

This report summarises the findings of the 2018 juvenile salmonid monitoring on the Gwendraeth 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 Gwendraeth 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 2018 monitoring season was hindered by a prolonged period of hot weather and, low rainfall leading to a period of drought. Inevitably, the reduced flows of many watercourses were not ideal habitats for juvenile salmonids, with densities likely to be affected.

#### Salmon Observations

The Gwendraeth catchment was exceptionally poor for salmon in 2018, with no salmon parr recorded at either site and, poor densities of salmon fry recorded at one site with the other recorded as fishless. This reflects the poor rod catch in 2017 with only 3 adult salmon caught across the Gwendraeth catchment.

#### Trout Observations

The trout fry densities on the Gwendraeth catchment during the 2018 season provided mixed results. Whereby, trout fry were recorded as excellent at one site and fair at the other which, can indicate good levels of fry across the catchment. However, the trout parr densities across the catchment are noted to be good at one site and, fishless at the other. This can be considered as a fair rating across the catchment. The juvenile trout densities are positive considering the sea trout rod catch which, maintained consistently low numbers compared to historic data.

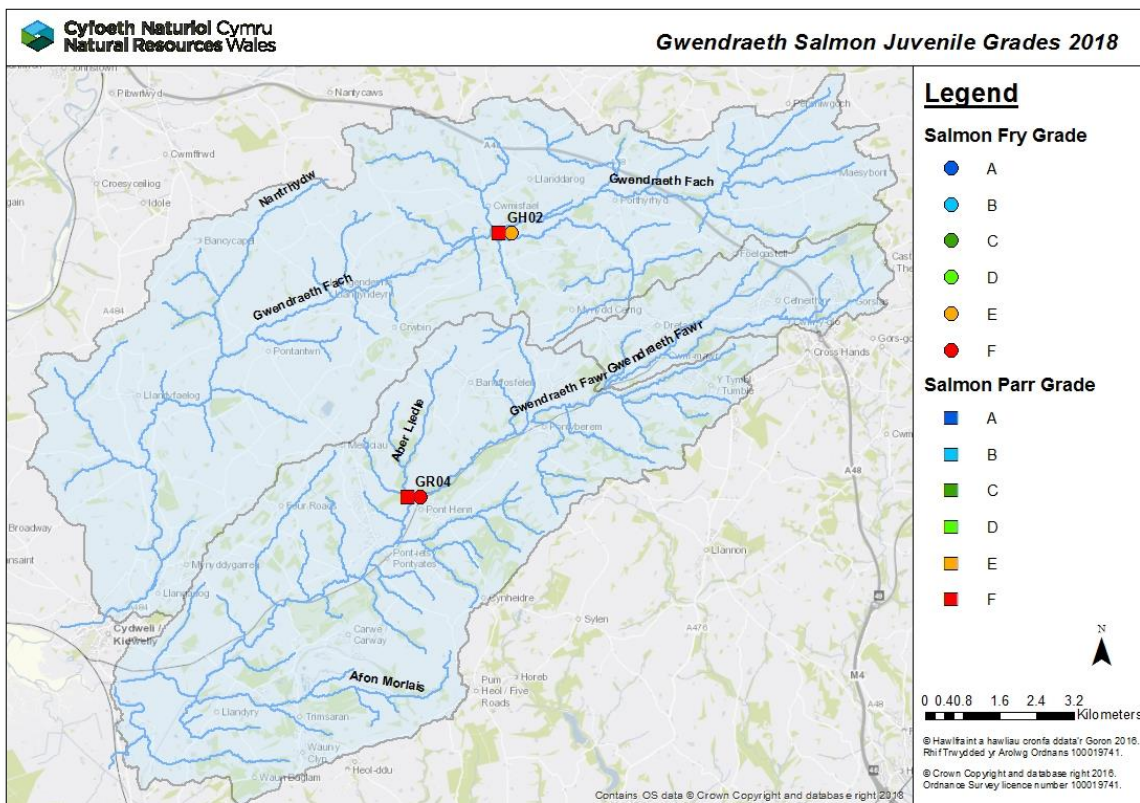
### **Salmon and Trout Classifications**

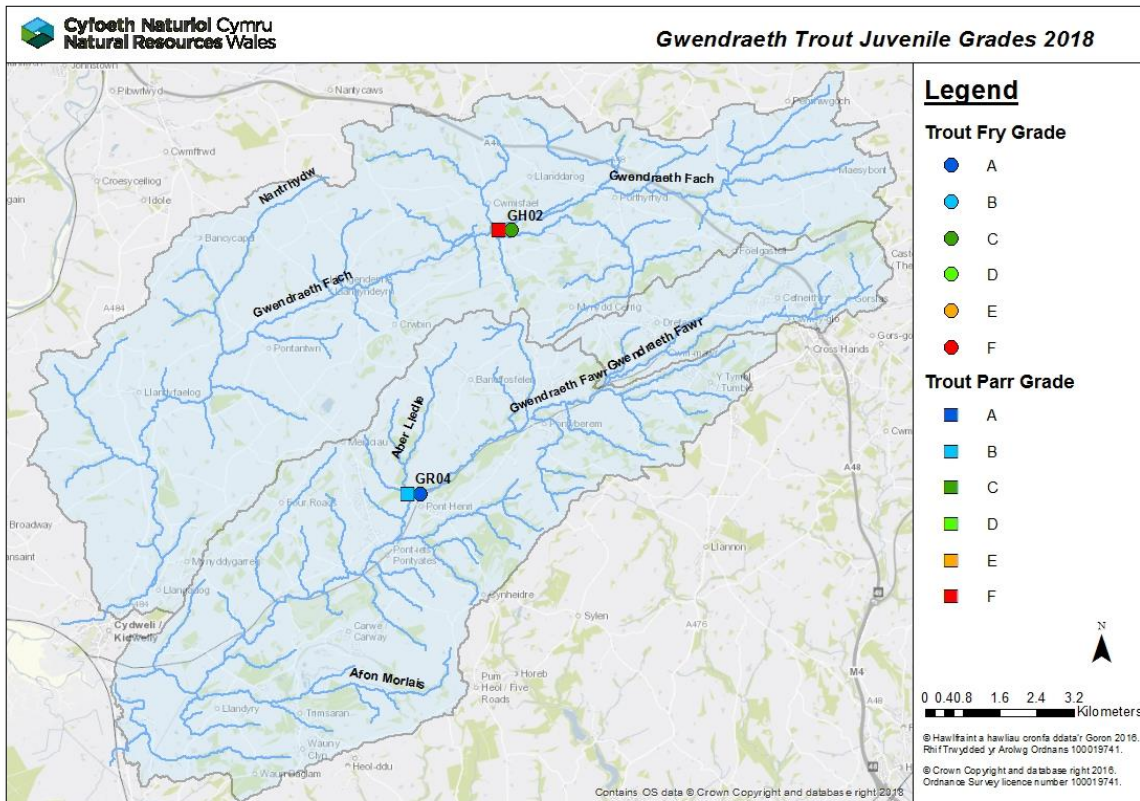
The following maps show the results of the routine juvenile salmonid population surveys from 2018 on the Gwendraeth catchment.

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

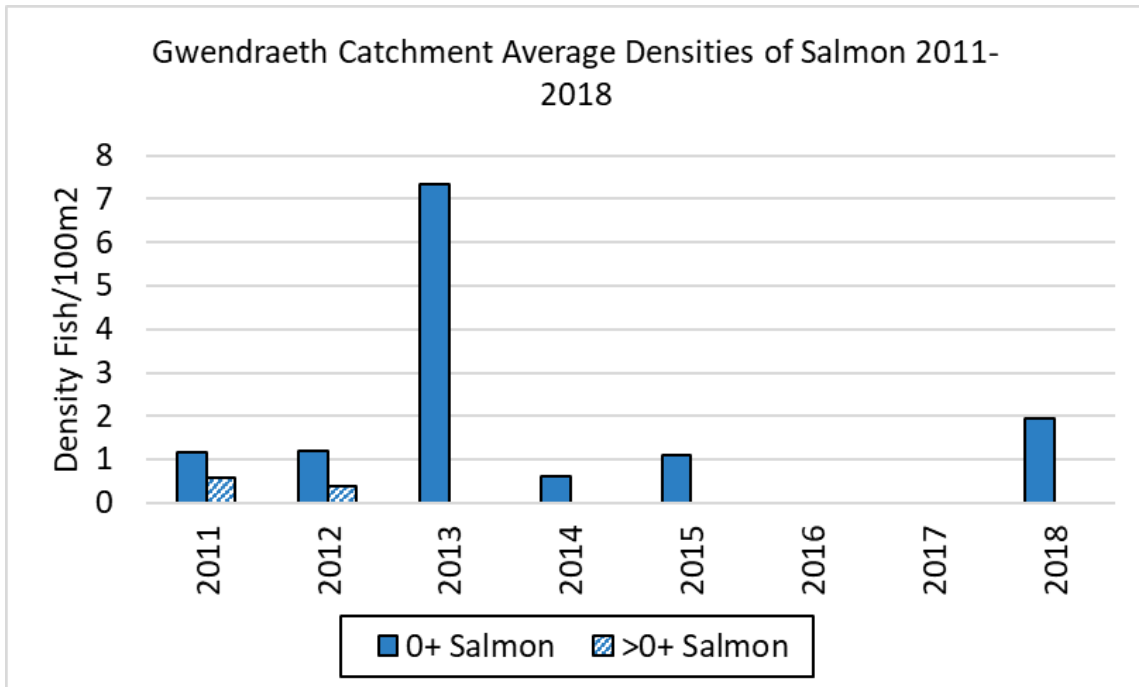




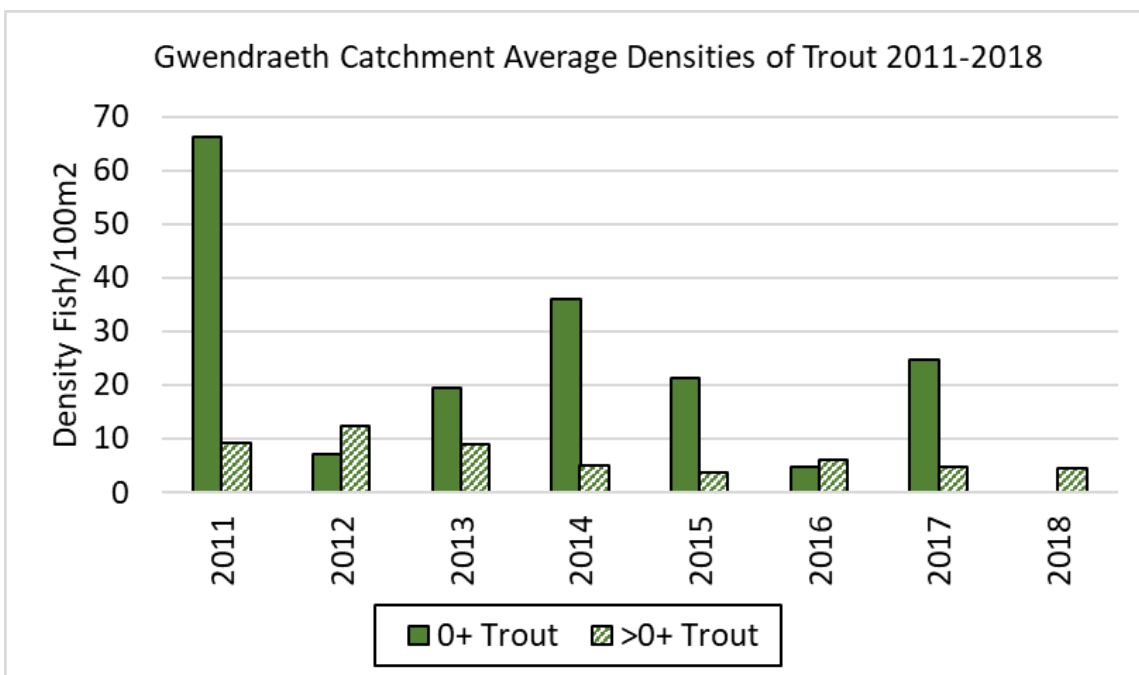
## Catchment Population Trends

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

Salmon fry and parr densities on the Gwendraeth catchment since 2011 demonstrate a mixed outcome. From 2011 onwards, salmon fry densities in the Gwendraeth catchment have fluctuated from fishless in 2016 and 2017, to a recovery in 2018. Whereas, salmon parr surveys recorded minimal densities in 2011 and 2012 and, fishless in the period 2012 to 2018. These results correlate with salmon rod-catch figures which, show minimal numbers caught since 2011.



Trout fry densities on the Gwendraeth catchment have fluctuated over the 2011 to 2018 period, dropping from a high in 2011 down to a low in 2012, before making a small recovery in 2014 prior to declining to fishless in 2018. Alternatively, trout parr density records on the Gwendraeth catchment are recorded as being consistent throughout the 2011 to 2018 period.



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	1.9	0.0	0.0	4.5
2017 average density	0.0	0.0	24.6	4.8
<b>Percentage difference to 2017</b>	<b>+</b>	<b>0%</b>	<b>-100%</b>	<b>-6%</b>
5-yr average (2011-15)	2.3	0.2	30.1	7.8
<b>Percentage difference to 5-yr average</b>	<b>-15%</b>	<b>-100%</b>	<b>-100%</b>	<b>-42%</b>

The 2018 data demonstrates a recovery in salmon fry density compared to the minimal figures recorded in 2017 which, is significantly above the 5-year average figure for the Gwendraeth catchment. Alternatively, the salmon parr density figure for 2018 continues to demonstrate minimal figures which, has been the case on this catchment since 2013. The salmon parr density remains below the 5-year average figure for this catchment. Whereas, the trout fry densities have recorded minimal densities for the first time since 2011 which, is worrying when compared to the 5-year average figures for the catchment. Although, this average includes the exceptional year of 2011. The improved trout parr densities recorded in 2018 are positively above the 5-year average for the Gwendraeth which, can be attributed to the increased trout fry densities of the previous year.