

Practically Easy Landscape Maintenance

**A Care Manual
for Natural Drainage Systems**

Spring 2005
First Edition



SEA Streets/Seattle Public Utilities





RESPONSIBILITIES

*You have a Natural Drainage System
in front of your home.
Now what will you need to do to maintain it?
And what will the City of Seattle do?*



SEA Streets/Seattle Public Utilities

“To Do” List for Residents:

- Water, weed, mulch, mow and do other maintenance for Natural Drainage System plants and lawns. Please note that residents throughout the City are responsible for maintaining the planting or landscape strips in front of their homes.
- Remove leaves and debris blocking storm drains and pipes to help prevent local flooding.
Please call Seattle Public Utilities, Drainage Operations at (206) 386-1800, if you see any drainage system problems, accidents, spills or pollution that appear harmful, dangerous, or need immediate attention beyond your efforts to keep storm drains and pipes clear of debris.
- Pick up trash in front of homes, in the Natural Drainage System and the street right-of-way.
- Keep sidewalks and stairs up to and in front of homes clear of plant growth, debris, snow and other impediments to pedestrian access and safety. Prune shrubs and ground covers only as needed to keep sidewalks clear and sightlines open from street corners and driveways.
Call the City for street tree pruning and other tree-related needs. See City Contacts below.
- Maintain stair handrails (including painting handrails if desired.)
- Need help or have questions? See City Contacts below.

City of Seattle will:

- Regularly monitor and maintain Natural Drainage System “hardware” – pipes, culverts, outlets, drains, grates, maintenance structures and the like.
- Provide emergency services and repairs. See City Contacts below.
- Prune street trees as needed. See City Contacts below.
- Respond to your calls for help and information. See City Contacts below.

City Contacts:

Seattle Public Utilities, Drainage Operations, 24-hour emergency hotline: (206) 386-1800

Seattle City Light, 24-hour emergency hotline: (206) 684-3000

Seattle Public Utilities, Natural Drainage System, general information: (206) 684-3000

Seattle City Light, Powerline Clearance Program: (206) 386-1733

Seattle Department of Transportation, Arborist, street tree pruning needs: (206) 684-7649

Seattle Department of Transportation, Landscape Architect, landscape questions: (206) 684-5041

Seattle Department of Transportation, general information: (206) 684-ROAD

Natural Lawn & Garden Hotline, for gardening questions & advice: (206) 633-0224

A Care Manual for Natural Drainage Systems

What's in this Manual?

This manual includes helpful tips for major landscape maintenance tasks needed to establish and nurture Natural Drainage System plantings, or to maintain any residential yard, such as ...

Watering

Answers questions about how much and how often plants need to be watered.

Weeding

Answers questions about which plants are weeds and how to minimize weeding.

Mulching

Answers questions about why mulch is good, how to mulch and with what materials.

Other Gardening Tasks

Other maintenance tasks include trash removal, lawn care, fall leaves, pruning, fertilizing and pest/disease control.

Landscape Maintenance Calendar & Guide Card

Summarizes tasks and tips, and illustrates common weeds likely to sprout. Take the laminated version, located in the back pocket of this guide, outside with you while gardening or post it in your home or garden shed.

Plant Identification

Illustrates a typical planting cross section, and provides photos and descriptions of plants installed for the Natural Drainage System in your neighborhood.

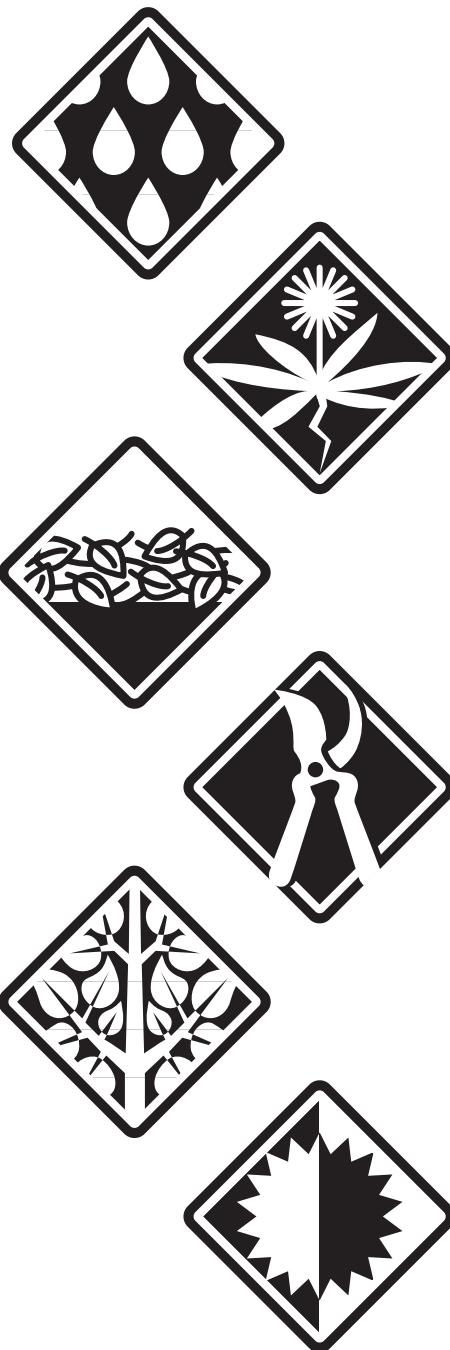
Resources

Bibliography, web sites, contact numbers.

Additional publications included in the manual:

Natural Yard Care
Natural Lawn Care
Smart Watering
Saving Water with Soaker Hoses

Natural Pest, Weed & Disease Control
Growing Healthy Soil
Get to Know Your Soil
Choosing the Right Plants





WATERING



Peggy Gaynor

Practically Easy Watering



How much water?

Watering's fun and easy, right? But how often should plants be watered? And how much water do plants really need?

Deep, infrequent watering that moistens the top 12 to 18 inch root zone is recommended to keep plants alive and healthy and to promote deep roots. Deep roots help plants be drought tolerant.

For the first three years, deeply water plants once every 7 to 14 days in hot, dry weather. Small plants and flowers may need more frequent watering in hot weather – up to twice a week.

***Tip:** Watch for stressed plants. When leaves wilt and don't perk up overnight, or evergreen needles start to fade, it's time to water!*

To know you're giving plants enough water, dig down an hour or so after watering to see if the top 12 to 18 inches of soil is moist. If not, add watering time until at least the top 12 inches is moistened.

After three to five years, plants should be well-established, deep rooted and drought tolerant. Watering established plants then becomes an infrequent task – only needed when plants show signs of stress during hot, dry weather.

***Tip:** Keep mulch layer thick on planting beds to save watering and weeding time and money! See "Mulching" on page 6 to learn why and how.*

Too much or too little?

Be careful to avoid watering too little or too much.

- 1) **Too Little:** Hand spraying water wets leaves and soil surface but doesn't apply enough water to soak soil down to thirsty roots.
- 2) **Too Much:** Overwatering literally rots roots, invites disease, drowns and starves plants (they can't absorb nutrients from soggy soil).

Two good ways to water: Soaker Hoses and Spot Watering



Soaker Hose Watering: Soaker or Leaky Hoses slowly release water drops all along their length. Snake soaker hoses through planting areas and close to plant trunks or stems, or space soaker hose loops 18 inches apart (sandy soils) to 24 inches apart (clay soils) to water a whole area. Moisture is applied directly and efficiently to the soil and plant root zones. Evaporation is minimized, particularly if the hose is covered with 3 to 4 inches of mulch. Start with 40 to 60 minutes and check that water is penetrating 12 to 18 inches deep!

Spot Watering: Spot watering is simply running a hose at the base of a plant - uphill side is best, or into a 2 to 5 gallon bucket with holes in the bottom! You can use a garden soaker or shower-type wand (not a spray nozzle!) on the hose end to spread out the flow and reduce erosion. Turn the hose on softly (enough to fill a bucket to the 2 gallon/8 liter mark in 1 minute or so) and let it run for 30 seconds to 5 minutes (½ to 10 gallons), depending on the plant type and size. Spot watering takes more time, but really helps establish trees and large shrubs, which need more water to reach larger, deeper root systems, or to rescue drought-stressed plants at any time.

continued on next page

Year 1: Watering Schedule for Summer (June – August)



<i>Type of Plant</i>	<i>Amount of Water</i>	<i>Frequency for Year 1</i>
Tree	5 – 10 gallons	Once a Week
Shrub	3 – 5 gallons	Once a Week
Ground Cover	1 – 2 gallons	Once or Twice a Week
Perennial/Annual	½ gallons	Twice a Week
Grass Lawn*	1 inch	Per Week

***Option: Stop watering lawn. Mowing is reduced while grass is dormant.**

<i>Type of Plant</i>	<i>Time for Soaker Hose Watering adjust for 12–18 inch penetration</i>	<i>Time for Spot Watering at approx. 2 gallons per minute</i>
Tree	40 - 60 minutes	2.5 – 5 minutes
Shrub	40 - 60 minutes	1.5 – 2.5 minutes
Ground Cover	40 - 60 minutes	0.5 – 1 minute
Perennial/Annual	40 - 60 minutes	15 – 20 seconds
Grass Lawn	Not Applicable	Not Applicable

Watering Tips:

- Water deeply and infrequently, in morning or evening. Water evaporates during midday heat. See Watering on Landscape Maintenance Calendar & Guide.
- Water where roots are: top 12-18 inches of soil for trees, shrubs, ground covers and perennials/annuals, and top 4 -6 inches for lawns.
- Plants are installed with a watering basin or saucer, a small earth berm or donut formed around each plant to hold water at its base. Keep watering basin intact, particularly for the first year!
- Do “pulsed” watering. Water 2 days in a row, or morning & evening on 1 day. Like a damp sponge, already moist soil allows more water to absorb deeper into the ground.
- Drill or poke holes into the bottom of a 5 gallon bucket. Put at the base of a tree or shrub, fill and let drain slowly into soil. Water 5-10 gallons per tree, and 3–5 gallons per shrub.
- Use soaker hoses and spot watering to water planting beds, instead of garden sprinklers and hand spraying. Drip irrigation systems apply water to individual plants and are water efficient but more complicated and expensive to properly design and install.
- Use a timer – either on the hose itself for soaker hoses, or a kitchen timer or stop watch for spot watering.

Want to know more?

Read *Natural Yard Care*, *Smart Watering* and *Saving Water with Soaker Hoses*, and see *Landscape Maintenance Calendar & Guide*, *Year 1: Watering Schedule for Summer Months* and *Watering Tips*, in this manual.

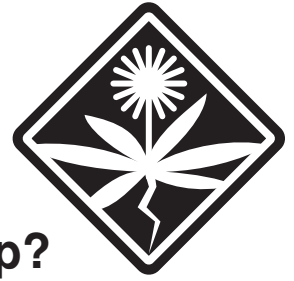


WEEDING



Peggy Gaynor

Practically Easy Weeding



The Big Question:

Which plants to weed and which plants to keep?

Some common weeds likely to pop up in your neighborhood are pictured here. Learn about good landscape plants to keep in the Plant Identification section.

***Tip:** Look around your yard and neighborhood to see what trees and other plants may be spreading unwanted seeds to unwelcome locations.*

How to get rid of weeds?

Pull them by hand before they go to seed!

Be sure to pull or dig out the roots. Tearing off weed tops is just “pruning” - they’ll grow right back! The easiest time to weed is when soil is moist and weeds are small – especially in spring and again in fall. The best way to discourage weeds is with 3 to 4 inches of organic mulch.

Treating your yard as Wildlife Habitat

Natural Drainage Systems absorb urban runoff and improve water quality before runoff flows into local streams, lakes and Puget Sound. Many of the plants are attractive to wildlife. Please do not use chemicals to kill weeds, pests, diseases, or to fertilize plants. Instead try environmentally friendly hand weeding and pest control methods, and organic products. Without chemicals, your yard will be healthier and safer for you, your family and pets - and be full of birds, beneficial insects and other critters to watch and enjoy!

Weeding Tips:

- Pull or dig out weed roots – removing weed tops only is “pruning.” Pull weeds when they're small and soil is moist – it's easier!
- Use a sharp pointed trowel or garden fork to loosen soil and dig out weeds. Is your back tired? Use a long-handled weed puller to yank weeds.
- * State-regulated noxious weeds may also be locally regulated. Make efforts to contain, suppress and/or eliminate these weeds. For more information, go to Washington State Noxious Weed Control Board website at www.nwcb.wa.gov

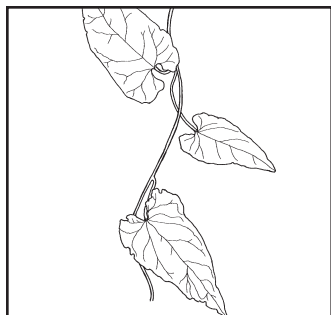
continued on next page

Want to know more?

Read *Natural Yard Care and Natural Pest, Weed & Disease Control*, and see *Landscape Maintenance Calendar & Guide and Weeding Tips*, in this manual.

Some common weeds:

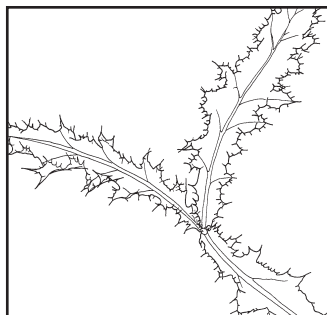
*State-regulated noxious weeds may also be locally regulated. Make efforts to contain, suppress and/or eliminate these weeds. For more information, go to Washington State Noxious Weed Control Board website at www.nwcb.wa.gov



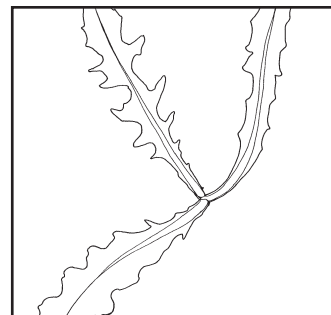
***Bindweed**



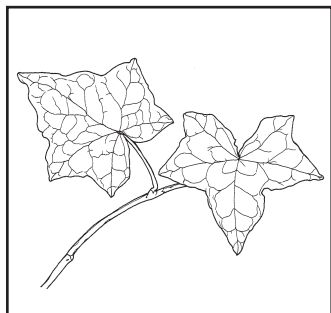
***Butterfly Bush**



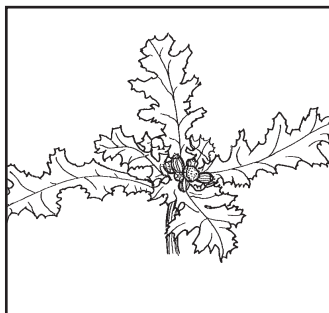
***Canada Thistle**



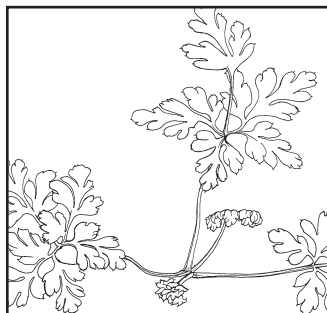
***Catsear**



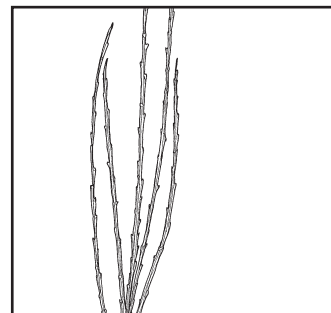
***English Ivy**



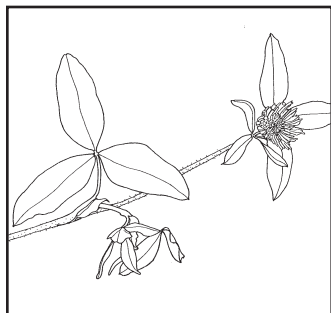
***Groundsel**



***Herb Robert**



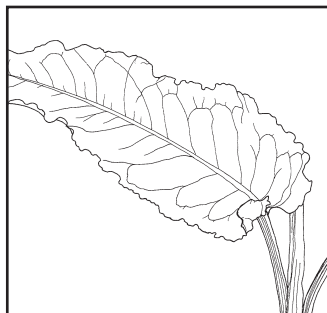
***Scotch Broom**



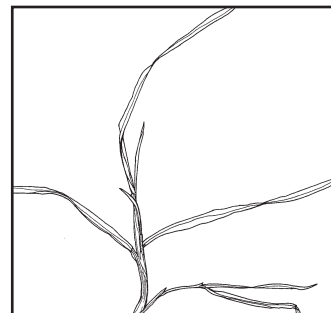
Clover



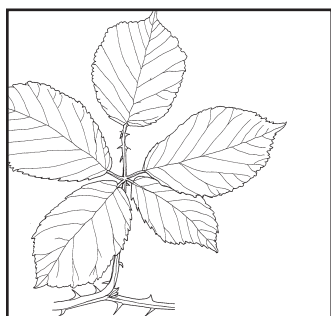
Dandelion



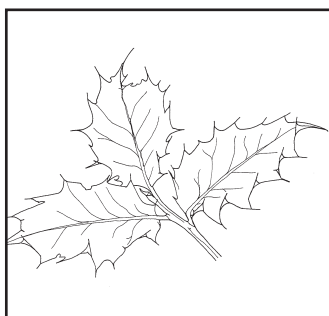
Dock



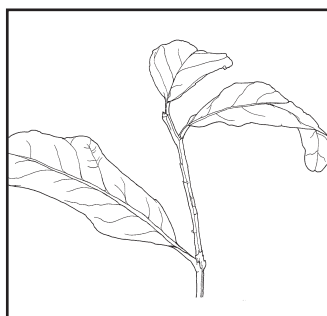
Grass



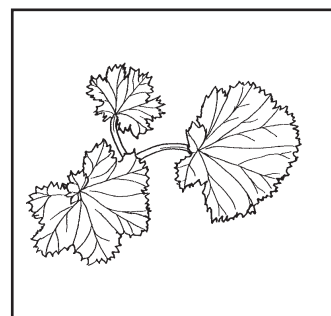
Himalayan Blackberry



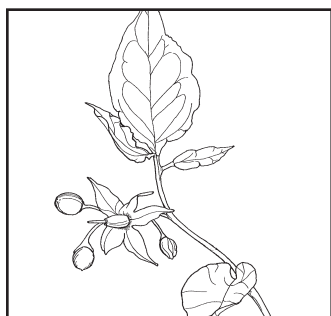
Holly



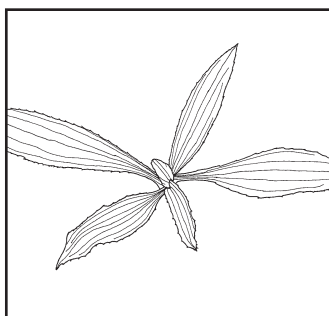
Laurel



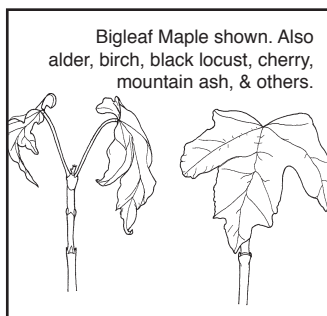
Mallow



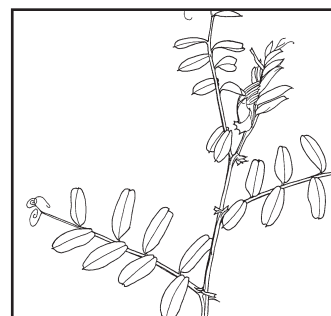
Nightshade



Plantain



Tree Seedlings



Vetch

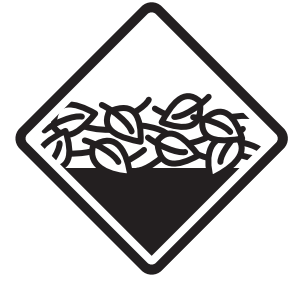


MULCHING



Peggy Gaynor

Practically Easy Mulching



Why is mulching around plants good?

Mulching planting beds with a 3 to 4 inch layer of organic material - like wood chips or tree trimmings, leaves, bark or compost - retains moisture, keeps roots cool, discourages weeds and feeds the soil.

Will putting down mulch really save time and money?

You'll spend less time weeding, less money and time watering and grow a healthier, more attractive landscape.

Don't be afraid to install a thick layer of mulch initially – as much as 6 to 8 inches of tree trimming or leaf mulch, or 4 to 6 inches of bark or compost. Be careful to leave plant trunks and stems open to air - burying plants in mulch will rot them! After settling and composting, the mulch layer will quickly shrink to the recommended 3 to 4 inches.

Mulching can happen at any time of year, and is best to have in place before hot, dry summer days. Install mulch during fall, winter or spring (pace yourself – some mulches are pretty heavy!) Then sit back, take a summer “vacation” and enjoy the benefits of a healthier, water-conserving garden.

***Tip:** If a truck load of mulch is more than you need, consider having a “Block Mulching Party.”*

Mulch Types & Sources:

Wood Chip or Tree Trimming Mulch: Available free from commercial tree services as a by-product of pruning, tree trimming mulch is a variable mix of shredded wood (limbs), leaves and conifer needles. Although it may contain weed seeds, spread disease and/or grow mushrooms (do not eat!), chipped tree trimmings make an effective, inexpensive moisture-holding mulch that lasts longer and has more structure (woody material) than leaves, bark or compost mulches.

Leaves and Grass Clippings: Available free from your yard (or from neighbors), fall leaves and grass clippings may be added to planting beds as mulch and allowed to compost in place. If you dislike the odor and appearance of composting leaves or grass clippings, an alternative is to compost the materials before putting them on planting beds. See Compost.

Bark Mulch: Available commercially by the cubic yard, bark mulch is a by-product of the timber industry. Consisting primarily of Douglas fir and hemlock bark, it comes in coarse, medium-fine and fine textures and is often installed for aesthetics as much as for mulch. Bark mulch may be contaminated with weed seeds and salt, is naturally waxy and repels rain - all creating poor conditions for plant growth. It can also be tough on hands! Avoid using fine bark, cedar chip or sawdust products that can be especially water-repellent and harmful to plants.

Compost: Available commercially by the cubic yard or free from your own home composter, compost is a recycled product made from aged yard waste, manure and other biosolids. With an attractive dark brown soil-like texture, compost can be used as mulch or mixed into soil to improve fertility. Compost mulch can form a dry “crust” that resists water at first. It also breaks down quickly, meaning more frequent re-mulching.

Mulching Tips:

- Maximize time & water saving benefits of mulching. Maintain 3-4 inch thick mulch layer over all planting beds – but don't bury plants. Burying plants in mulch will rot them!
- One cubic yard of mulch spread 3-4 inches thick covers approximately 100 square feet (10' x 10') of planting bed. Share a truck load or two of mulch and have a “Block Mulching Party.”

Want to know more?

Read *Natural Yard Care*, *Natural Lawn Care*, *Growing Healthy Soil*, *Get to Know Your Soil*, *Natural Pest, Weed & Disease Control* and *Choosing the Right Plant*; and see *Landscape Maintenance Calendar & Guide* and *Gardening Tips*, in this manual.



OTHER GARDENING TASKS



Peggy Gaynor

Other Gardening Tasks

Trash Removal:

Pick up trash within your yard and Natural Drainage System and right-of-way in front of your home. Remove leaves and debris blocking storm drains and pipes to help prevent local flooding. Add trash to other garbage or recyclables for waste collection.

Lawns:

Lawns require regular mowing and 1 inch of water per week to stay green. To water wisely and avoid over-watering, use a straight-sided can (tuna or cat food cans work great) to measure when you have put 1 inch of water on lawns and then turn off the sprinklers! Hand weeding, fertilizing (with organic fertilizers, please!) and raking off leaves in fall are other tasks you can do to keep lawns looking good. Consider letting grass go brown (dormant) by not watering in summer. This cuts down on mowing and the grass will green up with fall rain. Also consider reducing the size of your lawn to what you really use (compost the sod!) and adding more native habitat plantings.

Fall Leaves:

Rake leaves off of lawns in fall, but let leaves lie on planting beds as mulch. Or compost leaves and add to planting beds in spring as soil amendment or mulch.

Pruning:

Your new plants should need very little if any pruning. If you do prune, only prune shrubs and ground covers as needed to keep sidewalks clear and sightlines open from street corners and driveways. You can remove broken or dead limbs and tree suckers. For street tree pruning, information and permits, call City Arborist at **(206) 684-7649**.

Fertilizing:

Planting soil has been amended with compost and should not require any other fertilizer, other than re-mulching with compost, leaves, or tree trimming mulch.

Pests & Diseases:

Instead of spraying at the first sign of pests or disease, try these environmentally friendly approaches. You can also call the Natural Lawn & Garden Hotline, for expert advice on pests and other gardening questions: **(206) 633-0224**.



continued on next page

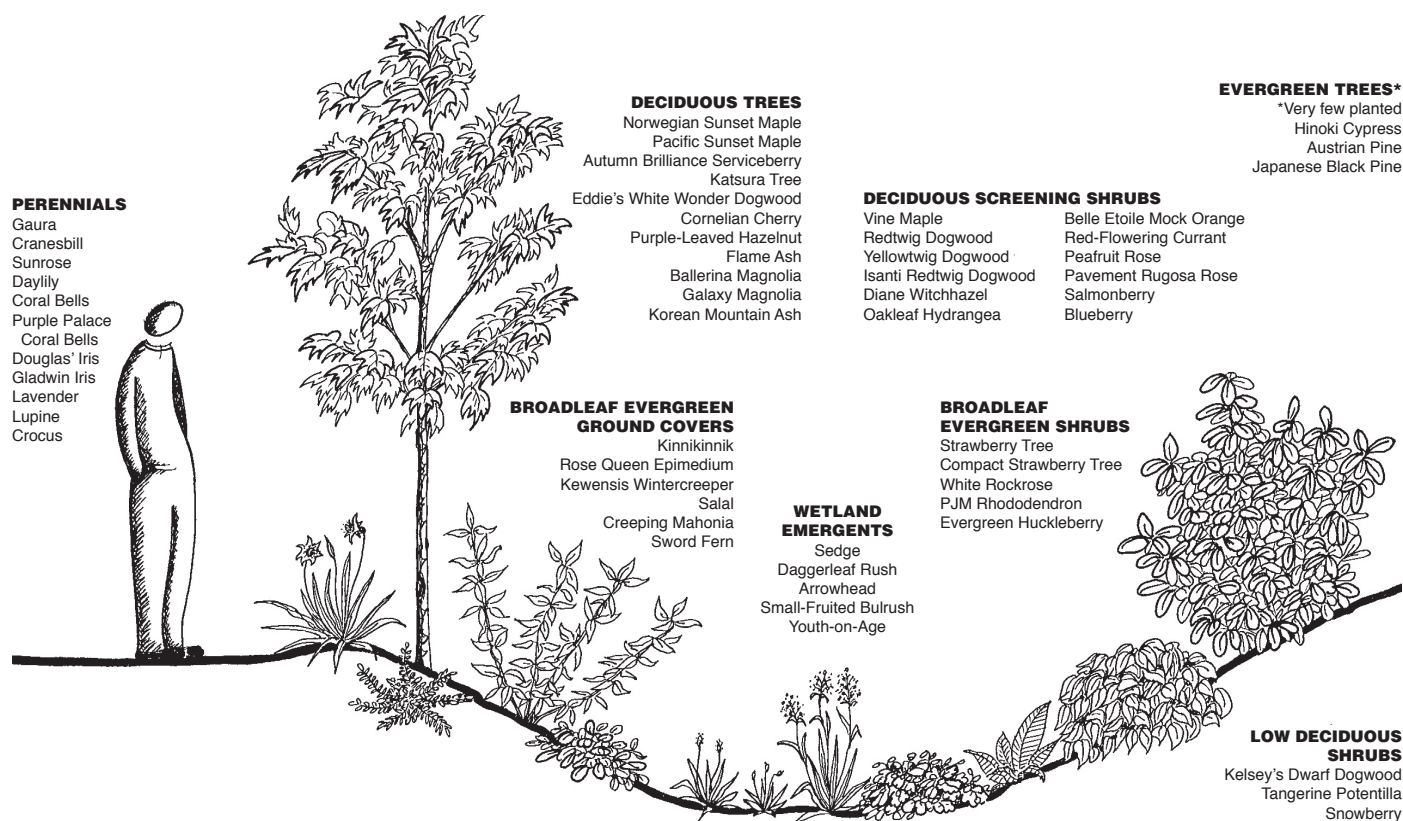
More about Pests & Diseases:

1. Prevent pests and diseases. Nurture healthy soil with compost and mulch. Keep planting beds clean of diseased or dead plants. Pull weeds before they go to seed.
2. Identify the problem. Some bugs are good! For bad bugs, handpick (squish) larger pests, prune out infected plant parts, or wash pests off with a strong spray of water from the hose. You can also use traps and barriers to keep out bugs and critters!
3. Be patient and live with a little pest or disease damage. Given time, nature may cure the problem without your help, or plants may simply "outgrow" the problem.

Other Gardening Tips:

- In late March, take a flashlight out into the garden around midnight to literally catch root weevils and cut worms in the act, munching new foliage. Pluck & pinch (or squish) to manually remove the pesky critters!

Typical section natural drainage system plants



Want more info?

Read *Natural Yard Care*, *Natural Lawn Care*, *Growing Healthy Soil*, *Get to Know Your Soil*, *Natural Pest, Weed & Disease Control* and *Choosing the Right Plant*; and see *Landscape Maintenance Calendar & Guide* and *Gardening Tips*, in this manual.



RESOURCES



Peggy Gaynor

Resources

Natural Lawn & Garden Guides included in the manual

Natural Yard Care

Natural Pest, Weed & Disease Control

Natural Lawn Care

Growing Healthy Soil

Smart Watering

Get to Know Your Soil

Saving Water with Soaker Hoses

Choosing the Right Plants

Other City of Seattle Natural Lawn & Garden Guides available at:

www.seattle.gov/util/Directory/Conservation_Index

Look under “Landscape Naturally,” “Conserve Water At Home,” & “Prevent Water Pollution At Home”

**Questions? Call the Natural Lawn & Garden Hotline at 206-633-0224
or e-mail info@lawnandgardenhotline.org**

Other Books and References

- *Sunset Western Garden Book* (Sunset Books, 2001)
- *Gardening with Native Plants of the Pacific Northwest* (Arthur R. Kruckeberg, 1996)
- *Weeds of the West* (The Western Society of Weed Science, 2002)
- *Northwest Weeds – The Ugly and Beautiful Villains of Fields, Gardens and Roadsides* (Ronald J. Taylor, 1990)
- *The Mulch Book: A Complete Guide for Gardeners* (Stu Campbell and Donna Moore, Storey Books, 1991)
- *Let It Rot: The Gardener's Guide to Composting* (Stu Campbell, Storey Books, 1988)
- *Pruning Simplified* (Lewis, Hill, 1986)
- *A New Tree Biology* (Alex Shigo, 1986)
- *Arboriculture* (Richard W. Harris, 1983)
- *Trees and Shrubs Hardy in the British Isles*, 4 volumes (W.J. Bean, 1981)
- *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation, and Uses* (Michael A. Dirr, 1983)

continued on next page

Website resources

- Soil and composting (King County) www.metrokc.gov/soils
- Yard and garden topics (King County) <http://dnr.metrokc.gov/topics/yard-and-garden>
- Water conservation, indoors and outdoors (Saving Water Partnership) www.savingwater.org
(206) 684-SAVE (684-7283)
- Less toxic gardening and pest control
Look under “Natural Yard Care” www.govlink.org/hazwaste/house
- Washington State University
King County Extension www.metrokc.gov.WSU%2DCE
- Washington State University
Master Gardener information <http://mastergardener.wsu.edu>
(206) 296-3440
- Gardening in Western Washington
WSU Master Gardener Program <http://gardening.wsu.edu>
- Native plant information <http://gardening.wsu.edu/nwnative>
- Salmon information <http://seattle.gov/salmon>
- Choosing the right plant for the right place www.GreatPlantPicks.org
- Washington State Noxious Weed Control Board www.nwcb.wa.gov

Other publications available through websites

- How to be a Salmon Friendly Gardener www.seattle.gov/util/Directory/Conservation_Index
- Composting at Home www.seattle.gov/util/Directory/Conservation_Index
- Stop Before You Spray:
A photo guide to beneficial insects www.govlink.org/hazwaste/house
Look under “Natural Yard Care – Avoid pesticides – Beneficial insects”
- Four Reasons to Kick the Weed and Feed Habit www.govlink.org/hazwaste/house
Look under “Natural Lawn Care – Avoid weed and feed”
- The Right Tree Book (Seattle City Light, 1988) www.seattle.gov/light/publications
Look under “Brochures You Can Print”

Plant Identification and Information websites

- Landscape Plants - Images, Identification and Information
Oregon State University Department of Horticulture <http://oregonstate.edu/dept/ldplants>
- Plants Database, United States Department of Agriculture <http://plants.usda.gov>
- Web Resources - Directory of Horticulture Websites
University of Washington, Center for Urban Horticulture, Elisabeth C. Miller Library
http://depts.washington.edu/hortlib/resources/hort_web_sites/plant_id.shtml



Seattle Public Utilities
Seattle Municipal Tower
700 Fifth Avenue
Suite 4900
PO Box 34018
Seattle, WA 98104-5004

206-684-3000

©2005 Seattle Public Utilities