ABSTRACTIONS: EMS – Notes from EA files and notes from Gavin Sharpin

Notes from EA files: Walderton

No objections or derogations on file. I subsequently met Nick Rule (Westbourne Mill) who says his father has a file on this, and in particular the lobbying for the augmentation. He referred to it as a 'Court Case'. PWCo files are far more voluminous, referring to the Inquiry, but had no data on proofs of evidence etc.

Licence of right 511002 granted 31 Jan 1966 (also only £5).
Quantities to not exceed 2mgd (SI 1962 Water Order No 778 conditions)
Photos show map showing no major abstractions in 1964 – None in Lavant and a few small ones in Walderton area.

Licence of right 511007 granted 5 June 1968 (for £5!!)
This allowed for a combined total of 8mgd – total not exceed 2,190mg p annum and total in 28 days not exceed 196mg; notification required if exceeding 6mgd; when Ems <0.5mgd - 0.25mgd to be augmented and continue until flow >0.6mgd
Inspections annually. E.g. Nov 26 96 – No problems Augmentation still ongoing; 17.11.98 A. ongoing; 14.7.05 – visit to ensure compensation release complied with – no problems.

Absolutely huge abstractions in 1971-73. Earliest records for abstractions on EA file are for 1971. Big gap in abstraction data on file until 1994 again after monthly returns for most of 72-73.
Abst exceeded 6mgd notified: Oct 84; Sept/Oct 89 = 27-29ml/d

Much on file regarding when compensation flow was switched on and off, but whole series does not look to be in place:
Compensation on - 14 Oct 86 – off 15 Jan 1987
Comp 2 Oct 87 – off ? ;Comp 15 Sept 1988 – off 14 Apr 89; On 21 Aug 89 – 12 Feb 90
On 27 July 90 – 26 March 91…. Rod Murchie correspondence indicated not all got to the weir at Westbourne – in fact on 28th August was 0.26mgd – both PWCo and NRA agreed was due to leakage

On 28 Oct 91 – 8.12.92?; On 8.9.93 – 4.10.93!!!
22.06.94 – exceeded 6mgd – almost 7
On 7.08.95 – many visits in 1996 showing augmentation in place – 17.02.97
On 23.7.97 – 25.11.97; On 5.10.98 – 18.11.98; On 22.7.99 – 23.11.99
16.11.2000 – advised daily quantity licence would be exceeded to help relieve flooding!!
June 3rd Westbourne PC wrote saying how great to see water voles, kingfisher and pike in the river from Aldsworth Pond to the mill in River Street – but concerned flows dropping fast.
On 12.08.03 – 1.12.03; On 10.12.03 – 14.1.04; On 5.07.05-2.11.05; On 17.11.05-6.12.05; On 2.11.06 - (subsequently OFF on 6 12 06, and not on when should have been as EA did not inform of need)
No other dates on files – these either reflect the reality or there are missing data –

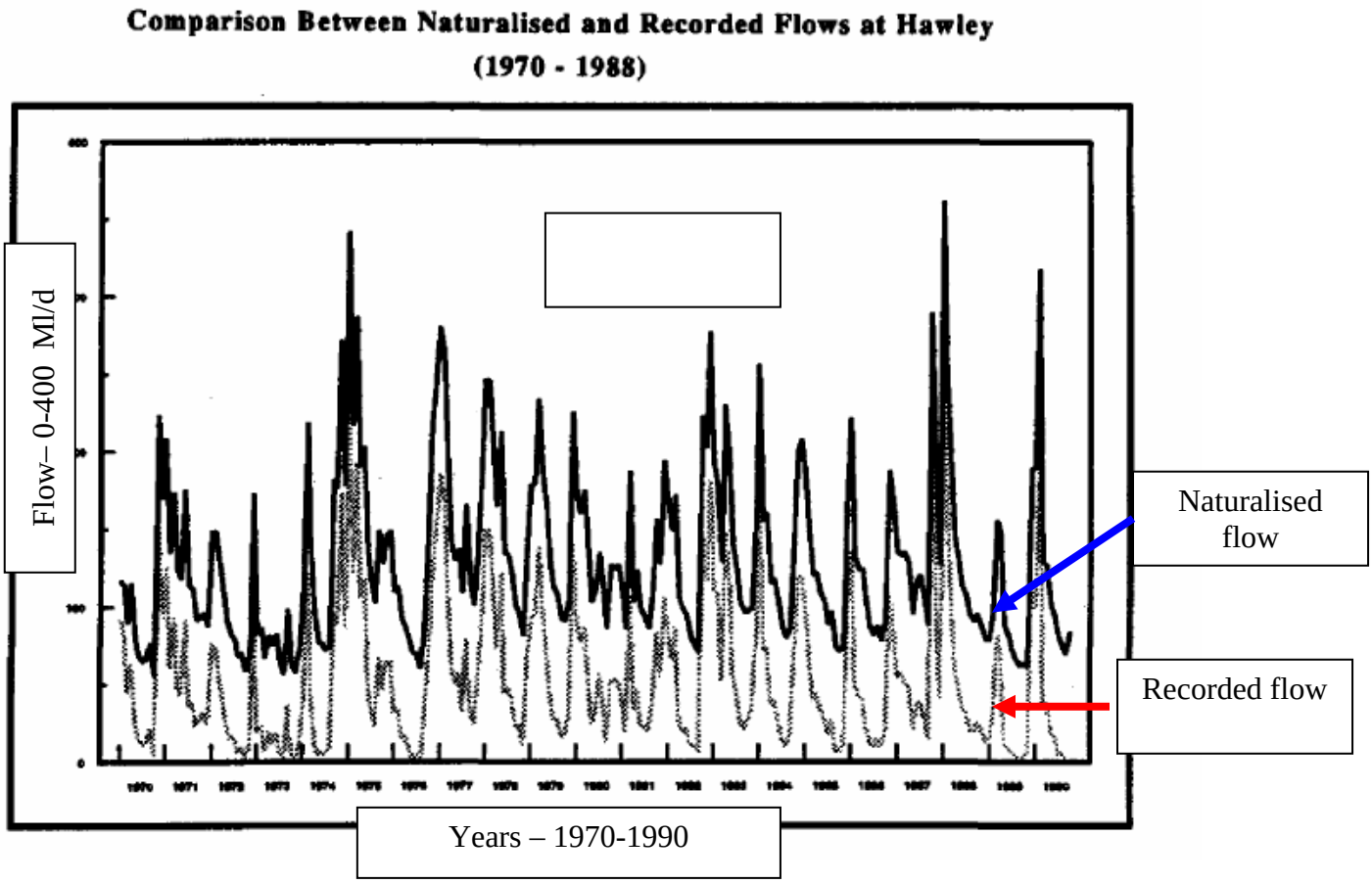
Licence 511002 & 511007 located at Walderton - allow 8mgd abstraction, but max average of 6mgd

Woodmancote

SI 1963 No 1333; Licence of Right 7.7.66 for 300mg per annum and max 1mgd
Due to electricity tarrif, informed Sussex River Authority in April 1969 that source was not intended for use from March to October.

- In 1990 reported very depleted resource and reduced abstraction.
- PWCo visited sites in area annually. All reported no problems
- PWCo wrote to NRA in 1992 to apologise for over abstraction on licence mod, but not the group licence.
- Reports on files of annual visits

Due to limited amount of information, comprehensive look through files in PWCo offices was undertaken.

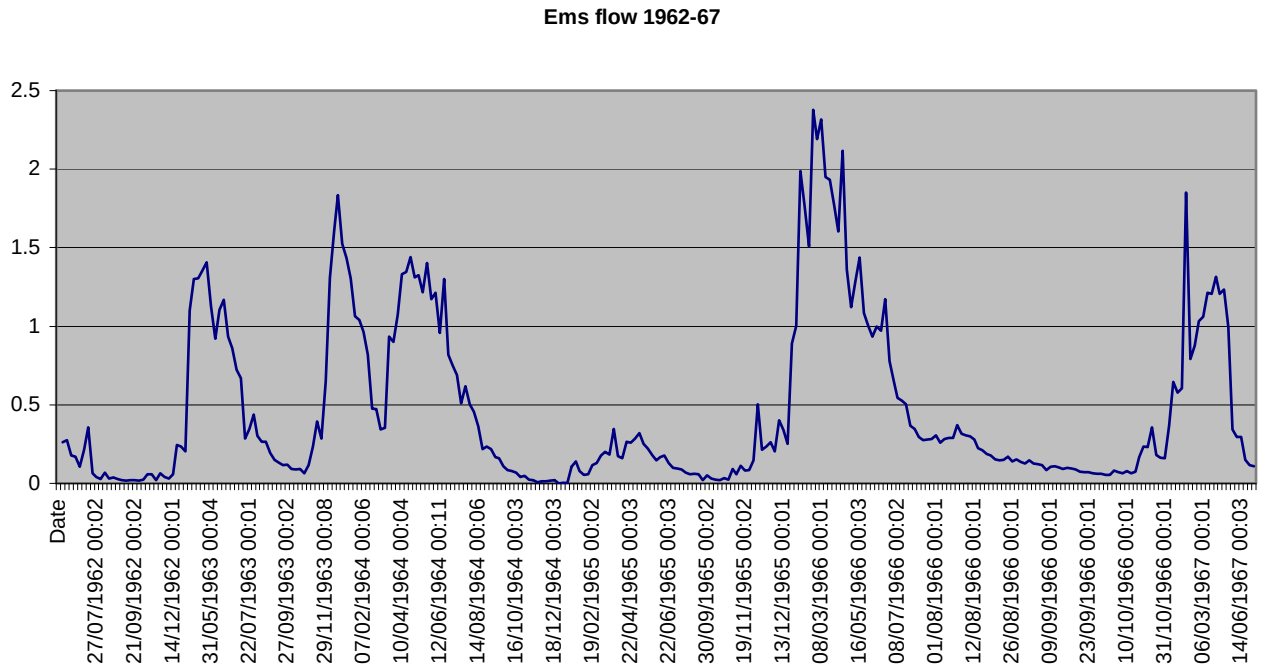


Hydrograph for the Darent at Hawley, for the period 1970-1990 (from: NRA; 1994) EA confirmed that on existing data it is not possible to produce something like this, but once future Phases of the EH&CC study and ongoing work it should be possible in 3-5 years

FLOW

I was somewhat surprised (very pleasantly), having concentrated on the Entec and Halcrow reports to look at the files kindly send to me by Anne Wilkinson (EA). These show that:

- Some patchy spot gauging data exist for the Ems prior to abstractions from the groundwater that predominantly provides flow to the river (see noddy chart below). Little pre-dates start of supply and pump-test abstractions.



- The flow gauging for the spot readings on the Ems were from a different location to the main gauging that was carried out from 1967.
- The Westbourne gauge, at which gauging has been carried out since 1967 (15min gauging since 1981). The NGR is SU 7550 0739, compared to SU 7540 0730 for the Hampshire Farm gauge. The difference is obviously negligible in terms of the flow going past the gauge.
- Augmentation has to continue until flow at Westbourne is >600,000 gallons/day (=0.032 cumecs, or 2.73 Ml/day).
- It is considered the historical flow data are of great significance re assessing potential impact on flows from abstraction – they may be limited but may be of great help at some stage. They will enable testing of future models if they are 'hidden' from Entec and others and used to test accuracy of their predicted natural flows for these periods?

Key	
Cumec(s)	**Cubic metre(s) per second (= 86.4Ml/d)**
Ml/a	**Megalitres per annum**
Ml/d	**Megalitres per day (1 Ml = 0.01163 cumec)**
Mgd	**Millions gallons a day (1mgd = 4.464Ml/d)**

Summary of abstractions in the Ems

In the Ems, non-Portsmouth Water abstractions are 0.65% of the total licensed abstraction.

Ems abstractions

Re: Woodmancote's effect on the Ems. Spoke to Simon Vipond 21/12/06: As this abstraction is on the border of the Ems and another surface water catchment (Ham Brook?), it is not clear how much of the abstraction comes from the Ems. Hydrogeologically, Simon thinks it fair to assume Woodmancote has a similar effect pro rata as Walderton on surface water catchments. It is right on the northern edge of the syncline, so we can assume leakage south is small. As the Woodmancote licence is approx. 10% of the Walderton licence, more attention should be focused on Walderton. In the absence of any further information, we could assume that 50% of the Woodmancote abstraction comes from the Ems. The EHCC model might tell us more.