



Backyard Ponds



Today's Topics

Designing & Planning

Constructing Your Pond

Pond Equipment

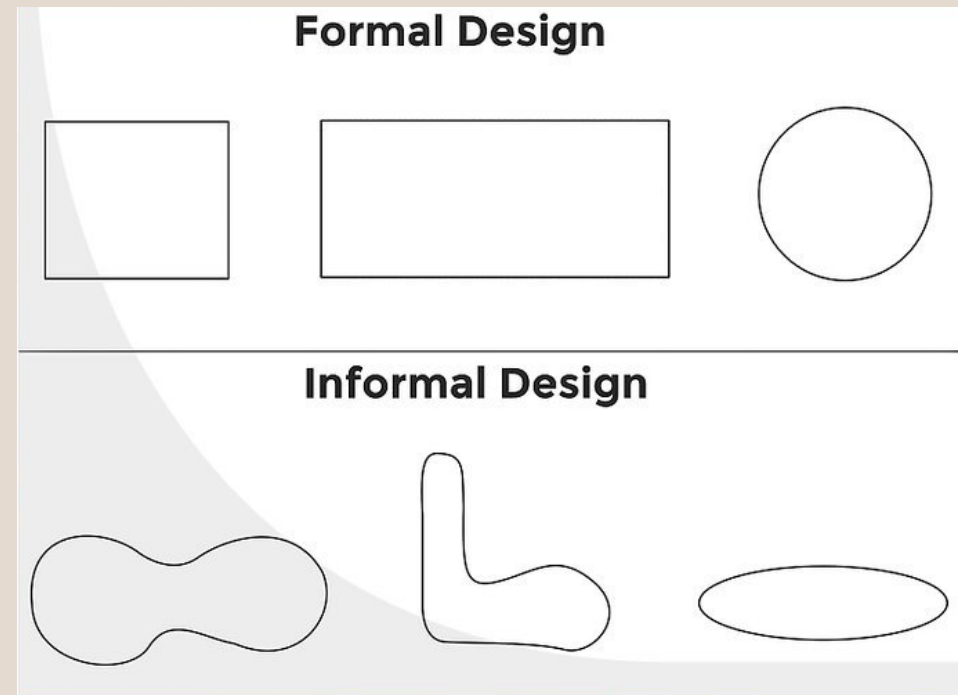
Filling Your Pond

Planting Your Pond

Stocking Your Pond

Designing & Planning

- Style – Formal or Informal
- Size – Make Sure to fit the space
- Type of Pond – Fish, Plants, Wildlife, Mixed
- Moving Water or Still
- Complexity – More complex, harder to construct
- Position – Light, Electricity, Water, Trees, Drainage,



Constructing Your Pond

- Materials

- Preformed Ponds
- Flexible Liners – Butyl stronger, PVC cheaper more flexible
- Brickwork

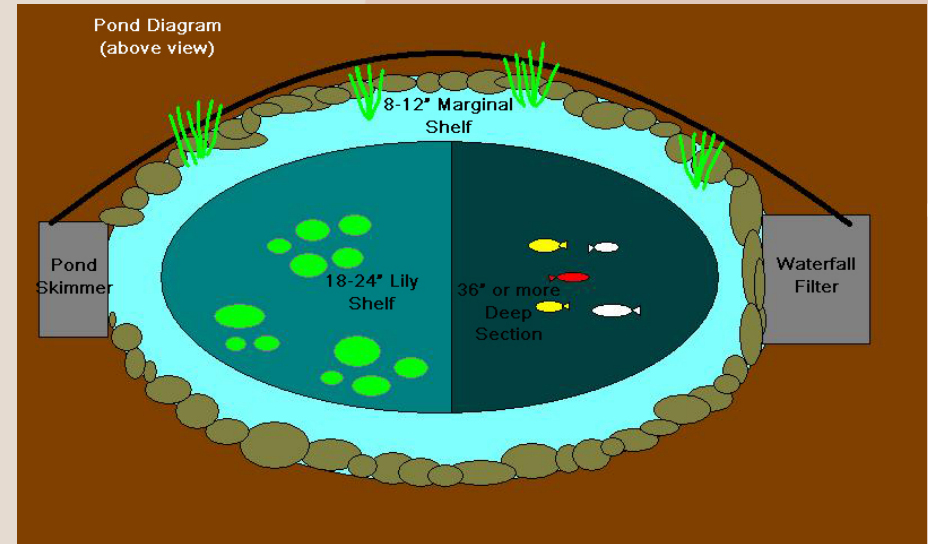
- Sizing Pond Liner

- $\text{Length} + 2 \times \text{depth} + \text{overlap} = \text{Total Length}$
- $\text{Width} + 2 \times \text{depth} + \text{overlap} = \text{Total Width}$



Digging the Pond

- Digging the pond – Mark out the shape of the pond with pegs, rope, string, paint, etc.
- Start digging in the middle of the pond and work outwards.
- Marginal shelf should be 9" around border then at least 18" for center of pond.
- Add 2" layer of sand to shelf and bottom then cover entire hole with pond under-liner.
- Drape the pond liner loosely into the hole with even overlaps. Tip: Do when warm weather and liners is softer to handle.
- Fill with water. You might need to use larger rocks to temporarily hold down edges of liner.
- When pond is full cut away excess liner. Leave 8" flap around side.



Pond Equipment

- Pump
 - Volume of water
 - Size of waterfall
- Filter
 - Gravity Fed
 - Pressure Filters
- Ultraviolet Clarifier



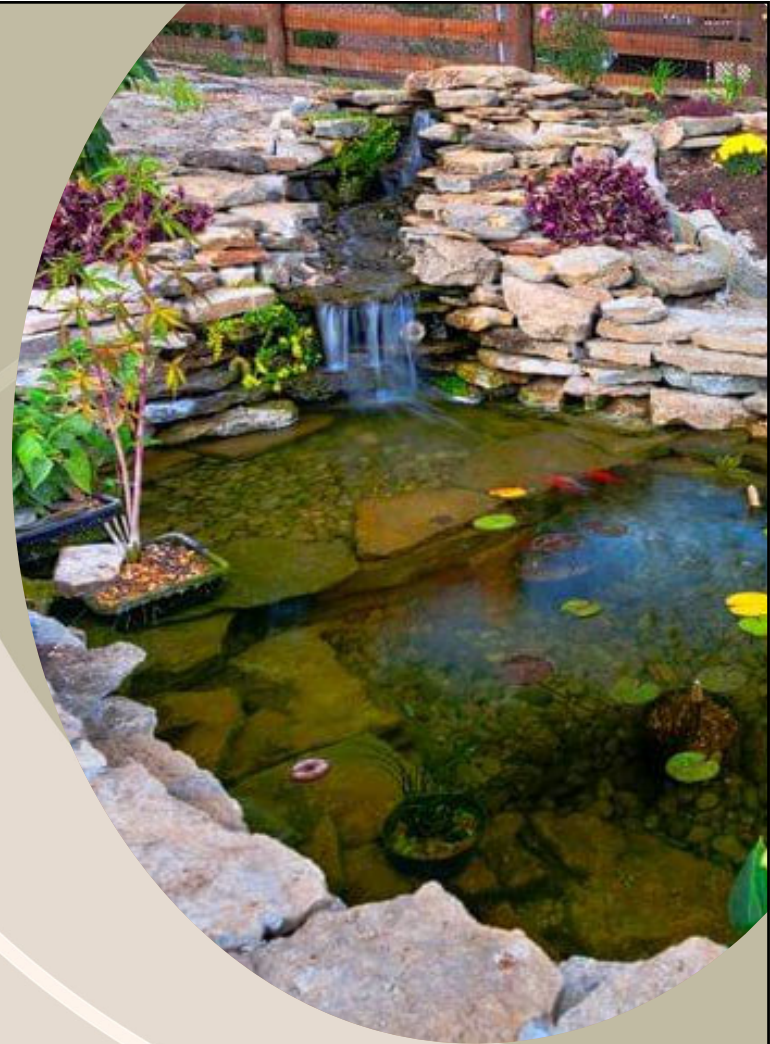


FILLING YOUR POND

- How many gallons will my pond hold
 - Length x width x depth = cubic feet
- Ponds evaporate and will need refilling
 - Wind and Plants can increase water consumption
 - Waterfalls also increase evaporation
- Best water is rainwater
 - If not available use cold tap/hose water
- Special considerations for fish
 - If using tap/hose water, 10% rule
 - Treat water if you need to do over a 25% change
 - Don't add Pond Salt during water change over

Planting Your Pond

- Attract wildlife, providing food, shelter, and breeding sites.
- Add color to the pond
- Spawning sites by fish
- Produce valuable oxygen & remove carbon dioxide
- Shade pond, provide cover for fish
- Help prevent excessive algae growth



Plants

- Water Lilies
 - Grow in deeper areas of the pond sending up leaves to the surface
 - Provide shade for the pond
 - Should cover 1/3 of pond
- Oxygenators
 - Canadian Pond Weed, Water Milfoil
 - Add 5 bunches per every 10ft
- Marginals
 - Plants suited to shallow areas of the pond
 - Plant on your marginal shelf
- Floating Plants
 - Duckweed, Water Soldier, Frogbit, etc.
 - Add 1 for every 10-15ft
- Moisture-loving Plants
 - Good for bog garden sometimes on marginal shelf

Planting Tip:

- The best way to give your new plants a healthy start is to repot them.
- Replace the soil they came in with good aquatic compost and place in an aquatic plant basket.
- Remember to allow for growth in deciding on basket size.
- Save 1" from top to add gravel to keep fish from digging into the plant.

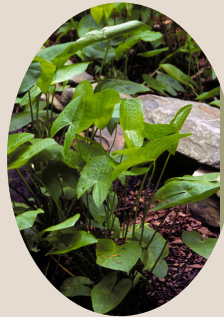
Plants for your Pond



LOTUS



PICKERELWEED



ARROWHEAD



WATER LILY



WATER IRIS



WATER CANNA



WATER CLOVER



DUCKWEED

Stocking Your Pond

Avoid adding too many fish too quickly. Wait for pond to get established!

- Every 1" of fish, needs 1 to 2 gallons of water
- Add 3-4 fish at a time – Watch ammonia & Nitrite levels
- When both balance add 3-4 more fish
- Repeat process until pond fully stocked

Stocking Your Pond

- Choosing Fish
 - Research fish
 - Suitable home
 - What size do they grow
 - Compatibility
- Transporting Home
 - Keep air filled bag/water in the dark out of sun
 - Take fish home as soon as possible
- Introducing Fish to the Pond
 - Keep bag sealed and float in pond for 10 minutes
 - Open bag and add water from pond to bag
 - After 30 minutes use small net to transfer fish into the pond.
 - Do not pour water from the bag into the pond

Note: Your new fish may hide for a day or two until they feel secure

Stocking Your Pond



GOLDFISH

Most Common and well-known fish for ponds. Although available in multitude of shapes, it is the common Goldfish that is most suitable for life outdoors.



SHUBUNKIN

Shubunkins are the same species as goldfish, the only difference being they have been bred to produce a multi-colored body pattern.



COMETS

As with Shubunkins, Comets are a variety of Goldfish, and therefore require the same care. They are usually red and white, and often have more ornate finnage.



ORFE

After Goldfish and Shubunkins, Orfe are the next most popular species for ponds. They are naturally adapted to faster flowing waters, where oxygen levels tend to be higher and the water quality a little better.



CARP/KOI

Many fish may be referred to as "carp" but generally refers to the Common, Ghost or Koi carp. Carp are large fish that are not suited to smaller ponds. They regularly grow to 18" or more. They also love uprooting and eating plants; so, any that are in the pond must be well secured with large pebbles.

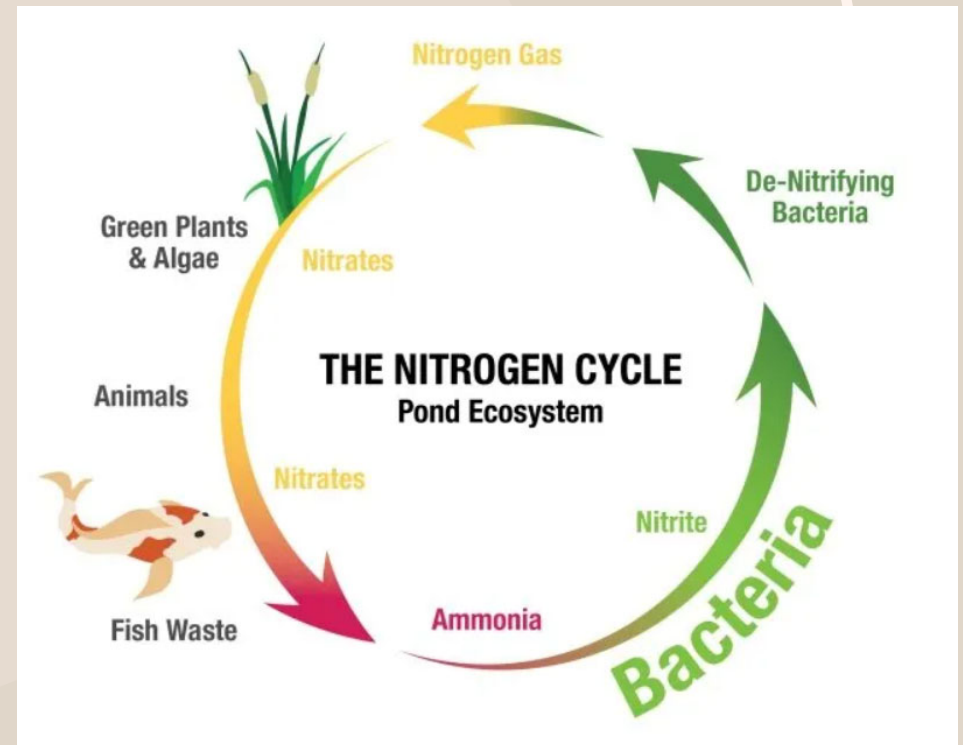


GAMBUSIA

Also known as mosquito fish. Biggest eaters of mosquitos even over goldfish and catfish. Very hard can tolerate freezing to 100 degrees. Compatible with most pond fish.

Cleaning Your Pond

- Remove sludge and sediment.
- Remove excess algae growth.
- Water quality is more important than water clarity
 - Pond health is a complex cycle, don't do anything to break the cycle
 - Don't use commercial cleaners that may damage the biome
- Don't overclean your pond
 - A balanced pond will clean itself.
 - You are just helping it from getting overwhelmed











Resources

Everythingponds.com
Goodearthwatergardens.com
Thepondguy.com
Pondinformer.com
Ozpond.com
Aquascapeinc.com
Tetra-fish.com
Wildflower.org



The background features a light beige base with several organic, flowing shapes in muted colors. A large, soft-edged shape in a dusty rose or terracotta hue is on the left. To its right is a large, muted sage green shape. In the top left corner, there are faint, grey line-art outlines of leaves or branches. On the right side, a thin, white, wavy line curves vertically. The overall aesthetic is minimalist and modern.

Questions?