

Pond-dipping, King's Pond, August 2025

Several samples were taken along the edge of the pond near the road, under the weeping willow by King's Pond Bungalow and in the River Wey. The bottom material of the pond was black silt and black plant debris, a sign of an oxygen-deficient situation. Along the roadside edge of the pond the dominant animal life was Lesser Water Boatmen (*Corix* spp.). Other animals were found in small numbers (up to 3): a species of Leech (one was *Erpobdella octoculata* on a flint), Two water snails (*Valvata piscinalis* and *V. cristata*), Pea Mussel (*Pisidium* sp.), Water Louse (*Asellus aquaticus*), Pond Shrimp (*Crangonyx*), Cladocera not identified, *Cyclops* a small arthropod, Water Mite not identified, Bloodworm, a fly larva (*Chironomus* sp.), another fly larva not identified, a 3-spine Stickleback juvenile and in the river Bullhead juvenile.

This points to a limited ecosystem. All life ultimately depends on plants and the normal pyramid of numbers and energy flow is aquatic plants, herbivorous animals, carnivorous animals and top carnivores with omnivores living in two different trophic levels. The almost complete absence of aquatic plants (apart from Blanket Weed (*Spirogyra*) that lives initially on the bottom coming to the surface at end of season) gives little base for food chains. The rest of the food chains would be the detritus channel of dead plant material and associated bacteria that are involved in breakdown of plant material. However, water lice which are usually important detritivores are very few. The dead plant material would be from the land habitat of leaves of trees and twigs.

Lack of aquatic plants has since 1979 been a feature of the pond, but initially there was some Starwort and Water Mint. Aquatic plants are eaten out by waterfowl. In 1985 there were 100 head of Mallard ducks that were having an effect on the waterweeds but since the late 1980s they have been joined by Canada Geese that breed on the large island. This summer the goose count has been about 70 birds, often augmented by others flying in after the moult is over in August leading to counts of 100-200, but not this year due to the drought and limited grass to feed on. The geese are on the pond from January until late October whence they depart offsite for a couple of months. This is typical of the sub-species *maxima* that has established in the UK from escaped introductions. They spread from London lakes initially through Surrey and now into Hampshire. They breed successfully and have hardly any predators in Britain as opposed to their native lands where the other 16 subspecies live but they are mainly migratory only being on their breeding site for a few months and as reported by a friend in Canada the goslings are frequently taken by predatory mammals. Internet research shows that in America where they are a problem it is on amenity lakes with a mown grass area alongside coupled with uncontrolled feeding by the general public. In this case it is usually the sub-species *maxima* that causes problems, not the other migratory species.

I attribute the deficiency of the ecosystem at King's Pond largely to unsustainable populations, firstly of Mallards and later to Canada Geese which are large birds with a large appetite. Uncontrolled and over abundant public feeding is clearly the major cause of the pond imbalance. From the droppings *en masse* there is increased chemical nutrient of nitrates etc. Public feeding also leads to changes in the bird behaviour creating a dependent population rather than living on natural foods that would be a limiting factor. Mallards used to feed in the evening but now they are more active in the daytime coinciding with the movements of people.

June Chatfield

August 2025