

High Pond Markstakes
Pond Survey Comparison
Wood (06/2010) V Pepper & Heeley (04/2008)

There are obvious limitations when comparing the two surveys. The time of year for example explains the high number of adult palmate newts in 2008 survey and the presence of efts in 2010. Differences in equipment also make direct comparison difficult when assessing water quality however ph is similar. As predicted by Pepper (2008) the opening of the pond to light has lead to an increase in species.....

Plants

For those plant species associated with ponds there has been 50% increase in recorded species between the two surveys. Plant species presence or absence is not affected by the month of the survey. New species found include:

<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Iris pseudacorus</i>	Yellow Flag Iris
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort

Vertebrates

The significant vertebrate change is the recording of Great Crested Newts (found during restoration and during 2010 survey). In addition *Ardea cinerea* (Grey Heron) was seen in 2010 no doubt feeding on the GCNs.

Invertebrates

The survey techniques are the same for invertebrates between both surveys so direct comparison can be made. However microscopic examination was used by Pepper & Heeley. This facility was not available for the 2010 survey. Some species though will be more numerous in a June sample.....

Invertebrate diversity has increased. In particular a huge increase in the abundance of water fleas, a staple of the aquatic food chain, is encouraging. There has been large increase in numbers of *Lymnaea peregra* (Wandering pond snail), *Chironomus* sp (Midge species), *Notonectidae* (Water Boatman), *Asellus aquaticus* (Hog louse).

New invertebrates recorded include:

<i>Acari</i>	Water mites
<i>Gerridae</i>	Pond skaters
<i>Pisidium</i> sp	Pea Mussels
<i>Acilius</i> sp	Diving beetle larva
<i>Chaoborus</i> sp	Phantom midge larva
<i>Corixidae</i>	Lesser Water Boatmen
<i>Libellula depressa</i>	Broad-bodied chaser

There has been a very marked decline in Flatworms *Polycelis nigra*. None were found in 2010. The same can be said for Roundworms *Tubifex*. None were found in the 2010 survey. Both directly or indirectly associated with oxygen poor nutrient rich decomposing leaf litter.

Summary

Considering only a year has past since restoration work started in 2009 there has been a good increase in overall diversity. The new plant species recorded are probably from an existing seed bank stimulated into growth by increases in light. Marginal plant species are limited by disturbance to 50% of the pond perimeter. Submerged plant species take time to arrive in a new/restored pond.

I would expect invertebrate numbers to increase further this year now there have been two flight seasons for Odonata/Ephemeroidea and Trichoptera to arrive.

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