

This report summarises the findings of the 2018 juvenile salmonid monitoring on the Afan catchment. A more detailed assessment of the stocks will be available in 2019 when the Know Your Rivers reports are published.

Juvenile Salmonid Monitoring Programme

In 2018 the temporal (annual) programme consists of 2 sites on the Afan catchment. The temporal data is used to look at trends in juvenile salmon and trout densities giving an idea of spawning across the whole catchment. Additionally, a number of spatial sites are surveyed which, are carried out every 6 years on a rolling programme.

Key Points

Weather Conditions

The monitoring season was hindered in 2018 by high temperatures and limited rainfall which, caused low flows during this drought period, inevitably affecting juvenile salmonid numbers. Nevertheless, the Afan sites were successfully surveyed in 2018.

Salmon Observations

The Afan catchment demonstrated a total reduction in salmon densities at one site, from fair densities of fry and parr in 2017, declining to a fishless recording in 2018. Whereas, the second site recorded only two salmon fry which is interpreted as poor however, the parr densities increased to a fair density when compared to 2017.

Trout Observations

Trout fry densities at both sites demonstrated fair and excellent levels however, fluctuations of densities at each site can be recognised. Positively, trout parr densities recorded significant increases when compared to 2017 data, increasing from fishless and fair interpretations to good and excellent. The Juvenile trout densities in 2018 are positive, when consideration is given to the sea trout rod catch statistics which, were slightly down in 2017 compared to historic data. Ultimately, the overall representation for trout on the Afan catchment in 2018 is positive.

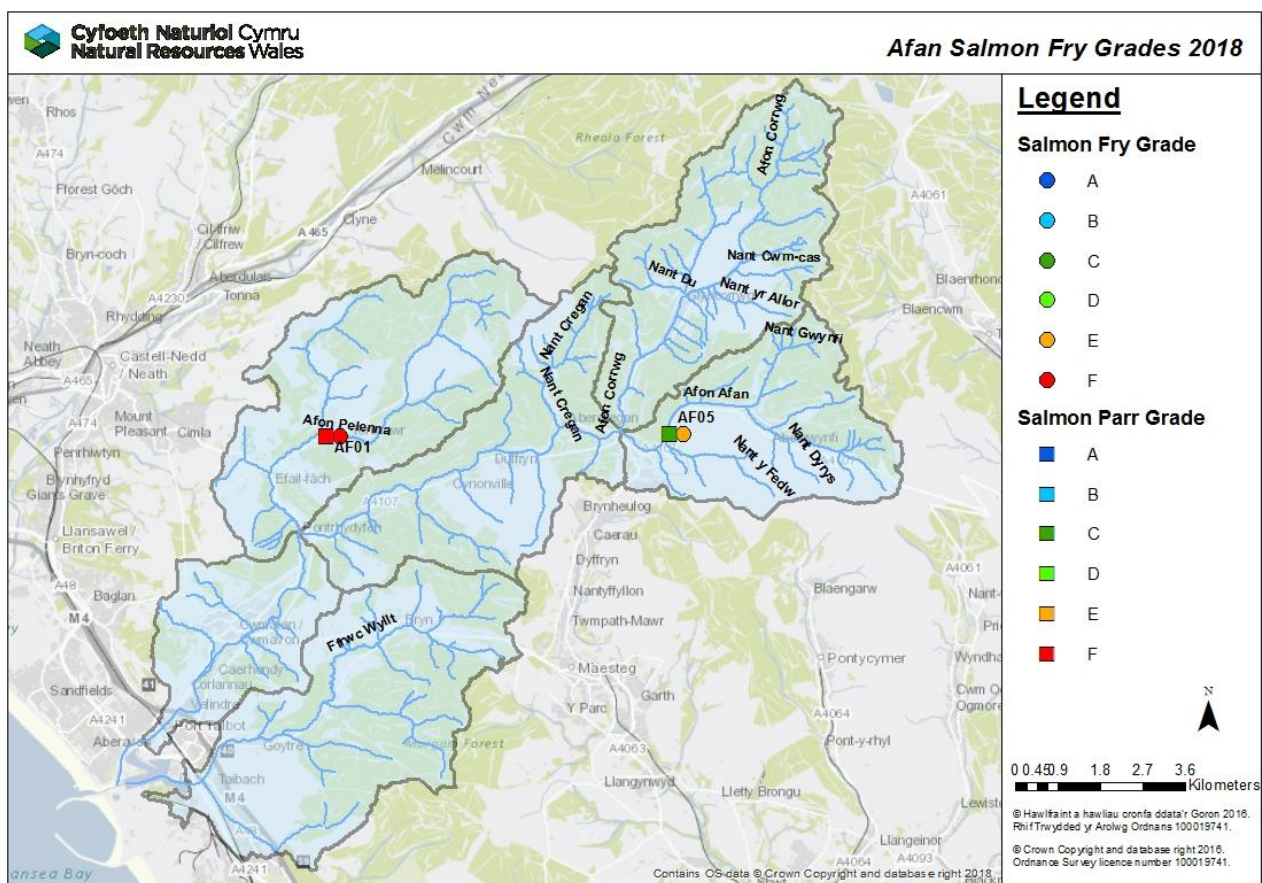
Salmon and Trout Classifications

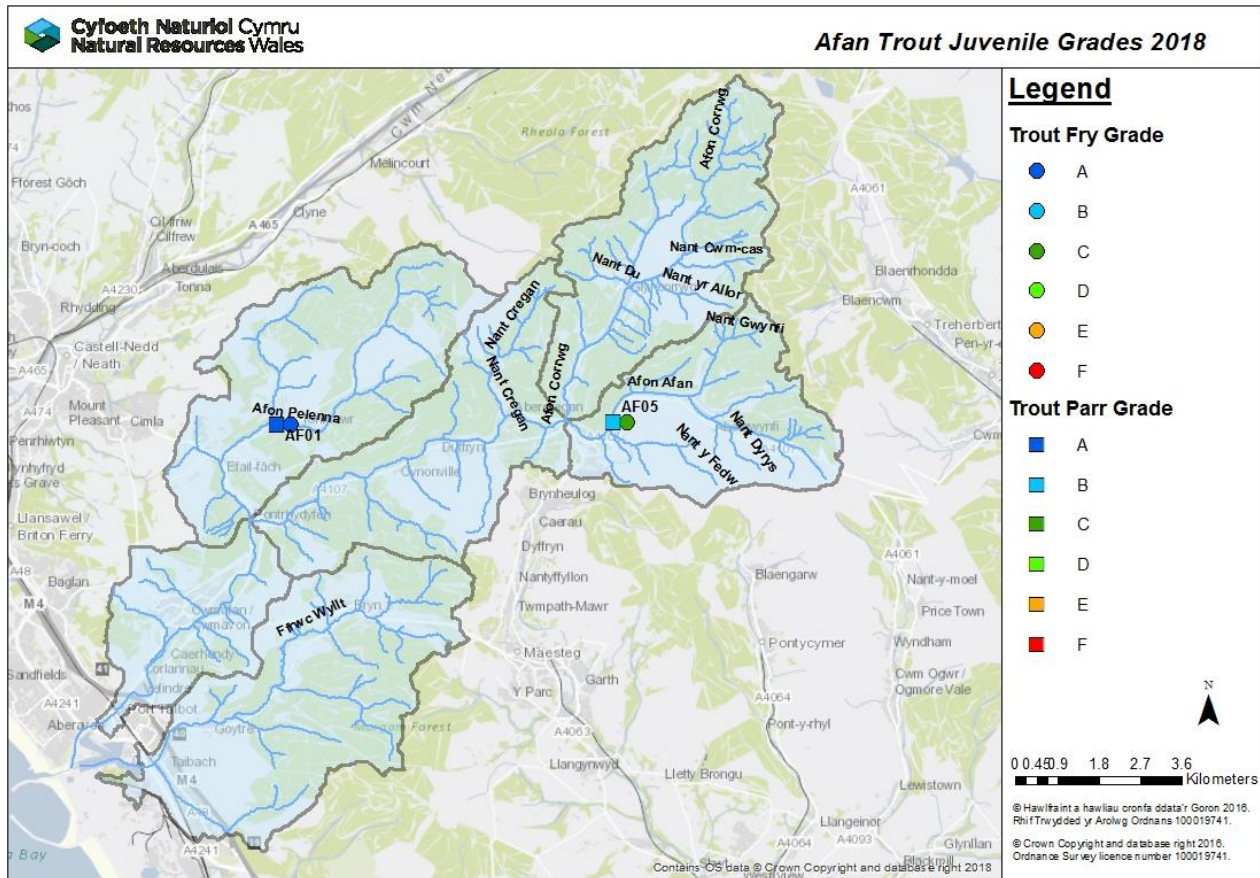
The following maps show the results of the routine juvenile salmonid population surveys from 2018 on the Afan catchment.

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.

The following table shows the values and classification of NFCS.

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





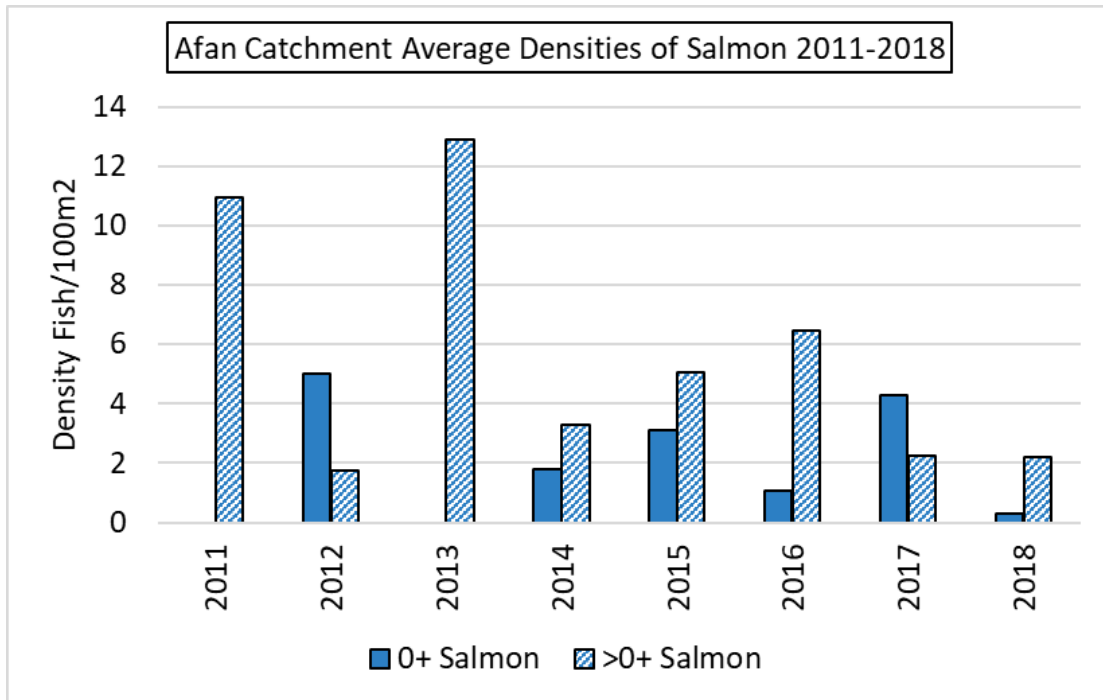
Catchment Population Trends

The graphs below show a simple comparison of average salmon and trout densities across the temporal sites on the Afan catchment since 2011. NB – the data shown here are from Semi Quantitative surveys and, not every site in the programme was done annually.

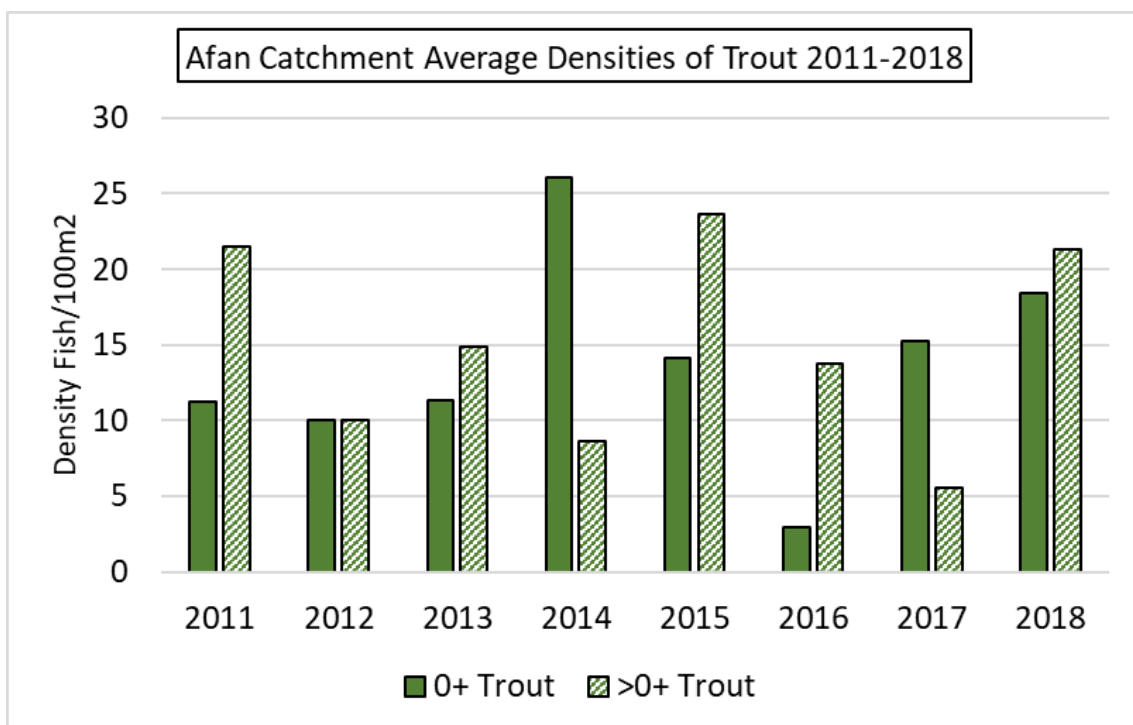
The survey records since 2011 indicate salmon fry and parr densities, have fluctuated significantly since monitoring began. The Salmon fry densities have on two occasions been recorded as containing no fish in 2011 and 2013 however, fry densities recovered after the 2011 and 2013 seasons.

On the Afan catchment since 2011, the salmon parr density records have fluctuated considerably and, are recorded as having greater densities than the fry on 6 of 8 years surveyed.

Historically, the rod-catch figures have fluctuated at low levels which, can assist in understanding the salmon fry and parr densities.



Trout fry and parr densities on the Afan catchment have remained fairly consistent over the period 2011-2018. This is punctuated by one of the lowest trout fry densities on record in 2016, believed to be due to weather conditions. The results from 2017 saw their trout fry densities return to their historic average however, the trout parr densities in 2017 were reduced due to low fry numbers in the previous year. The 2018 trout fry and parr densities were recorded as recovering well to their historic averages.



The following table shows a simple comparison of the catchment average density of juvenile salmon and trout from 2018, and compares this against 2017, 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
2018 average density	0.3	2.2	27.9	13.3
2017 average density	4.3	2.3	15.3	5.6
Percentage difference to 2017	-93%	-2%	21%	282%
5-yr average (2011-15)	2.0	6.8	14.6	15.7
Percentage difference to 5-yr average	-85%	-68%	27%	35%

Concerningly, the average densities for salmon fry have declined to exceptionally low levels which, accordingly have dropped below the 5-year average for the Afan catchment. However, the salmon parr average densities of 2018 have maintained at a similar level to the 2017 results.

The trout fry average densities have demonstrated improvement since 2017 which, when compared against the 5-year average figure shows some improvement. Additionally, the trout parr average densities show a significant improvement which, demonstrates an increase above the 5-year average figures for the Afan catchment.