

This report summarises the findings of the 2018 juvenile salmonid monitoring on the Neath 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 Neath 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 Neath catchment has continued to perform poorly for salmon fry and parr once again in 2018 however, density figures demonstrate a slight recovery of salmon fry and parr in 2018. The minimally improved rod-catch documented in 2017, could be argued to have instigated the higher densities recorded in 2018. The low salmon parr results across the Neath catchment in 2018, can be linked to the minimal fry results recorded in 2017.

#### Trout Observations

Trout fry densities have declined considerably from their 2017 levels however, this is similar to the fry densities displayed in 2012 prior to a period of increased fry densities in 2013-2017. The encouraging trout fry recruitment rate in 2017 would, usually have been a precursor to improved trout parr densities in the following year however, the gradual decline in trout parr densities has continued and no increase in trout parr densities has been noted. Juvenile trout densities are very positive considering, sea trout rod catch was significantly reduced in 2018 when compared to historic data.

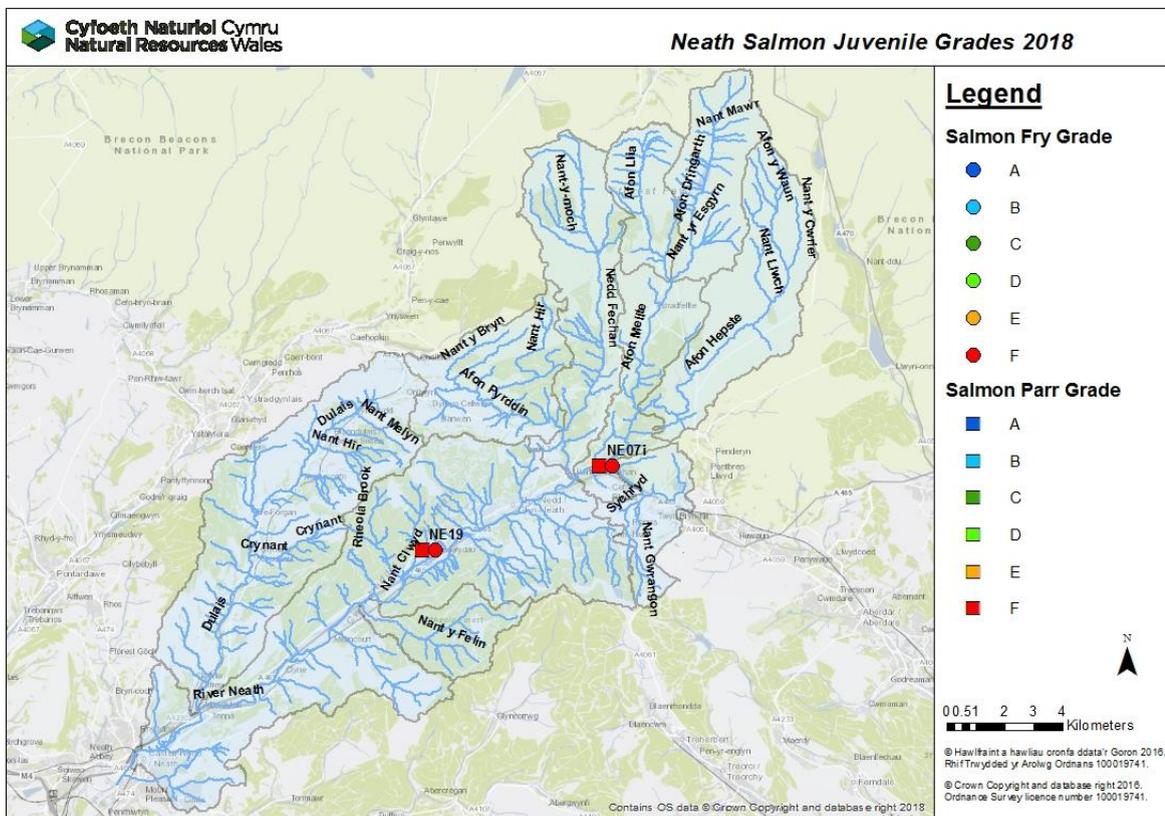
### **Salmon and Trout Classifications**

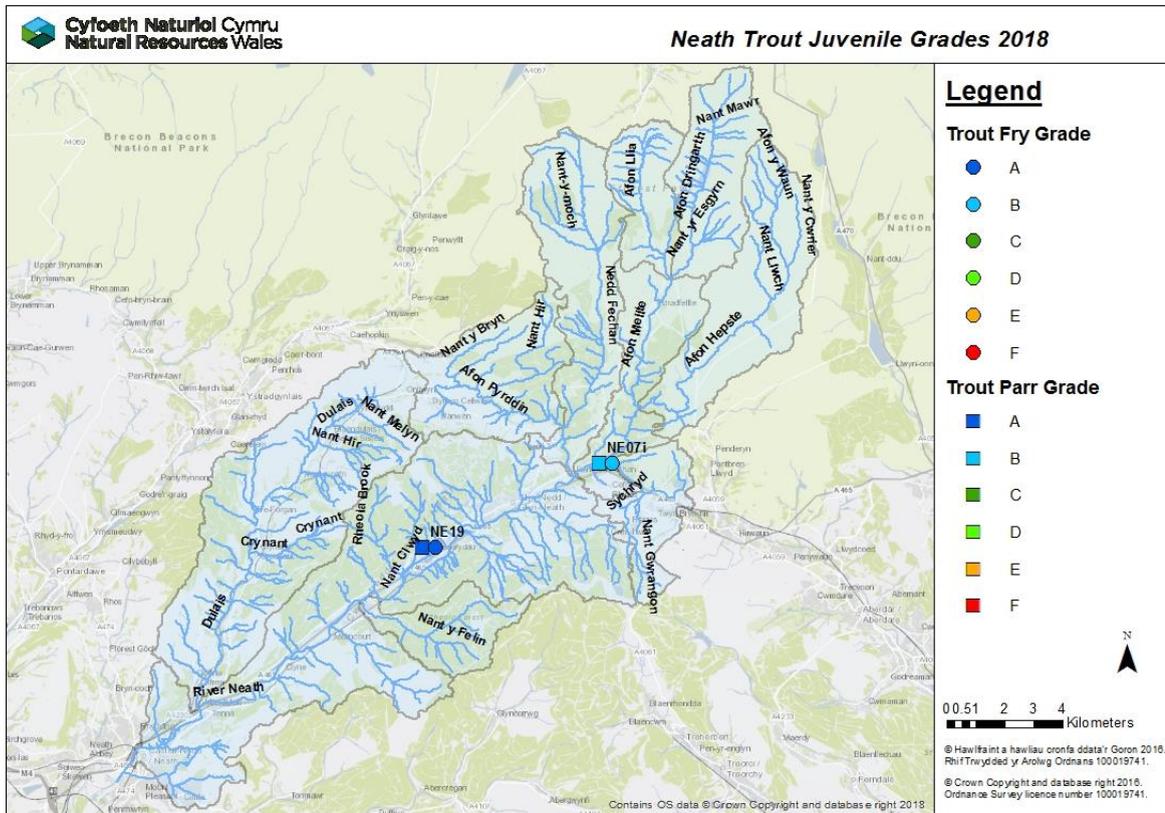
The following maps show the results of the routine juvenile salmonid population surveys from 2018 on the Neath catchment.

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



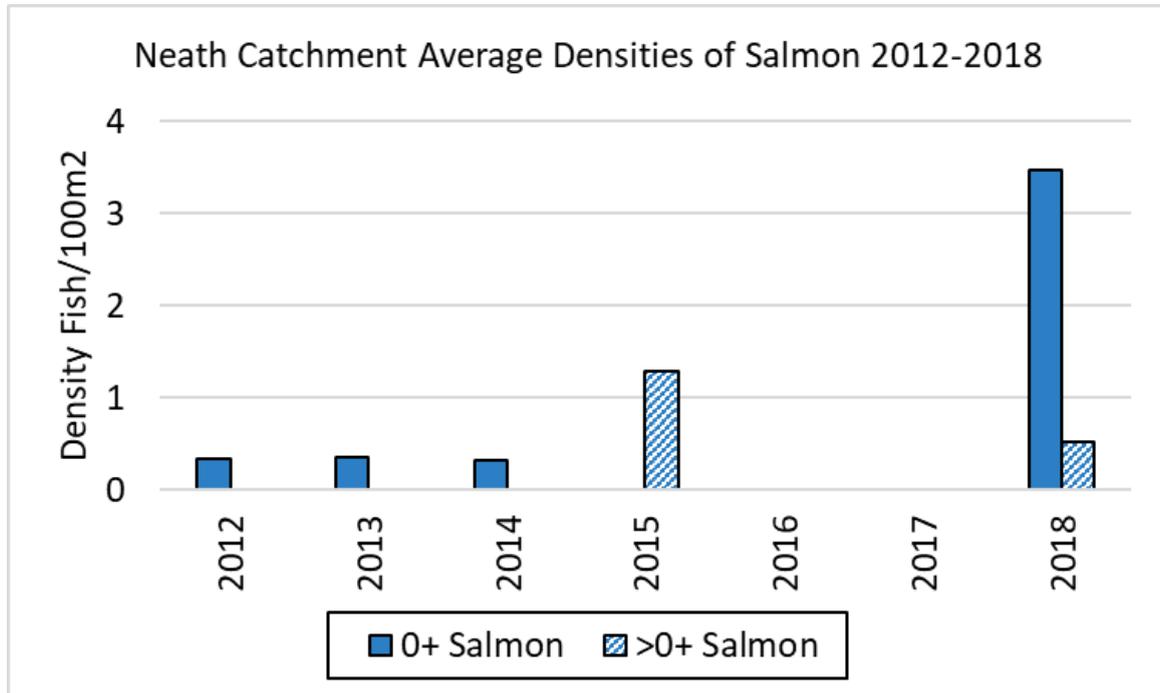


## Catchment Population Trends

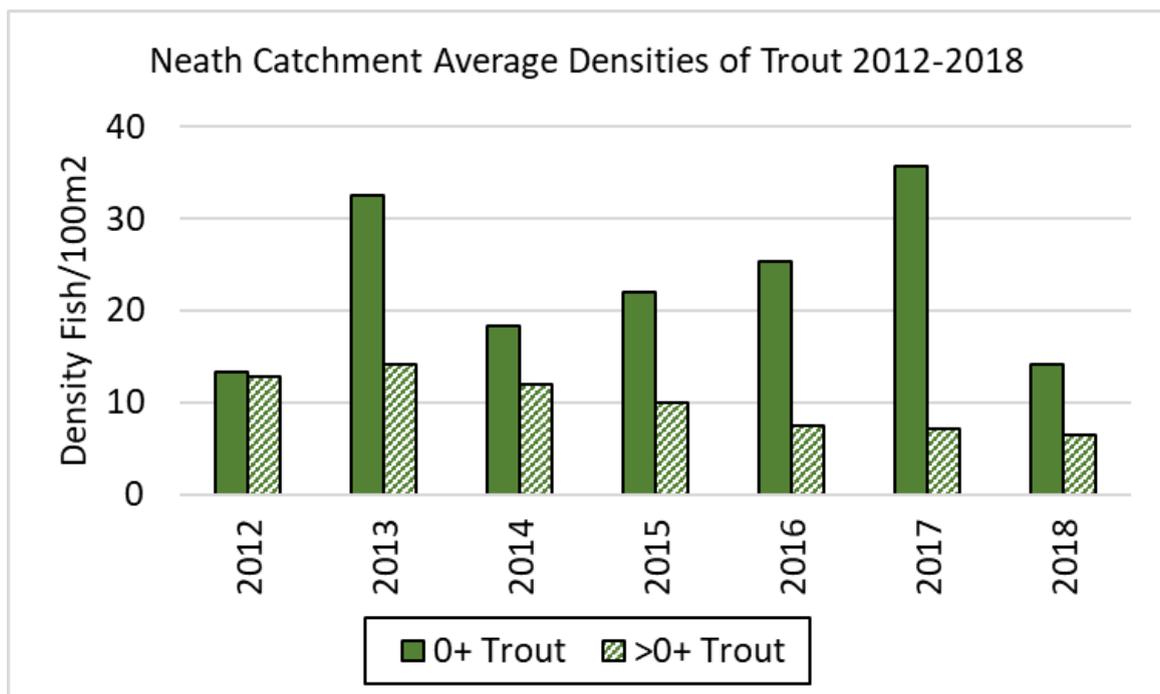
The graphs below show a simple comparison of average salmon and trout densities across the temporal sites on the Neath catchment since 2012. NB – the data shown here are from Semi Quantitative surveys and, not every site in the programme was done annually.

Salmon fry and parr densities have been recorded as minimal since 2012. A minimal density of salmon fry was maintained in the Neath catchment during the period 2012 to 2014, followed by a period recorded as fishless during the 2015 to 2017 period. The survey in 2018 indicated a surprise resurgence in fry number which, was significantly higher than previous densities since 2012. Alternatively, salmon parr quantities on the Neath catchment have been minimal with one low density recorded in 2015 and, a one lower density recorded in 2018.

There have been historically low numbers of rod-caught adult salmon on the Neath catchment however, these numbers have gradually declined further in recent years.



The trout fry and parr densities on the Neath catchment, have generally demonstrated mixed results since 2012. The trout fry densities have indicated a gradually improving picture until 2018 whereby, the lowest density was recorded since 2012. Alternatively, the trout parr densities have indicated a continuous but, gradual decline since 2012.



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.

	<b>0+ Salmon</b>	<b>&gt;0+ Salmon</b>	<b>0+ Trout</b>	<b>&gt;0+ Trout</b>
2018 average density	0.0	0.0	45.0	13.1
2017 average density	0	0	35.6	7.1
<b>Percentage difference to 2017</b>	<b>0%</b>	<b>0%</b>	<b>26%</b>	<b>85%</b>
5-yr average (2011-15)	0.2	0.3	21.6	12.2
<b>Percentage difference to 5-yr average</b>	<b>-100%</b>	<b>-100%</b>	<b>109%</b>	<b>8%</b>

The table above indicates there to have been no improvement in salmon fry and parr densities which, is highlighted by fishless years in 2016 and 2017. Trout fry densities have continued to improve since 2016 and, represent their highest levels since 2012. Against the 5-year average the 2017 results are also considerably higher, so it is fair to say 2017 is a good year for trout fry on the Neath catchment. Due to the improved trout fry densities in 2016 we would have expected an increase in trout parr in 2017 however, this was not the case.