Becoming Waterwise: Good Lawn, but Less Lawn

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With help from Spokane Master Gardener Program

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Using Water for Lawns
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- Establishing a New Lawn C065
- Lawn Care Basics C067
- Lawn Renovation C068
- WSU Drought Advisory : lawns EB0684E

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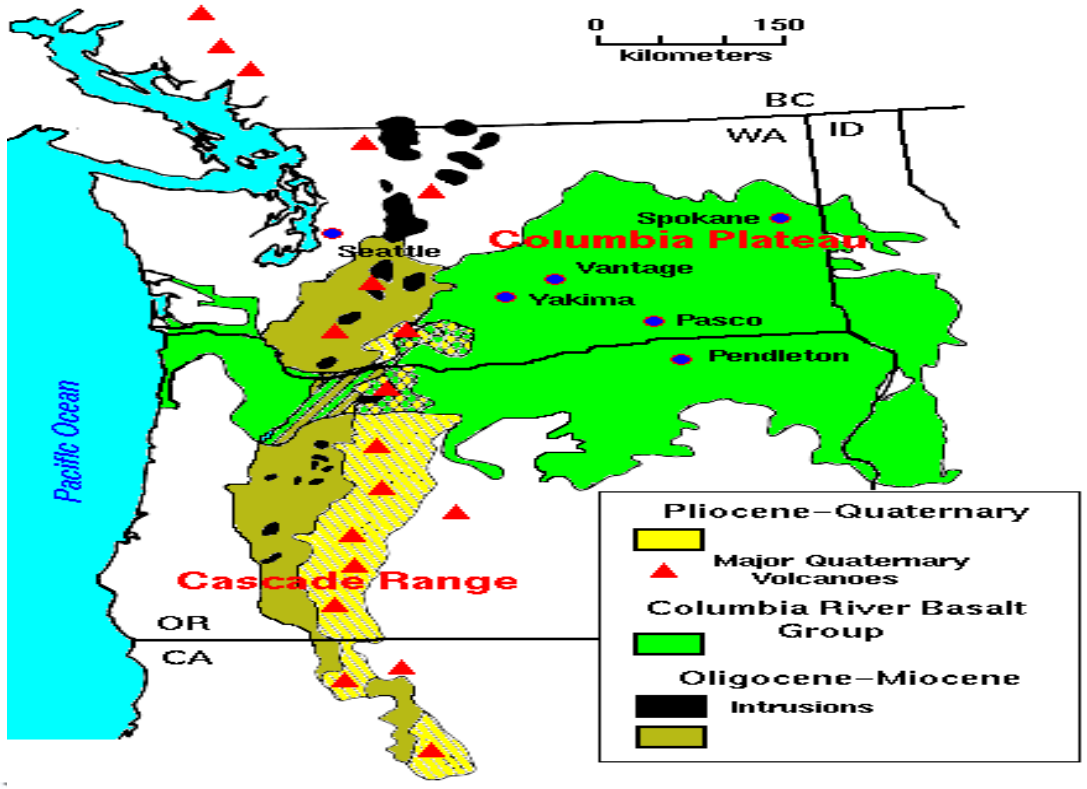
Questions

- 1. How do you use your lawn?

- 2. How would you reduce water use in your yard if you needed to?

The Land before Settlement

We live on a sagebrush steppe characterized by summer drought and transformed by water taken from the Columbia River by the Grand Coulee Reclamation Project for farming and small towns.



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Somewhere near Ephrata in 1930s

Summer- Moses Lake in the 2000s

Water from the Columbia Basin Project is a limited resource.

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The climate is still semi-desert

- The annual average precipitation at Moses Lake is 7.69 inches (195 mm). Although rainfall is fairly evenly distributed throughout the year, it is not unusual in mid-summer for a month or six weeks to pass without any measurable rainfall.[10] The wettest month is December with an average rainfall of 1.19 inch (30 mm). (wikipedia)

Water for homes and gardens is from a limited resource.

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Water usage in Moses Lake (City of Moses Lake Water Dept.)

average production of the water system ranges from 4.1 (winter) to 17.1 million gallons per day (summer).

The total production in 2010 was 3 billion gallons.

Cities Must Conserve Water

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Practice Good Planting Methods

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Good Lawn Care Sustains Its Parks

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Reasons for Growing Turf Grass

- Provide Soil stability.
- Cool the air.
- Act as a carbon sink, taking up CO2 in the atmosphere.
- Naturally filter of dust, pollutants and particulate matter from the air.
- Significantly reduce noise pollution in urban areas.

Spring/Summer/Fall Days

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Everyone Enjoys Grass

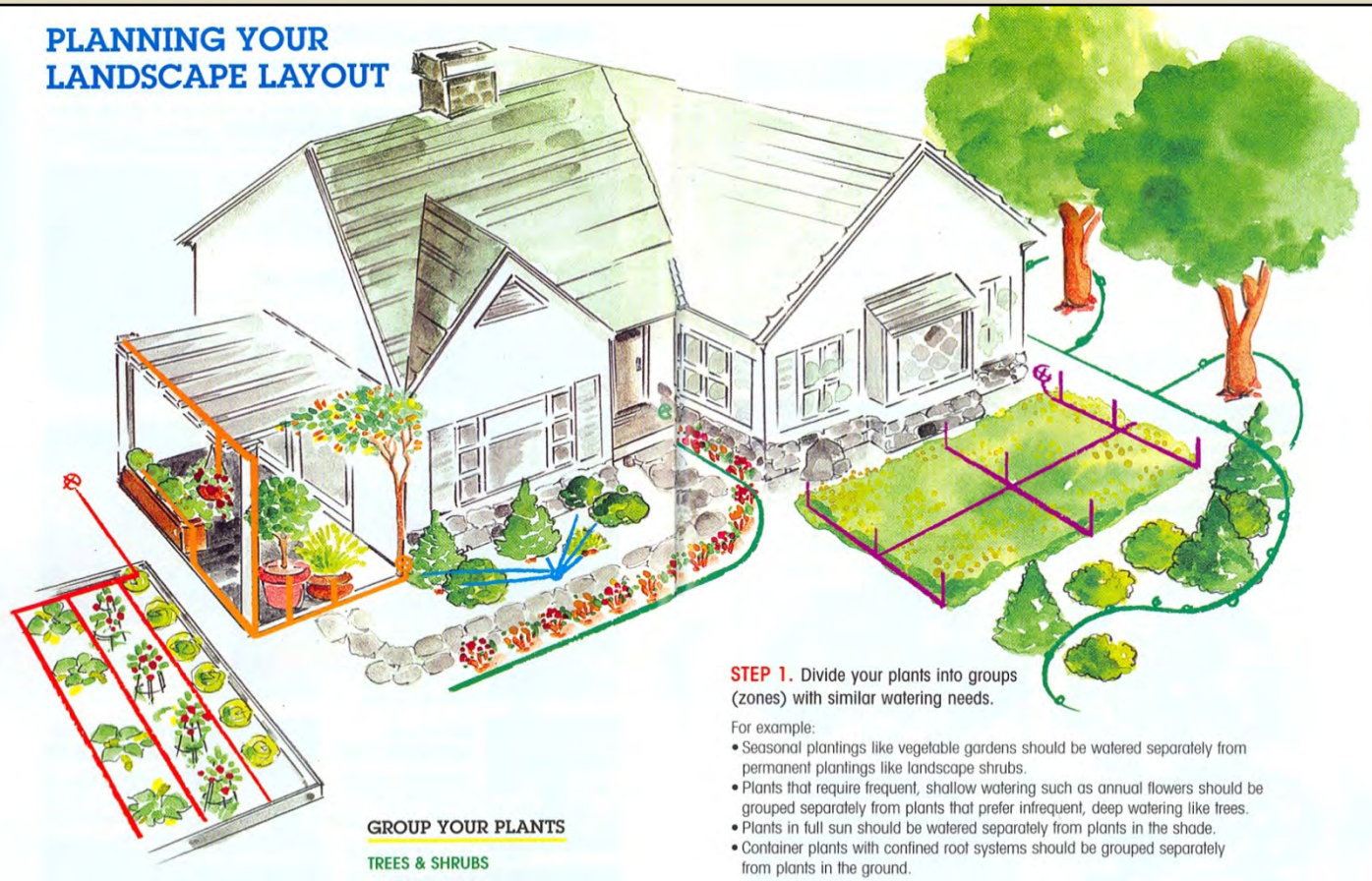
Problems with Turfgrass

- Water consumption: as much as 50% of a community's water supply is used for lawns & gardens
- Chemical inputs: Runoff from fertilizers & pesticides can cause water pollution.
- Equipment needed: small gas engines, noise pollution, gas consumption

The Essential Steps for Having Lawn and Saving Water

1. Design the landscape for turf
2. Choose the best grass for the purpose
3. Prepare the soil before planting
4. Use irrigation efficiently
5. Maintain landscapes properly

PLANNING YOUR LANDSCAPE LAYOUT



GROUP YOUR PLANTS

TREES & SHRUBS

FLOWER BEDS & GROUNDCOVER

VEGETABLE GARDENS

CONTAINER PLANTS

CONVERSION APPLICATIONS

STEP 1. Divide your plants into groups (zones) with similar watering needs.

For example:

- Seasonal plantings like vegetable gardens should be watered separately from permanent plantings like landscape shrubs.
- Plants that require frequent, shallow watering such as annual flowers should be grouped separately from plants that prefer infrequent, deep watering like trees.
- Plants in full sun should be watered separately from plants in the shade.
- Container plants with confined root systems should be grouped separately from plants in the ground.

STEP 2. Decide on the most common growth characteristic of each group:

A. Individual vs. Closely-Spaced
B. Upright vs. Low-Growing
C. Even Spacing vs Irregular Spacing

If possible, use a separate micro watering circuit for each different group.

Soil for New Lawn
UC IPM.ucdavis.edu/tools/siteprep.index

- Identify existing soil type and problems
- Good aeration
- Good drainage
- Good tilth (easy to work)
- Lots of organic matter
- Lots of organisms
-
-

Turf Grass in Eastern Washington

- Kentucky Blue Grass – for sunny areas
  - Need full sun for best growth
  - Best choice for an Inland Northwest lawn
  - Excellent for high traffic/play areas
- Fine Fescues
  - Reasonably drought tolerant
  - Shade tolerant
  - Tolerate only light wear/not suitable for sports or play areas

Choose a method of planting

Seeding

- Less expensive; takes longer; limited planting season

Sodding

- rapid establishment, installed anytime

Hydroseeding

- Good for hillsides, erosion areas; professional installation; limited planting season.
-

The essential step to good lawn: Prepare the soil. Don't treat your soil like dirt.

You'll Probably Need to Add Organic Matter & Fertilizer

Organic matter in the first 4 inches

- Bagged peat moss or compost,
- Well decayed compost from nursery/soil service

Starter fertilizer

- in the first 2 inches
- 10 lbs per 1000 sq. feet
- 10-20-20 npk

Do you have lawn already?

If the only time you walk on your lawn is to mow it… maybe it's time to rethink the landscape.

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Lawn Problem Areas

Save Water and Sustain Lawn

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Remove Some Grass

Protect the Landscape to Retain Moisture

Windbreaks help keep moisture in the landscape and protect plant material from harsh weather

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Create a Mini-climate

Steep slopes require erosion control

Turf = irrigation and mowing problems

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Less mowing

More colorful

More efficient watering

No Lawn Extreme Conditions

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MG Drought Tolerant Demonstration Bed

Consider Turfgrass Alternatives

No grass will perform adequately if there is greater than 50% shade due to heavy growth of evergreen trees on the lot.

Consider groundcovers instead of turf in those conditions.

Tapestry lawns

Bee Lawns

And There Are Weed Lawns

Irrigation

- **Know how much water your plants need.**

  Turfgrass 1” per week, 4-6” deep

  Perennials 12-18” deep

  Annuals 4-6” deep

  Trees and Shrubs 18-24” deep

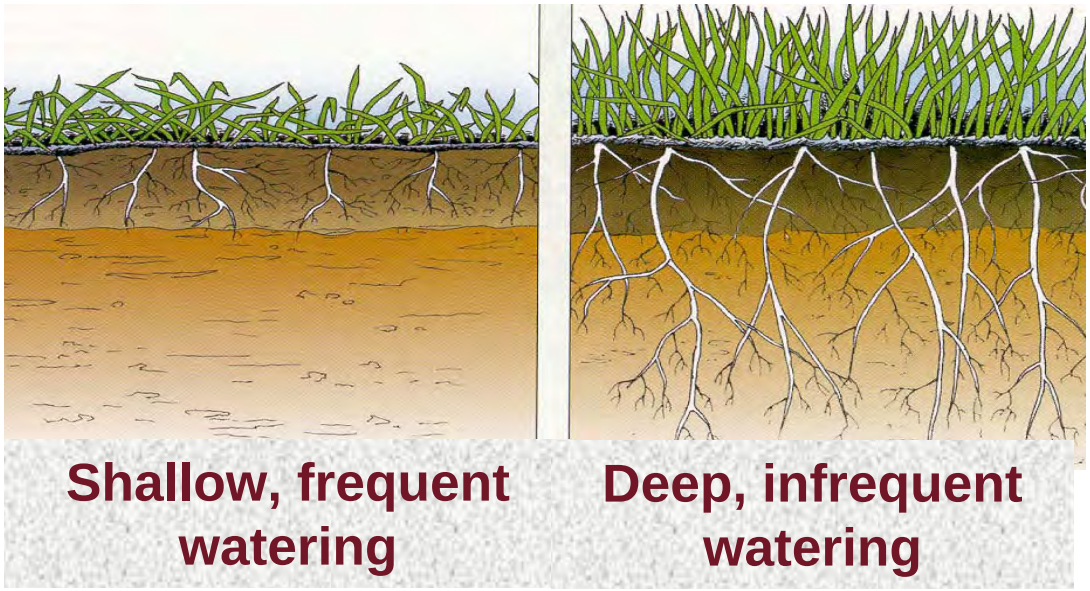
  Native and Drought Tolerant plants

  Once established, can live on rainfall and the occasional watering.

These are guidelines only.

Irrigation

- Know how much water your plants need.
- **Maximize amount of water getting to the root**



Shallow, frequent watering

Deep, infrequent watering

Water to the Root Zone!

- **Avoid overhead watering on foliage plants**
- **Avoid runoff onto hard surfaces**
- **Use drip or micro irrigation whenever possible**
- **Water in cycles where soil absorbs water slowly**

Water Conservatively

Irrigation

- **Too much water is as bad, or worse, than too little water.**
  - **Don't provide more water than the soil can absorb**

- **Accommodate seasonal and daily moisture variations**

- **Know how much water your irrigation system applies**

- **Water very early in the morning when temperatures are cooler and evaporation is low**

- **'Automatic' is not attention-free.**

‘Automatic’ Systems

Turf vs. ornamentals vs. woody plants

Soil types

Seasonal adjustments

Plant growth

Broken, misaligned or clogged heads

Heads buried too deep

Check sprinkler heads periodically for efficiency and to spot potential problems.

The problem might not be what is being watered – the problem could be how it is being watered.

Landscape Maintenance

- Control weeds
- Fertilize conservatively

Reduce fertilization program when possible

Use slow release fertilizers to minimize flushes of growth

Use organic matter as an amendment or mulch rather than applying chemical fertilizers

Landscape Maintenance

FERTILIZATION

Generally:
more nitrogen = more green growth = greater water use

NPK

N = Nitrogen = vegetative growth

P = Phosphorus = flowering

K = Potassium = root development

Apply a balanced fertilizer:

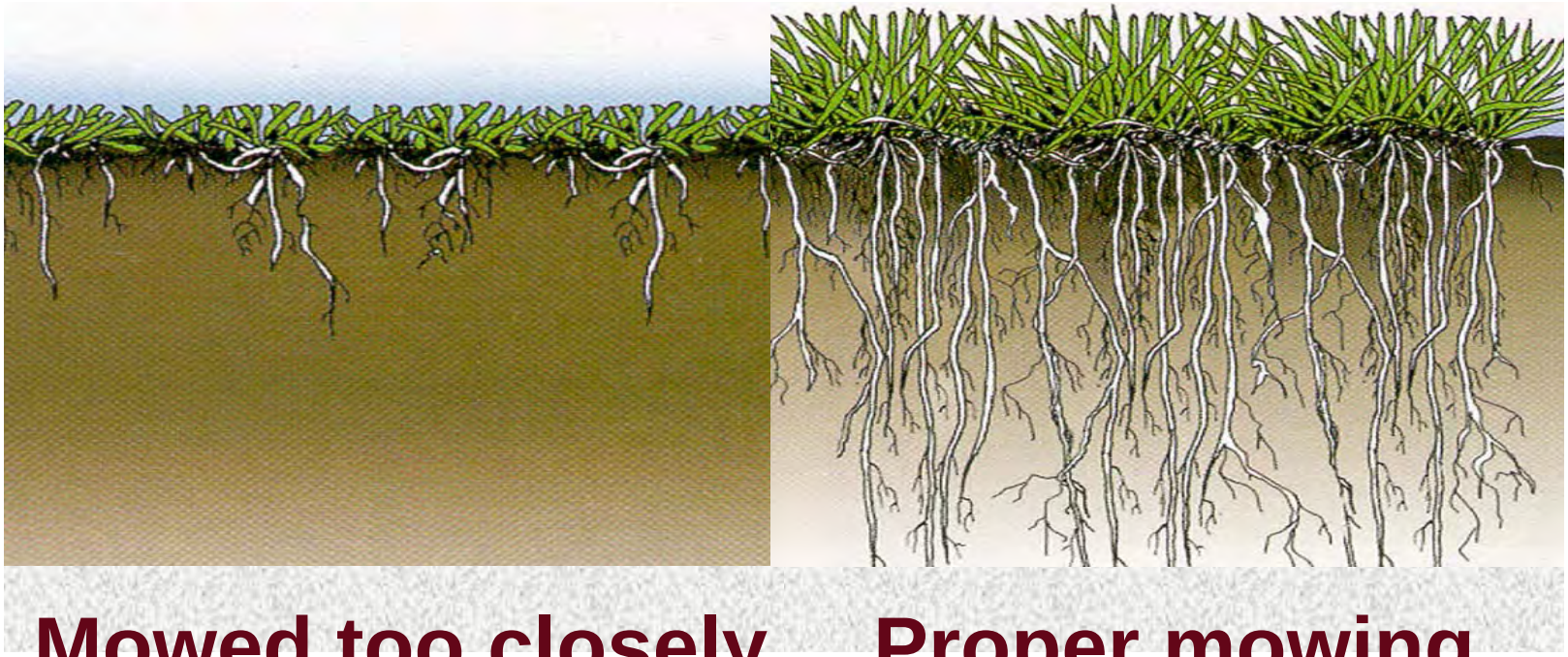
3-1-2 for lawns
10-10-10 or 10-20-20 for ornamentals

Evapotranspiration increases each day after mowing due to increased leaf area

Remove no more than one third of the leaf blade at each mowing

Grasscycle to return nitrogen to the soil – reduce need for fertilizer

Mow higher in hot weather to encourage deep rooting and shade the soil



Mowed too closely

Proper mowing height

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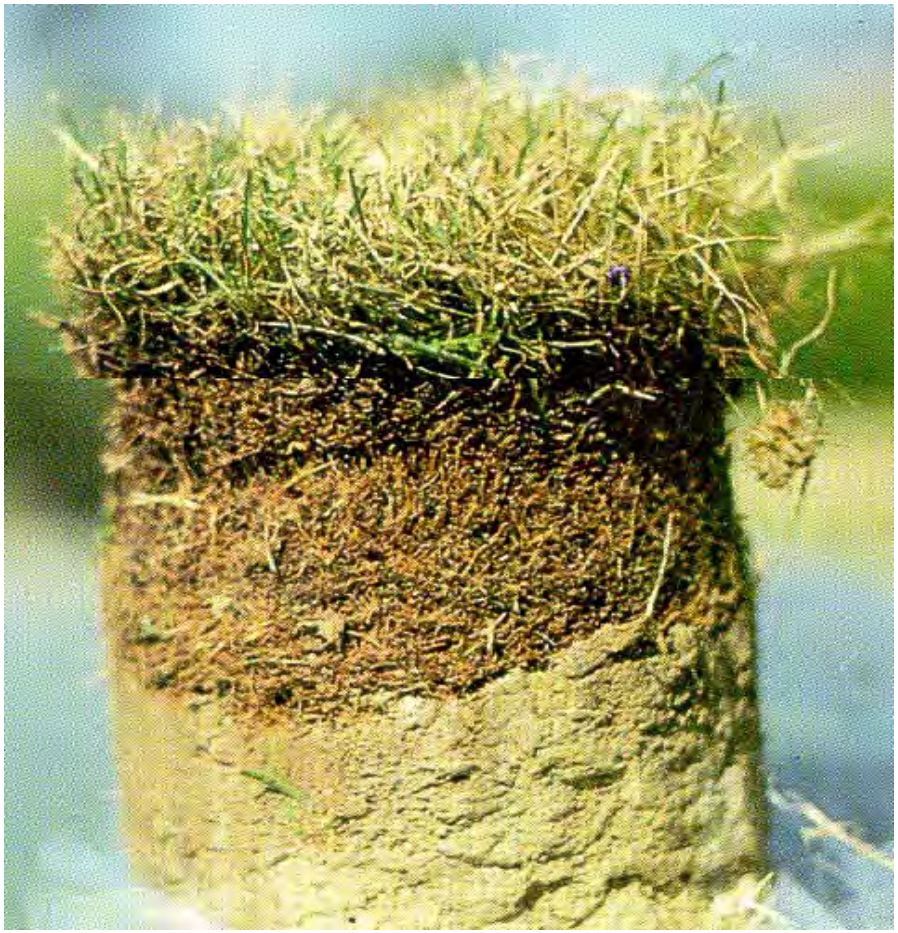
Thatch

Stems & roots between the green vegetation and soil

Under ½” is OK



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AERATION

- Increases water and oxygen uptake
- Reduces compaction and thatch
- Aerate when lawn is damp but not soggy
- Plugs break down and add organic material
- Excellent time to add compost or fertilizer

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Observation

Catch problems before they become serious

Redesign landscape when changes occur

Adjust sprinklers as plants mature

Maintain plant health – prevention is better than management

Moses Lake neighborhood

City Park

Summary: Think through ways for lawns to use water more efficiently

- Choose types of grass suited to the climate.
- Water lawns in the coolest part of the days.
- Use lawn in conjunction with xeriscape landscape.
- Consider electric lawn care and organic fertilizers.* noise less, fewer gases.
- Reduce the lawn you don't use.

Becoming Waterwise

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