid soils.
- changes in soil horizon thickness,
- deposition of soil at field boundaries.

#### **Physical indicators**

- measurements of aggregate stability,
- increasing depth of channels and gullies.

#### **Chemical indicators**

- decreases in soil organic matter content,
- increases in calcium carbonate content at the surface, provided greater content exists in subsurface layers,
- changes in cation-exchange capacity (CEC).

#### **Biological indicators**

- decreased microbial biomass.
- lower rate of respiration,
- slower decomposition of plant residues.

#### What causes the problem?

#### Water erosion

- lack of protection against raindrop impact,
- decreased aggregate stability,
- long and steep slopes,
- intense rainfall or irrigation events when plant or residue cover is at a minimum,
- decreased infiltration by compaction or other means.

#### **Mechanical erosion**

- removal by harvest of root crops,
- tillage and cultivation practices that move soil downslope.

#### Wind erosion

- exposed surface soil during critical periods of the year.
- occurrence of wind velocities that are sufficient to lift individual soil particles,
- long, unsheltered, smooth soil surfaces.



#### How can soil erosion be avoided?

#### Soil erosion can be avoided by:

- maintaining a protective cover on the soil,
- creating a barrier to the erosive agent,
- modifying the landscape to control runoff amounts and rates.

#### Specific practices to avoid water erosion:

- growing forage crops in rotation or as permanent cover,
- growing winter cover crops
- interseeding,
- protecting the surface with crop residue,
- shortening the length and steepness of slopes,
- increasing water infiltration rates,
- improving aggregate stability.

#### Specific practices to avoid wind erosion:

- maintaining a cover of plants or residue,
- planting shelterbelts,
- stripcropping,
- increase surface roughness,
- cultivating on the contour,
- maintaining soil aggregates at a size less likely to be carried by wind.

(Prepared by the National Soil Survey Center in cooperation with the Soil Quality Institute, NRCS, USDA, and the National Soil Tilth Laboratory, Agricultural Research Service, USDA)

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#### In This Issue

Workshops So

Dear Backyard Habitat Friends,

The information below was written by Bob Sallinger, Conservation Director of Audubon Society of Portland. It's a great summary of things you can do in your backyards for urban wildlife during the fall and winter.

Plant Sales

and Classes

Resources

**Events** 

Wildlife will stay in our area during the winter if they are well adapted to survive in our climate, but there are some things you can do to help during the cold winter months. Look at your yard from the viewpoint of an animal seeking shelter and food. Are there safe hiding spots in which to find shelter from rain and wind? Is there food such as seeds, cones, and berries that persist into late winter? Is there a source of fresh clean water?

The Backyard Habitat Certification Program is a joint program between:

Columbia Land Trust

and

Audubon Society of Portland

(see our other supporting

You can start providing natural food and shelter by going easy on fall cleanup. There's no need to be super neat and tidy-wildlife appreciates things a little on the wild side. Those fallen leaves that are starting to pile up or those unclipped flowers you meant to get to, can benefit birds and other wildlife. Flowers that have faded will still produce seeds and many birds will take advantage of them.

Leaving plant material (especially leaves) on the ground provide a great source of organic material for your soil. It also provides crawling spaces for reptiles, amphibians, and insects. In the winter, many ground-feeding birds like towhees and robins will thank you for those extra sources of insects. If you have a trimming project, collect branches and debris and make a brush pile in a corner of the yard. This provides a wonderful source of shelter for birds and wildlife on cold winter days.

### Only Rain Down the Drain Tips For Clean Rivers

- Drive your vehicle less to reduce automotive fluids and dust from collecting in the roadways.
- Never dump oils, paints, solvents or chemicals on the ground or in the street. Recycle used motor oil at the curbside and dispose of antifreeze, paints, and solvents at a hazardous waste facility.
- Avoid fuel spills when working on engines or filling the fuel tanks of lawn mowers and boats.
- Cover oil spills with kitty litter. After the litter soaks up the oil, place in the trash.
- Wash your vehicles on the grass instead of the driveway. Use soap without phosphates.
- Preserve established trees and shrubs in your garden and neighborhood.
- Repair or replant areas on your property to prevent soil erosion.
- Plant native vegetation and choose plants that need less water and little or no fertilizer or pesticides.
- Recycle or compost weeds, leaves, and grass clippings instead of washing them into the streets.
- Always pick up pet waste and flush it down the toilet or place it in the garbage.



## Only Rain Down the Drain The City of Portland Works For Clean Rivers

Stormwater runoff is a major source of the pollution flowing into our rivers and streams. We can all take simple steps to help keep our rivers and streams clean.

> This Portland police parking lot has been designed with vegetated swales that filter out pollutants and capture surface water runoff.

Urban forests play a vital role in stabilizing soils and preventing erosion. Urban trees reduce storm runoff by intercepting and absorbing rainwater.

> Our city parks use mulches to reduce fertilizer and pesticide use. Several city golf courses have incorporated water quality facilities into their design.

Report all ollution spills and dumping by calling Environmental Services at 823-7180.

24 hours

City Of Portland

Landscaping with native plants requires less water and no chemicals to thrive. The Downspout Disconnection Program lets stormwater runoff flow into gardens, lessening the burden on the sewer and streams.

Newly constructed residential streets are required to be a "skinny" 20-26' wide, reducing the surface area collecting water.



One of the changes the Fire Bureau has developed is a system to capture the foam they use in training, sending it directly to a wastewater treatment plant instead of the stormdrains.

WS 7030

Keeping city vehicles in tune and leak free helps keep dusts and fluids from washing into the stormdrains. The City of Portland encourages bus transportation and car pools.

For information on what you can do for clean rivers call 823-5610.

#### **INVASIVE WEEDS TO LOOK OUT FOR...**



Courtesy of 1,000 Weeds of N. America

Japanese Knotweed Polygonum caspidatum, P. bohemicum, P. sachalinense



Courtesy of Kalamazoo College

**Garlic Mustard** 

Alliaria petiolata



**Giant Hogweed** 

Heracleum mantegazzianum



Courtesy of Ben Legler, University of Washington Herbarium

> **English Holly** Ilex aquifolium



Courtesy of Tom Forney, ODA

**Old Man's Beard** Clematis vitalba



**English Ivy** 

Courtesy of WSU Extension

Herb Robert Hedera helix, H. hibernica Geranium robertianum

Courtesy of Paul Noll

Pokeweed

Phytolacca americana



Courtesy of Paul Wray, Iowa State University, Bugwood.org

**Tree of Heaven** Ailanthus altissima



Courtesy of Guernesy Biological **Records** Centre

**Yellow Flag Iris** Iris pseudacorus



Courtesy of Tim Butler, ODA

**Butterfly Bush** Buddleia davidii



Courtesy of Glenn Miller, ODA

**Policeman's Helmet** Impatiens glandulifera





#### About WMSWCD

West Multnomah Soil and Water Conservation District is a statedesignated special district to help our constituents plan and implement locally-led conservation practices.

#### **Our Mission**

To conserve, protect and develop soil and water resources; to help with the development of all natural resources in West Multnomah County for the benefit of the people, wildlife, and the environment.

WEST MULTNOMAH SOIL AND WATER CONSERVATION DISTRICT

2701 NW Vaughn St, Suite 450 Portland, OR 97210

Phone: (503) 238-4775 x.103 Fax: (503) 326-3940

PROTECT (Y)OUR WEST MULTNOMAH COUNTY LAND Look Out For Invasive Weeds!

West Multnomah Soil and Water **Conservation District** 

#### WHAT AND WHY?

What is an Invasive Weed?

A noxious weed is an invasive, non-native plant introduced to an environment where it has been determined to inflict harmful ecological and economic costs.

Why Care?

Invasive weeds displace native plants and wildlife; reduce biodiversity, impede water flow and water quality, alter hydrologic conditions and flooding regimes, increase soil erosion, decrease land values, reduce crop yield and quality, and can completely change how natural ecosystems function.

(OSU Extension, Invasive Weed Identification and Management, June 2003)



Woods along a SW Portland roadside infested with English Ivy

#### HOW TO SPOT AN INVASIVE



How to Spot an Invasive Weed

Invasive, noxious weeds are problematic because they can proliferate in many different environments. Invasive weeds do tend to favor "disturbed" areas such as roadways, ditches, pastures, and recently developed areas however. Disturbed areas often have abundant sunlight

Though noxious weeds are most easily identified when they have formed large, thick patches, it is critical to identify and locate an infestation *before* it reaches that stage.

### What YOU Can Do!

 Know your plants, particularly invasives.
Control invasive plants on your property and encourage your neighbors to do so.
Avoid disturbance to natural areas, including clearing and not dumping invasives in yard waste.
Use as many native plants as possible in landscaping

#### FIRST STEPS TO REMOVING INVASIVES

#### Common Noxious Weeds:

The key is continued and persistent maintenance!

Old Man's Beard (aka. Clematis) - "dig out" clematis by pulling all vines, including those running along or just under the ground. Roots must be broken off or cut off at least 2-inches under the ground. Vines on trees can be cut with shears at both knee and chest-height, to avoid any re-growth. Bag cut and pulled pieces to avoid re-sprouting. Expect to dig and cut up

to 5+ times before eradicated

**English Ivy** - Very similar to Clematis. Cut or pull manually, focusing on tree ivy as first priority. Cut tree ivy at both knee and chest height, and leave to die in the trees. Pull back ivy within 6ft of base of tree. Ground ivy can be rolled up into "logs" and left in piles to compost itself. Turn pile occasionally to prevent resprouts. Expect to cut and pull multiple times.

**Garlic Mustard** - Pull plants before it goes to seed (around late May), careful to grab at base of plant to remove entire root. It is critical to pull before the plant goes to seed! Pulled plants must be bagged to prevent re-sprouting of mature plants, since the plant can continue to germinate seeds after being pulled.

Control options for other weeds can be found at the links listed to the right.

Please contact WMSWCD **immediately** if you think you have identified **Japanese Knotweed** or **Garlic Mustard** on your property. For assistance with other noxious weeds or for more information, do not hesitate to contact WMSWCD

#### FOR MORE INFORMATION ...

• For more plant profiles, the Oregon Department of Agriculture Plant Division: http://www.oregon.gov/ODA/PLANT/WEEDS/

 More plant profiles and maps, Western Invasive Weeds Network: http://www.westerninvasivesnetwork.org

 Fact sheets on invasive weeds in northwest Oregon, Four-County Cooperative Weed Management Area: http://www.4countycwma.org/

 Native plant alternatives to invasive weeds, Naturescaping: http://www.naturescape.org

 Pesticide-free solutions for common invasive weeds, Northwest Coalition for Alternatives to Pesticides: http://www.pesticide.org/

 Weed reporting and mapping, WeedMapper: http://www.weedmapper.org

#### Visit Us On The Web!

Links to local resources, technical assistance, and small-grant opportunities.

West Multnomah Soil and Water Conservation District: www.westmultconserv.org

#### **Good Rain Garden Plants**



Creeping Oregon Grape Mahonia nervosa



Woodland Strawberry Fragaria vesca



Common Camas Cammasia auamash



Pacific Rush Juncus effusus var. pacificus

STOP!



Cornus sericea

**Douglas** Aster

Aster subspicatus

Northwest Cinquefoil Potentilla gracilis

**Don't use these plants:** These plants are listed on the city of

Portland's Nuisance plant list. See

www.emswcd.org for a full list.



Red Osier Dogwood Stream Violet Viola glabella





Tufted Hair-grass Deschamsia cespitosa



Western Red Columbine Aquilegia formosa



Cardwell's Penstemon Penstemon cardwellii



Dicentra formosa



Western Bleeding Heart

**Bishop's Weed Butteryfly Bush** Chameleon Plant Creeping Jenny European Soft Rush Horsetail Japanese Knotweed lvy

Vinca

Sword Fern

Polystichum munitum

Bamboo

Money Plant

Yellow-flag Iris PAPER





# RAIN GARDENS:

Gorgeous landscaping for your yard that also helps soak up runoff!



Attend one of our free rain garden workshops.

For more information about rain gardens or to sign up for a workshop, please visit our website.

Would your group like a rain garden, stormwater, or other low impact development presentation? Please contact Candace Stoughton for assistance at candace@ emswcd.org or 503-222-7645.

#### Please keep in mind

This brochure is intended to provide general guidance. Rain gardens are not appropriate for every site. Each property is unique and some have complicating factors that may require hiring a professional. EMSWCD, its staff and contractors are not responsible for any loss or damage resulting from the installation of a rain garden.

#### **About EMSWCD**

East Multnomah Soil and Water Conservation District is a unit of local government serving the residents and landowners of Multnomah County east of the Willamette River. We use a cooperative, non-regulatory approach to preserve soil and keep the water clean.



**East Multnomah SWCD** 5211 N. Williams Ave. Portland, OR 97217 503-222-SOIL (7645) www.emswcd.org

The EMSWCD prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisals, or because all or part of an individual's income is derived from any public assistance program. EMSWCD is an equal opportunity provider and employer.



#### What is a rain garden?

A rain garden is a "sunken garden bed" in your yard where you can direct runoff from your roof, driveway and other impervious surfaces on

runoff in

roof water or other

your property. The rain can then soak into the ground naturally rather than running off into storm drains.

#### Why build one?

When a landscape is covered in natural vegetation, most rainfall soaks

into the ground. As we build impervious surfaces like roofs, driveways, sidewalks, and streets, much of the rainfall

maximum

ponding

depth 12

Rain gardens are a beautiful and effective way to manage stormwater runoff because they allow rain to soak into



This rain garden is a beautiful addition to the home's landscaping.

### can't soak into the ground anymore. This can create problems, not just for people, but also for streams.

the ground naturally. This prevents pollution from entering our local streams and wetlands, recharges groundwater and keeps water flowing in our streams during summer months. Rain gardens are becoming very popular because

they are planted with beautiful, hardy, low-maintenance and drought tolerant plants. They are an easy way for all of us to do our part to protect our streams and rivers, and they provide food and shelter for birds, butterflies and beneficial insects.

To avoid drainage problems, place your rain garden at least six feet from your house if you have a basement (two feet if you don't) and five feet from your property line. Call your local jurisdiction to find out if you need a permit to disconnect your downspout or if there are special requirements.

#### Sample plans

Select the number and type of plants to fit the size of your rain garden, your specific light situation, personal aesthetics, and budget. You can use fewer plants and divide them to cover more area or more/larger plants to have a lush garden faster.

#### **Sunny Garden**

KEY	Common Name, Scientific Name	ZONES	Mature ht.	
A.	Creeping Oregon Grape, Mahonia nervosa	TSB		
B.	Western Columbine, Aquilegia formosa	TS		
C.	Tufted Hair-grass, Deschampsia cespitosa	TSB		
D.	Douglas Aster, Aster subspicatus	TS	8-40″	
E.	Common Camas, Camassia quamash	TSB		
F.	Oregon Iris, Iris tenax	TS		
G.	Cardwell's Penstemon, Penstemon carwellii	TS		
н.	Northwest Cinquefoil, Potentilla gracilis	TSB	12″	
۱.	Red Osier Dogwood, Cornus sericea	TSB	6-18′	
J.	Slough Sedge, Carex obnupta	В	4 '	



### **Frequently Asked Questions**

Do rain gardens breed mosquitoes?

No. Because rain gardens are shallow and are only built on soils with sufficient drainage, they are designed to dry out before mosquitoes can reproduce.

Can I install a rain garden if I have a septic system? Yes, but it is very important not to place a rain garden over an active septic system drain field.

Will my rain garden have standing water for more than a day?

Rain gardens are designed to infiltrate water in about a day. If it rains several days in a row, it is possible that your rain garden may have standing water until the rain in an hour the second time you fill it, your soil has adequate drainage for a rain garden.

#### **Rain Garden Zones**

**Top** (T) - for plants that prefer drier, more well-drained conditions Slope (S) - for plants that can tolerate both wet and dry conditions Bottom (B) - for plants that can handle occasional standing water

For a more exhaustive list of plants see our website www.emswcd.org

#### How to Do a **Percolation Test** 1. Dig a hole at least 12" deep. 2. Fill with water and let drain. 3. Fill with water a second time. If the water drains at least 1/2"

**Get Started!** 

Find a spot in your yard where you can easily direct the runoff from your downspout or other impervious surface. Do a percolation test (see inset) to ensure that the soils in that spot can soak up rain water.

Dig a shallow depression to create a rain garden area six to twelve inches deep. You can make it as long and wide as you like - the bigger it is, the more rain water it can soak up. Don't forget to call before you dig so you don't hit any buried utility lines. Oregon call 1-800-332-2344

B Use the soil you dig up to create a berm on the down slope side and direct the overflow safely away from nearby buildings. Make the bottom of your rain garden level. If you like, you can amend the soil in your rain garden with compost.

Plant your plants in the appropriate then mulch zone, around them.

Birect stormwater to your completed raingarden.

6 Live in Multnomah County? Register your rain garden and receive a free yard sign.

## RAIN GARDEN

My rain garden soaks up rainwater runof surfaces on my property. Rain gardens are a great way to add beautiful landscaping to ir vard and protect our overloaded urbar streams and sewers at the same time!

Learn more at: www.emswcd.org

#### **Shady Garden**

KEY Common Name, Scientific Name ZONES Mature ht. A. Salal, Gaultheria shallon......TS..... B. Fringecup, Tellima grandiflora......TS..... ... 32" D. Woodland Strawberry, Fragaria vesca ...... TSB..... ...8-12" Deer Fern, Blechnum spicant ......TSB..... F. Creeping Oregon Grape, Mahonia nervosa...... TS...... .3' G. False Solomon's Seal, Smilacina racemosa ...... TSB..... H. Sword Fern, Polystichum munitum ...... TS..... K. Wood Sorrel, Oxalis oregana ...... TS...... ...6″



Check out our free workshops at www.emswcd.org

stops and the water has time to soak in.



Clean air and clean water do not stop at city limits or county lines.

Neither does the need for jobs,

transportation choices for people

a thriving economy and good

and businesses in our region. Voters have asked Metro to help

with the challenges that cross

A regional approach simply

makes sense when it comes to

which contributes to conservation

metropolitan area.

those lines and affect the 25 cities

and three counties in the Portland

## Green from the ground up

#### Natural gardening ideas for homeowners





Natural gardener



Oregon sunshine

Metro's Nature in Neighborhoods initiative is a longterm effort to conserve and restore nature throughout the urban area and ensure that every citizen in the region has access to nature.

Good for people, pets and the planet, natural gardening involves simple practices like using native plants and compost to create a beautiful garden with fewer chemicals, fertilizers and water. Natural gardening helps:

- save water, energy, time and money
- keep local streams and rivers healthy
- attract birds and butterflies to your yard
- protect fish and wildlife habitat.

Whether you've been gardening with native and drought-resistent plants for decades or have just started using fewer chemicals in your yard, you are part of a growing group of people making a difference to the region's health and livability.

Placing the "right plant in the right place" is the most important step in gardening naturally. Look inside for a list of native and non-invasive exotic plants that will save you time and money. Our list describes the conditions the plant needs to succeed (amount of sunlight and moisture), and its use (shade, privacy, etc.) in your garden.



**3. Use non-toxic pest management.** You can prevent most pests, weeds and diseases by building healthy soil, growing appropriate plants and using mulches. Avoiding pesticides will also spare beneficial insects who can help you fight pests.

**1. Build healthy soil.** Soil is the key to the health of your garden, and compost is the key

to the health of your soil. Compost - which can be made from decayed plant materials and

added to the soil as an amendment or mulch – improves drainage, adds nutrients and feeds

2. Grow appropriate plants. Plants that are well adapted to your garden require fewer fertilizers

and pesticides and less work. Native plants are often an excellent choice because they are

care once established. Native plants also tend to be less susceptible to pests and diseases and

Non-native plants adapted to our dry summer climate can also be excellent choices in a

natural garden. Just be sure to avoid invasive non-natives like English ivy, butterfly bush or

adapted to our soil and climate so they need relatively little or no added water, fertilizers or

attract birds and butterflies to your garden. These good bugs pollinate plants, fight pests and

helpful soil organisms like earthworms. Compost also helps conserve valuable water.

Learn what you can about the pest, weed or disease problem you face and use the safest solution possible. Try to tolerate a little damage, pick pests off by hand, or change watering habits. As a last resort, choose non-toxic or less-toxic organic pesticides, herbicides and fungicides.

4. Attend one of Metro's Natural Gardening seminars. Metro offers free natural gardening seminars to help you garden chemical-free. You can learn to compost, attract butterflies, birds and other wildlife to your yard, build a worm bin, create a rain garden and more. These seminars are held in the spring, March through June, or you can schedule a seminar for your group anytime. Call Metro Recycling Information at 503-234-3000 for more information or visit www.oregonmetro.gov/garden.

Homes using "green" practices are not only good for your health, they are also good for the fish, wildlife, water quality and natural areas in our region. You are helping to keep nature in neighborhoods by choosing to use these practices.

To learn more, visit www.oregonmetro.gov/nature.

NATURAL GARDENING BASICS

feed birds.

Himalyan blackberry.

without the use of harmful chemicals.

Partners in the use of green development practices:











and education, and the Oregon Convention Center, which benefits the region's economy. Your Metro representatives Metro Council President -

David Bragdon Metro Councilors -Rod Park, District 1 Carlotta Collette, District 2 Carl Hosticka, District 3 Kathryn Harrington, District 4 Rex Burkholder, District 5 Robert Liberty, District 6 Auditor – Suzanne Flynn

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### Gardening naturally makes your home more nature friendly

Metro | Keep nature in neighborhoods

BOTANICAL NAME	COMMON NAME	MATURE SIZE (TYPICAL)	LIGHT NEEDS	WATER NEEDS	COMMENTS
Fraxinus latifolia	Oregon ash	Height: 40 ft–80 ft Spread: 25 ft	Su	M, SW	Has winged fruit, not berries like other ashes. Often grows near streams or areas that flood.
Picea sitchensis	Sitka spruce	Height: 150 ft-200 ft	Su, PSu	SW, M	Fast-growing, long-lived conifer found in low-lying, moist forests.
Pinus contorta	shore pine	Height: 10 ft-25 ft	Su, PSu	D	Drought tolerant, shade intolerant.
Pinus ponderosa	ponderosa pine	Height: 55 ft-90 ft	Su, PSu	D	Drought tolerant. Good for windbreaks.
Quercus garryana	Oregon white oak	Height: 30 ft–65 ft Spread: 45 ft	Su	D ·	Also called garry oak. Often found on dry, rocky slopes at low elevations. Important food source for wildlife. Slow growing.
Salix spp.	willows	Height: 10 ft–60 ft	Su	M, SW, PW	Most willows like wet feet, grow on streambanks, and have excellent soil-binding characteristics.
Tsuga heterophylla	Western hemlock	Height: 125 ft + Spread: 40 ft	Su, PSu	М	Can be used as hedge. Not for average yard due to size. Fairly fast growth. Prefers moist, acid soil.
Thuja plicata	Western red cedar	Height: To 200 ft Spread: 30 ft	Sh, PSu	M, SW	Found mostly in moist to wet soils, usually in shaded forests. Will grow in drier areas with rich soil.
SMALL TREES					
Acer circinatum	vine maple	Height: 5 ft–35 ft Spread: 20 ft	Sh, PSu	М	Often grows in conifer forest understory. Very shade tolerant, can be sprawling in the shade; excellent fall color.
Amelanchier alnifolia	Western serviceberry	Height: 4 ft–18 ft	Su, PSu	M, SW	Can grow up to 30 ft in ideal conditions. Edible fruit. Good fall colo Prefers good soil and moderate water. White flowers in May.
Ceanothus velutinus	mountain balm	Height: 20 ft	Su	D	Also called sticky laurel, buckbrush, and cinnamon bush. Once established, resents watering. White flowers in June.
var. Laevigatus Corylus cornuta	Western hazelnut	Height: 5 ft-18 ft	Su, PSu	М	Good hedgerow shrub. Male catkins attractive. Also called hazel nut or filbert.
SHRUBS					Anso cancu nazei nut or indert.
Daphne odora	fragrant daphne	Height: 3 ft–5 ft	Sh, Su	D, M	Early blooming, very fragrant flower. Not native to Pacific northwes
Gaultheria shallon	salal	Height: 1 ft–6 ft	Sh, Su	D, M	Common in a variety of habitats, from bogs to dry, well-drained slopes. Makes an excellent ground cover. Low-growing in dry, sunny conditions; much taller in moist, shady conditions.
Mahonia aquifolium or Berberis aquifolium	tall Oregon grape	Height: 5 ft-8 ft	Su, PSu	М	Needs well-drained soil. Good in hedge, good barrier plant. Not as tolerant of dry conditions as the two low-growing varieties.
Philadelphus lewisii	Western mock orange	Height: 4 ft–12 ft	Su, PSu	D, M	Erect, loosely branched shrub. May–June bloom, very fragrant. Tolerates a wide range of soil conditions.
Rhododendron nacrophyllum	Pacific rhododendron	Height: 4 ft–15 ft	Sh, PSu	М	Flowers very showy. Blooms most profuse in clearings or forest edge. Slow growing; can be difficult to establish.
Rhododendron occidentale	Western azalea	Height: 14 ft	Su, Psu	М	Often forms dense thickets. Clusters of beautiful white or pink flowers attract butterflies and hummingbirds.
Ribes sanguineum	red-flowering currant	Height: 3 ft–9 ft	Su, Sh	D, M	Very attractive, erect, shrub with red, tubular flowers that bloom early in the spring.
Rosa pisocarpa	swamp rose	Height: 4 ft–10 ft	Su, PSu	M, SW	Also called clustered rose because the pink flowers usually occur in groups of 3–20. Produces small purplish, pear-shaped hips.
Vaccinium ovatum	evergreen huckleberry	Height: 3 ft-12 ft	Sh, PSu	М	Attractive ornamental with shiny, leathery leaves. Shiny purple-black berries are edible. Grows taller in shade.
GROUNDCOVE	R S				
Arctostaphylos uva-ursi	kinnickinnick	Height: 2 in–6 in Spread: To 15 ft	Su, PSu	D/M	Also called bearberry. Excellent on slopes too steep for lawn. Slow to start; mulch to keep down weeds until established. Drought tolerant once established.
Cornus canadensis	bunchberry	Height: 6 in	Sh, PSu	М	Also called dwarf dogwood. Very low growing ground cover, likes rich, moist soil, spreading. White flower.
Fragaria chiloensis	coastal strawberry	Height: 3 in	Su, PSu	М	Sometimes called beach strawberry. Shiny dark green leaves.
Gaultheria ovatifolia	Oregon wintergreen	Height: 6 in–18 in	Sh, PSu	М	Good for wetlands. Can grow in deep shade.
Linnaea borealis	twinflower	Height: 6 in	Su, PSu	М	Creeping, semi-woody evergreen shrub with delicate, fragrant flower
Mahonia nervosa	low Oregon grape	Height: 1 ft–3 ft	Sh, Su	D, M	Also called creeping Oregon grape. Good barrier plant. Tolerates dry sunny sites and dry shade.
HERBACEOUS	SPECIES/GRAS	SES			
Achillea millefolium	yarrow	Height: 12 in–24 in	Su, PSu	D	Easy to grow, can spread quickly. Drought tolerant, requires well- drained soil and can grow in nutrient poor soil.
Allium species	wild onion	Height: 6 in–18 in	Su .	М	Native species usually grow in rocky, exposed sites; need ample wate when growing but not when dormant. Blooms in May or June.
Anaphalis margaritacea	pearly everlasting	Height: 12 in–24 in	Su, PSu	D, M	Tends to grow in clumps. Long-lasting white flowers that retain their color when dried. Some consider it a weedy species.
Aquilegia formosa	red columbine	Height: 12 in–18 in	Su, PSu	М	Easy to start from seed. Prefers light shade but can grow in wide variety of settings. One of our most beautiful wildflowers; spring bloom. Flowers attractive to hummingbirds and butterflies.
Asarum caudatum	wild ginger	Height: 3 in–6 in	Sh	М	Heart-shaped, velvety leaves.

			0	٠	
And a second	and the second	MATURE SIZE (TYPICAL) SES, continue	LIGHT NEEDS	WATER NEEDS	COMMENTS
Aster species	aster	Height: 1 ft–3 ft	Su	D, M	Late summer and fall bloom. There are several native asters that can grow in a variety of settings.
Balsamorhiza species	balsamroot	Height: 1 ft-3 ft	Su	D	Spectacular yellow bloom.
C <i>amassia quamash</i> and C <i>amassia leichtlinii</i>	common camas and large camas	Height: 1 ft-2.5 ft	Su, PSu	SW, M	Can be used in wet meadow or wetland settings. Late spring or early summer bloom. Tolerates heavy soil.
Carex obnupta and Carex unilateralis	slough sedge and lateral sedge	Height: varies (8 in–46 in)	Su, PSu	M, SW, PW	Wetland plants with many native species. Grasslike with triangular stems. Require summer watering. Slough sedge is evergreen.
Deschampsia caespitosa	tufted hairgrass	Height: 12 in–48 in	Su, PSu	M, SW, PW	Densely tufted perennial grass. Grows in bunches.
Dicentra formosa	Western bleeding hear	t Height: 6 in–12 in	Sh, PSu	М	Large fernlike leaves. April to June bloom. Prefers rich soil. Does well along stream banks. Pink-purple heart-shaped flower.
Eriophyllum lanatum	wooly sunflower	Height: 6 in–12 in	Su	D	Also called Oregon sunshine or golden yarrow. Sunflower-like flowers on long stalks above wooly gray leaves. Blooms May–August.
Iris tenax	Oregon iris	Height: 10 in-20 in	Su	М	Showy, clumped perennial with narrow, grasslike leaves
<i>Juncus ensifolius</i> , and other <i>Juncus</i> species	swordleaf rush and other rushes	Height: varies	Su	М,	Use in wetland or riparian areas. They provide excellent soil-binding for erosion control. Common rush (Juncus effusus) can be invasive; avoid in home landscapes.
Lonicera ciliosa	orange honeysuckle	Height: 15 ft-20 ft	Su, PSu	D/M	Also called trumpet vine. Found on margins of wooded areas. Orange flowers attract hummingbirds and swallowtail butterflies.
Lupinus polyphyllus	large-leaved lupine	Height: 24 in–60 in	Su, Sh	M/D	Short-lived perennial that sometimes reseeds itself. Tolerates broad range of conditions. Long-stalked purple flower.
Maianthemum dilatatum	false lily of the valley	Height: 3 in–15 in	Sh, PSu	M, SW	Grows near shaded or moist stream banks. Forms dense ground cover. White flowers on a delicate stem.
Oxalis oregana	Oregon oxalis	Height: 2 in–6 in	Sh	М	Also called redwood sorrel or wood sorrel. Ground-hugging plant with clover-shaped leaves. Edible leaves.
Penstemon serrulatus	Cascade penstemon	Height: 10 in–24 in	Su, PSu	М	Sometimes called coast penstemon. Dark blue to purple flowers in large clusters at end of stem.
Scirpus microcarpus	small-fruited bulrush	Height: 2 ft-5 ft	Su	PW, M	Grasslike plant common in wetlands and roadside ditches. Good soil-binding characteristics. Spreads fairly rapidly.
Sedum spathulifolium	spatula-leaf stonecrop	Height: 3 in-8 in	Su, PSu	D, M	Pale yellow flowers. Leaves vary in color from gray-green to deep red, becoming more reddish in full sun.
Sisyrinchium douglasii	grass-widow	Height: 4 in–16 in	Su	M, SW	Showy, tufted perennial. Leaves like iris but much smaller. Reddish-purple spring bloom. Does well on edge of streams.
Smilacina racemosa	false Solomon's seal	Height: 12 in-36 in	Sh, PSu	M, SW	Similar to star-flowered Solomon's seal. Good ornamental in shady gardens. Large, many-branched flower clusters.
Smilacina stellata	star-flowered Solomon's seal	Height: 12 in–24 in	Sh, PSu	M, D	Small perennial, usually found in rocky but moist soil. White flower clusters.
Tellima grandiflora	fringecup	Height: 12 in–36 in	Sh, PSu	М	Basal leaves with long, hairy stalks. Flowers greenish-white.
Tolmiea menziesii	piggyback plant	Height: 12 in–24 in	Sh	M, SW	Good along stream banks. Often used as houseplant.
Trillium ovatum	Western trillium	Height: 6 in–18 in	Sh, PSu	М	Early spring bloom. Attractive flower. Prefer acidic soil.
Vancouveria hexandra	inside-out flower	Height: 8 in	Sh, Su	D, M	Also called ducks foot, because of the shape of the leaf.
Viola glabella	stream violet	Height: 4 in–12 in	PSu, Sh	М	Small but showy yellow flowers. Heart-shaped leaves.
FERNS			DG CI		
Adiantum aleuticum	maidenhair fern	Height: 12 in–24 in	PSu, Sh	М	Delicate, black-stemmed fern. Unusual in appearance and very attractive.
Athyrium filix-femina	lady fern	Height: 24 in–48 in	Su, PSu	М	Often form dense populations in moist, wooded areas and along stream banks.
Blechnum spicant	deer fern	Height: 12 in–36 in	Su, PSu	M, SW	Found in moist conifer forests. Two kinds of fronds: horizontal outer frond, erect center frond.
Polystichum munitum	sword fern	Height: 24 in–48 in	Sh, PSu	D, M	Grows in wide variety of conditions. Probably the best known fern in Pacific northwest. Excellent plant fo <mark>r dry shade.</mark>

Note: Thanks to City of Portland's Bureau of Environmental Services for the use of this plant list. This is not a complete list of plants native to the Portland area. It does include those most commonly used in residential settings, most readily available at retail nurseries, and plants suited to a wide range of growing conditions. The Portland Plant List can be found at www.portlandonline.com.

🗘 Light No	eeds	<b>Water Needs</b>			
Su:	Full Sun	SW:	Seasonally Wet		
PSu:	Partial Sun	PW:	Perennially Wet		
Sh:	Full Shade	M:	Moist		
Su, PSu:	Full Sun to Partial Sun	D:	Dry		
Sh, PSu:	Full Shade to Partial Sun				
Su, Sh:	Sun to Shade (prefers sun)				
Sh, Su:	Shade to Sun (prefers shade)				

For more information about these and other native plants, visit www.oregonmetro.gov/nature.



**Complainant Photograph Guidelines** 

http://www.portlandonline.com/bds/index.cfm?print=1&c=53112&a...

THIS POLICY IS OPPOSED TO CLEAN WATER Complainant Photograph Guidelines Tull grosses provent hun - 074 BDS has created a pilot project that allows citizens to submit complainant photos of tall grass and weed violations at properties. To participate in the pilot project and report a property with grass and weeds in excess of 10 inches in height, citizens may submit photographs online at http://www.portlandonline.com /bds/index.cfm?c=53082.

In order to assist BDS staff with processing the tall grass and weed nuisance complaint and to ensure that your photographs contain the necessary information to set up a case, mail a violation letter requesting corrective action, and take enforcement action if the violation is not corrected within 30 days, please adhere to the following photograph guidelines:

1. Ensure that at least one photo shows the front of the house, the tall grass and weeds, and house number so we can match the photo to the correct property. Remember to utilize the public right-of-way when taking pictures as you should not trespass on private property.



2. You may also zoom in and include a photo showing that the grass and weeds are more then 10 inches in height.



3. You may also include photos of tall grass and weeds in the adjacent rights of way.

http://www.portlandonline.com/bds/index.cfm?print=1&c=53112&a...



#### 4. Digital photographs should include a date and time stamp.

Tall Grass and Weed Complaint Pilot Project

#### http://www.portlandonline.com/bds/index.cfm?c=53112

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POL -> Government -> Bureaus & Offices -> Development Services -> Enforcement Program -> Tall Grass and Weed Complaint Pilot Project

#### **Tall Grass and Weed Complaint Pilot Project**



Title 29 of Portland City Code requires the owner of any property to cut and remove and keep cut and removed all weeds and grass that are located in lawn areas and have a prevailing height of more than 10 inches. Due to reduced resources, the Bureau has had to temporarily suspend enforcement of several complaint types, including tall grass and weed complaints.

In order to provide the highest level of service, while maximizing limited resources, BDS has created a pilot project that allows citizens to submit complainant photos of tall grass and weed violations at properties. If submitted citizen photographs confirm a tall grass and weed violation at a property, BDS will proceed with enforcement action. While BDS enforcement resources remain limited at this time, we are very excited to create this opportunity to allow citizens to partner with us to address tall grass and weed violations in our community.

To participate in the pilot project and report a property with grass and weeds in excess of 10 inches in height, please click below to submit a complaint. Please refer to the <u>Complainant</u> Photograph Guideline to ensure that your photographs contain the necessary information to setup up a case, mail a violation letter requesting corrective action, and take enforcement action if the violation is not corrected within 30 days.

#### Submit a Tall Grass and Weed Pilot Project Complaint

Additional Information: Due to limited resources, complaints may only be submitted online. This pilot project only addresses tall grass and weeds in excess of 10 inches in height. Other nuisance conditions such as blackberry overgrowth and trash & debris are not addressed under this pilot project. If you have additional nuisance conditions to report or if you do not wish to participate in the tall grass and weed nuisance complaint pilot project, please visit the other nuisance online reporting site at <a href="http://www.portlandonline.com/bds/index.cfm?c=47599">http://www.portlandonline.com/bds/index.cfm?c=47599</a>. Due to reduced resources, complaints are being prioritized and not all complaints are able to be investigated at this time.

#### Tall Grass & Weed Pilot Project Complaint Form

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Development Services - New Users - Zoning/Land Use - Permits - Enforcement - Applications/Handouts

#### Host a Workshop in Your Neighborhood

A naturescaping workshop is a great way to get your neighbors involved in a community beautification project or assist a nearby school to create an environmental learning lab. Hosting a workshop helps create more community in your neighborhood and wildlife habitat that doesn't stop at property lines.

By hosting a naturescaping workshop, you bring your friends, neighbors, and community the information they need to take action.

#### We (Naturescaping):

- Handle workshop registration and confirmation.
- Help spread the word by providing press releases to the Oregonian, other community news sources, flyers, and "friends of" groups. We'll also give you flyers to distribute in your neighborhood.
- Provide free workbooks and native plants to attendees.

#### You, the host:

- Locate and book workshop location at no cost to the Naturescaping program that will accommodate 18-40 people at tables.
- Recruit two volunteers to assist with room set up, break down, and check-in.
- Help identify at least one natural garden or community project near the workshop location for a field trip.
- Distribute notices and flyers to local bird shops, garden centers, libraries, and community centers.
- Promote the workshop in neighborhood association newsletters and meetings of local groups.
- Provide light refreshments for workshop attendees.

#### Interested in hosting a workshop?

Read more about hosting a workshop at our website, then contact us at: workshops@naturescape.org

#### Who is Naturescaping?

Naturescaping is a program developed to provide home and business owners with *free* education and technical information about the advantages and how-to of naturescaping. The program is made possible through the collaboration of the East Multnomah Soil and Water Conservation District, the City of Portland Environmental Services Division, and other local sponsoring groups.

#### **About EMSWCD**

East Multnomah Soil and Water Conservation District is a unit of local government serving the residents and landowners of Multnomah County lying east of the Willamette River by providing conservation education, technical, and financial assistance to private land and home owners, governments, and non-profit organizations. We use a cooperative, nonregulatory approach to preserve our soil and keep our water clean. We've been helping people care for their land for over fifty years.



East Multnomah SWCD 5211 N. Williams Ave Portland, OR 97217

#### T: 503-222-SOIL (7645) http://www.emswcd.org

The EMSWCD prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisals, or because all or part of an individual's income is derived from any public assistance program. EMSWCD is an equal opportunity provider and employer.

PAPER



### NATURESCAPING



### Less mowing, fertilizing, Watering, pollution, and maintenance

## What is Naturescaping?

Naturescaping is beauty and function. It is the practice of designing (or redesigning) a landscape so that it reduces water use, stormwater runoff, and pollution without sacrificing splendor. Plus, it saves you time, money, and energy – all while providing a beautiful habitat for birds, wildlife, and you. The practice focuses primarily on native plants, helping you to choose the best ones for your particular setting and needs. Native plants are recommended because they are adapted to our soil and climate so they need relatively little or no watering, fertilizing, or care once established. They are also less susceptible to common garden pests and diseases, and they attract a variety of native birds and butterflies by providing food and shelter.

#### **Free Workshops Show You How**

We provide free workshops to help people naturescape their yard on their own. Even if you discover that you will need the help of a landscaper or designer with your project, you'll have the framework to help make decisions and communicate your desires to your contractor.

Our naturescaping workshops are hosted by interested individuals, neighborhood associations, and other community organizations. Experienced facilitators and landscape designers lead these four-hour, weekend workshops that include a visit to a neighborhood naturescaping project to see design principles in action. Every participant receives a comprehensive workbook and a native plant to help them get started.



This back yard was landscaped using naturescaping principles and a mixture of native and drought tolerant non-native plants.

wildlife habitat, watershed stewards

wildlife habitat, watershed stewardship, and basic site or project planning, as well as many other great gardening tips. Workshop participants get to view before and after naturescaping examples, take a field trip to a nearby project, get advice on landscape design and native gardening, receive a workbook and free native plant, network with neighbors, and identify native plants.

In this introductory workshop we introduce the concept of naturescaping. We also discuss time and maintenance savings, reduction/elimination of water and chemical use, increasing and improving

Naturescaping Basic Workshop (4 hours)

#### Site Planning Workshop (4 hours)

This next workshop gives participants experience with the steps involved in planning a landscape or project.

You will learn how to map your property, assess your garden style and needs, do some garden dreaming, and work on a group design scenario. Participants must have attended the Basic Workshop first.



#### Site Planning Feedback Session (2 hours)

Need a little help with plant selection, hardscaping options, or water issues? In this interactive session, participants bring in their site plans and get personalized feedback from our landscape specialists.

#### Naturescaped Yard Tour (2-4 hours)

Have you ever looked at someone's front yard and wish you could see what they had done in the back? On this guided tour you can! Visit a number of gardens where you will get to talk to the gardener, learn about the phases of their project – as well as see their back yard.

**Speak at Your Event or Meeting** (½ - 2 hours) We're happy to give a presentation to your group. Contact us or visit our website for possible topics.

### **Register for a Free Workshop!**

Visit **www.emswcd.org** for the current schedule and to register online. If you don't have internet access or are interested in being a host, please call 503-222-7645.

Beautiful landscapes, backyard wildlife, healthy environment

#### **Invite Metro's mobile** native plant garden to your community event



Learn about native plant gardening from Metro's native plant mobile garden. The 6-foot-by-14-foot

garden features more than 60 plant species that are native to the Pacific Northwest.

Metro's natural gardening educators can bring the mobile garden to community events in the Portland metropolitan area. Visit our mobile garden and talk with an expert about gardening with native plants. Come see beautiful native plants on display and take home a variety of natural gardening brochures.

To request the mobile garden for your event, call Metro Recycling Information at 503-234-3000.

Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

#### Your Metro representatives

Metro Council President – David Bragdon Metro Councilors - Rod Park, District 1; Carlotta Collette, District 2; Carl Hosticka, District 3; Kathryn Harrington, District 4; Rex Burkholder, District 5; Robert Liberty, District 6. Auditor - Suzanne Flynn

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## Native plants

#### for Pacific Northwest gardens



### **Grow green**

Metro

with planting ideas from Metro's mobile native plant garden

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Oregon iris, *Iris tenax*, page 15 (above). Checkerspot butterfly (right).

### Natural gardening is easy, safe and fun!

Birds and bugs are ready to help with your gardening chores...naturally. Simply make your yard a pesticide-free zone, and follow a few easy steps. Natural gardening isn't just beautiful and fun – it also protects children, pets, streams and forests from harmful garden chemicals.

#### Plant right for your site

Why struggle with tender plants bound to lose the battle with pests, diseases, droughts and freezes? Pick plants that can thrive where you put them – without pesticides or fuss. Native plants like the ones described in this booklet are a great choice, as are many non-native plants.

#### Use compost and mulch to build soil and stop weeds



Compost contains worms and other creatures that turn soil, dead

plant parts and air into free fertilizer! Dig it in or spread it as mulch. Mulches also smother weeds and reduce runoff into nearby streams.



#### Water less to save more

Choose plants that can thrive solely on rainwater after they're established. Just imagine: no sprinkling, fewer weeds and less pruning! For vegetables and lawns,

avoid waste by using automatic shutoff valves or nozzles and keeping water off the sidewalk.

## Native plants are great for home gardens

Native plants have evolved over thousands of years, adapting to the local climate, soils and animals, so they can survive seasonal changes.



Meadowhawk dragonfly

They also provide the best food and shelter for beautiful birds, butterflies and other local wildlife.

#### **Avoid invasive plants**

Invasives are aggressive, non-native plants that often crowd out natives for water, sunlight, nutrients and space. They're carried by wind, water, wildlife and people. Left unchecked, they can severely alter wildlife habitats, crops, stream flows and the diversity of life in natural areas.

### Many non-native plants are great for gardens, too

Food crops, medicinal plants and ornamentals come from near and far but usually pose no threat to native plants and animals. Contact Metro at 503-234-3000 for the latest information on non-invasive plants.



Seaside daisy, Erigeron glaucus, page 14.

## Great native plants for the Willamette valley

The following plants are ideal choices for nature-friendly gardens in the Willamette Valley. All of these plants can be seen in Metro's mobile native plant garden. Learn how to read the symbols in the plant descriptions on the next page.





Sitka spruce Picea sitchensis



Evergreen tree 125-200 feet tall Moderately hard to grow

Coastal conifer; great for erosion control



Shore pine Pinus contorta 'contorta'



Evergreen tree 20-50 feet tall Easy to grow

Coastal conifer; great for erosion control



Western hemlock Tsuga heterophylla



Evergreen tree 120-200 feet tall Easy to grow

Fairly fast-growing conifer





Vine maple Acer circinatum



Deciduous shrub 10-20 feet tall Easy to grow

Red and white flowers in spring; showy fall foliage



Blue blossom Ceanothus thyrsiflorus



Evergreen shrub 15 feet tall Easy to grow

Bright blue blossoms in spring and again in fall; shiny, dark-green leaves year-round



**Salal** Gaultheria shallon



6

Evergreen shrub 1-6 feet tall Easy to grow

............

Pink flowers May to July; edible berries in fall; handsome, medium-size shiny leaves; spreads by root runners



#### Pink honeysuckle Lonicera hispidula



Deciduous vine 12 feet tall Easy to grow

#### Pink flowers in summer; sparse foliage



Tall Oregon grape Mahonia aquifolium



Evergreen shrub 5-8 feet tall Easy to grow

Early spring blooms feed hummingbirds and butterflies; fall fruit feeds wildlife; holly-like leaves; spreads



Low Oregon grape Mahonia nervosa



Evergreen shrub 2 feet tall Easy to grow

Early spring blooms feed hummingbirds and butterflies; fall fruit feeds wildlife; holly-like leaves



Pacific ninebark Physocarpus capitatus



Deciduous shrub 12 feet tall Easy to grow

Clusters of white flowers bloom spring to summer; great for rain gardens



Red-flowering currant Ribes sanguineum



Deciduous shrub 4-10 feet tall Easy to grow

Early spring blooms feed hummingbirds and butterflies; fall fruit feeds wildlife; fast-growing



Woods' rose Rosa woodsii



Deciduous shrub 6 feet tall Easy to grow

#### Pink flowers in summer; spreads



Thimbleberry Rubus parviflorus



Deciduous shrub 8 feet tall Easy to grow

White flowers spring and summer; edible fruit for wildlife; spreads



Evergreen huckleberry Vaccinium ovatum



Evergreen shrub 8 feet tall Easy to grow

Pink flowers spring to summer; edible fruit for wildlife; great foliage plant; slow-growing



#### Red huckleberry Vaccinium parvifolium



Deciduous shrub 10 feet tall Moderately hard to grow

White flowers spring to summer; edible fruit for wildlife



High bush cranberry Viburnum trilobum



Deciduous shrub 10-15 feet tall Easy'to grow

White flowers spring to summer; fall fruit feeds wildlife



### Perennials, annuals and groundcovers

Yarrow Achillea millefolium



Perennial 1-2 feet tall Easy to grow

White flowers spring to fall; can spread quickly



Maidenhair fern Adiantum pedatum



Perennial 10-30 inches tall Moderately hard to grow

Delicate foliage; grows well alongside streams



Nodding onion Allium cernuum



Perennial 6-20 inches tall Easy to grow

Pink flowers in summer; great for rock gardens



#### Pearly everlasting Anaphalis margaritacea



Perennial 1-4 feet tall Easy to grow

White flowers summer to fall; silver-gray foliage; spreads easily



Red columbine Aquilegia formosa



Perennial 3 feet tall Easy to grow

Spring and summer blooms feed hummingbirds and butterflies; great for rain gardens



Kinnikinnick Arctostaphylos uva-ursi



Evergreen groundcover 5-8 inches tall Easy to grow

Pink flowers mid-spring to early summer; edible berries provide food for wildlife



Wild ginger Asarum caudatum



Perennial groundcover 6 inches tall Moderately hard to grow

Beautiful spring flowers hidden under heartshaped leaves; edible roots



Douglas aster Aster subspicatus



Perennial 1-4 feet tall Easy to grow

Purple flowers summer to fall; great for rain gardens



Coyote bush Baccharis pilularis



Evergreen shrub 10 feet tall Easy to grow

Inconspicuous white flowers late summer to early winter; small light-green leaves



Deer fern Blechnum spicant



Evergreen perennial 3 feet tall Moderately hard to grow

Great for shady rain gardens



Large boykinia Boykinia major



Perennial 1-3 feet tall Easy to grow

White flowers summer to fall; great for woodland gardens



**Camas** Camassia quamash



Perennial 30 inches tall Easy to grow

Purple spring flowers; great for rain gardens



Slough sedge Carex obnupta



Evergreen perennial 2-3 feet tall Easy to grow

Grasslike, with inconspicuous brown flowers spring to summer; great for erosion control; spreads easily



Pacific bleeding heart Dicentra formosa



Perennial 1 foot tall Easy to grow

Pink flowers spring to summer; spreads by seed



Henderson's shooting star Dodecatheon hendersonii



Perennial 1 foot tall Easy to grow

Pink flowers spring to summer; great for rain gardens or rock gardens



Mountain avens Dryas octopetala



Evergreen groundcover 4-8 inches tall Easy to grow

. . . . . . . . . . . . . . . .

White summer-blooming flowers; great for rock gardens



Seaside daisy Erigeron glaucus



Evergreen perennial 1-2 feet tall Easy to grow

Showy light-purple flowers spring to fall; spreads easily



White fawn lily Erythronium oregonum



Perennial 1 foot tall Moderately hard to grow

Showy white spring blooms; great for woodland gardens



Coastal strawberry Fragaria chiloensis



Evergreen groundcover 4 inches tall Easy to grow

White flowers spring to summer; edible fruit for wildlife; spreads easily



Oregon wintergreen Gaultheria ovatifolia



Evergreen groundcover 3 inches tall Moderately hard to grow

Pink bell-shaped flowers in summer; edible fruit for wildlife; great for rain gardens



Small-flowered alumroot Heuchera micrantha



Evergreen perennial 6-24 inches tall Easy:to grow

White flowers spring to summer; great for rain gardens



Oregon iris Iris tenax



Perennial 4-20 inches tall Moderately hard to grow

Purple blooms in spring; great for rain gardens



Common rush Juncus effusus



Evergreen perennial 1-3 feet tall Easy to grow

Grasslike, with inconspicuous brown flowers during the summer; great for rain gardens



Douglas' meadowfoam Limnanthes douglasii



Annual 16 inches tall Easy to grow

Yellow and white spring flowers; great for rain gardens



Stream-bank lupine Lupinus rivularis



Perennial 3 feet tall Moderately hard to grow

Purple-blue spring blossoms; great for rain gardens



False lily of the valley *Maianthemum dilatatum* 



Perennial 1 foot tall Easy to grow

White flowers spring to summer; spreads



Yellow monkey flower Mimulus guttatus



16

Perennial 2 feet tall Easy to grow

Yellow flowers bloom spring to summer; great for rain gardens; spreads



Redwood sorrel Oxalis oregana



Perennial groundcover 6 inches tall Easy to grow

White blooms in spring; great groundcover for dry shade; spreads



Richardson's penstemon Penstemon richardsonii



Perennial 12-34 inches tall Easy'to grow

Pinkish blooms later summer to fall; great for rock gardens



Cascade penstemon Penstemon serrulatus



Perennial 1-2 feet tall Easy to grow

Purple blooms in summer; nice cut flowers; good for rain gardens



Coltsfoot Petasites palmatus



Perennial 4-20 inches tall Easy to grow

White spring blooms; spreads by root runners



Spreading phlox Phlox diffusa



Evergreen perennial 4 inches tall Easy to grow

Pink flowers in spring; great for rock gardens



Licorice fern Polypodium glycyrrhiza



Evergreen perennial 6-12 inches tall Moderately hard to grow

Edible roots taste like licorice; grows well with moss



Sword fern Polystichum munitum



Evergreen perennial 2-5 feet tall Easy to grow

Beautiful leaves with a dramatic shape; thrives in most conditions



Pacific silverweed Potentilla pacifica



Perennial groundcover 6 inches tall Easy to grow

Yellow blooms spring to summer; great for rain gardens



Rusty-hair saxifrage Saxifraga rufidula



Perennial 8 inches tall Easy to grow

White flowers bloom spring to summer; great for woodland gardens



Oregon stonecrop Sedum oreganum



Evergreen groundcover 3-6 inches tall Easy' to grow

Succulent with summer-blooming yellow flowers; great for rock gardens



Broadleaf stonecrop Sedum spathulifolium



Evergreen groundcover 2-8 inches tall Easy to grow

Succulent with yellow flowers spring to summer; great for rock gardens



Blue-eyed grass Sisyrinchium bellum



Perennial 8-12 inches tall Easy to grow

Blue blossoms spring to summer on grasslike foliage; great for rain gardens



Yellow-eyed grass Sisyrinchium californicum



Perennial 8-20 inches tall Easy to grow

Yellow spring flowers on grasslike foliage; great for rain gardens



Grass widow Sisyrinchium douglasii



Perennial 4-16 inches tall Easy to grow

Reddish-purple spring blossoms on grasslike foliage; great for rain gardens



False Solomon's seal Smilacina racemosa



Perennial 12-37 inches tall Easy to grow

Clusters of white flowers spring to summer; fragrant



Starry false Solomon's seal Smilacina stellata



Perennial 1-2 feet tall Easy to grow

White flowers spring to summer; great for woodland gardens


Goldenrod Solidago canadensis



Perennial 2-5 feet tall Easy to grow

Clusters of yellow flowers summer to fall; spreads



Spring queen Synthyris reniformis



Perennial 2-6 inches tall Moderately hard to grow

Purple blossoms late winter to spring; great for woodland gardens



Fringe cup Tellima grandiflora



Perennial 15-34 inches tall Easy to grow

Pink flowers bloom spring to summer; spreads



Western meadow rue Thalictrum occidentale



Perennial 12-40 inches tall Easy to grow

Pink and green flowers bloom spring to summer; requires male and female plants if seed production desired



Piggyback plant Tolmiea menziesii



Perennial 12-30 inches tall Easy to grow

Maroon flowers bloom spring to summer; spreads



#### Western trillium

Trillium ovatum



Perennial 4-18 inches tall Moderately hard to grow

White flowers in spring; great for woodland gardens



Inside-out flower Vancouveria hexandra



Perennial 8-16 inches tall Easy to grow

White flowers bloom spring to summer; great for woodland gardens



Early blue violet Viola adunca



Perennial 4 inches tall Easy to grow

Purple flowers bloom spring to summer; great for rain gardens; spreads



Stream	vio	let
Viola gla	hella	



**Notes** 

Perennial 1-12 inches tall Easy to grow

Yellow flowers bloom spring to summer; great for rain gardens; spreads



#### Notes



Western trillium, Trillium ovatum, page 22.

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## Metro natural gardening resources



Mobile native plant garden for community events

Free presentations, publications, events and online information

Compost bins for sale at deep discount at MetroPaint Store in Portland

Oregon Zoo Backyard Makeover exhibit for welcoming wildlife

Metro GreenScene, a quarterly calendar of nature activities

Call **503-234-3000** or visit **www.oregonmetro.gov/garden** 

#### **Other resources**

Naturescaping workshops (free), 503-222-SOIL, www.naturescape.org

Northwest Coalition for Alternatives to Pesticides, www.pesticide.org

OSU Extension Service Metro Area Master Gardener Help Line, 503-821-1150 (Westside), 503-655-8631 (Eastside)

Regional Water Providers Consortium, 503-823-7528, www.conserveh2o.org

Plant Native, www.plantnative.org

Plant description photos by Paul Sanford Cover photo: Ladybug on lupine flower



Many of the products we buy to care for our homes include ingredients that can be harmful to people and the environment. What can you do? You can choose less-toxic products to clean your home. Doing that can protect your family and the environment. You'll also save money by using some simple safe ingredients to make your own cleaners. This publication contains recipes and tips to help you create a safer home.

1

#### Ingredients

**Baking soda (sodium bicarbonate):** Absorbs odors and is a mild abrasive. Found in the baking section of the grocery store.

*Glycerin:* Found in pharmacies or health food stores, this water-loving liquid has antiseptic qualities and moisturizes the skin.

*Hydrogen peroxide:* Disinfectant. Use the household concentration (3 percent) typically found in pharmacies.

*Liquid soap*: Vegetable-oil-based soap sometimes referred to as castile soap. Found in most health food stores. Dr. Bronner's is a popular one.

*Liquid detergent*: Most dishwashing liquids are detergents. Try purchasing vegetable oil-based soaps, which can be more environmentally friendly than petroleum-based products. Vegetable-oil-based soaps can be found in health food and many grocery stores. Petroleum is a limited resource (unlike vegetable oils), and its extraction and refining causes pollution.

Vinegar: Removes soap scum, grease and mineral deposits and acts as a deodorizer. Use only white distilled vinegar for most of these recipes. You can try apple cider vinegar for windows, because it has a more pleasant scent.

Washing soda (sodium carbonate): It is slightly caustic and a great grease cutter. Don't use it on waxed floors (unless you want to remove the wax), fiberglass or aluminum. Found in the laundry section, made by Arm & Hammer.

**Essential oils:** Mostly used for deodorizing or scenting cleaners. Essential oils, such as mint, eucalyptus, lavender, lemon and tea tree, can be found in health food stores or herbal supply shops. Tea tree oil is currently in the process of being registered as a disinfectant in this country. *Nontoxic in small quantities, this oil may be toxic in concentrated forms. Keep out of the reach of children.* 

**Tip:** Be sure to put all mixtures in clearly marked containers.



## Ingredients

General cleaners

Laundry

Bathroom

Kitchen

Floor and carpets

Living room and other household tips

#### **All-purpose cleaners**

Mix ingredients for each recipe in a spray bottle. Use for cleaning countertops, floors, walls, carpet and upholstery.

- Combine 1/4 cup white distilled vinegar, 1/2 teaspoon liquid soap and 3/4 cup warm water, shake to blend. For really big jobs, combine 1/4 cup liquid soap, 1/2 cup white distilled vinegar and 2 gallons of warm water in a pail and stir to blend.
- 2. Dissolve 4 tablespoons baking soda in one quart of warm water.
- 3. Use a mixture of 1/2 cup vinegar and 1 cup to 1 quart of warm water.

For an abrasive cleaner Use baking soda or a nonchlorinated scouring powder such as Bon Ami.

#### **Grease cleaner**

• Mix vinegar and salt together for a good surface cleaner. Will remove grease if vinegar is at full strength.

#### Disinfectants

- For kitchen cutting boards and bathroom fixtures, use a white distilled vinegar spray followed by a 3 percent peroxide spray. Wipe clean.
- Rubbing alcohol also is a disinfectant. It is extremely flammable; use in a well-ventilated area far from possible sources of ignition. Wear nitrile gloves. Apply with a sponge and allow to dry.

#### **Glass cleaner**

Combine 1 quart warm water with 1/4 cup white vinegar or 2 tablespoons lemon juice (use both vinegar and lemon if you want the cleaning abilities of vinegar with the scent of lemons).

Mix ingredients and store in a spray bottle. Use as you would any glass cleaner (add a drop or two of essential oil for a pleasant scent).

**Tip:** Invest in a squeegee. It is a great tool for cleaning windows. A razor blade also is a good tool for scraping off dirt or paint before cleaning.

#### Crayon mark remover

To remove crayon marks from walls, floors, counters, cabinets and furniture, rub area with toothpaste and a damp cloth. Do not use on nonvinyl wallpaper.

#### **Room/air freshener**

After you locate the source of the odor problem and take corrective action, try opening a window and circulating air with a fan or air conditioner. If odors persist, try one of these ideas:

- Simmer cinnamon and cloves in water.
- Pour vanilla extract on a cotton ball and place in a small dish. Use in your car, home or refrigerator.
- Place cut lemons or baking soda in a dish.
- Set out a dish of vinegar or boil 1 tablespoon white vinegar in 1 cup of water to eliminate unpleasant cooking odors.

#### Hand cleaners

**To remove heavy grime** combine 4 ounces of beach sand, 1 ounce of pumice powder and enough glycerin to moisten the mixture in a labeled screw top jar. Use about 1 tablespoon at a time, rubbing into the hands thoroughly.

#### Hand wash disinfectants

- The Environmental Protection Agency recognizes soap as a legitimate disinfectant. There are many vegetableoil-based soaps available at supermarkets and health food stores.
- Tea tree oil is antibacterial and antifungal. Add 10 drops of tea tree oil to 4 ounces of liquid castile soap. Shake to stir or blend in a pump container.

Laundry

Bathroom

Kitchen

Floor and carpets

#### Laundry soap

Commercially formulated laundry detergents that are more environmentally friendly are available. Seventh Generation, Ecover, Life Tree and Earth Friendly Cleaner provide concentrated, vegetable-oil-based (not petroleum) laundry soaps without synthetic fragrances. Add 1/2 cup washing soda to the wash cycle as a booster for cleaning heavily soiled clothes.

#### Fabric softener and deodorizer

Add 1 to 2 cups of vinegar to rinse cycle to deodorize and soften fabrics.

#### Fabric deodorizer and whitener

Add 1/2 cup of baking soda to rinse cycle to deodorize and brighten clothes.

#### **Stain removers**

- Mix 1 part liquid vegetable oil-based soap, 1 part glycerin and 8 parts water. Pour into a squirt bottle; shake well before using. Apply to stain as soon as possible. Wash and rinse in cool water only. Do not use hot or warm water on sugary stains.
- Mix equal parts vinegar and water. Use to remove tough stains including grass, perspiration, rust, jam, coffee, orange juice, wine, beer, ketchup, barbecue sauce, chili, urine and pet stains.
- Use 3 percent hydrogen peroxide solution to spot clean. Let dry. Repeat if necessary.

#### Bleach

Look for a commercial nonchlorine bleach or try using:

- 1/2 cup 3 percent hydrogen peroxide in the rinse cycle
- 1/2 cup washing soda to warm or hot water wash cycles
- 1/2 cup lemon juice in the rinse cycle
- 1/2 cup baking soda to warm or hot water wash cycles

**Tip:** *After clothes have spun dry in the washer, hang them to dry in the sun. Sunshine is a natural bleach.* 

#### Diaper pail deodorizer

Mix 1 cup baking soda with 1 teaspoon tea tree or other essential oil. Work out all lumps with a fork. Sprinkle in bottom of pail after liner is removed. Periodically rinse pail with vinegar and dry in the sun.

#### **Moth repellents**

- Store clean woolens in sealed plastic bags or airtight containers.
- Place garments in the freezer for several days to kill adult moths and larvae.
- Vacuum rugs, carpets and upholstered furniture regularly.
- Combine 2 ounces each dried rosemary and mint, 1 ounce each dried thyme and ginseng, and 8 ounces of whole cloves. Blend well and make into moth-repellent sachets.
- Dry-cleaning is a significant source of pollution. Woolens can be hand-washed using a mild soap and cold water. Lie flat to dry.

#### Laundry starch

Combine 2 to 3 teaspoons cornstarch with 1 cup water in a spray bottle. Shake well. Use as you would commercial spray starches.



# Floor and carpets

Kitchen

Bathroom

Laundry

#### **Toilet bowl cleaners**

- Combine 1/4 cup white distilled vinegar and 2 cups water in a labeled spray bottle. Spray along the inside rim of the toilet. Leave on for 15 minutes before you scrub with a toilet brush.
- Pour a cup of white vinegar into the toilet and toss in a handful of baking soda to soak about 10 minutes. Swish with toilet brush.
- Combine 2 teaspoons tea tree oil with 2 cups water in a labeled spray bottle. Shake and spray along the inside rim of the toilet. Let stand for 30 minutes before scrubbing.
- Scrub regularly with a toilet brush and nonchlorinated scouring powder like Bon Ami.

**Tip:** Clean bowl thoroughly and often. Drain water from toilet bowl for better cleaning. For serious stains or rust, empty water out of bowl and scour with a wet pumice stone. When wet, the stone will not scratch porcelain.



#### Rust remover

Rust stains can be removed from porcelain by scouring with cream of tartar.

#### Tub and tile cleaner

1 2/3 cups baking soda
 1/2 cup liquid soap
 2 tablespoons vinegar
 1/2 cup water
 a few drops essential oil (optional)

Mix soda and soap. Add water, then add vinegar. Store in a squirt-top bottle and shake before using. Rinse thoroughly to avoid leaving a residue.

- Scrub surfaces with paste of baking soda and water. This also can be used to clean fiberglass.
- Scrub tile grout with a small brush and hydrogen peroxide spray. Add soft scrub (see below) for heavy mildew grout areas.

#### Soft scrub

Combine 1/2 cup baking soda with enough vegetable-oil-based liquid soap to make a frosting-like mixture. Add 15 drops of tea tree oil (optional). Scoop the mixture onto a sponge and scrub the bathtub, sinks, Formica countertops or shower stall. Rinse.

#### Disinfectants

See "general cleaners" section.

#### Mold and mildew

Use equal parts vinegar and water. Spray and wipe clean.

#### **Plastic shower curtains**

Add 2 cups vinegar to laundry soap in washing machine. Add a few towels with the shower curtain. Air dry.

#### Antiseptic soap spray

Mix 3 tablespoons liquid soap, 20 to 30 drops of tea tree oil and 2 cups water in a spray bottle. Apply as needed. Tip: three-percent hydrogen peroxide by itself also can be used as a mild antiseptic.

#### Bathroom deodorizer

Mix 10 to 20 drops of essential oil into a 1-pound box of baking soda. Place open box under sink or near toilet. Add more essential oil as needed. Replace baking soda every three months.

Flooi

**Sitchen** 

Buy green and learn more

#### **General carpet cleaning**

Use a soap-based, nonaerosol rug shampoo. Vacuum when dry.

#### **Carpet odor remover**

To neutralize carpet odors, sprinkle baking soda over the entire carpet. Leave on for one hour or overnight. Vacuum up baking soda.

#### **Urine remover**

Mix equal parts distilled vinegar and water. Spray or sponge onto the stain. Let stand for 10 minutes or so before blotting the mixture with a sponge or paper towel. This also can be used to remove pet urine odors from other surfaces.

**Tip:** Never use warm or hot water on stains containing sugar.

## Carpet and upholstery stain removers

- See recipe in "laundry" section for stain remover.
- Blot stain with club soda or cornstarch. Scrub with a dab of dish soap.
- Mix equal parts vinegar and water. Use to remove tough stains including grass, perspiration, rust, jam, coffee, orange juice, wine, beer, ketchup, barbecue sauce, chili, urine and pet stains.

#### All-purpose floor cleaner

Mix 2 tablespoons liquid soap in 1 gallon hot water. Mix, mop and wipe clean. Use less soap if streaking occurs. Wipe dry with a cloth.

#### Linoleum floor cleaner

Damp mop using 1/4 cup vegetable oil-based liquid soap in 2 gallons warm water.

#### Vinyl floor cleaner

Damp mop using 1 cup vinegar in 2 gallons warm water.

#### No-wax floor cleaner

Add 1/2 cup vinegar to 2 tablespoons liquid soap in 1 gallon of hot water. Mix, mop and wipe clean.

#### **Tile floor cleaner**

Mix 1 cup vinegar with 1 gallon hot water. Mix, mop and wipe clean.

#### Wood floor cleaner

- For unvarnished floors, damp mop with mild vegetable oil soap. Or try 1/4 cup liquid vegetable oil-based soap, 1/2 teaspoon glycerin, 1/4 cup white distilled vinegar and 2 gallons warm water.
- For varnished floors, or no-wax floors such as polyurethane or Swedish finishes, damp mop using one part vinegar to 10 parts water.

**Tip:** You can get rid of odor and urine stains with enzymatic cleaners available at many grocery and natural food stores.

#### Heel mark remover

Make a paste of 1/2 cup baking soda and enough vegetable-oil-based soap to make a paste. Test mix on a small portion of the scuff mark by washing and rinsing well. If the floor finish is removed, you may be able to restore it using 1/2 cup cornstarch and enough water to make a paste. Rub this mixture into the spot and let it dry. Buff to a polish.



Kitchen

#### All-purpose cleaner

2 tablespoons vinegar1 teaspoon washing soda2 cups hot water1/4 cup liquid soap

Mix everything but soap in a spray bottle and shake. Add soap last. Mix gently. Apply and wipe clean. Good for countertops, woodwork, appliances, etc.

#### **Dish soap**

Use nonphosphate soap. Phosphates act as fertilizer – when they go down the drain, they are discharged into waterways and can cause a rapid growth of algae, which pollutes water. Tip: Use half the amount suggested for your automatic dishwasher.

#### Scouring powder

- Pour baking soda into a shaker and sprinkle in sink or on pans. Scrub with a rough pad and rinse.
- To make a heavy-duty scouring powder, combine 1/2 cup each baking soda and washing soda. This formula may scratch fiberglass. Use gloves; washing soda is caustic.

#### **Scouring paste**

Mix 2/3 cup baking soda, 1/2 cup liquid soap and enough water to make a paste. Add 2 tablespoons vinegar and stir. Keep paste in a tub at the kitchen sink for scouring pots and pans or the kitchen sink itself.

**Tip:** Use a wet pumice stone to remove tough stains from porcelain or enamel without scratching.

#### **Stain remover**

Liberally sprinkle surface with salt and squeeze lemon or lime juice over the area. Let sit and rub out. This can even remove rust if allowed to sit a few hours.

#### Drain cleaner

For best results, use these drain cleaners regularly to prevent clogs.

- Pour 1/2 cup baking soda down the drain, followed by 1/2 cup vinegar. To create pressure, immediately cover the drain and let it sit for 15 minutes. Follow with a kettle of boiling water (about 2 quarts). Use this treatment regularly to prevent clogged drains and keep them smelling fresh.
- There are a number of products that use compressed air instead of chemicals to open clogs. Here a few currently available at grocery or hardware stores: CLR Power Plumber, Liquid Plumr Power Jet, Kleer Drain Instant Opener.
- For stubborn clogs, use a mechanical snake.



#### Kitchen sink disposal freshener

To freshen the disposal in your kitchen sink, drop in a few wedges of lemon and flip the switch. Instant good smell.

#### Cutting board deodorizer

Rub cut lemon onto the washed cutting board to eliminate lingering odors.

#### Garbage pail deodorizer

Mix 1 cup baking soda with 1 teaspoon tea tree oil. Work out all lumps with a fork. Sprinkle in bottom of pail after liner is removed. Periodically rinse pail with vinegar and dry in the sun.

#### **Oven cleaners**

- Mix equal parts salt and baking soda in a bowl and add water to make a paste. Apply paste to walls of oven. Let stand five minutes, then wipe clean with a damp cloth. Use a brush on heavy spills. Do not allow baking soda to touch heating elements or wiring.
- For heavier cleaning, sprinkle the bottom of the oven with baking soda to cover soiled area. Spray with water until very damp and keep moist by spraying every few hours. Let it set overnight. In the morning, scoop out the baking soda – all the grime will be loosened; rinse the oven well. Washing soda can be substituted for 1/2 the baking soda for really tough jobs, but requires more rinsing and is more caustic (wear gloves).
- Or use a nonchlorinated scouring powder such as Bon Ami, a pumice stick or a copper or steel wool scrubbing pad. Keep oven enamel wet if using a pumice stick. Scrubbing pads may scratch enamel, test first on a small area. A blunt knife is useful for prying up large crusty materials.

#### **Tip:** *Prevention is the key to a clean*

- oven. Line your oven with foil or an
- aluminum oven liner found in the
- baking section of grocery stores.

#### Metal polishes and cleaners

Use natural acids such as vinegar and lemon juice to clean aluminum, bronze, brass and copper.

Remove the lacquer cover on new brass, bronze and copper by submerging in boiling water with a few teaspoons each baking soda and washing soda (wear gloves). Never use baking soda on aluminum, as it will pit the surface.

#### Silver polish

Mix 1 teaspoon olive oil and 1/2 cup lemon juice; apply with a soft cloth, rubbing into the grain. Buff with a clean corner of the rag.

#### Silver cleaner

- Dissolve 1 tablespoon salt and 1 tablespoon vinegar in 1 cup hot water. Submerge a 3-inch square section of aluminum foil and the silver to be cleaned in the solution. The salt and vinegar react with the aluminum to eliminate tarnish. Wait 1 hour. Rinse silver and wipe dry with a soft cloth.
- Rub tarnished spots with toothpaste (not gel) and a soft cloth and rinse.

#### Brass and copper cleaner

- Mix 2/3 cup vinegar and 2/3 cup flour in a glass bowl. Add 1/2 cup salt and stir. Spread on tarnished metal. Wait 1 to 2 hours. Rinse, dry and polish with a soft cloth and a dab of olive oil.
- Combine 3 teaspoons of salt, 1 tablespoon of flour and enough white distilled vinegar to make a paste. Scoop the paste onto a clean sponge and polish bronze, brass or copper clean. Rinse with hot water and buff dry with a soft cloth.
- Soak bronze, brass or copper overnight in a solution of half white distilled vinegar, and half water. Rinse in hot water and wipe dry with a soft cloth.

#### **Chrome cleaner**

- Mix 1/4 cup baking soda with 1 to 2 tablespoons water to make a paste. Rinse well with warm water and polish with a soft cloth.
- Apple cider vinegar also can be used to clean chrome. Polish chrome using club soda.

Kitchen

Living room and other household tips

Living room and other household tips

- Mix 1 teaspoon olive oil and 1/2 cup lemon juice. Apply with a soft cloth, rubbing into the grain. Buff with a clean corner of the rag.
- Mix 1/4 cup white distilled vinegar and a few drops of food-grade linseed oil, jojoba or olive oil. Test on wood first, and then polish.

#### Wood furniture polish

Mix 3/4 cup olive or other vegetable oil, 1/4 teaspoon vinegar and 1/2 teaspoon lemon oil (optional) in a squirt bottle. Squirt on furniture or rag and rub into wood. Shake well before each application.

#### Wood cleaning formula

- Combine 1/4 cup white distilled vinegar, 1/4 cup water, 1/2 teaspoon liquid vegetable oil-based soap, a few drops of jojoba or olive oil, 3 to 5 drops essential oil (optional) in a bowl. Saturate a sponge with the mixture, squeeze out the excess, and test wood surface. Rinse sponge in warm water in between washes.
- To remove water spots on wood, allow the spots to dry out completely. Apply real mayonnaise over stain and let stand for at least an hour. Clean and buff with a clean rag.

#### Leather cleaner

Mix 1/2 cup olive oil and 1/4 cup vinegar in a squirt bottle and shake before each application. Rub with soft cloth into leather for cleaning and conditioning. Do not use on suede.

#### Other household tips

## Pressure-washing (driveways, patios, sidewalks, decks)

- Try using water only. Water pressure alone often removes dirt and grime.
- A stiff broom is often all you need to clean hard surfaces and doesn't waste water. Sand and a push broom can be used to remove unwanted algae.

#### **Charcoal lighter**

Use a metal cylinder charcoal chimney starter or electric charcoal lighter instead of starter fluid.

#### Glue

- Use Elmer's-type white glue or yellow carpenter's glue for wood, china, paper and other porous materials.
- Use a glue stick or paste rather than rubber cement.

#### Paint

Use latex water-based paints and apply with a brush or roller whenever possible.

#### Paint stripper

- Use a scraper, rasp or abrasive block, heat gun or sandpaper to remove paint without chemicals.
- Use water or alkali-based paint strippers rather than solvent-based products.

Many older homes still have lead-based paint on woodwork. **Lead** dust from scraping and lead fumes from using a heat gun are dangerous to human health. **They are especially dangerous to children**. Before you begin, find out if your home's paint contains lead by contacting the Multnomah County Lead Line at 503-988-4000, or the State of Oregon Lead Poisoning Prevention Program at 971-673-0440.

#### Metal rust removal

Wet a sheet of aluminum foil with water. Rub just the rust with the wet foil. Be careful, as the foil will scratch chrome.

#### Dry out damp areas

To prevent development of mold in damp areas, use kitty litter for its moisture absorbent properties. Place bowls of it in damp areas. Replace with fresh litter every week or so. (And keep the kitties away!)

#### Wall and wallpaper cleaner

For wallpaper, refer to the manufacturer's guidelines first.

Stains should be removed as soon as possible. If soil remains on wallpaper too long, permanent discoloration may result. To avoid discoloration, don't rub spots.

Ordinary dirt spots can be removed with a mild soap (e.g., castile soap) and warm water. Rinse thoroughly with clean water. Blot wallpaper dry with a soft lint-free towel. For more difficult stains that are only surface deep, use a stronger detergent (e.g., liquid vegetable-oil-based laundry detergent). Test on an inconspicuous spot first, and always rinse after applying a detergent.

#### **Painted Walls**

If walls are very dirty, use a stronger alkali solution: dissolve 2 tablespoons baking soda and 2 tablespoons laundry detergent powder in 1 gallon warm (not hot) water. Stronger solutions remove some of the paint. Always rinse off.

Gloss or semigloss enamels are less likely to be damaged by cleaning than flat latex paint. Test cleaning solution in an inconspicuous area first. If wall color and finish look the same after testing the cleaner, go ahead and use.

#### Washing Procedure

- Before washing, dust or vacuum walls to remove loose soil.
- Use one bucket for washing solution and one for rinsing, and a large cellulose sponge for each bucket.
- 3. Wear rubber gloves to protect hands.
- 4. Start washing at the bottom and work up, so cleaning solution does not run down the dirty wall and cause streaks that are hard to remove.
- Rub gently to avoid damage to paint.
- Wash and rinse one area; then do the next overlapping area.
- After cleaning several sections, dry off excess moisture with a soft absorbent cloth or towel.

#### How to purchase less-toxic products

You also can purchase ready-made cleaning products that are less hazardous than many traditional household cleaners. Look in the health or natural food sections of your grocery store, or visit a store that specializes in these types of products. Some brand names that feature "earth-friendly" product lines include:

- Bi-O-Kleen
- Citra-Solv • Earth Friendly Products

• Seventh Generation

SoapWorks

Planet

- ECOS

Some less-toxic products can also be found in the regular cleaners aisle: Fantastik Herbal Mist All Purpose Cleaner, Bon Ami cleanser, Murphy's Oil Wood Soap and Pure Citrus natural citrus cleaner.

#### Warning words on product labels

If the product has this signal word on its label	It falls into this category	And it takes ap- proximately this much to kill an average person
Danger or poison	I Highly toxic	A few drops to 1 teaspoon
Warning	II Moderately toxic	One teaspoon to 1 ounce
Caution	III Slightly toxic	More than 1 ounce
No signal word	IV Not toxic	

#### How can you tell if a commercial product is relatively non-hazardous? Read the label:

1. Check for warning words like "danger" and "warning." Try to select products with no warning words or the word "caution" – this means the product is less toxic or nontoxic.



- 2. Are all of the ingredients listed? Be aware if the product only lists "active" ingredients; if other ingredients are not listed, you have no way of knowing their potential effects.
- 3. Know your ingredients. Many of the products listed above have easy to understand ingredients: soap (vegetable-based surfactants), orange oils (also known as d-limonene), vinegar, water, alcohol, lauryl sulfate (usually coconut derived) and sodium citrate (related to citric acid in lemons).
- 4. Detergents are synthesized chemicals that are petroleum-based and work the same way that soap does, only they are not as earth-friendly.
- 5. Avoid chlorinated compounds, petroleum distillates, phenols and formaldehyde. Words such as ethylene/ethyl, butyl/alkyl, benzene, phenols and formaldehyde indicate a product with ingredients that are potentially harmful to health or the environment.

#### What to do with old products

Use up toxic cleaning products. In the Portland, Ore., metropolitan area, you can properly dispose of toxic products through Metro's household hazardous waste program. Call Metro Recycling Information at 503-234-3000 for locations and hours of Metro's two permanent collection facilities or to find out if there is a community collection event scheduled soon in your neighborhood.

#### Learn more

To order any of the following publications, or for disposal, recycling or household hazardous waste information, call Metro Recycling Information at 503-234-3000 between 8:30 a.m. and 5 p.m. Monday to Saturday.

Hazardless home handbook: a guide to hazardous household products and effective alternatives, a comprehensive alphabetical listing of common types of products, less toxic substitutes and proper storage and disposal information. Also available in PDF format from Metro's web site at www.oregonmetro.gov/greencleaners.

Safer cleaning products, an "Alternatives" fact sheet about health and environmental hazards of some cleaning products, ingredients to avoid and alternative product information. Visit the Washington Toxics Coalition web site to view this publication at www.watoxics.org.

What's hazardous in your home? Identifies hazardous products in your home and directions for proper disposal. Also available on Metro's web site at www.oregonmetro.gov/hhw.

Simple steps to a healthy lawn and garden provides six simple things you can do to grow a beautiful garden naturally, without using chemicals. See lawn tips on Metro's website at www.oregometro.gov/garden.

Natural gardening: a guide to alternatives to pesticides is a trouble-shooting guide that lists specific garden pests and diseases and how to manage them without using chemicals. View highlights from this publication on Metro's web site at www.oregonmetro.gov/garden.

#### Web sites with related information

Washington Toxics Coalition: www.watoxics.org Information and fact sheets about alternatives to toxic products.

**EPA fact sheet:** Source Reduction Alternatives Around the Home. www.epa.gov/osw/wycd/catbook/alt.htm

#### Health and safety information on household

products: Learn more about what's in these products, about potential health effects, and about safety and handling: http://hpd.nlm.nih.gov.

#### **Metro Recycling Information**

For recycling options beyond the curb, garbage and household hazardous waste disposal information, natural gardening, composting or waste prevention, call Metro Recycling Information at 503-234-3000, between 8:30 a.m. and 5 p.m. Monday to Saturday or visit www.oregonmetro.gov/recycling.

This publication was produced using information from a variety of sources. The following were especially helpful: Metro's Greener Cleaner Pocketbook, Salmon Friendly Recipes published by the Oregon Plan for Salmon and Watersheds, and Non-toxic Household Cleaners from the Chittenden County (Vt.) Solid Waste District.



Notes		Metro
		People places. Open spaces
		Clean air and clean water do not stop at city limits of county lines. Neither does the need for jobs, a thrivi economy and good transportation choices for peopl businesses in our region. Voters have asked Metro to with the challenges that cross those lines and affect 25 cities and three counties in the Portland metropol areas.
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		www.oregon <b>metro.gov</b>
		Metro representatives
		Metro Council President – David Bragdon
		Metro Councilors – Rod Park, District 1; Carlotta Co District 2; Carl Hosticka, District 3; Kathryn Harringt District 4; Rex Burkholder, District 5; Robert Liberty, District 6.
		Auditor – Suzanne Flynn
-		
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		consumer waste,

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## ... things we do at home all the time, like washing the car or fertilizing the lawn, can send pollution directly into rivers and streams.

A sybe your car leaks a little oil, or you spray your roses with a pesticide to kill bugs. It may be unintentional, but if those things get on the ground, rain can wash them into storm drains. And the storm drains on your street can carry that dirty water directly to a neighborhood stream.

Threatened salmon need cool, clean water to thrive. We need clean rivers and streams for recreation, scenery, and drinking water. We can all work together for healthy rivers and streams by taking a little time to make sure

#### you can help

- Mulch flower beds to prevent erosion and retain water.
- Pick up pet waste and throw it in the garbage or flush it down the toilet.
- Sweep instead of hosing down driveways, sidewalks.
- Preserve established trees in your yard and neighborhood.
- Plant trees, shrubs and ground covers that filter pollutants and reduce stormwater runoff.
- Don't overuse fertilizers and pesticides. Consider using non-toxic alternatives to lawn and garden chemicals.
- Don't let sprinkler water wash over streets and sidewalks.
- Use your car less. Ride the bus, car pool, walk or bike.
- Use an automated car wash that recycles wash water and uses non-phosphate soap.
- Don't litter.

It's not deliberate, but some of the stuff we use at home ends up in in ends up in





Environmental Services protects public health, water quality, and the environment.

www.cleanriverspdx.org

## **Maybe It Should Be**

## s your lawn chémical free?



Environmental Services protects public health, water quality, and the environment.

1120 SW Fifth Avenue, Room 1000 Portland, Oregon 97204 www.cleanrivers-pdx.org

Dan Saltzman, Commissioner Dean Marriott, Director

> For more information in Oregon, call Metro Recycling Information at 503-234-3000/ In Washington call 360-397-6118, ext. 4345. You can also get more information online at Www.cleanriversandstreams.org



Regional Coalition for Clean Rivers and Streams

Before you use weed and feed, please consider this: insecticides and herbicides can harm people, pets and wildlife. Rain washes chemicals off your lawn and into storm drains and streams polluting the water that people and fish depend on.

#### Buy organic this year.

The good news - it's easy to have a beautiful lawn. Skip the weed and feed. Build healthy soil - use slow release fertilizers or compost.

Water deeply, but infrequently. Aerate, thatch and re-seed with a Northwest grass.

Fertilizers with high levels of quick-release phosphorus and nitrogen can pollute streams, rivers and other waterways, and harm fish and other wildlife.

Insecticides, herbicides and fungicides are toxic chemicals that can threaten the health of people and pets if they're overused or carelessly applied. They can also kill beneficial insects, earthworms, birds and other organisms, disrupting the ecological balance of your lawn and garden.

## Here are eight easy steps for a healthy lawn without using pesticides or other chemicals.

**1 Apply compost** Top dress your lawn with fine compost about a quarter-inch deep to provide a slow release of nitrogen. It reduces watering, improves drainage and improves the soil.

**2 Grasscycle** Leaving grass clippings on your lawn releases nutrients and cuts your fertilizer needs in half.

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**3** Use organic or slow-release fertilizer Use a complete organic fertilizer once each year. A soil test can tell you your fertilizer needs or whether you even need to fertilize. Organic fertilizers are made from naturally occurring materials such as bone, seaweed and rocks, not chemicals.

**4 Skip the weed and feed** Weed and feed contains fertilizer and weed killers. Why use weed killer over the entire lawn if you only need to get rid of a few weeds? Remember to dispose of any toxic lawn and garden chemicals safely at a Metro hazardous waste facility.

**5** Aerate and over-seed with appropriate grass varieties Aerate using a rented power aerator, or push a garden fork six inches deep every four inches into the lawn and work back and forth to loosen the soil. Then over-seed with a rye/fescue mix designed for Pacific Northwest conditions.

**6** Water deeply but infrequently About an inch of water a week is all your lawn needs. If you have heavy clay soils, water twice a week. Don't use more than 1/2 inch of water over the lawn at each watering. Measure it by placing a can (a tuna can is good) on your lawn to catch the water. After one hour of watering, 1/2 inch should accumulate.

**7 Know when to water** Save water and money by watering your lawn in the early morning or at night. The least amount of water will be lost to evaporation at that time.

**8** Have less lawn Lawns can require a lot of fertilizer and water, and large lawns limit plant diversity. Overall, less lawn can mean less work!

## ) rotecting your watershed

watershed. It is the place where everything is connected - forests, fields, industries, businesses, houses, and all creatures. Look inside to see how you can take care of your

Everyone lives in a

watershed.

## What is a watershed?

watershed is the area – land and water defined by the hilltops and ridges where rain falls and runs to a common water body. Water, sediments, and other dissolved material in a watershed drain to a common body of water such as a lake, river, or the ocean.

Everything that happens in a watershed affects water quality:

- Motor oil dumped down a storm drain
- Pesticides and fertilizers from farmlands
- Withdrawals of water for municipal and farm uses; sediments from construction projects
- Timber harvest on steep slopes; chemically treated lawns
- Sewage discharges, even pet waste can affect the health of rivers and streams

Understanding how our activities affect our watershed is an important start to protecting water quality.

Association of Clean Water Agencies

ACWA

## This is a watershed.

All activities that occur within a watershed ultimately affect water quality. Enhancing watershed health requires understanding your watershed and taking appropriate action as needed to eliminate or control polluting activities.



## Things you can do to protect your watershed



Avoid planting lawn all the way to a stream. Leave trees or vegetation along the banks as a



Plant trees wherever possible. Try to keep as many existing trees and shrubs as possible.

Keep use of

pesticides away from rivers and streams. Try planting pestand diseaseresistant plants.

Sweep driveways and patios clean instead of hosing them down.





Tethe riding stock away from surface water bodies like lakes and streams





**Oregon is divided** Use this map to locate your watershed. Each watershed has into 19 major varying characteristics depending on terrain and the activities that



Paint "Dump

No Waste, Drains to Streams" on storm drains to serve as a constant reminder.

buffer.



When camping, use biodegradable soap and rinse dishes away from streams and lakes.

Respect the importance of your watershed. It is the combined effect of a variety of activities that diminishes watershed health.



## **People** affect watersheds and watersheds affect the health of our rivers and streams.



Excessive use of pesticides can create serious problems if materials wash away into water



Timber harvesting on unstable slopes can cause erosion that washes into rivers and streams.



Contaminants. including grease, can be washed into rivers and streams with the rain.



Unprotected dirt during construction can wash off lots and fill catch basins and streams with sediments.



nitrogen and phosphorous and can cause problems if washed into storm sewers or waterways.



Washing camp cooking gear in rivers and lakes dearades water quality.



Some recreational activities can erode stream banks and harm the waterway.



Debris, such as grass clippings dumped into stream channels. robs water of lifegiving oxygen and slows flows.



Diminishing plant cover can cause erosion that harms water quality and destroys fish spawning beds.



### ACWA's commitment to watershed planning

The Oregon Association of Clean Water Agencies (ACWA) is comprised of 75 agencies and associate members providing wastewater, stormwater, and water quality services to Oregon's urban areas. The goals of ACWA's members are to:

- provide sewerage collection and treatment
- regulate industries to prevent the discharge of toxic substances into waterways
- provide beneficial uses for reclaimed water, biosolids, and compost
- collect and manage stormwater runoff
- regulate large construction sites to control erosion
- educate the public about water quality
- adopt and collect fees for municipal water quality services

ACWA believes that supporting water quality management on a watershed basis is the most important mechanism available to achieve measurable water quality improvement. Working together with a shared vision, we can keep our watersheds healthy and productive.

For more information or additional copies of this brochure, contact:

#### ACW/A

25 NE 11th Avenue, Suite 200 Portland, OR 97232 Phone: (503) 236-6722 Fax: (503) 236-6719



#### Resources

Call Metro Recycling Information at **503-234-3000** for information about the following:

**Natural gardening: a guide to alternatives to pesticides:** Manage pests, diseases and weeds in your garden without using chemicals.

Natural gardener's shopping guide: Non-toxic gardening products and where to buy them.

## Fact sheets on how to deal with specific pests and garden problems:

- Weed management for the lawn and garden
- Protecting your plants from slugs
- Lawn care
- Garden insect pests
- Appropriate plants for Northwest landscapes
- Choosing fertilizers for the lawn and garden
- Managing tent caterpillars without chemicals
- Aphids safe and successful control
- Protecting your home from carpenter ants
- Managing fleas in your home
- Clothing moths: prevention and control
- Spiders, ants, flies and cockroaches: four common household invaders.

Natural gardening seminar schedule: Learn to garden using fewer chemicals.

#### Metro | People places. Open spaces.

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A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy

#### Your Metro representatives

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Auditor – Suzanne Flynn, CIA

Metro's web site: www.oregonmetro.gov

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Garden naturally without using harmful chemicals

Simple steps to a healthy lawn and garden



## Six simple steps to a healthy lawn and garden without using harmful chemicals

A healthy lawn and garden is the best way to combat weeds, diseases and pests. Relying too much on fertilizers and pesticides may be a symptom of an underlying problem in your lawn and garden and can make problems worse.

In addition, fertilizers with high levels of quickrelease phosphorus and nitrogen can pollute storm drains, streams, rivers and other waterways. This impacts the health and habitat of water-dwelling creatures like fish and amphibians.

Pesticides – insecticides, herbicides and fungicides – are used to control weeds, diseases, insects and other pests such as slugs. Many of these chemicals are toxic and can pose a threat to people and pets if overused or carelessly applied. They also can kill beneficial insects, earthworms, birds and other organisms, disrupting the ecological balance of your lawn and garden.

To prevent problems before they happen, follow six easy steps to grow a healthy garden without using pesticides or other chemicals.

## STEP Build healthy soil

Healthy soil is the foundation for healthy plants and healthy lawn. Healthy plants naturally resist diseases and pests and

therefore require less care. How do you make soil healthy? Adding organic material improves drainage and provides food to the microscopic creatures that provide nutrients to your plants. Add 1/2 to 2 inches of compost or aged manure every year by turning it into the soil or using as mulch around plants.

Compost alone may not provide enough nutrients for plants, so use a complete organic fertilizer if necessary. A soil test is one way to determine your fertilizer needs and whether you even need to fertilize. Organic fertilizers are made from naturally occurring materials such as alfalfa, seaweed and rocks, not synthetic chemicals. Why organic fertilizer? Most organic fertilizers will last longer in the soil and are less likely to run off into waterways. In addition, many contain a broader range of nutrients needed by plants. They also better support a wide array of beneficial soil organisms that continually generate nutrients for plants from rocks, plant matter and even from the air.

Whether you decide to use organic or synthetic fertilizer, it will work better with compost.

Remember to avoid using too much fertilizer. Using more fertilizer than recommended can be harmful. Over-fertilizing is not good for plants

and excess fertilizer can run off and pollute waterways. Remember, too, not to fertilize right before a heavy rain is predicted.



#### STEP Rethink your lawn 💳

**Grasscycle.** Grasscycling is the practice of leaving grass clippings on the lawn. Regular grasscycling releases nutrients back into the lawn and reduces the need for fertilizers. You'll also save time by not needing to bag and dispose of clippings.

Use organic or slow-release fertilizer—if any at all. Only fertilize if a soil test indicates a need or if your lawn is looking extra pale even after the soil warms in spring. Organic fertilizers generally release nutrients over a longer period and are less likely to run off your lawn into waterways after a rain. They also support a variety of soil organisms that improve fertility and combat diseases. A healthy lawn is a light meadow green color; a blue-green lawn indicates heavy nitrogen use. This leads to more growth on the top of grass at the expense of the roots, which can make your lawn more vulnerable to disease and pests.

#### Water deeply but infrequently.

About an inch a week is all you need. Let the lawn dry out between waterings to encourage deep roots that will withstand the stress of drought. Overwatering can promote disease and leach nutrients from the soil as well as waste water.

## Aerate, over seed and use compost.

Older lawns can benefit from a little extra help in late spring or early fall. Aerate using a rented power aerator, or push a garden fork 6 inches deep every 4 inches into the lawn and work back and forth to loosen the soil. After aerating or raking to expose soil, overseed with a rye/fescue mix designed for Pacific Northwest conditions. Finally, top dress with fine weed-free compost about a 1/4-inch deep. Use of compost will improve the condition of soil and allow for better drainage and water retention, thereby reducing watering needs. These activities will encourage a thicker lawn, which will help crowd out weeds.

Skip the weed and feed. Weed and feed contains weed killers that may damage soil and lawn health, as well as pollute waterways. There also is evidence that pesticides may harm humans, pets and wildlife. Why use weed killer over the entire lawn if you only need to get rid of a few weeds? If your lawn

is healthy, weeds will have less opportunity to take root. Accept some weeds, such as clover—a soil enhancer—and remove others by hand in spring and fall when the soil is damp. Always sprinkle a little grass seed and weed-free compost on the bare spot to help crowd out future weeds. Mow regularly to keep seed heads from developing or pull them off by hand.

**Have less lawn.** Lawns require a lot of fertilizer and water, and large lawns limit plant diversity. Overall, less lawn can mean less work.

### **Grow plants that thrive in our environment**

Choose plants that do well in the Pacific Northwest soil and climate. A plant that is

suited to its environment will be stronger, healthier and less likely to succumb to diseases or pests. Plant in appropriate places in your yard according to whether the plant needs full or partial sun or shade. Call Metro Recycling Information at **503-234-3000** for the fact sheet "Appropriate Plants for Northwest Landscapes."

#### STEP Gr A Plant

#### Grow a diverse garden

Planting a wide variety of plants in your garden, especially native plants, will create a more balanced ecosystem. This will provide a year-round habitat for creatures that are beneficial

to your garden. A natural balance of insects, birds and other wildlife can help control pests. Using pesticides can upset this natural balance and actually increase pest problems.

Planting both annuals and perennials in your garden helps to ensure a stable year-round home for beneficial insects. It is a good idea to rotate annual plants from year to year to keep potential pests and



soil diseases from getting established in your garden. Practice crop rotation (planting a different crop in each bed every year) for the same reasons.

#### **STEP** Get to know your bugs

5 Not all bugs are bad; even the presence of some bad ones is not necessarily a sign of problems. Get to know which ones are help-ful and whether you really need to take action against insect pests.

If you think you have pests in your garden, determine whether they actually are damaging your plants. Most plants can easily survive losing 25 percent of their leaf surface. If there are signs that pests have been chewing on your plants, a little damage won't hurt. There also can be some time between the appearance of pests and the arrival of beneficial insects that will control them. Many plants can actually "outgrow" pests or diseases that afflict them if the soil is healthy. To find out if an insect is beneficial or a pest, refer to books, contact the Master Gardeners, attend a Metro natural gardening workshop or take a sample to a nursery or garden center with knowledgeable staff.

## Try non-toxic pest control

If you determine that a pest or disease problem requires intervention, use the safest

method possible. There are many ways to control pests without using pesticides. Pick off bugs by hand, use a stream of water from a garden hose to remove aphids and put out traps for slugs. Use barriers to keep pests from getting on your plants in the first place – row covers for vegetables, for example. If you need to use a pesticide, choose the least-toxic product possible such as insecticidal soap.

For more information about specific pests and natural ways to control them, call Metro Recycling Information at **503-234-3000** and ask for a copy of "Natural gardening: a guide to alternatives to pesticides."



#### Pledge to make your home and yard pesticide-free

Ready to show harmful chemicals the door? Make the "pesticidefree" pledge for your home and garden, and receive a beautiful, longlasting yard sign that lets the world know. For details, visit www. oregonmetro.gov/garden or call 503-234-3000. Good while supplies last.



Grow Smart, Grow Safe



Enjoy a beautiful, productive garden without toxic chemicals. Metro's updated consumer guide ranks 600 pesticides, fertilizers and soil amendments, helping you find products least hazardous to people, pets and the planet. For a free

copy, call Metro Recycling Information at 503-234-3000 or visit www.oregonmetro.gov/garden. Free copies also available during seminars listed in calendar.

Questions? Call Metro Recycling Information at 503-234-3000, or visit www.oregonmetro.gov/garden.

Metro's natural gardening program is made possible in cooperation with Oregon State University Extension Service Community and Urban Horticulture Program, Clackamas Community College, City of Gresham, City of Portland, Tualatin Hills Park & Recreation District, Oregon Tilth, Tualatin Valley Water District, Mary Woodward Elementary, participating host home gardeners, more than 30 garden supply retailers and many additional individuals, agencies and organizations.

#### 🔊 Metro | People places. Open spaces.

Metro, the regional government that serves 1.5 million people who live in the 25 cities and three counties of the Portland metropolitan area, provides planning and other services that protect the nature and livability of our region.

**Metro Council** David Bragdon, Council President; Rod Park, district 1; Carlotta Collette, district 2; Carl Hosticka, district 3; Kathryn Harrington, district 4; Rex Burkholder, district 5; Robert Liberty, district 6.

Auditor Suzanne Flynn



Photos by

Jim Cruce, Kent Derek, C. Bruce Forster, Jerome Hart and Metro staff.

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#### HEALTHY HOMES. HEALTHY FAMILIES.

Grow green,

2010 Natural gardening workshops and resources





## Grow a natural garden to protect the ones you love



ou can grow a garden that's not only beautiful and abundant but safe for children, pets, forests and streams. Join your many neighbors who care for their yards without pesticides, conserve water

with compost and mulch and choose native plants. With organic gardening, you'll taste the delicious difference when harvesting homegrown foods. Want to learn more? Read on to discover an array of workshops, demonstration gardens and resources.

#### Visit your local learning garden

#### **Blue Lake Natural Discovery Garden**

Open for self-guided visits 8 a.m. to sunset daily

Drop-in activity sessions (adult supervision required)

Toddler times
 9 to 11 a.m. Thursdays
 in April, May and
 September

• All ages 1 to 5 p.m. weekends and 9 to 11 a.m. Thursdays, June through August

Blue Lake Regional Park, next to the water spray ground 21160 NE Blue Lake Road, Fairview

#### Free with parking fee

Dig in the soil, smell the flowers, touch the leaves and explore the beauty and ease of a natural garden. Gather ideas to make your yard pesticide-free and friendly for kids, songbirds, lakes and streams. Enjoy make-and-take strawberry planting, water-creature crafting and other dropin family activities with a garden educator.

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#### **Oregon Zoo Backyard Makeover Exhibit**

#### Open daily during zoo hours

**Drop-in natural gardening clinics** noon to 4 p.m. weekends, April through October

At Oregon Zoo, between the Insect Zoo and Lorikeet Landing

#### Free with zoo admission

Explore side-by-side "before" and "after" gardens, learning how easy it is to turn a ho-hum yard into a nature-friendly head turner. Get free natural gardening advice from Oregon State University Extension Service Master Gardeners during garden clinic times.



#### Natural Techniques Demonstration Garden

#### Open 7 a.m. to 7 p.m. daily

At SE 57th Avenue and Cooper Street, Portland

Seminars 10 to 11:30 a.m. third Saturdays, April through October (except May – see calendar)

#### Free

Gather design ideas for a yard full of natural beauty. Explore colorful blooms, native plants, edible landscaping and rain garden solutions for stormwater runoff.

#### **Cooper Mountain Demonstration Garden**

Open dawn to dusk daily, unless otherwise posted

Cooper Mountain Nature Park 18892 SW Kemmer Road, Beaverton



Visit this ornamental showcase featuring colorful plants that are low-maintenance and wildlife-friendly. Gather design ideas to create a



beautiful yard without harmful chemicals.

#### Water Efficient Demonstration Garden

#### Open dawn to dusk daily

Clackamas Community College 19600 S. Molalla Ave., Oregon City Free

Explore diverse garden styles that delight the senses and minimize watering needs. Garden and educational materials created in partnership with Clackamas River Water Providers. For more information, call 503-723-3511.

Jim Cruce photo

et inspired with free workshops featuring local garden experts. Drop-ins welcome per available space, unless registration required. For registration, accessibility or complete listing details, visit www.oregonmetro.gov/garden or call Metro Recycling Information at 503-234-3000.

#### MARCH

- 3 Organic soil amendments 6 to 7 p.m. Wednesday Concentrates Inc., SE Portland
- Vegetable gardening
  9 a.m. to noon Saturday
  Milwaukie Center, Milwaukie

Terrific turf without toxics 10 to 11 a.m. Saturday Garden Fever! NE Portland – registration required

Edible native plants 1 to 2 p.m. Saturday Dennis' Seven Dees, SE Portland

- 7 Planting for frogs, birds and other wildlife 1 to 2 p.m. Sunday Bosky Dell Natives, West Linn
- **13 Gardens of eatin'** 10:45 a.m. to 12:45 p.m. Saturday Cooper Mountain Nature Park, Beaverton

Organic soils and compost Noon to 1 p.m. Saturday Naomi's Organic Farm Supply, SE Portland

- Organic soils and compost
  1 to 2 p.m. Sunday
  Dennis' Seven Dees, Lake Oswego
- 20 Grow your own organic veggies 10 to 11 a.m. Saturday Larsen Farm Nursery, Wilsonville
- Pesticide-free pest control 10 to 11 a.m. Saturday Schedeens, Gresham
- Terrific turf without toxics 10 to 11 a.m. Saturday Ace Hardware, Forest Grove
- 26 Starting veggie seeds 3 to 4 p.m. Friday Better Living Show, Expo Center, North Portland

28 Grow your own organic veggies 1 to 2 p.m. Sunday Dennis' Seven Dees, SW Portland

**30** Blooms for birds, bees and butterflies 6:30 to 8 p.m. Tuesday Oregon Food Bank Eastside Learning Garden, NE Portland

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#### APRIL

3 Starting a vegetable garden 10 to 11 a.m. Saturday Livingscape Nursery, North Portland

5 Blooms for birds, bees and butterflies 6:30 to 8 p.m. Monday Berry Botanic Garden, SW Portland

**10 Gardens for kids and pets** 10 to 11 a.m. Saturday Larsen Farm Nursery, Hillsboro

> Making great compost 10 to 11 a.m. Saturday Linnton Feed & Seed, NW Portland

Native plants 10 to 11:30 a.m. Saturday Covenant Presbyterian Church, Gresham

Worm composting basics, Green gardening fair 11 to 11:30 a.m. Saturday Nature Park Interpretive Center, Beaverton

**11 Grow your own organic veggies** 1 to 2 p.m. Sunday Portland Nursery – Stark, SE Portland

**17** Sustainable gardening essentials 10 to 11:30 a.m. Saturday Natural Techniques Demonstration Garden, SE Portland

Terrific turf without toxics 10 to 11:30 a.m. Saturday Cooper Mountain Nature Park, Beaverton

24 Organic soils and compost 10 to 11:30 a.m. Saturday Clackamas Community College, Oregon City

#### MAY

1 Sustainable gardening essentials 10 to 11:30 a.m. Saturday Cooper Mountain Nature Park, Beaverton

2 Raised-bed vegetable gardening 9 to 10 a.m. Sunday Cornell Farm, SW Portland 8 Organic soils and compost 10 to 11:30 a.m. Saturday Washington County Fair Complex, Hillsboro

**Composting basics** 11 a.m. to noon Saturday Portland Nursery – Division, SE Portland

Growing fragrant family
 heirloom plants
 1 to 2:30 p.m. Sunday
 Home garden: Corinne Gosnell, Hillsboro

**15 Raised-bed vegetable gardening** 10 to 11:30 a.m. Saturday

Mary Woodward Elementary, Tigard

#### Native plants and wildlife

1 to 2 p.m. Saturday Cedar Hills United Church of Christ, SW Portland

**16** Fruit tree pollination 1 to 2 p.m. Sunday Urban Farm Store, SE Portland

> **Terrific turf without toxics** 1 to 2:30 p.m. Sunday Home garden: Caroline and Steven Matthews, Sherwood

22 Petals without poisons 9 to 10:30 a.m. Saturday Nature Park Interpretive Center, Beaverton

Pesticide-free pest control 10 to 11:30 a.m. Saturday Clackamas Community College, Oregon City

23 Grow your own organic veggies 1 to 2 p.m. Sunday Boring Square Garden Center, Boring

#### JUNE

5 Water-wise gardening 9 to 10:30 a.m. Saturday Nature Park Interpretive Center, Beaverton

Blooms for birds, bees and butterflies 10 to 11 a.m. Saturday Drake's 7 Dees, SE Portland

**12 Terrific turf without toxics** 10 to 11:30 a.m. Saturday Washington County Fair Complex, Hillsboro

Blooms for birds, bees and butterflies 10 to 11:30 a.m. Saturday Blue Lake Regional Park, SE Portland





13 Organic soils and compost 1 to 2 p.m. Sunday Farmington Gardens, Hillsboro

19 Pesticide-free pest control 10 to 11:30 a.m. Saturday Natural Techniques Demonstration Garden, SE Portland

20 Water-wise gardening 1 to 2 p.m. Sunday Buffalo Gardens, NE Portland

26 Water-wise gardening 10 to 11:30 a.m. Saturday Tualatin Valley Water District, Beaverton

> Water-wise gardening 10 to 11:30 a.m. Saturday Clackamas Community College, Oregon City

27 Organic soils and compost 1 to 2:30 p.m. Sunday Home garden: Kathleen and Ron Fortune, Gresham

#### JULY

10 Native plants 11 a.m. to noon Saturday Echo Valley Natives, Oregon City

11 Sustainable gardening essentials

> 1 to 2:30 p.m. Sunday Home garden: Marcia and Dennis Peck, Beaverton

17 Organic soils and compost 9 to 10:30 a.m. Saturday Cooper Mountain Nature Park, Beaverton

Terrific turf without toxics 10 to 11:30 a.m. Saturday Natural Techniques Demonstration Garden, SE Portland

18 Composting basics 1 to 2 p.m. Sunday Pistils Nursery, North Portland

24 Planting vegetables for winter harvest 10 to 11 a.m. Saturday Flat Creek Garden Center, Gresham

Native plants 10 to 11:30 a.m. Saturday Clackamas Community College, Oregon City

25 Growing fruit in any yard 1 to 2:30 p.m. Sunday Home garden: Glen Andresen, NE Portland 31 Edible landscaping 1 to 2 p.m. Saturday Hughes Water Gardens, Tualatin

#### AUGUST

11 Grow your own organic veggies 6 to 7:30 p.m. Wednesday Oregon Tilth Organic Education Center, Lake Oswego

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14 Water-wise gardening 10 to 11:30 a.m. Saturday Washington County Fair Complex, Hillsboro

15 Edible landscaping, naturally 1 to 2:30 p.m. Sunday Home garden: Monica Mumper, Oregon City

21 Petals without poisons 10 to 11:30 a.m. Saturday Natural Techniques Demonstration Garden, SE Portland

28 Gardens for kids and pets 10 to 11:30 a.m. Saturday Clackamas Community College, Oregon City

#### SEPTEMBER

11 Cooking from the garden 11 a.m. to 1 p.m. Saturday Home garden: Charlene Murdock and Richard White, Forest Grove

12 Parking-strip paradise: water-saving natives 1 to 2:30 p.m. Sunday Home garden: Kym Pokorny, North Portland

18 Winter cover crops for soil health 10 to 11:30 a.m. Saturday Natural Techniques Demonstration Garden, SE Portland

25 Blooms for birds, bees and butterflies 10 to 11:30 a.m. Saturday Clackamas Community College, Oregon City

#### OCTOBER

9 Grow your own organic veggies 10 to 11:30 a.m. Saturday Washington County Fair Complex, Hillsboro

16 Transplanting perennials and natives

10 to 11:30 a.m. Saturday Natural Techniques Demonstration Garden, SE Portland

#### Go natural, get a discount!

Portland

Hillsboro

West Linn

Portland

Portland

Beaverton

C ave \$5 off a total \$20 purchase of compost, native D plants or hand-weeding tools. Discount coupon available during free seminars listed in the calendar section, or visit www.oregonmetro.gov/garden.

#### Many thanks to the participating retailers:

The Garden Corner, Ace Hardware, Forest Grove and Milwaukie Tualatin Garden Fever! Portland Bark Blowers, Tigard Gardener's Choice, Beaumont Hardware, Tigard Hughes Water Gardens, Best Buy in Town Landscape Supply, Tualatin Landscape Products & Boring Square Garden Supply, Hillsboro Center, Boring Larsen Farm Nursery, Bosky Dell Natives, Wilsonville Linnton Feed & Seed, Buffalo Gardens, Portland Livingscape Nursery, **Clackamas Compost** Portland Products, Clackamas Mt. Scott Fuel, Boring Concentrates Inc., and Portland Naomi's Organic Farm Cornell Farm, Portland Supply, Portland Dennis' Seven Dees. Pistils Nursery, Portland Cedar Hills, Lake Oswego Portland Nursery, and Portland Portland Drake's 7 Dees, Portland S&H Landscape Echo Valley Natives, Supplies & Recycling, Tualatin Oregon City Schedeens, Gresham Farmington Gardens, Urban Farm Store, Flat Creek Garden Portland Center, Gresham

Questions? Call Metro Recycling Information at 503-234-3000 for free group presentations, specially priced compost bins, free natural gardening publications and more, or visit www.oregonmetro.gov/garden.



Many household products, such as kitchen, laundry, and bath disinfectants and sanitizers, flea and tick sprays and powders, and swimming pool chemicals, are pesticides. Try to avoid using these substances in excess or near water sources.

Other Suggestions • Keep litter, pet wastes, leaves, and debris out of street gutters and storm drains. These outlets drain directly into lakes, streams, rivers, and wetlands. Pet wastes contain bacteria and viruses that can threaten fish, wildlife, and people.

• Avoid dumping oil, antifreeze, or other household chemicals into storm drains or sewers, down the drain of your sink, or into the toilet. Contact your local Solid Waste Management Office to find out how to dispose of these materials properly.

You can help keep the environment clean and the frogs healthy by following these simple tips. If everyone does their part to protect the environment, all types of fish and wildlife, including frogs, will enjoy a cleaner, healthier environment.

Many of the methods described above are part of an Integrated Pest Management (IPM) approach to pest control. IPM is a common-sense approach that uses good planning, pest monitoring, and appropriate control methods, including the judicious use of pesticides when necessary, to get the best long-term results with the least disruption of the environment. To get more information on IPM, check with your County Agricultural Extension Service, the National Pesticide Telecommunications Network, environmental organizations, or your public library. Many state universities have IPM information that you can access through the World Wide Web. Other lawn and garden care information sources include your state's natural resource agencies, native plant societies, local conservatories, and greenhouses.

#### Surf the World Wide Web

Several web sites can teach you more about caring for frogs, your lawn and garden, backyard wildlife conservation, and reducing non-point source pollution. Here are a few web sites to get you started:

The U.S. Fish & Wildlife Service's Environmental Contaminants Program: http://contaminants. fws.gov/Issues/Amphibians.cfm

The U.S. Environmental Protection Agency's Office of Pesticide Programs: http://www.epa.gov/ pesticides

The Natural Resource Conservation Service's Backyard Conservation: http://www.nhq.nrcs.usda.gov/CCS/ Backyard.html

The National Biological Information Infrastructure's Frog Web: http:// www.nbii.gov/frogweb/froghunt.html

National Pesticide Telecommunications Network: http://nptn.orst.edu or call 1 800/858 7378

U.S. Fish & Wildlife Service Division of Environmental Quality 4401 North Fairfax Dr., Suite 322 Arlington, Virginia 22203 703/358 2148 http://contaminants.fws.gov

U.S. Fish & Wildlife Service http://www.fws.gov

July 2000



#### **U.S. Fish & Wildlife Service**

Homeowner's Guide to Protecting Frogs

Lawn and Garden Care



Amphibians, such as frogs, toads, and salamanders, are highly susceptible to contaminants, including fertilizers, weed and pest killers, and detergents, released into their environment. This is because amphibians breathe, at least in part, and absorb water through their skin providing an easier way for contaminants to enter the animals bodies. Amphibian eggs and larvae (tadpoles) are especially susceptible to these toxic substances. Exposure to contaminants during development can lead to frogs with many different types of malformations including frogs without eyes, with extra or missing legs and, in some cases, the malformations may be deadly. Contaminants biologists from the U.S. Fish & Wildlife Service are currently studying the effects of these contaminants on frogs. They are conducting surveys across the United States to learn more about the possible role that contaminants play in amphibian malformations.

Homeowner's Guide to **Protecting Frogs** 

Homeowners use up to 10 times more chemical pesticides per acre on their lawns than farmers use on crops, and they spend more per acre, on average, to maintain their lawns than farmers spend per agricultural acre. During a rain, the pesticides and fertilizers you put on your lawn can be carried by runoff and end up contaminating a stream or wetland dozens of miles away. Contaminants can also be carried for long distances through the air and deposited on land and in water by rain or fog. Such examples of pollution are called "non-point source" pollution.

You may not think that you can make a difference, but caring for your lawn in an environmentally sensible way can have a bigger impact than you might think. Your lawn is only a small piece of land, but all the lawns across the country cover a lot of ground. That means your lawn care activities, along with everyone else's, can make a difference to the environment. If you use pesticides and other chemicals to

maintain your lawn and garden, you can help reduce the amount of pollution reaching our nation's waters and harming frogs, as well as other fish and wildlife, by changing the way you care for your yard.

Mulching, spading, hoeing and pulling up weeds are good ways to avoid weed growth rather than Whenever Possible applying weed killer.

Choose

Minimize

Fertilizer Use

Non-Chemical

Weed Controls

Over-fertilization is a common problem. Fertilizing more than the recommended rate does not help plants grow better and often harms them. In addition, excess fertilizer will likely wash into streams and rivers and may lead to amphibian deformities and deaths. Researchers at Oregon State University recently discovered that even low levels of nitrates (a compound found in fertilizers) are enough to kill some species of amphibians. Help prevent pollution from fertilizer by taking these actions:

■ Leave the grass clippings from mowing to decompose on your lawn (feeding your lawn this way is equal to fertilizing it once or twice a year).

■ Use compost in your garden to develop healthy soils and reduce the need for chemical fertilizers.

■ Have your soil tested to find out exactly what nutrients it needs in order to avoid applying unnecessary fertilizers. Your County Agricultural Extension Service will test your soil for a reasonable fee.

■ Use organic fertilizers rather than synthetic ones. Organic fertilizers release more slowly into the environment and create healthier soils.

• Apply fertilizer when the soil is moist and lightly water. This will help the fertilizer move into the root zone

instead of blowing or washing away. However, be sure to check the weather forecast in order to avoid applying fertilizers immediately before a heavy rain which may wash the fertilizers into the nearby streams.

■ Calibrate your applicator to make sure you apply the correct amount of fertilizer.

■ Minimize the attraction of pests such as rats, therefore reducing the need for pesticides, by moving wood piles away from the house and clearing away litter and garbage.

**Reduce Your** 

Pesticides

**Dependence** on

Provide good drainage to prevent standing water that will attract pests such as mosquitoes. This will eliminate the need to apply bug sprays.

■ Plant native grasses, shrubs, and trees. Native plants are often hardier than non-native plants and less susceptible to pests and disease.

Put an assortment of plants in your yard to increase biological diversity and encourage a variety of beneficial organisms that provide natural pest control.

■ Rotate the plants in your annual garden. Changing the type of plants you grow each year, makes it harder for pests dependent on a certain type of plant to become established, and therefore, eliminates the need for pesticides.

Grow plants that are natural insect repellents, such as lemon balm, among your flowers and vegetables to help keep unwanted insects away.

■ If you use bug spray, make sure it does not contain DEET, which is extremely harmful to amphibians.

#### Parsons, Susan

From:Sabine Hilding [sabinehilding@hotmail.com]Sent:Thursday, September 02, 2010 11:45 AMTo:Parsons, SusanCc:David Delk; sarahjinstenes@yahoo.comSubject:October 20, 9:30 Wednesday confirm

To:

Sue Parsons Assistant Council Clerk City of Portland 503.823.4085 Susan.Parsons@portlandoregon.gov

Hi Sue

Confirmation RE: Herbicides, Pesticides in Portland.

We will be presenting issues regarding herbicides, pesticides in PDX--that is David Delk from NE PDX and the Alliance for Democracy, Sarah Instenes from SW PDX in Multnomah Village, and I from SW PDX, Council Crest area, on October 20, 2010 9:30 PDX City Council.

Thanks a lot,

Sabine Hilding 3311 SW Fairmount Blvd. Portland, OR 97239

503 226 2870

CC: David Delk, Sarah Instenes - To David and Sarah, please send Sue a message confirming, thanks

Request of Sabine Hilding to address Council regarding herbicides and pesticides in Portland (Communication)

OCT 20 2010

PLACED ON FILE

Filed	OCT 1 5 2010
	onne Griffin-Valade r of the City of Portland

COMMISSIONERS VOTED AS FOLLOWS:		
	YEAS	NAYS
1. Fritz		
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3. Saltzman		
4. Leonard		
Adams		