



Centre for
Ecology & Hydrology

NATURAL ENVIRONMENT RESEARCH COUNCIL

Centre for Aquatic Plant Management

Information Sheet 12: Water-lilies, *Nuphar* and *Nymphaea* species

Water-lilies are perhaps the most picturesque of our native plants. They are characterised by their circular floating leaves and white or yellow flowers. They grow at the edges of slow flowing rivers, in canals, lakes and ponds. They can grow in water of up to 5m deep, but prefer depths of between 1m and 3m. *Nuphar lutea* (Yellow Water-lily) and *Nymphaea alba* (White Water-lily) are the most frequently encountered species with *Nuphar pumila* (Least Water-lily) being less common.

N. lutea (Yellow Water-lily) is common in rivers and, unlike *N. alba*, produces submerged as well as floating leaves. In faster situations the floating leaves of Yellow Water-lily are sometimes absent and the

plant has been called "Cabbage-lily" because of the appearance of the submerged leaves. It is also commonly known as Brandy Bottle because of the shape of the flower buds. The White Water-lily is becoming rarer and therefore has conservation value. The species can be distinguished before flowering by the different shaped floating leaves. *Nuphar* species have an oval shaped floating leaf and *Nymphaea* species have a round leaf which overlaps slightly behind the stalk.

Water-lilies have extensive rhizome systems from which leaf and flower stalks emerge each year. The plants spread only slowly. Water-lilies are often preserved because the leaf stalks have little effect on flow and the shading effect of the floating leaves helps to suppress the growth of more troublesome submerged plants. However, if left unchecked they can produce a dense cover of the water surface and control is sometimes necessary. Where control is necessary, some plants should be left along the margins or in localised clumps where they do not cause a problem.

MECHANICAL CONTROL

Short term control can be achieved by cutting but new leaves will regrow from rhizomes later in the season or in the following year. Control for more than one season can only be achieved by killing or removing the rhizomes. These are extremely buoyant and will float if rakes or dredged from the mud. However, they are very strongly held in the mud by roots and are not easily dislodged. Cutting should be carried out as late in the season as possible to reduce the risk of regrowth. Dredging can be carried out at any time of year but may be more effective in summer when the location of the rhizomes can be detected by the presence of floating leaves.

CHEMICAL CONTROL

Spraying the floating leaves of Yellow and White Water-lilies with glyphosate is a very cost-effective method of control. This technique cannot be used on the Yellow Water-lily when only submerged leaves are present (usually in fast flowing situations). Glyphosate can be applied to

achieve localised control to create a clear channel down the centre of the river or a clear patch in a lake while retaining a fringe of Water-lilies at the margins.

In lakes, ponds, canals and rivers flowing at less than 90 m/h, Water-lilies can be controlled by applying dichlobenil early in the spring when growth starts. This will also control submerged weeds but localised control in selected areas can be achieved using the slow release formulation of dichlobenil. This technique is preferred in slow flowing situations where the Water-lilies are growing along with submerged weeds which also require control.

BIOLOGICAL CONTROL

Ducks are renowned for their appetite for the buds and submerged leaves of Water-lilies. Increasing wildfowl populations will have a marked effect on the amount of Water-lily growth.

ENVIRONMENTAL CONTROL

Shade is an effective method of control for this species.

BEST OPTION

In Spring: apply dichlobenil as soon after growth starts as possible and before the leaves reach the surface.

In Summer: apply glyphosate to floating leaves where localised or selective control is required.

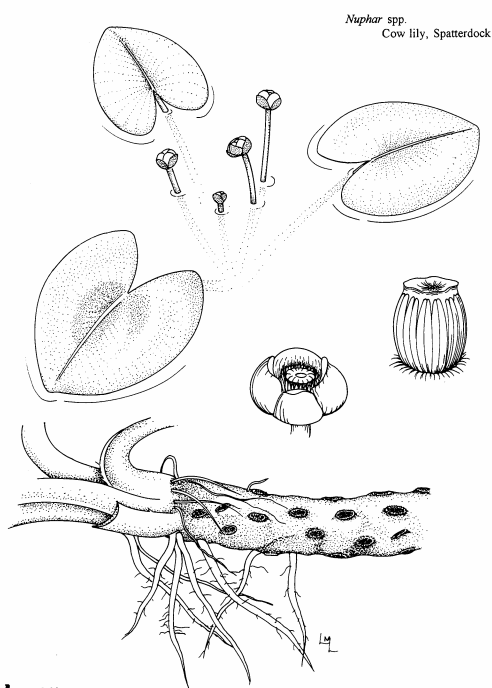


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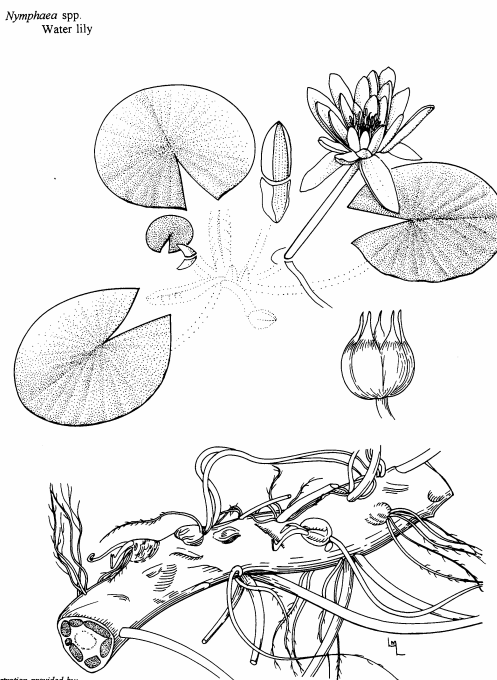


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