A NOTE ON THE SHALLOW PONDS ON THE GRAVEL RIDGE OF EPPING FOREST, ESSEX

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The recent study by Panter & May (1997) on a shallow pond at High Beach, Loughton, Essex, known to them as Speakmans Pond, focussed on one of a number of ponds lying on the gravels which form the ridge of Epping Forest. The main thrust of their article was to emphasise the rapid changes in the aquatic vegetation in this pond over the period 1989 to 1996, which spanned the time of their (and others’) observations. These authors give the impression that this had been a permanent water-filled pond which had dried out due to exceptionally low rainfall in recent years.

"Speakman's Pond" is a recent name for a long-established but ephemeral pond which, for many years, was known as Nursery Pond (it lies opposite the site of the house occupied by George Paul who established a plant nursery in 1861 on Nursery Road). The pond was created by the extraction of gravel and was never more than about 50 cm deep, until the creation of trenches in 1989 to provide a refuge for aquatic life.

Similar shallow ponds, mostly unnamed, occur elsewhere on the Forest ridge, all resulting from gravel extraction over the years until the late 19th century. The gravel was mostly used for the maintenance of road surfaces in the neighbourhood. Notable gravel extraction sites which resulted in small pits include Wormleyton Pits (TQ 441 997), an area to the south of the Long Running (TQ 435 995), the area north of the Theydon Road (B172) (TQ 429 995), and the area south-west of the Wake Arms roundabout (A 104) (TQ 426 993). This last area was studied by Colombo (1988) who named these pits the Wake Arms Pits; they were previously unnamed.

During the period 1942 to 1989 all these pits filled with water following normal winter rainfall and retained water usually until May or June and sometimes later (personal observation). In years when spring or summer rainfall was high the water was retained during the summer months.

The Nursery Pond (TQ 410 979) followed this seasonal pattern during the period 1940 to 1970 (personal observation), filling with winter rain and slowly drying out. It, like the pits identified above, had no established aquatic vegetation, no fish lived in them and only rarely would occasional specimens of smooth newt *Triturus vulgaris*, and common frog *Rana temporaria*, be found in
them. Neither bred successfully. The invertebrate life comprised corixids (rarely) and large numbers of mosquito larvae in early summer. Those ponds that were not in areas of closed woodland canopy developed small mats of note grass *Glyceria fluitans*, but this usually died away after a year or two, to re-establish after a wet year. However, the Nursery Pond from about 1979 retained water throughout the year and continued to do so until 1996, when it dried up. This period resulted in the development of a species-poor aquatic flora as indicated in Fig. 3 of Panter & May (1997) which shows the major vegetation in 1989. As these authors observed at this period "there has been no build-up of organic matter". This is consistent with the ephemeral nature of this pond during the period since its creation in the 1860s until the 1980s when it dried out each year in summer. Permanent water was present only from about 1979 until 1995 and was due to leakage from a Thames Water storage reservoir (TQ 411 981) on the crest of the ridge just 90 m to the north of the pond (personal observation; T. O'Leary, personal communication).

This leak was partially stopped in 1979 and finally mended in 1996. The water level of the Nursery Pond fell and the normal hydrological regime of this pond has resumed. Since 1995 the abnormally low rainfall has failed to fill the pond in winter.

The unique nature of the "rapid and dramatic change in vegetation" in this pond remarked on by Panter & May (*Freshwater Forum* Vol. 8, p. 59) is thus due to an accidental supply of water being discontinued, rather than a result of the severe drought.

**References**
