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Environment
Agency Wales



Wye 2011 Fisheries Survey Summary - Report on Irfon Special Area of Conservation fisheries monitoring

Report – [TM/SE A&R/11/27](#)

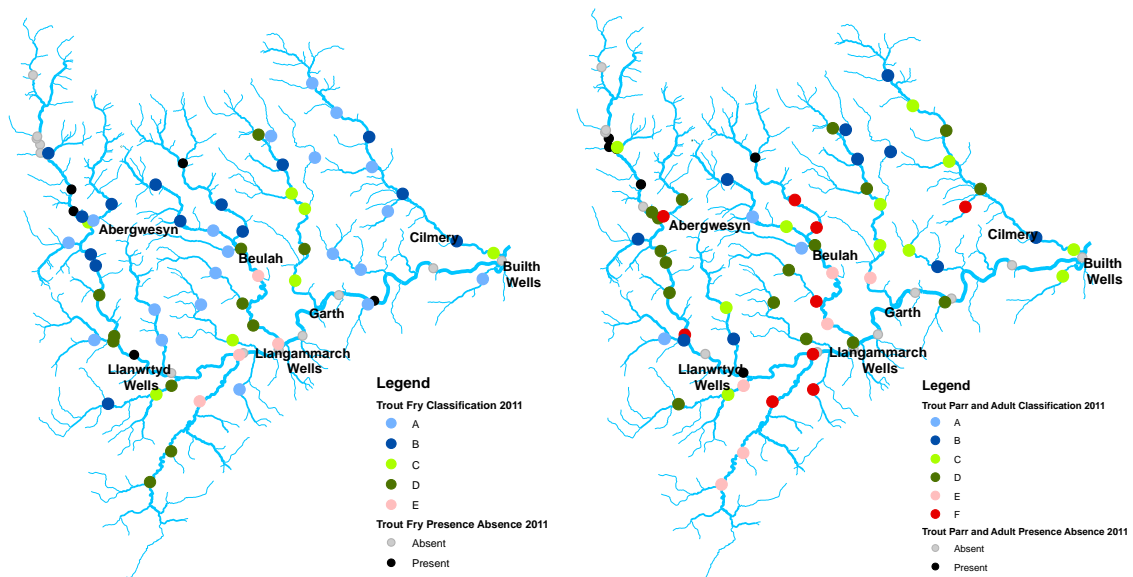
[Sophie Gott](#) (EAW)

Irfon SAC Project

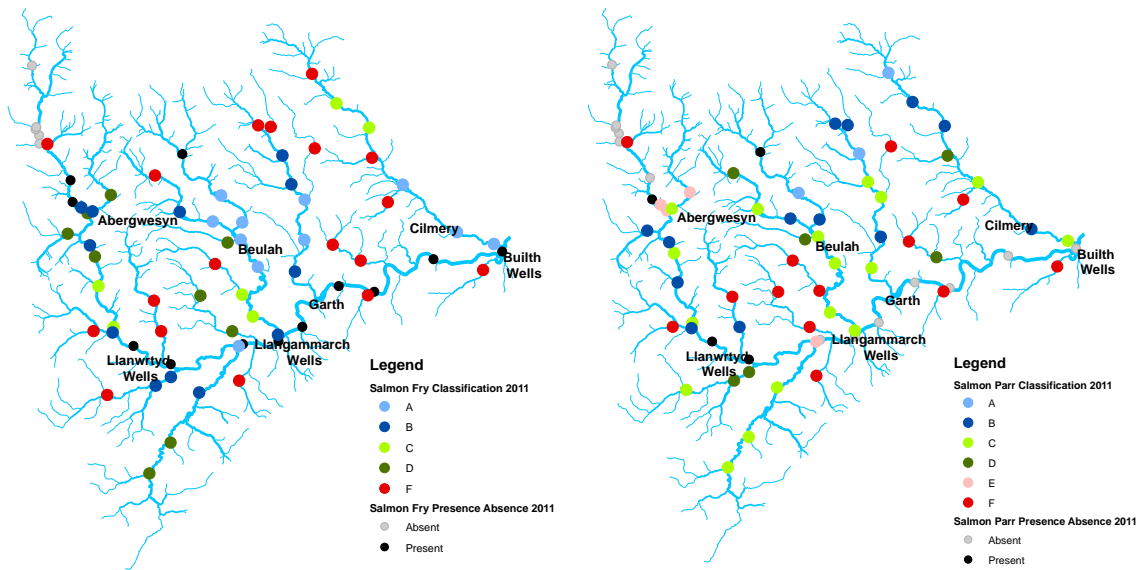
This project has been a great opportunity to learn more about the catchment, to map the distribution of salmon, lamprey and bullhead and see if there are any obvious issues such as barriers and habitat constraints. The project has included several waterbodies never surveyed before, and the present survey has improved our spatial understanding of the fish populations. For example good numbers of salmon and trout have been found on the Nant Cerdin, whilst the Cammdwr surveys highlighted potential sedimentation issues. .

A total of 74 sites were surveyed in the Irfon catchment in 2011 as part of the Irfon SAC project, but also for local WFD monitoring and other investigations.

The average density of salmon fry across the Irfon catchment in 2011 seems to have dropped slightly, compared to 2010 results, whilst parr densities seem to have increased slightly. However these are not big changes and are within the level of variation seen elsewhere. Another point of interest, albeit not necessarily SAC related, is the apparent increase in trout fry, the average density has increased slightly, as has the proportion of sites classed A or B.

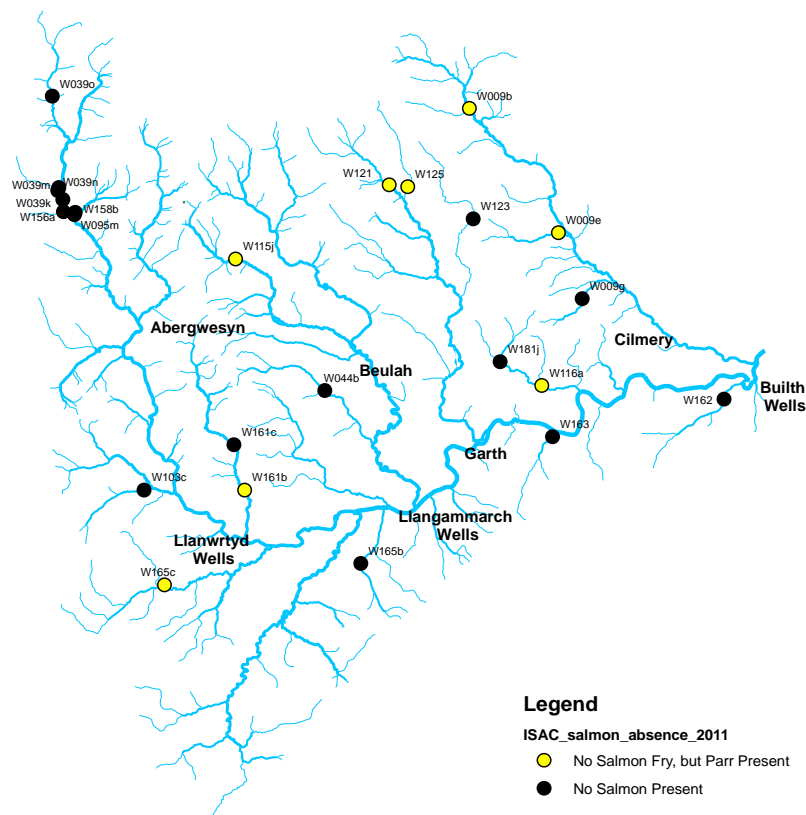


Three quantitative surveys, W007 on the lower South Dulas; W043a Black Bridge on the Cammarch; and W009 the golf course on the Chwerfru, all had very high numbers of salmon fry, with the latter site having to be cut short from a Q to a SQ survey as we ran out of buckets after catching 635 salmon fry on the first run! W009 and W043a both recorded their highest salmon fry density ever in 2011. These sites are all in the lower reaches of their respective tributaries.



Juvenile grayling were recorded at the golf course site on the Chwerfru (W009).

Low flows and very cold temperatures in November and December 2010 are the likely causes of the lack of salmon fry in the upper reaches of the tributaries, with none recorded at the top sites on the Chwerfru, Garth Dulas (and Cyfyng), Eionon and the Cledan, and significantly poorer densities at the top of the South Dulas (W098x dropped from an almost consistent A class to a D classification in 2011).

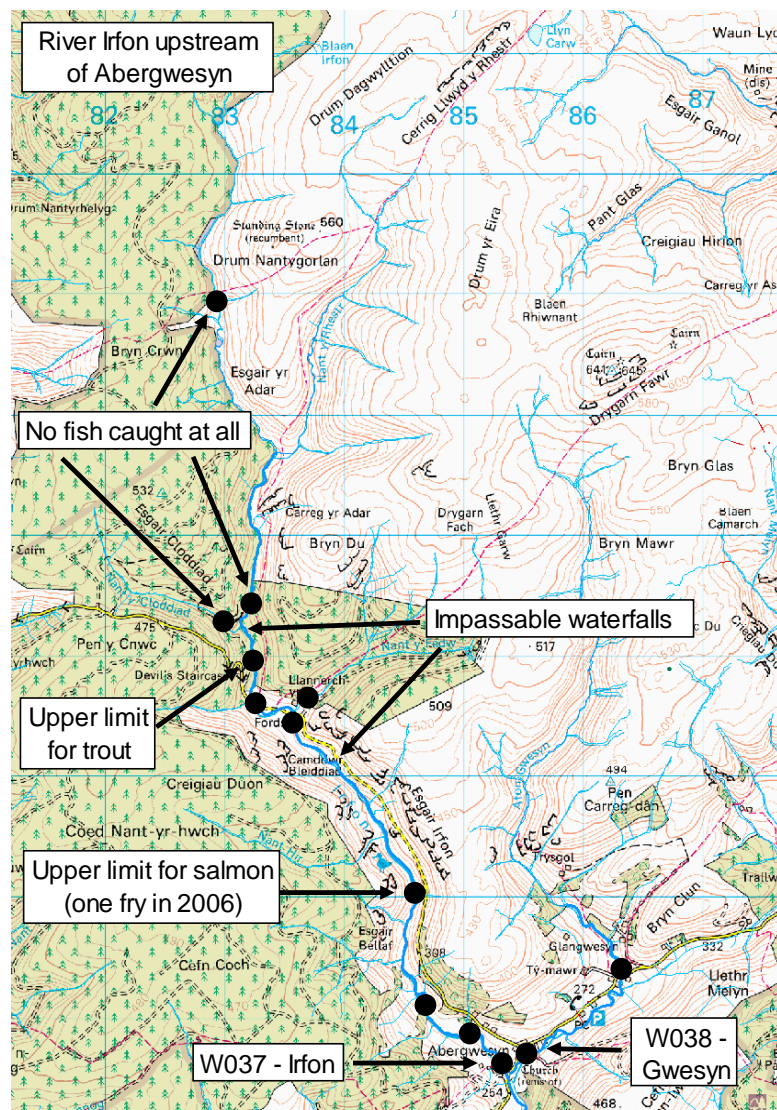


The Gwesyn (W037) also showed a much lower density than last year, although it was still better than in previous years and does continue the general upward trend at this site.

These observations are believed to reflect the heavy frost and snow in 2010/11 which may have prevented adult salmon from reaching these upper spawning grounds. There is some further evidence to support this in the fact that the Chwerfri, Garth Dulas, South Dulas, Eion and Cledan all have increased densities of salmon fry in their middle and lower reaches.

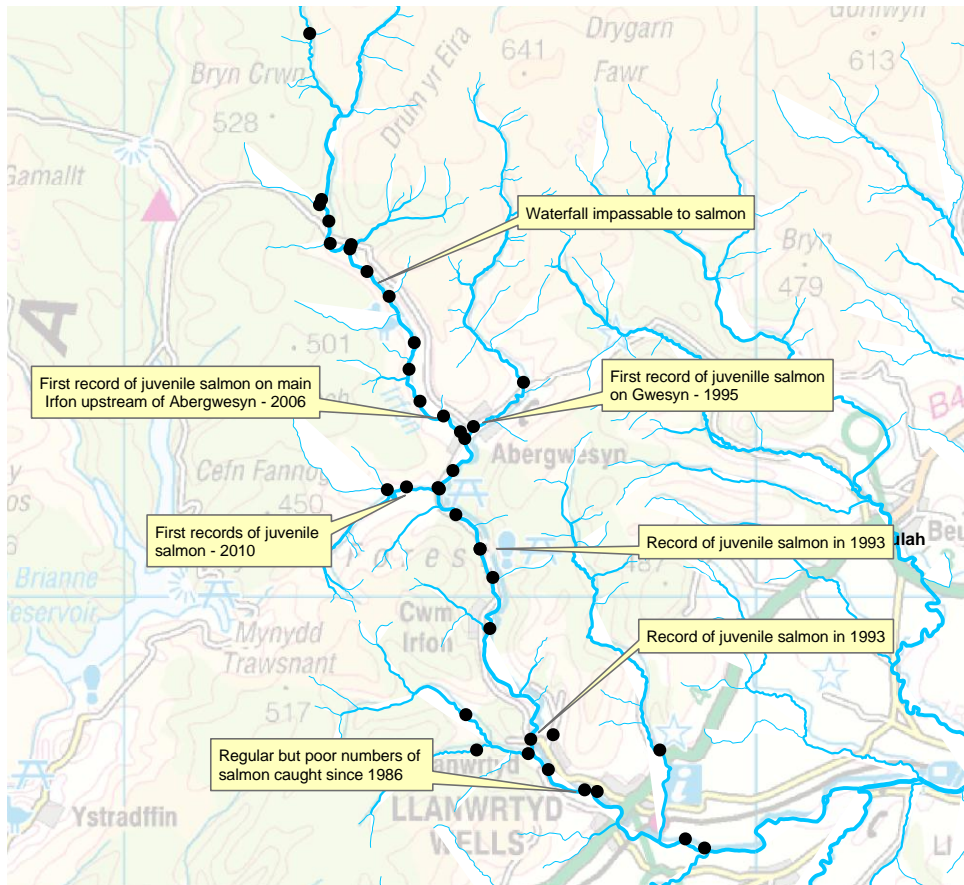
Of note, most sites on the Cammarch and Cnyffiad have shown an increase in density in salmon fry and parr, with more A classifications seen in 2011. The Cammarch and its tributaries had previously shown a large cluster of significantly poorer salmon parr results than expected with HabScore, so the new evidence is good news.

The results from 2010 and 2011 have resulted in an understanding of the fish populations in the upper reaches of the Irfon, where surveys had not been carried out historically. An interesting observation of no fish at all, despite good habitat and food sources above the large waterfall at the confluence of the Nant Cloddiad and the Irfon, is an example of where this type of targeted study is invaluable. It is likely that trout once lived in these upper reaches of the Irfon and its tributaries, and an isolated population is believed to be present in the acid grassland Nant Rhestyr. Trout are present in most other upland streams in the Irfon catchment.



Salmon 'history' on the Irfon

There are irregular records of juvenile salmon in the main Irfon as far upstream as Pwll Bo in the mid 1990s, but these were low numbers and only sporadic records. Downstream at Llanwrtyd Wells there are fairly consistent records of salmon as far back as 1986, but always poor in number.



The first records on the Gwesyn were in 1995, but were patchy and not of significance until about 2006, when parr numbers in the lower reaches really improved, with fry numbers following in 2009. On the Irfon upstream of Abergwesyn the first record of salmon was in 2006, but numbers were poor and inconsistent until 2011 when for the first time the site recorded a 'moderate' classification.

The recent changes in salmon presence appears to reflect an improvement in water quality and is reflected in monitored pH and diatom populations. Acid flush events in the winters of 2003 to 2005 resulted in some pH readings below 5.5 as far downstream as W008a and in the February 05 event they were still below 5.5 at Dinas. It is likely that similar events have occurred regularly since the onset of acidification in this catchment in the early 1970s.

There was an evident recovery in water quality during the winters of 2006 and 2007 with streams such as the Fedw and Shinglas (a tributary of the Rhyd Goch) showing marked changes in pH and diatom communities following hydrological source area (HSA) liming. This coincides with the appearance of some salmon fry in the upper Irfon. However in 2008 monitoring recorded an acid run-off event arising from the afforested streams and this seems to have reversed the nascent recovery. In winter 2010 high flows in January probably caused a similar acid event. The acid waters

coming from the afforested part of the catchment that contributed to these acid events were the main driver for the first bid to LIFE to in 2009.

In January 2011 the ISAC acid water monitoring showed that some of the sand liming conducted under the Dywrain Salar Cymru 2009 project in 2009 and 2010 was having a positive effect. Extra sites were added and doses doubled in spring 2011 under the ISAC project. Both pH and diatom assessments demonstrated an enhanced, positive effect to this action. This coincides with the current encouraging reports of fish distribution and abundance in 2011.