

Being A Good Garden
Neighbor To A Stream:
IPM and Water Quality

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Every Drop of Water Goes Somewhere

- Runoff
- Infiltration and Migration
- Evaporation
- Uptake



Know Your Watershed Address

- Every stormwater catch basin goes to a stream.
- What stream does your stormwater go to?
- What small river does that stream join?
- What major river drains your area?



Get to know your local streams

- What is this stream good for?
 - Fish
 - Wildlife
 - Plants
 - Irrigation
 - Stormwater management
- What condition is the stream in?
- How does my property affect this stream?

Think about what water from your property can contain

- Detergents from car washing
- Oil and other fluids leaked on driveways
- Oil and gas spills from lawn mowers
- Fertilizers
- Herbicides
- Pesticides
- Silt, sand and soil
- Salt from de-icing

Strategies for minimizing your impact on water quality

- Good cultural practices
- Minimize runoff
- Use only as much fertilizer as you need
- Create buffer strips
- Practice Integrated Pest Management

Start with good cultural practices

- Right Plant – Right Place
- Adjust Soil pH
- Disease resistant plant varieties
- Plants appropriate to your climate zone
- Clean, un-crowded beds
- Appropriate drainage

Minimize runoff

- Design gardens to infiltrate water
- Direct roof drains to rain barrels or in-ground infiltrators
- Surround hardscaping with lawn or flowerbeds
- Terrace slopes and grade the lot to retain water
- Use permeable paving or gravel for paths where possible

Reduce Fertilizer Use

- Use the proper fertilizer for each plant
- Test your soil to find out how much fertilizer you really need.
- Use compost
- Mix the fertilizer with the soil
- Remember – the more you fertilize your lawn, the more you will have to mow it!

Create Buffer Strips

- If you abut a stream, drainage ditch, or wetland:
 - Plant a buffer strip at least six feet wide along the edge
 - Use low-maintenance, native shrubs, ferns, ground covers and perennials
- Buffer strips filter runoff and reduce the amount of lawn and garden products reaching the stream

Good Plants for Stream Buffers

- *Cornus sericea* – Redosier Dogwood
- *Hamamelis virginiana* – Witch hazel
- *Viburnum dentatum* – Arrowwood
- *Viburnum trilobum* – Cranberry Viburnum
- *Ilex verticillata* – Winterberry Holly
- PJM Rhododendron
- *Caltha pulustris* – Marsh Marigold
- Ostrich fern

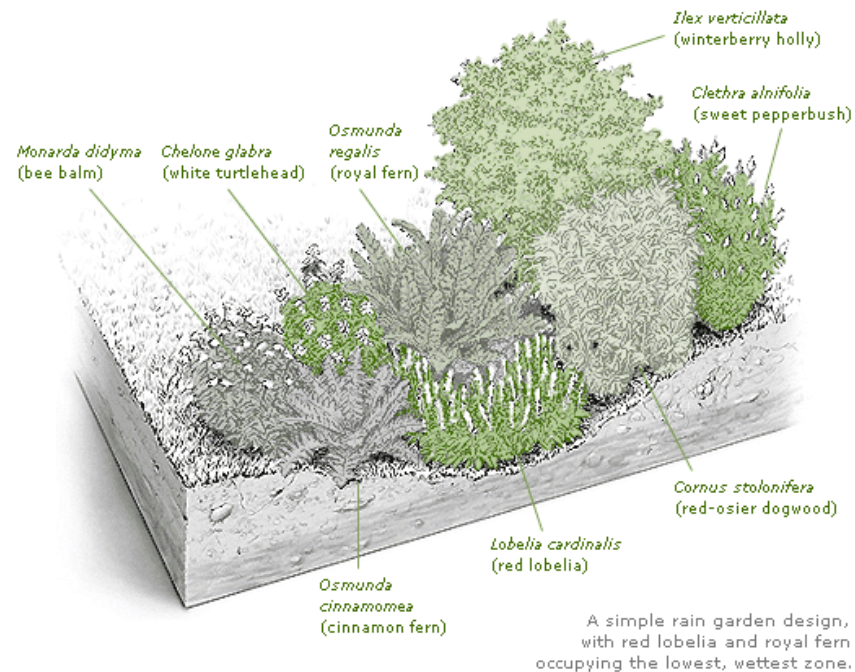
Groundcovers

- *Ajuga reptans*
- *Asarum canadense* – Wild Ginger
- *Convallaria majalis* – Lily of the Valley
- *Hosta*
- *Lycopodium clavatum* – Running pine



Rain Gardens

- A rain garden is a low point that collects rain water
- Use moisture tolerant plants
- Adjust the soil or provide an infiltration structure to avoid standing water



Integrated Pest Management (IPM)

- IPM is a technique for minimizing the use of herbicides and pesticides.
- IPM will give you a healthy garden
- IPM will reduce the cost of your garden
- IPM will make your lawn and garden safer for you and your family and your pets

The Steps of IPM

- Observe
- Diagnose
- Assess
- Fix the Problem
- Lowest Impact Strategy First
- Treat with herbicide or pesticide only if the damage is unacceptable

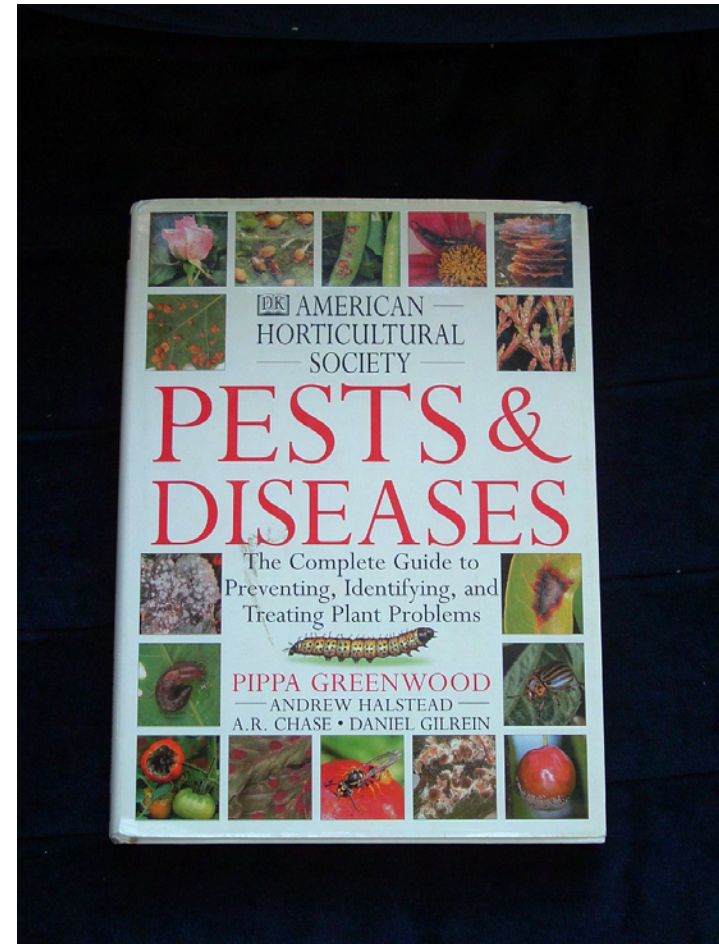
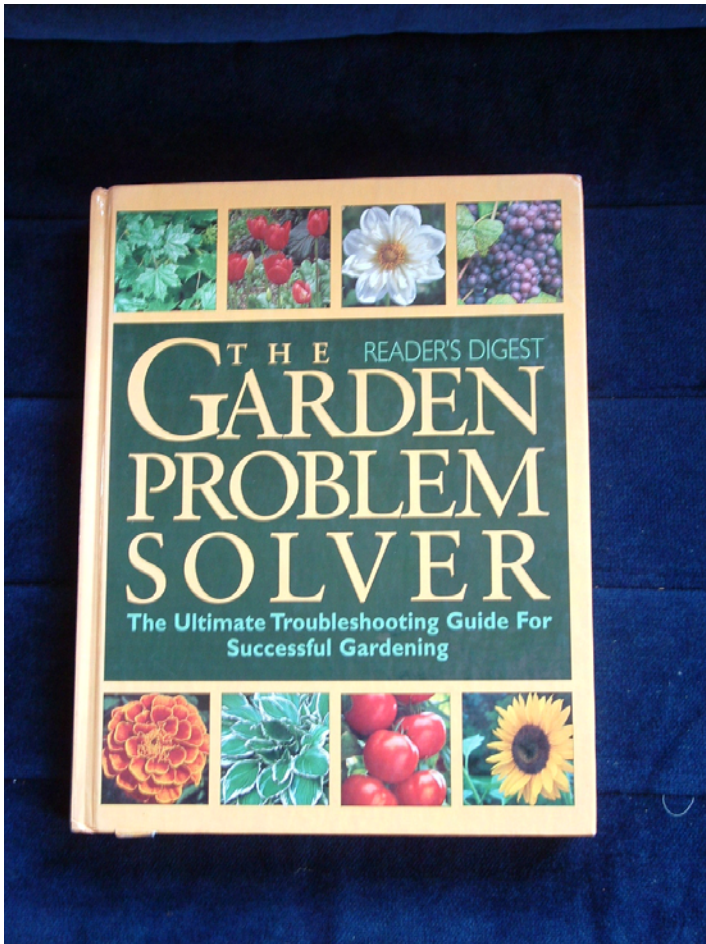
Observe

- As you walk through your gardens, look at them carefully
 - Do the plants look healthy?
 - Do you see insects or signs of insects? Chewed leaves, cut stems, webs?
 - Do you see signs of disease? Yellowed leaves, black or brown spots, wilted leaves?
- The earlier you detect a problem the easier it is to fix it

Diagnose

- Identify the insects you see or see signs of
- Are these harmful or beneficial insects?
- What plants are affected?
- What specific disease does the plant have?

Some Good Books For Diagnosis



Assess

- How bad is the problem?
- Is the problem fatal or only cosmetic?
- If it is a disease, is it spreading to other plants?
- If it is an insect, how many are there?
- Can you live with it or do you need to take action?

Fix The Cause of the Problem

- If it is a fungus, is the plant getting enough air movement and sun? Is it crowded?
- Is the plant stressed by drought or poor drainage?
- Does the plant have the right soil pH?
- Is the plant being fed properly?

Use Low Impact Controls First

- Pick insects by hand and kill them
- Spray with horticultural oil or insecticidal soap
- Prune damaged or diseased stems and limbs
- Remove severely diseased plants. Do not compost them.
- Dig weeds by hand

Only if the damage is unacceptable

- Use the right pesticide or herbicide for the problem
- Read the label and use the product as directed
- Treat only damaged or threatened plants
- Use the minimum amount needed to solve the problem
- Dispose of any excess product properly. Never dump it into a storm drain or bury it.

With proper methods, your garden will
be a good friend to your stream!