HOLDING WATER

MAKING PONDS AND RAINGARDENS

Benefits of Wet Areas

- Slow down rainwater – increase flood and drought resilience
- Create a biodiversity hot spot and stepping stones for wildlife
- Evaporation creates a cooler microclimate
- Capture high levels of carbon in pond sediments
- Lower water use and reduce pollution by changing management from other garden uses such as lawns
- Source of nutrient rich sludge and plant material for compost

Pond Creation

- Choose a location with some shade, near other wet areas if possible, but not on valuable habitat or tree roots. Think about how you will enjoy the pond and locate where you can observe wildlife and supervise or exclude children and pets.
- Identify soil type and drainage by digging a hole – will you need a liner?
- Mark out shape with rope or hose – an irregular shape increases valuable edge zone
- Remove topsoil or turf – these will cause excessive nutrient levels (algal blooms)
- Excavate deeper areas (max 30cm) and shallower edges with gentle gradients
- Surface area should be 5-10 x maximum depth, e.g. $3m^2$ pond has 30cm deepest point
- Lay liner on wet sand and fix into place – or use no liner and allow natural fluctuation
- Fill with rainwater over time or from water butt
- Wait for natural colonisation of insects, amphibians (fish will need deeper water and will eat most of the other wildlife). Add plants to help oxygenate and provide cover.

Useful resources: https://freshwaterhabitats.org.uk/pond-clinic/create-pond/

https://www.wwt.org.uk/discover-wetlands/gardening-for-wetlands/a-guide-to-native-pond-plants/

Pond management

- Aim for 50% vegetation cover, cutting or pulling only 25% at a time – rinse in a bucket to release animals which can be returned to pond, compost vegetation.
- Top up water in summer if temperature increase >30ºC or allow to dry out naturally and rescue wildlife to temporary mini ponds.

Problem solving

- Algae and pondweed take over due to excessive nutrient levels:

Increase shade, scrape off surface weed and compost, plant submerged oxygenator plants or use barley straw in spring. Consider a pump and filter system to oxygenate water.

- Brown, muddy water due to sediment:

Seed grass on bare pond edges, remove sediment and leaf litter with a net or sludge pump if it builds up - apply to garden beds. Keep dogs and ducks out.

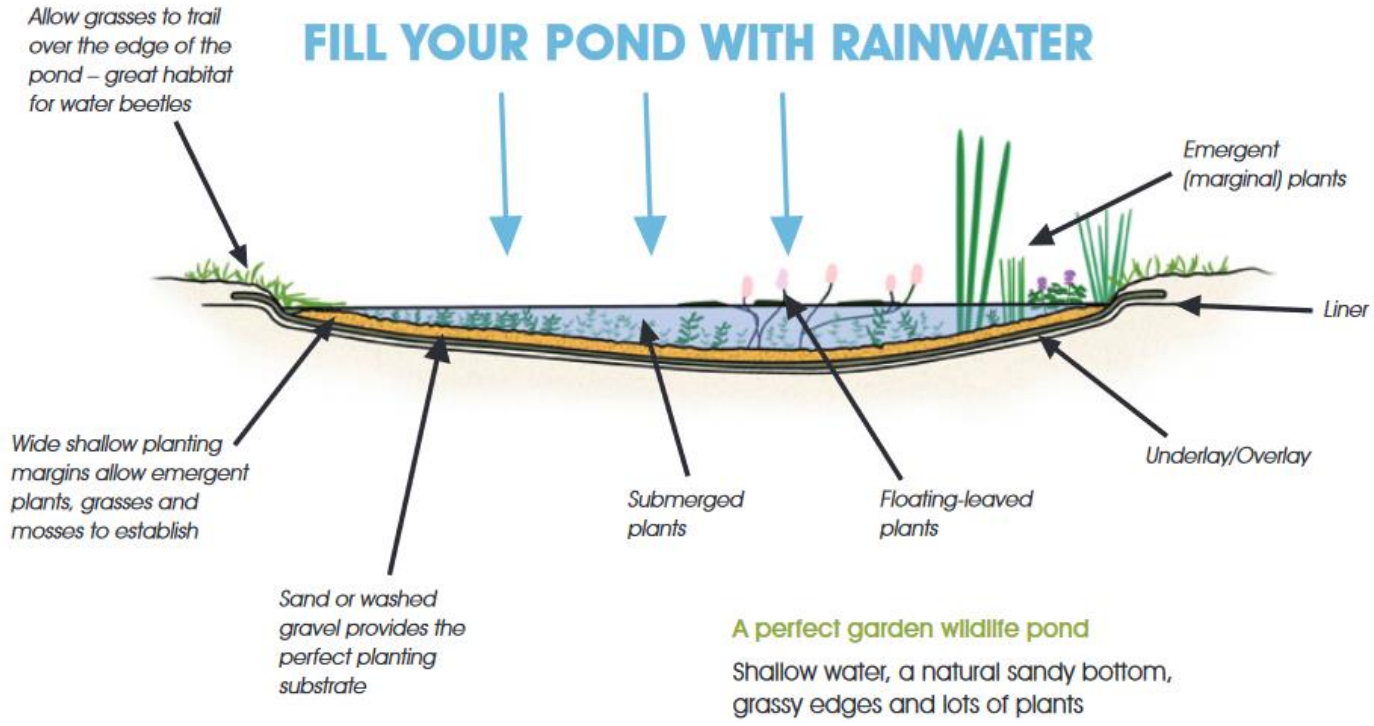

Diagram by Freshwater Habitats Trust

Raingarden

If you don't have a space for a pond but want to manage rainwater as a resource in your garden, rather than going into sewers, you can create a raingarden or mini wetland. They are also effective filters for nutrients and sediment, reducing pollution. They can take water off a roof or any hard surface that rain runs off. They are free draining so they dry out in sunny weather and hold water during rain. Plants should be selected to cope with these diverse conditions as well as appearance.

- Identify low lying fairly level ground >3m away from the house
- Dig a test pit to check soil type and drainage – should drain at least 50mm/hour
- Excavate a shallow saucer shape sized 20% the area of your water source e.g. roof
- Use spoil to create a 10cm high berm around the raingarden, compact well.
- Create an overflow of pipe or stone into a drain or other wet feature.
- Backfill to original level with soil plus organic matter such as compost or leaf mould, and if you have clay soil; sand or gravel to improve drainage.
- Protect your inlet with stone or gravel to avoid washing away soil.
- Plant up with wet tolerant plants at the bottom and inlet, drier plants around the edges.
- Disconnect or divert downpipe and direct water to the raingarden via a water butt, rill or swale. You can include a whole chain of features if you have enough space.
- Alternatively, create a raingarden in a container close to the house, allowing water to run out the bottom into the existing drain during heavy weather. Add 50mm depth of pea gravel covered with a fleece in the base before adding your planting compost.

Maintenance

- Weeding or cutting back as per normal garden bed
- Check levels of input and output are working in rainy conditions

Useful resources:

https://www.wwt.org.uk/discover-wetlands/gardening-for-wetlands/how-to-make-a-rain-garden/

https://raingardens.info/wp-content/uploads/2012/07/UKRainGarden-Guide.pdf