Juvenile Salmonid Summary
Conwy Catchment

This report summarises the findings of the 2017 juvenile salmonid monitoring on the Conwy catchment. A more detailed assessment of the stocks will be available in 2018 when the Know Your Rivers reports are published.

Juvenile Salmonid Monitoring Programme

In 2017 the temporal (annual) programme consists of 4 sites on the Conwy. The temporal data is used to look at trends in juvenile salmon and trout densities giving an idea of spawning across the whole catchment.

Due to the exceptionally poor results across Wales in 2016 additional funding has been supplied to investigate the issue further. The Conwy spatial programme (6 yearly programme) and some additional sites were added to this investigation. This meant an additional 28 sites were planned in 2017.

Key Points

The monitoring season was hindered in 2017 by wet weather. Three sites on the Conwy were incomplete. Two sites on the Lledr due to high flows, and one site on the Porth Llwyd, which was due to access issues.

The Conwy was very good for salmon fry in 2017, however there appeared to be a divide. Some sites in the upper catchment recorded the highest densities of salmon fry on record whereas several of the tributaries on the lower catchment were poor compared to historic data. This follows the same trend as the Dee. The higher densities in the upper catchment link to improvements in Multi Sea Winter (MSW) fish, whilst grilse numbers have declined leading to poor densities in the lower catchment. The excellent salmon fry results in the upper catchment also link directly to the high numbers of fish using the Conwy falls fish pass in 2016. The improved salmon fry densities are due to the increase in salmon running the river, highlighted by the rod catch, and the settled weather over the winter of 2016/17, that will have led to higher egg survival. Salmon parr densities remained consistent with the historic data despite the poor salmon fry densities in 2016.

The Conwy was also excellent for trout fry in 2017, with many sites having their highest densities on record, or remaining consistent with the historic data. The lower catchment appeared to have much higher densities than the upper catchment, with the Oaklands stream (Afon Gallt-y-gwg) recording a density of 640 trout fry per 100m^2. The improved trout fry densities link directly to the improved sea trout run in 2016, highlighted by the rod catch, and the settled weather over the winter of 2016/17 which will have led to higher egg survival.

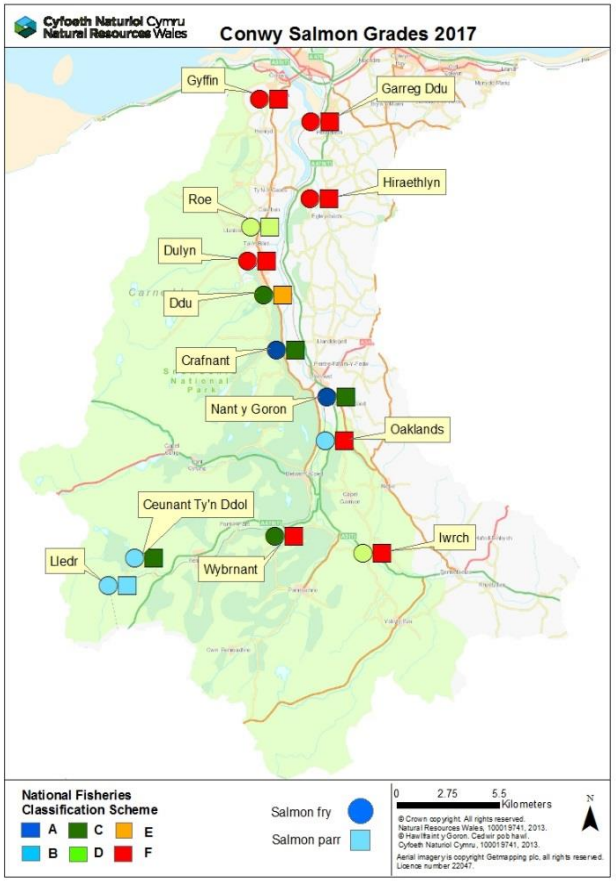
The Conwy is performing exceptionally well compared to most catchments in North Wales. The general trend across North Wales is highlighting a decline in salmon numbers, however the Conwy appears to be improving. The sea trout numbers were also exceptional good on the Conwy during the 2016 season.

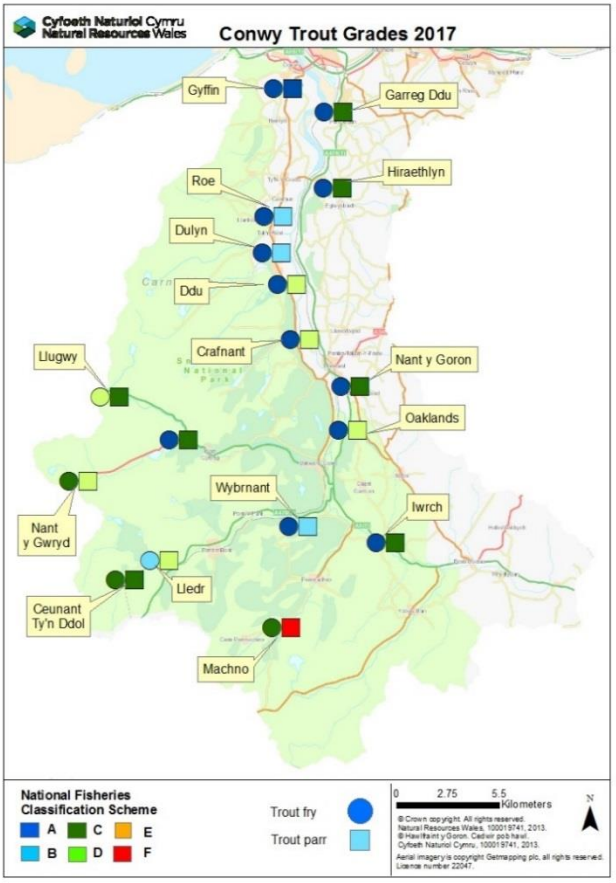
Salmon and Trout Classifications

The following maps show the results of the routine juvenile salmonid population surveys from 2017 on the Clwyd

The symbols display the National Fish Classification Scheme (NFCS) grades which have been developed to evaluate and compare the results of fish population surveys in a consistent manner. The NFCS ranks survey data by comparing fish abundance at the survey sites with sites across Wales and England where juvenile salmonids are present. Sites are classified into categories A to F, depending on densities of juvenile salmonids at the site.

Grade	Descriptor	Interpretation
A	Excellent	In the top 20% for a fishery of this type
B	Good	In the top 40% for a fishery of this type
C	Fair	In the middle 20% for a fishery of this type
D	Fair	In the bottom 40% for a fishery of this type
E	Poor	In the bottom 20% for a fishery of this type
F	Fishless	No fish of this type present





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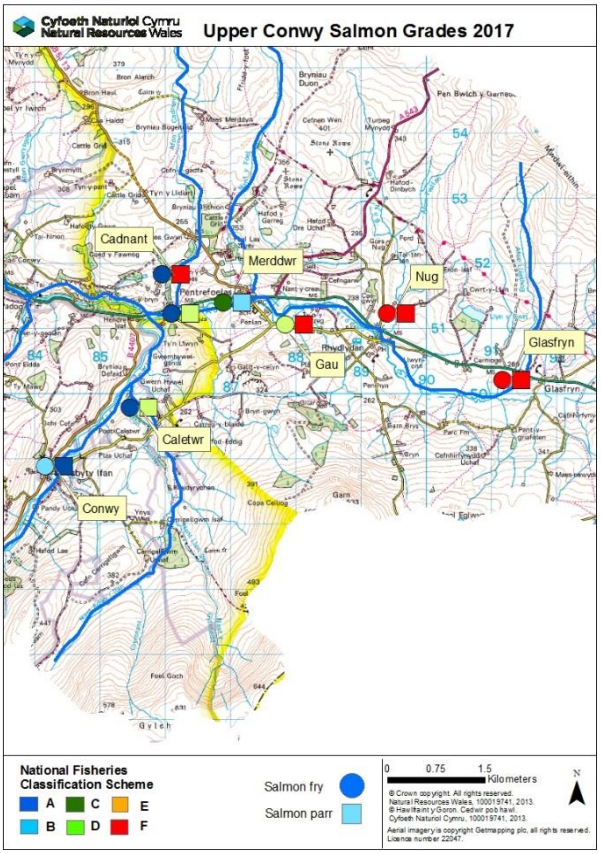
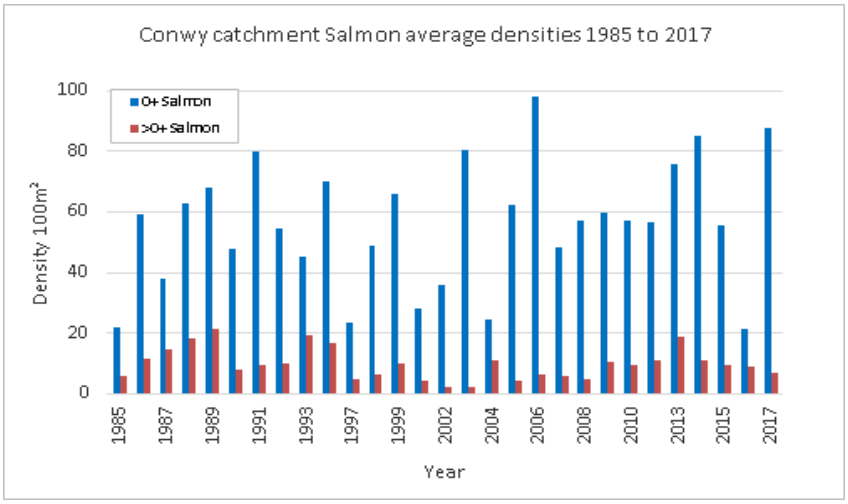


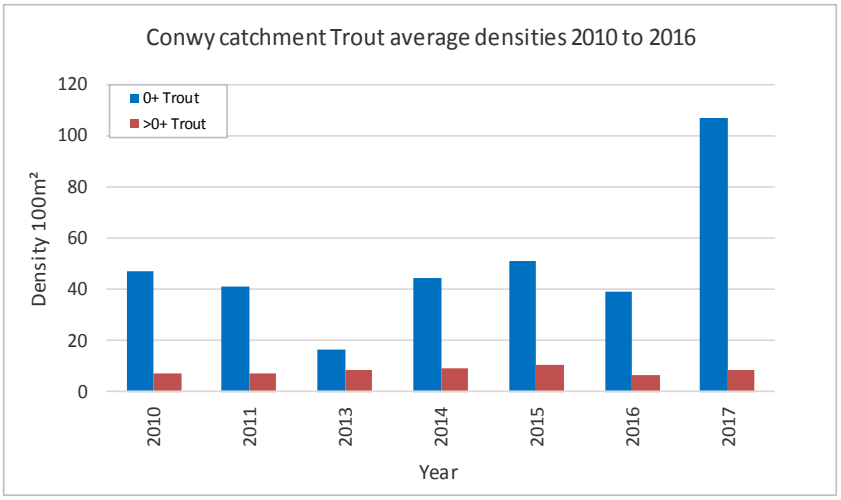
Catchment Population Trends

The graphs on the following page show a simple comparison of average salmon and trout densities across the Conwy catchment since surveying began in 1985. NB – the data shown here are from Quantitative and Semi Quantitative surveys, not every site in the programme was done every year, and no surveys were done in 1995, 1996, 2000 & 2012. Historic catch efficiency data allows semi quantitative results to be comparable with quantitative. Trout data begins at 2010 due to a changes in the programme.

Salmon fry densities are good in 2017 compared to the historic data, and they are excellent compared to 2016. Parr densities have declined slightly in 2017, however we would have expected a much sharper decline considering the poor salmon fry densities in 2016. Salmon rod catch on the Conwy improved slightly in 2016 with 89 fish caught, however this is well below the 10-year average which is around 150 fish. The salmon fry density is excellent considering the low rod catch.



Brown trout fry densities on the Conwy catchment in 2017 were exceptionally high compared to the historic data. In 2016 the sea trout rod catch on the Conwy was 961 fish. In 2015 only 272 sea trout were caught, and prior to that the average was around 400. The excellent sea trout run in 2016 has led to high trout fry densities in 2017. Trout parr densities have remained consistent compared to the historic data.



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The following table shows a simple comparison of the catchment average density of juvenile salmon and trout from 2017, and compares this against 2016, and the 5-year average. NB - The five year average has been set from 2011 to 2015 as 2016 was a poor year.

	0+ Salmon	>0+ Salmon	0+ Trout	>0+ Trout
2017 average density	87.6	7.0	106.7	8.2
2016 average density	21.3	9.2	39.2	6.7
Percentage difference to 2016	**310%**	**-24%**	**172%**	**22%**
5-yr average (2011-15)	68.3	12.7	38.2	8.8
Percentage difference to 5-yr average	**28%**	**-45%**	**179%**	**-7%**

The salmon and trout fry densities in 2017 are excellent compared to 2016 and the 5-year average. As stated earlier this is due to improved fish runs in 2016. Salmon parr densities are down and this is due to the poor fry densities in 2016. Trout parr are remaining consistent compared to the historic data.

Further investigations

Additional redd monitoring is being carried out to highlight where salmon/sea trout have spawned this winter. Juvenile surveys in these areas will then provide evidence regarding egg survival.

As the Conwy is performing so well compared to the rest of North Wales we plan to re-survey some selective areas in 2018. Delivery of this work will depend on additional funding. Reports from anglers have stated that the numbers of fish in the river has been excellent in 2017. The Conwy falls fish counter has also recorded the highest number of fish moving into the upper catchment. We have not received the extreme flooding that was witnessed during the winter of 2015/16, so we would expect some good juvenile results in 2018.