

Water Gardens



What are “Water Gardens”?

- The intentional use of water as an element in the landscape
- Supports moisture-loving plants
- Can be small or large / simple or complex

A Water Garden



A Water Garden



A Water Garden



Why have “Water Gardens”?

- Water is an inspiring element
- Water is calm yet alive
- Water provides subtle reflections
- Moving water makes pleasant sounds
- Water can provide a sense of well-being

Today we will cover ...

- Types of Water Gardens
- Plants for Water Gardens
- Construction of ponds
- Maintenance of Water Gardens

Types of Water Gardens

- **Pools and Ponds**
- **Fountains**
- **Waterfalls**
- **Rivulets**
- **Rain Gardens**
- **Bog Gardens**
- **Dry Creeks**
- **Container Water Gardens**

Pools and Ponds



Pools and Ponds

- Rigid Liner



Pools and Ponds

- Flexible Liner



Fountains



Fountains



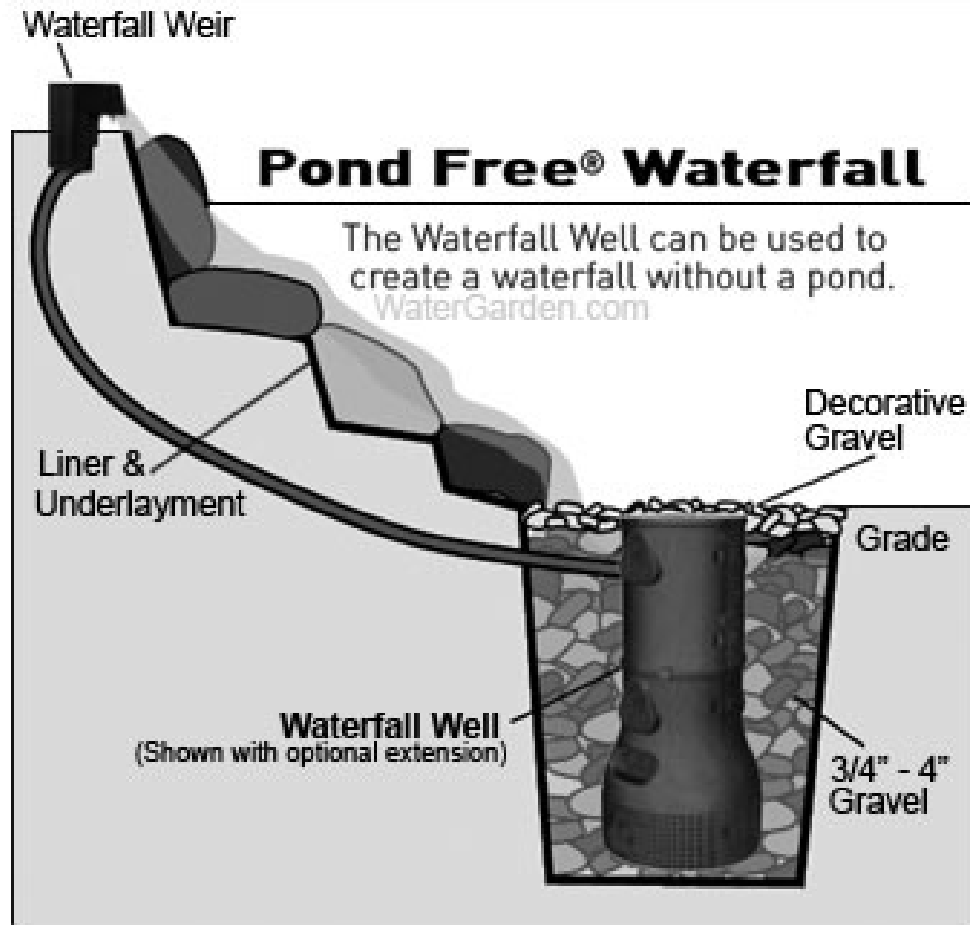
Waterfalls



Waterfalls



Waterfall ~ no pond



Rivulets

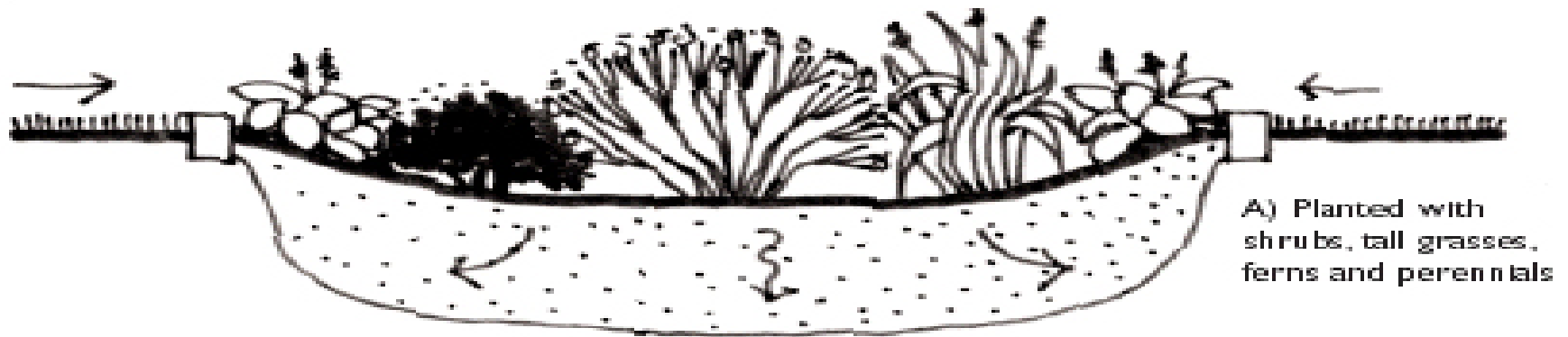
- **Creek Bed with running water**
- **Need to make natural looking**

Rivulets



Rain Gardens

- Designed to catch and clean water run-off in an attractive way
- aka “Bioretention Systems”
- Alleviates erosion problems
- Drainage areas from gutter downspouts are good candidates
- Populate with water-tolerant plants
- Will dry out between rains



All options over sandy to loam soil with organic matter. Infiltration bed under the surface as shown in option A applies to all options.

Rain Gardens

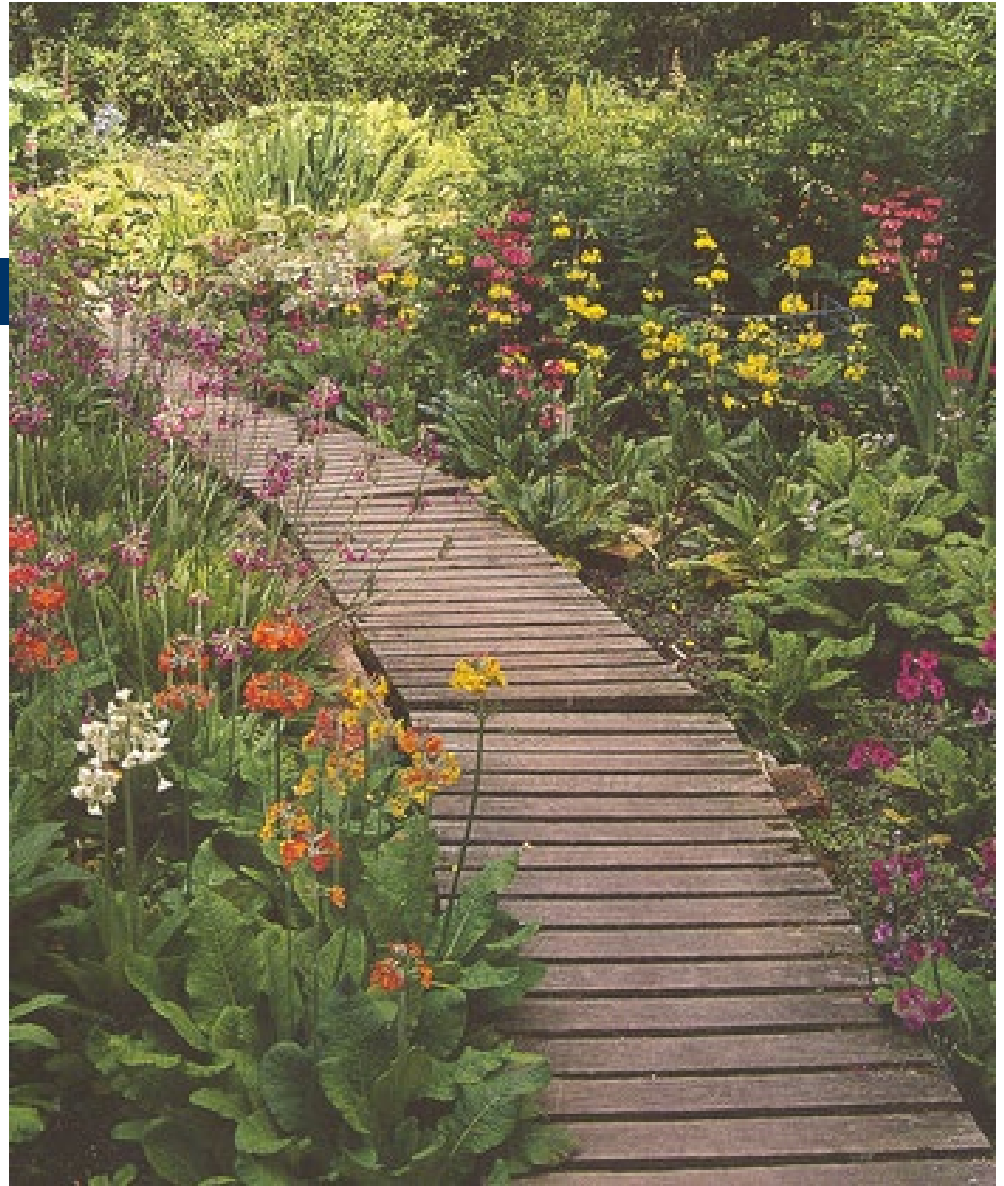




Rain Gardens

- Plant ideas
 - Daylillies
 - Cannas
 - Zebra Grass
 - Hosta
 - Astilbe
 - Bald cypress
 - Sweet Flag

Bog Gardens



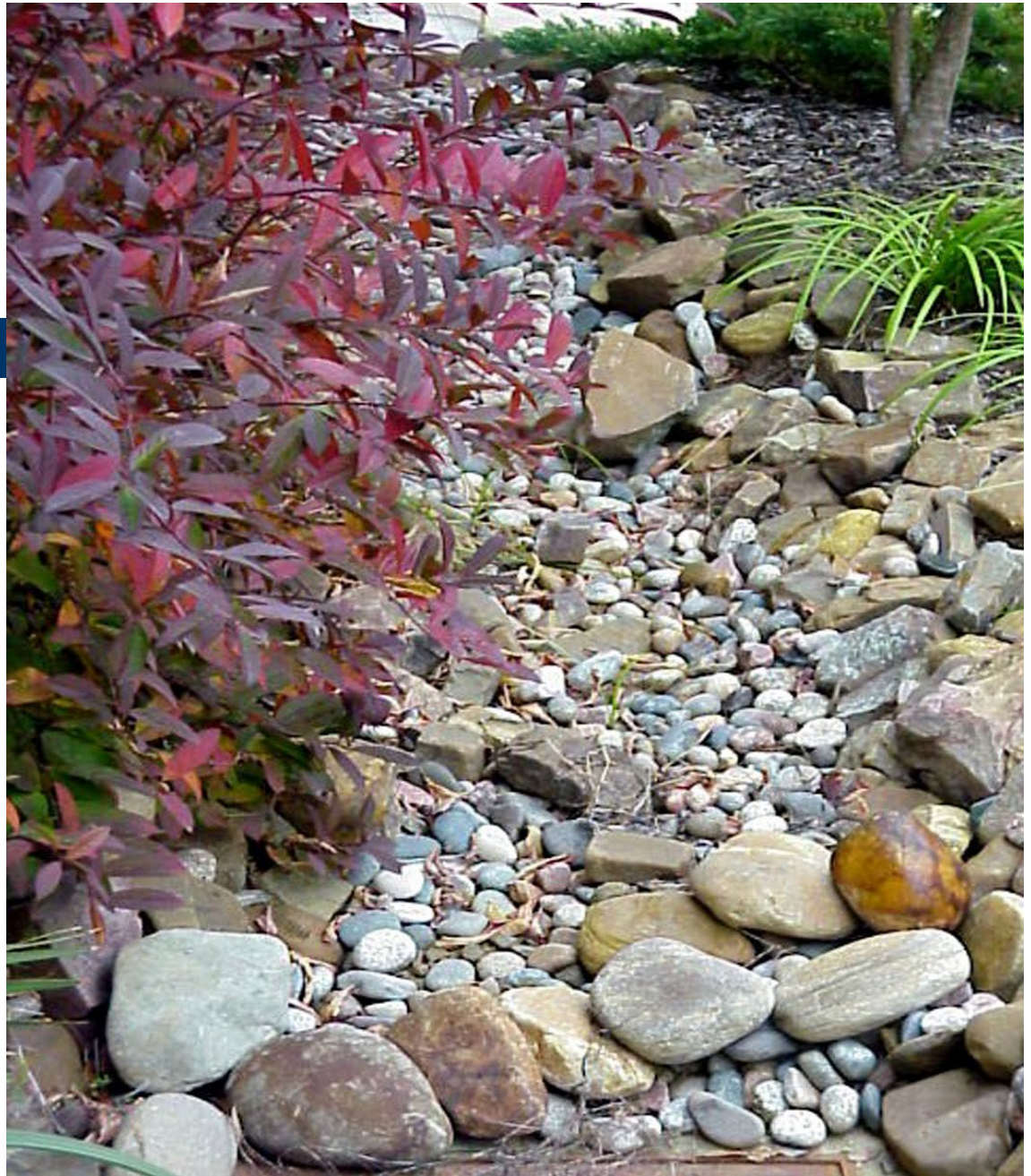
Bog Gardens



Bog Gardens

- Soil remains constantly wet
- Water 1-3” over top of soil or 1-2” below surface
- Deeper is better
- Use lighter soil that will retain water well (amend with peat moss) or you can use clay with a top layer of peat moss
- Need planned access to plants – like the walkways in the pictures
- Need a way to add water – buried soaker hose works well
- Need some drainage -- perforate a liner if used
- Attract frogs, toads and song birds

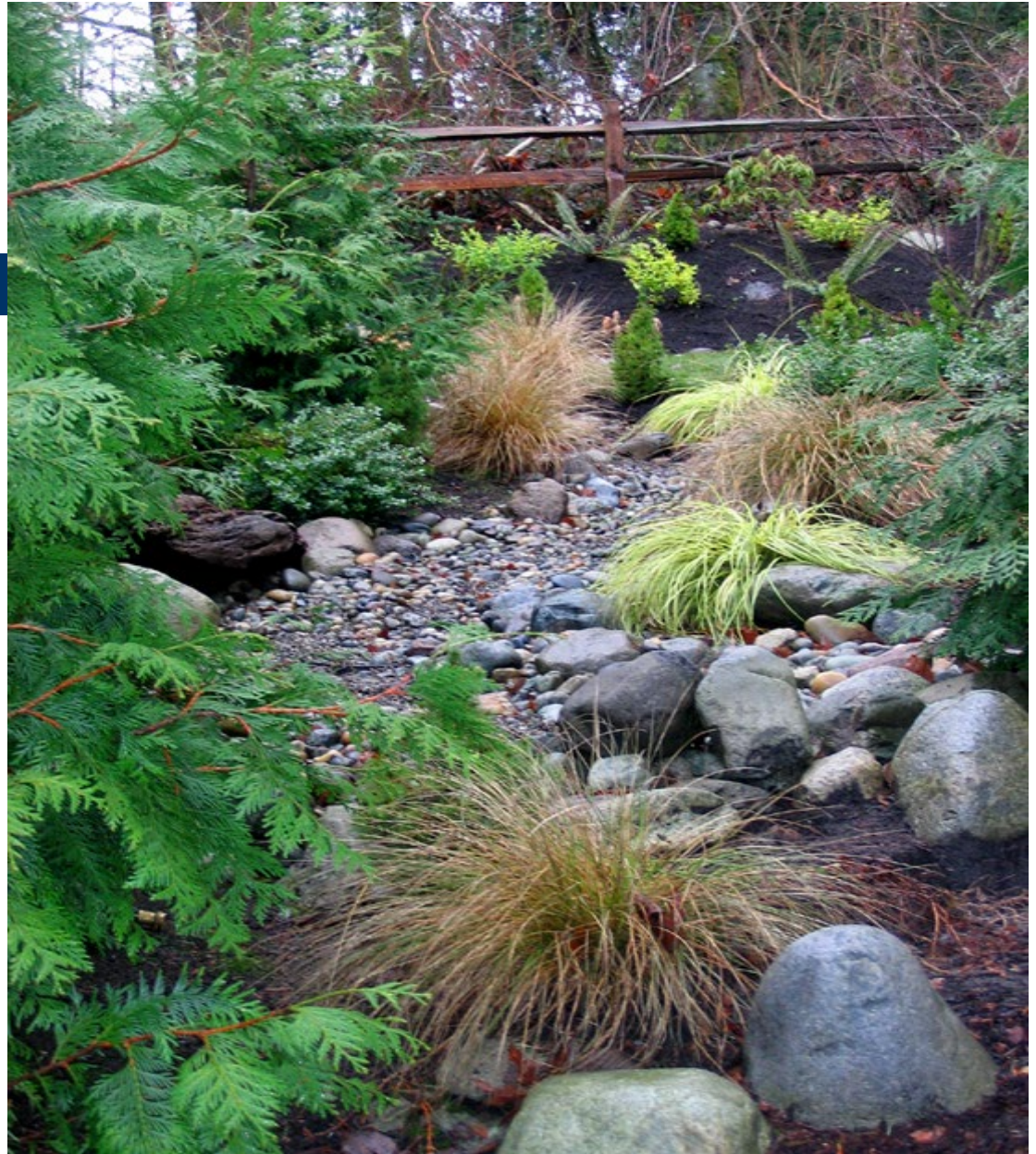
Dry Creeks



Dry Creeks

- Can help manage water run-off
- Remain dry most of the year
- Use different sized rocks
- Make it sinuous
- Use plants on the edges
- Take pictures of nature to use as an inspiration

Good Design



Not So Good ...



Container Water Gardens



Container Water Gardens



Container Water Gardens



Container Water Gardens

- Can be miniature Pond or Bog
- Pedestals help show off these gardens
- Simple / Plain containers emphasize the plants
- Containers need to be water tight
- Consider a deep bird bath for the container
- Avoid uncoated copper (it is toxic to plants)
- Many miniature water plants are available

Resources

- Water Garden Resources Handout
- Rain Garden Resources Handout
 - Both online at:
- CCMG Library at UT Extension Office
- Art Circle Public Library (2 books)

Questions on types of water gardens?



Plants for Water Gardens

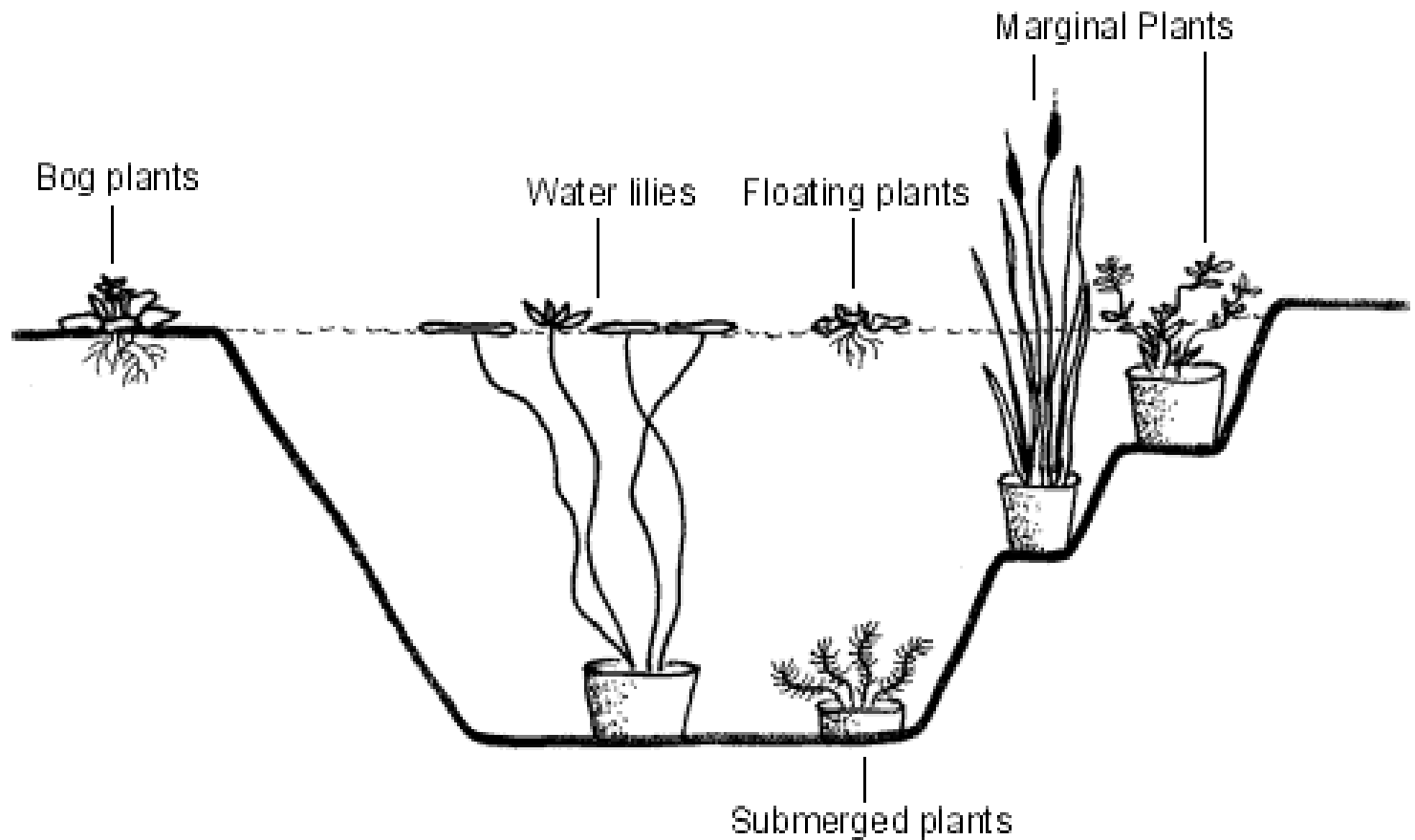




Plants for Water Gardens

- Bog Plants
- Moist Area Plants
- Marginal Water Plants
- Water Lilies / Floating Leaf Plants
- Floating Water Plants
- Submerged Water Plants

Plants for Water Gardens





Moist Area Plants



Moist Area Plants ~ Rain and Bog Gardens

- Flowering Rush*
 - Dwarf Water Bamboo
 - Spike rush
 - Horsetail*
 - Yellow Flag*
 - Siberian Iris
 - Astilbe
 - Forget Me Not*
 - Pitcher Plant*
 - Water Arum
 - Pickerel Weed*
 - Broadleaf Arrowhead
 - Lizard's Tail*
 - Narrow-leaved Cattail*
 - Broadleaf Cattail*
 - Hosta
- * = Good for Bogs

Forget Me Not



Lizard's Tail



Yellow Flag Iris



Horse Tail



Pitcher Plant



Broadleaf Arrowhead



Marginal Water Plants ~ shallow water at pond's edge



Marginal Water Plants ~ shallow water at pond's edge

- Water 4" – 12" deep
- Are rooted in soil
- Soil must always be wet
- Most are invasive, so grow in containers

Marginal Water Plants ~ shallow water at pond's edge

- Japanese Sweet Flag
- Water Plantain
- **Umbrella Palm*
- **Chinese Water Chestnut*
- Variegated Manna Grass
- Water Purslane
- **Water Clover*
- Watermint
- **Water Snowflake*
- Golden Club
- Greater Spearwort
- **Purple Thalía*

* = Not Hardy

Umbrella Palm



Sweet Flag



Water Plantain



Water Lilies

Hardy

Or

Tropical



Hardy Water Lilies

- Plant listings/labels should show bloom night or day, water depth, flower color and mature spread on water surface
- Position in still water and full sun
- Use an aquatic fertilizer
- Plant in special water lily containers, using commercial water garden potting mix
- Cover planting mix with gravel
- Place deep enough to keep roots from freezing

Water Lily Containers



Hardy Water Lilies

- European White
- Fragrant
- Aurora
- Chromatella
- Pink Sensation
- Pygmy
- Cape Blue
- Australian

European White



Australian Water Lily



Pink Sensation



Lotuses



Lotuses

- Not many hardy in zone 6
 - *American Lotus* is
- Full Sun
- Grow in large containers
- Use clay soil with gravel on top
- Protect roots from freezing
- Flower in midsummer

American Lotus





Floating Water Plants



Floating Water Plants

- These plants float on the surface
- Roots hang down into the water
- Plan on about 1/3 water surface to be covered by floating plants
- These plants help purify the water
- Not many hardy in zone 6, but they grow very fast, so treat the others as “annuals”

Floating Water Plants

- Fairly Moss
- Water Hyacinth
- Frogbit
- Water Poppy
- Lesser Duckweed
- Sensitive Plant
- Floating Heart
- Water Lettuce
- Willow Grass
- Velvet Leaf

Water Hyacinth

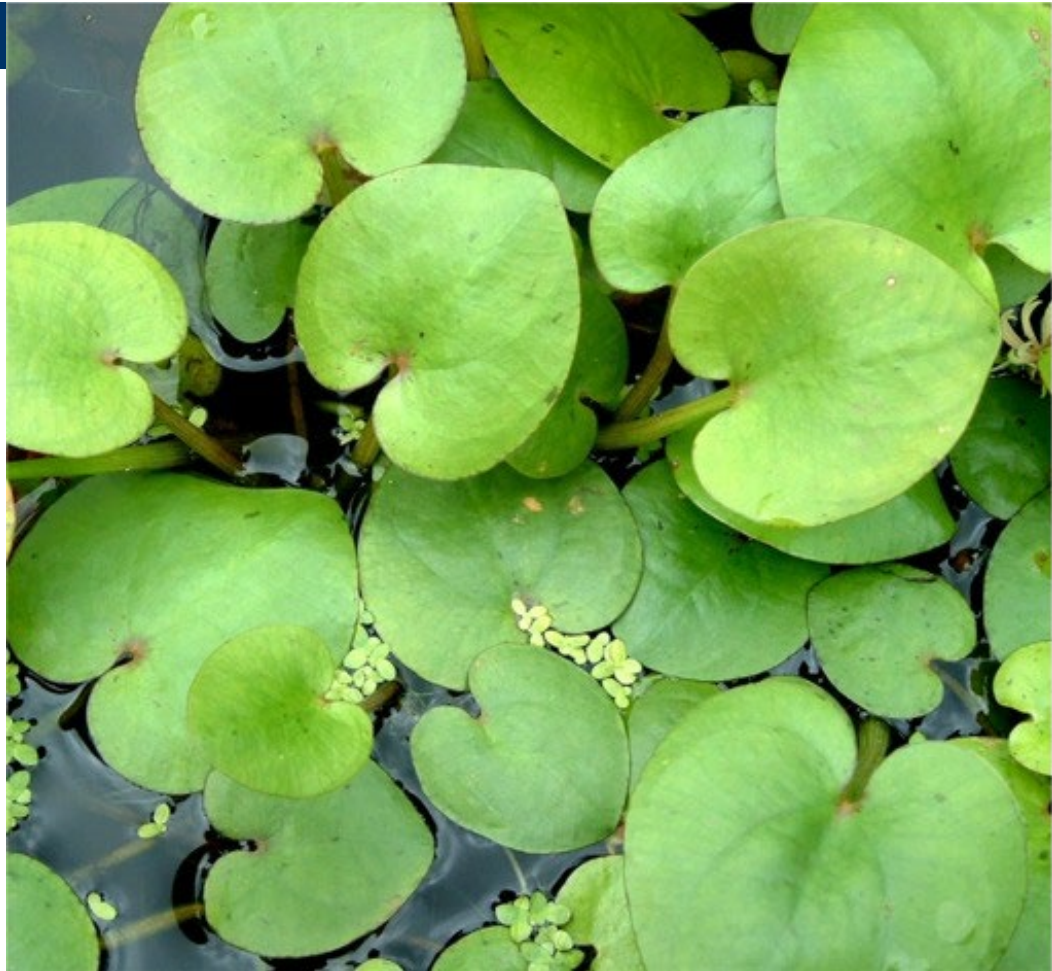


Water Lettuce



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Frog Bit





Submerged Water Plants



Submerged Water Plants

- Oxygenators
- Water Purifiers
- Grow completely under water
- May have flower stalks that rise above water
- Will spread rapidly
- Plan on one bunch per square foot of water surface

Submerged Water Plants

- Fanwort
- Starwort
- Hornwort
- Water Thyme
- Canadian Pondweed
- Willow Moss
- Water Violet
- Parrot's Feather
- Curled Pondweed
- Yellow Water Buttercup
- Underwater Arrowhead
- Eelgrass

Water Thyme



Hydrilla verticillata
1996 Kerry Dressler

Yellow Water Buttercup



© 2003 Eleanor Saulys

Water Violet



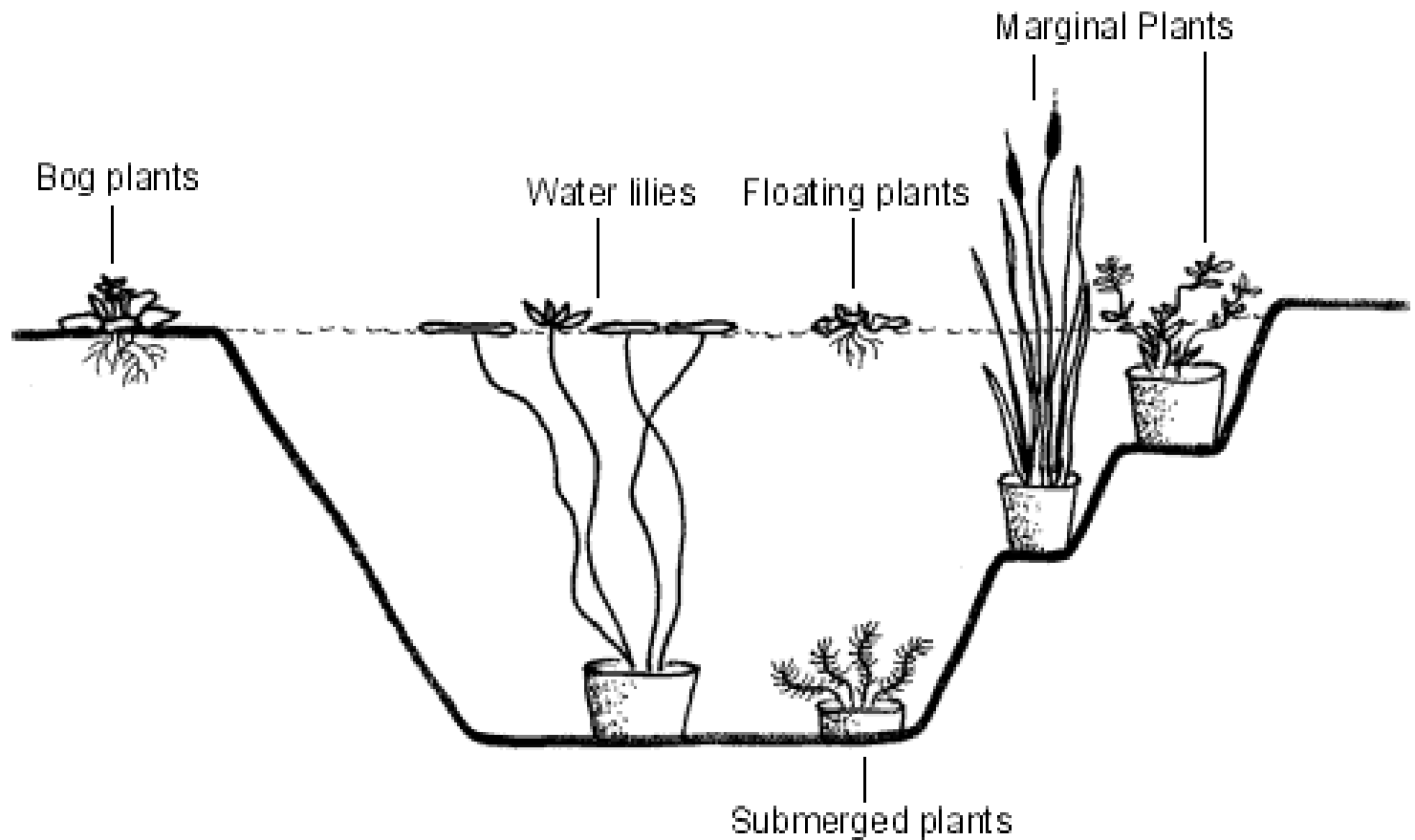
Construction



Construction ~ Flexible Liner Ponds



Water Garden Layout



Construction ~ Flexible Liner Ponds

- Plan for electrical and water supply needs
- Layout the area and plan the depths
- Calculate the surface area and water volume
- Purchase all materials and have ready on site
- Dig hole – create plant shelves
- Level the top edge
- Install underlayment (old carpet, landscape fabric)
- Unfold the flexible liner
- Carefully walk all over the liner, molding it into the corners and curves

Construction ~ Flexible Liner Ponds

- Add boulders and rocks as desired
- Install the pump and filters if any
- Start filling the pond with water
- As it fills, pull and stretch the liner to eliminate most wrinkles and folds
- Smooth the overhang and cut it to about 1' and pin it down with 4" nails or landscape fabric pins
- Add pond edging (rock or cascading plants)
- Add water plants and surrounding plants
- Enjoy

Construction ~ other thoughts

- Consider buying pond or waterfall kits vs. figuring out all the parts needed

Pond Kit



Construction ~ other thoughts

- Consider buying pond or waterfall kits vs. figuring out all the parts needed
- Rigid liners are a good choice for your first project
- Research on the Internet for ideas and construction tips
- Hire a professional if you can afford it

Maintenance



Maintenance

- This is a miniature eco-system – water, plants, animals, sunlight, gases and minerals all have to work together
- When in balance, the water will be clear and clean
- When first filled, expect the water to be murky
- Let algae bloom die back on its own
- Check pH every 4 weeks – 7-8 is good

Maintenance ~ Spring

- Check pH
- Cut back plant debris
- Add new floating plants
- Remove 'gunk' from the bottom of the pond
- Check all pumps and filters
- Begin monitoring for pests and diseases

Maintenance ~ Summer

- Check the pH every 4 weeks
- Clean filters and strainers weekly
- Remove dying or decaying plant material
- Thin and prune vigorous plants
- Replenish water regularly

Maintenance ~ Fall

- Remove fallen leaves regularly
- Consider netting over the pond during heavy leaf loss
- After frost, cut back old foliage of marginals
- Remove pump, filter and fountains – clean and store them inside

Maintenance ~ Other

- You may have to drain and clean a pond every few years
- You may have to make repairs
 - Liner
 - Pump System

88 *That's all Folks!*



Cartoon Songs From

MERRIE MELODIES & LOONEY TUNES