

Chair: Stephen Tomkins Editor: David Brooks

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A small number of residents who take to the River Cam waters, for whatever reasons, are occasionally known to suffer from 'swimmer's itch'. This is a **cercarial dermatitis** (see photograph on left of a rather bad case). Unlike problems caused by our pollution of the river the cause of this condition is irritation by microscopic parasites and cannot be blamed on anybody. The invasive parasite (the cercaria) is the larval stage of a group of flatworms which are released commonly from infected water snails. The parasite has two alternate hosts in its life cycle, first a snail and second a warm-blooded animal. In the Cam the flatworm's natural warm-blooded hosts are water birds or perhaps wild mammals. In the human body this parasite is not adapted to complete its life cycle, so when it mistakenly burrows into human skin (and then dies) it is not without first causing us a spotty allergic immune reaction. The closer the groin the greater the aggravation.

It has been suggested that suntan lotions, based on plant oils, help or encourage the parasites to penetrate human skin. Perhaps avoiding such lotions before taking a dip and taking a shower afterwards are good ideas. It has been claimed that a very young child is not very vulnerable because he or she is subject to vigorous towelling by mummy.



The pair of photographs show the largest of four **balancing ponds in Hobson's Park, a public open space**, still under development, next to the Addenbrooke's Biomedical Campus. The Medical Research Council building, close to the new Papworth Hospital, is at the right hand end of the top photograph. The area was formerly known as Clay Farm, farmed intensively by the Pemberton family. The developer has named the housing as 'Great Kneighton'. Heavy rain drains rapidly from impermeable surfaces into the pond whence it is released slowly, into the Hobson's Brook which is close by, to avoid flooding downstream. The pond serves as a 50,000m<sup>2</sup> bird reserve. The 'islands' are in fact floating rafts providing nest sites for gulls and terns.

The CVF **AGM will be held on 28 March at 7.00pm** in the David Attenborough Building, Downing Street. The speaker will be **Chris Gerrard, Anglian Water's Natural Catchment and Biodiversity Manager**, formerly of the Wildlife Trust.



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The convivial **2019 CVF AGM** was held in the **Attenborough Building on 28 March** under the benign and trenchant leadership of the **Chair, Stephen Tomkins**. His report gave due recognition to the driven and inspirational **pennywort** offensive led by **Anne Miller and Mike Foley**. There is every indication that they are not letting the grass grow under their feet even now. Plans are afoot. Anne gave a presentation on the pennywort project without failing to mention the BBC Countryfile programme which gave its fleeting glimpse of the CVF pennywort pullers. **Richard Wells**, revealed in his **annual Treasurer's report** the dramatic increase in the Forum's attendant turnover of funds. He welcomed the generous support of donors and the benefit of members' gift aid.

The **Annual Lecture** was given by **Chris Gerrard, Natural Catchment and Biodiversity Manager for Anglian Water** which is responsible for the supply of water, and treatment of waste, over an area which stretches from the coast of Essex to the Humber and from the coast of East Anglia to beyond Northampton. He spoke admiringly of his employer's environmental policy with regard to managing 7,000 sites ranging from Rutland and Grafham Waters to the tiniest "water recycling centres", known, in the old days, as sewage works. He brought to his engaging talk an impressive array of environmental challenges, concepts, strategies, and procedures which are the stuff of his workaday world. Details can be found at <https://www.anglianwater.co.uk/environment/our-commitment/>

*Chris urged that **we should all reduce our water consumption as much as possible below the average 137 litres per day per person** (and reduce Anglian Water's income!). **80 litres has been suggested**. How much do **you** use? Do you know how much of our drinking water is flushed down the toilet? The answer is an amazing 30%. Is that crazy? Cambridge Water and the University of Cambridge think so and have tried to reduce this figure at **Eddington**. The top photograph (taken from the Eddington website) shows this development with its plans for 3,000 homes, above Madingley Park and Ride.*

*People who live at Eddington have two water supplies. One is drinkable water, as we all have in the UK, and*



*the second is rainwater harvested from the site. The rainwater can be used for washing clothes, flushing toilets and for garden watering.*

*Rainwater from roofs and roads is collected through a series of swales (ditches) and permeable paving. Eight surface drains (see bottom photo) take the water to the lake in top photo, via reed beds. The water is treated by UV light and chlorine, before being pumped back to homes.*

*Water use is reduced by nearly half, so water consumption per head could be as little as 80 litres. The lake improves bio-diversity (water voles, waders, amphibians, water plants), provides an amenity area and helps with flood mitigation.*

*John Terry*



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Mike Foley



Expectations were exceeded when a team from Sentec, the local technology company, under the guidance of CVF leader **Mike Foley**, removed the last significant rogue reservoir of floating pennywort at Fen Ditton in April. The task was made easier by the removal of a large fallen willow tree, organised by land agent Bidwells on behalf of Jesus College. This was a major milestone in the efforts of the Cam Conservancy and CVF to control the invader. **Tom Larnach**, the Conservancy's river manager is a key figure in the joint endeavour to detect and promptly remove remnants in the upper river. Members of the **Cambridge Canoe Club** are also enthusiasts.



Michael Goodhart

Tom is seen on the extreme left in the group photo (on the left) in the company of members of the CVF committee, at his Clayhythe HQ. The photo below shows some of the vessels under his command.

**The Conservancy's objectives** are to maintain the River Cam between Mill Pit and Bottisham Lock in a good navigable condition (pennywort is more than capable of preventing navigation altogether), to strike a balance between the needs of all the river users and riverside landowners and residents, and to manage the river in a manner sensitive to environmental interests.



Cam Conservancy

work to keep an eye on all floating craft, to make sure the river and towpath are clear, to negotiate with riparian landowners for the sake of water quality and wildlife, or to whack in a riverbank revetment when necessary. He has five operational staff.

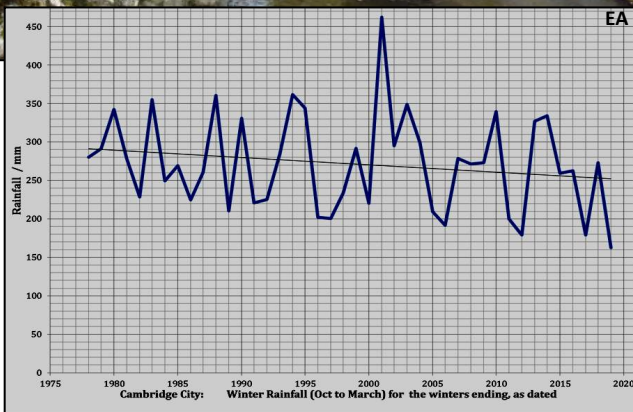
The **National Garden Scheme** (NGS) has details of river-side gardens open in June including Robinson College on the Bin Brook and Duxford Mill on the Cam (see link below). See the CVF website for events and other information.

[https://www.ngs.org.uk/find-a-garden/?location=Cambridgeshire&from\\_date=&to\\_date=&date=all\\_dates&by\\_arrangement=0](https://www.ngs.org.uk/find-a-garden/?location=Cambridgeshire&from_date=&to_date=&date=all_dates&by_arrangement=0)



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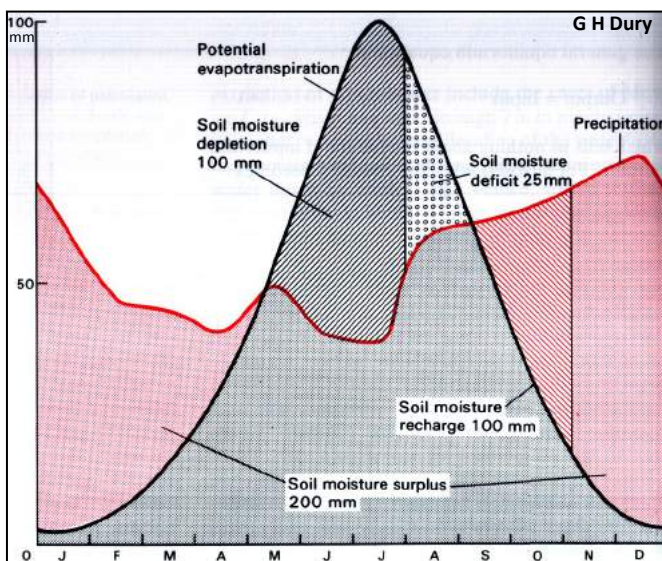
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### Where has all the water gone?

Many have noticed the current low water flows throughout the Cam Valley (not least The Times). The June rains may have been good for your lawn but they will have done nothing for the Chalk aquifer.

The left hand photograph shows a tributary of the Little Wilbraham River trickling through the Environment Agency (EA) gauge station beside the road from Fulbourn to Great Wilbraham, at Cole's Bridge. Just 400 metres further along the road is the course of another tributary (right hand photograph) which has dried up completely (permanently?).



The lower graph shows the relationship between monthly rainfall and the seasonal changes in the combined potential (maximum) rates of evaporation from the soil/land surface and transpiration from the leaves of plants. It is a schematic diagram which, in essence, can be applied to the Cam Valley. In the summer, evapotranspiration exceeds rainfall so, overall, the soil becomes drier and drier. During winter (lower temperatures and fewer leaves) rainfall exceeds evapotranspiration so soils gradually become replenished and eventually saturated so that soil water can sink down into the bedrock causing the water table to rise and spring flow eventually to increase.

So, winter rainfall is critical for replenishing the aquifer. Summer rainfall is not. The upper graph shows changes in winter rainfall (October to March) in Cambridge for the 40 years from 1978 to 2019. The sloping black line shows that it is possible to reason that the trend of winter rainfall is in decline. Meanwhile, the water we draw from our taps contributes to the inexorable lowering of the Chalk's water table. Perhaps 12,000 houses will be built on Marshall Airport alone. Cambridge Water would be legally obliged to supply water to the resulting, perhaps 30,000 or 40,000, additional residents.



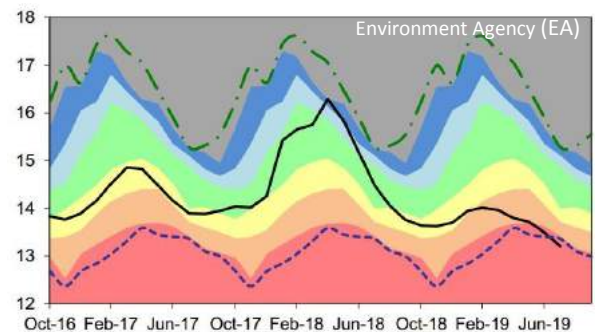
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**All is not well with our river.** This was apparent in our previous Newsletter 52. **The CVF has just published its River Cam Manifesto (written by Stephen Tomkins).** Please study it at: <https://camvalleyforum.uk/river-cam-manifesto/> It is directed towards every resident in the Cam Valley as well as the various councils and the planning authorities, the Water Companies, the Environment Agency, the farmers and landowners and all business and housing developers. It has attracted the attention of The Guardian, Observer, BBC Look East, Cambridge Independent, Cambridge News and Radio 105, while social media discussion of the issue resulted in over 500 visits to our website, easily tripling the previous record.

'Everybody' has noticed the low flows throughout the Cam system this summer. The well-known cause is the lowering of the water table in the Chalk aquifer, in relation to over-abstraction and insufficient winter rainfall to compensate. Graph aficionados will enjoy this one showing variations in the altitudes (in metres above sea level) of the water table at the EA Stapleford (Gog Magog) groundwater indicator borehole site. The coloured zones [grey (exceptionally high), green ('normal'), red (exceptionally low)] are derived from 1980 - 2017 data.

Interpreters will immediately notice the relevance of the black line (latest data) crossing the dashed blue line (lowest-ever previous data) to the current enfeeblement of brooks such as Hobson's and the Cherry Hinton.



Oh, that pretty, architectural flower, again. Yes, this **Himalayan balsam** was **less than 5 minutes walk from the centre of Saffron Walden** near the car park, in its favoured location along the bank of a stream. Now that floating pennywort is being vigilantly kept under control on the upper Cam, **attention is shifting, towards this prettier invader, under the leadership of CVF balsam Supremo, Mike Foley (seen, armed, in photo on left).** Over almost 10 years, volunteers led by the WT, CRT, and CCV in the Bourn Valley have made great strides, but this fertile plant is rampant elsewhere. In early August a small CVF team cleared a short stretch of the Bourn immediately upstream from Byron's Pool where it joins the Cam.



CVF members and friends greatly enjoyed the company of the **River Mel Group volunteers** and the informative way that **Steve Hawkins conducted our Summer Walk along their river in July.** It was a great education in human history, natural history and river management. The assiduous way that the Group has worked to improve the River's flow is laudable and their planning and community engagement is exemplary. The Mel encapsulates so many things - the joy of a small river environment and all that it brings to the lives of those around it as well as the challenges we face in coping with over-abstraction from the Chalk, the influx of poorly treated sewage, and the vicissitudes of climate change.

Stephen Tomkins



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M Foley



R Wells

In September, the Environment Agency (EA) carried out an **electrofishing survey on The Rush which crosses Sheep's Green Local Nature Reserve**, acting as a fish pass (championed by the CVF, Newsletter 34, December 2016) between Newnham Mill Pond and the Upper Cam. Unlike virtually all streams in the Cam Valley, at the moment, The Rush was flush with water (photo on left) and yielded the brown trout (above) as well as an eel, stone loach, spined loach, minnow, gudgeon, roach, bullhead, as well as the most frequently observed: perch, chub, and dace.

**Meanwhile the Cam river system is in crisis (see photo, below, of the Granta at Stapleford, this September).** Piped water from the Thetford

area helps make it possible for Cambridge Water to take less water from the Chalk aquifer south of Cambridge than it is legally entitled to by the extremely generous abstraction licences set up by the EA several decades ago when circumstances were very different. The EA has for years lacked the teeth and the funds to rescind these licences, and the 2014 Water Act exacerbated the problem by enabling water companies to buy excess rights from existing licence holders who no longer needed to use all the water they were entitled to. Since Cambridge Water is acting within the law it is not obliged to take responsibility for the general state of the rivers. Furthermore, the company is legally obliged to supply water, however great the future demand. The strategy of meeting that demand merely by reducing both leakage and personal consumption seems a tad optimistic/complacent. At the local level, although the Nine Wells augmentation infrastructure is in place it is not in operation, so Hobson's Brook continues to suffer. A 'hosepipe ban' would help but Cambridge Water would see this as a loss of face. Ultimately, the interests of shareholders must be protected. Essex already pipes Great Ouse water from Denver. Whither Cambridge?



R Mungovan

**What can YOU do to help reduce your personal daily consumption of water** (national average is 130 litres per head, per day)? 1 Mend dripping taps. 2 Do not run water when cleaning your teeth. 3 If it's yellow let it mellow. If it's brown flush it down. 4 Use an efficient shower or take baths with friends. 5 Use water butts in the garden. 6 Install a meter. 7 Report leaks. 8 Email Cambridge Water to say that you would be happy with a hosepipe ban in order to protect our streams. Etc., etc. Do you pay enough for your water? Do planners do enough to insist on more sustainable water systems?