

This report summarises the findings of the 2018 juvenile salmonid monitoring on the Ystwyth 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 Ystwyth 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.

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 Ystwyth was found to be exceptionally poor for salmon fry again with only 3 out of 4 sites recording poor salmon fry densities and, the remaining site classified as fishless. This is likely to relate to the poor rod-catch figures of recent years, recorded across the Ystwyth catchment.

Trout Observations

The trout fry densities continued to demonstrate a gradual improvement when compared to 2016 data. The juvenile trout densities can be considered as positive, even though they remain below the 5-year average figure for the catchment, as the densities are classed as between good and excellent at both survey sites. Additionally, the increase in trout densities in 2018 can be attributed to the increase in rod-caught sea trout when compared to recent years.

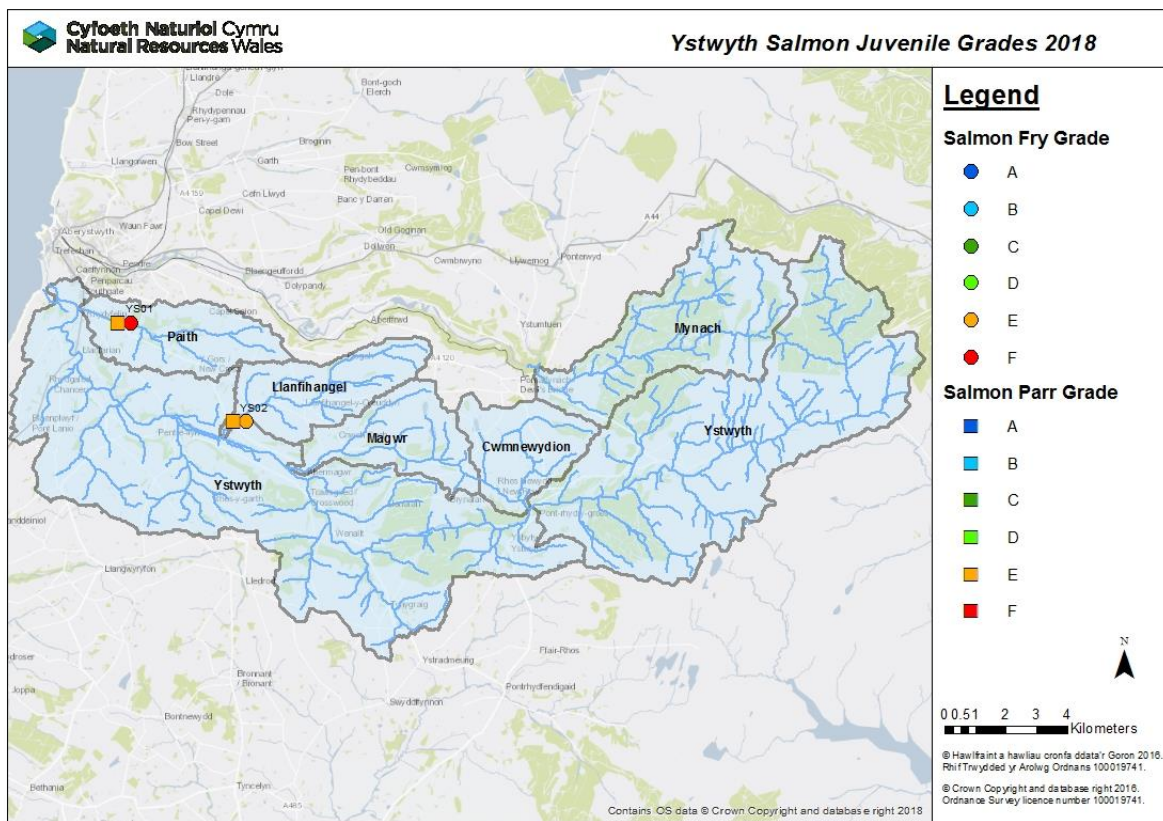
Salmon and Trout Classifications

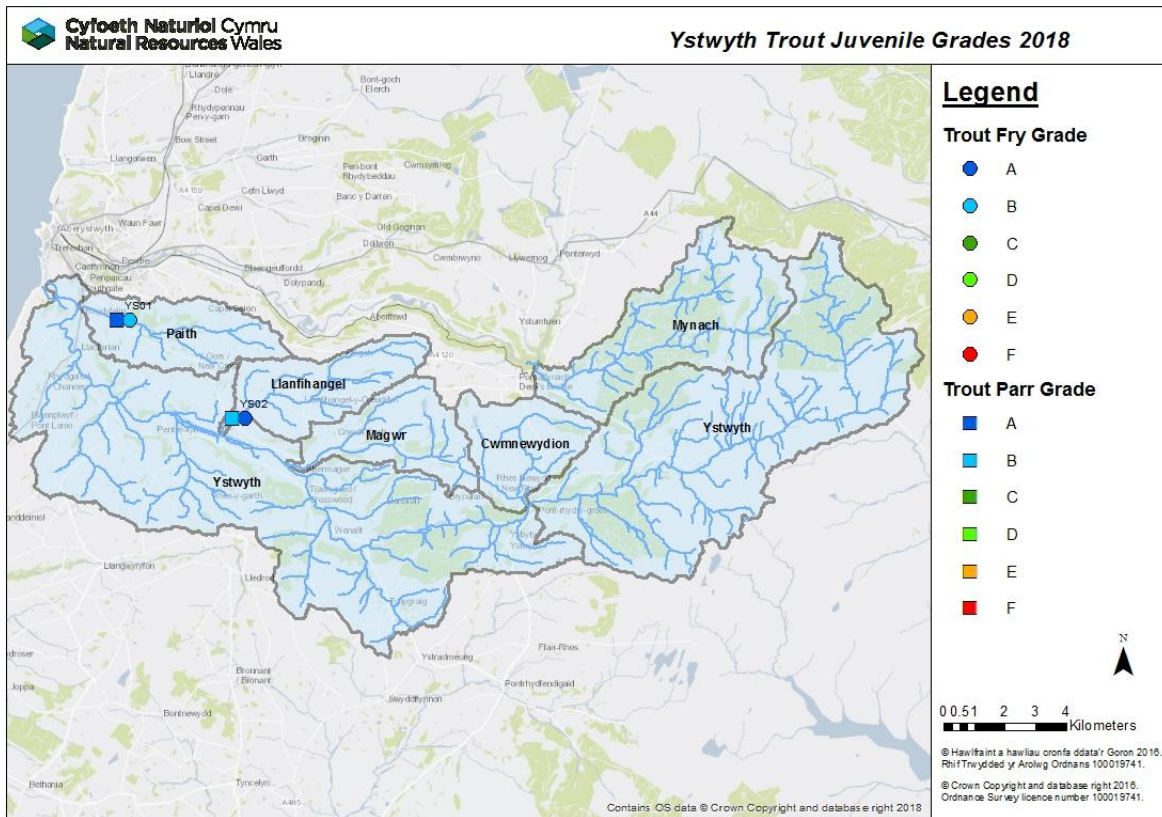
The following maps show the results of the routine juvenile salmonid population surveys from 2018 on the Ystwyth catchment.

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



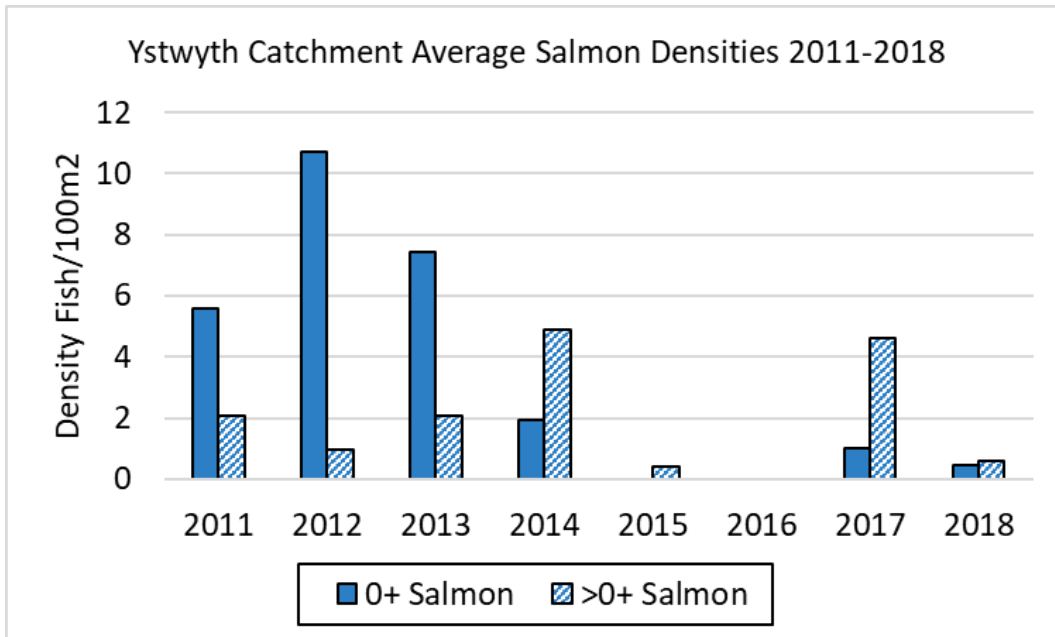


Catchment Population Trends

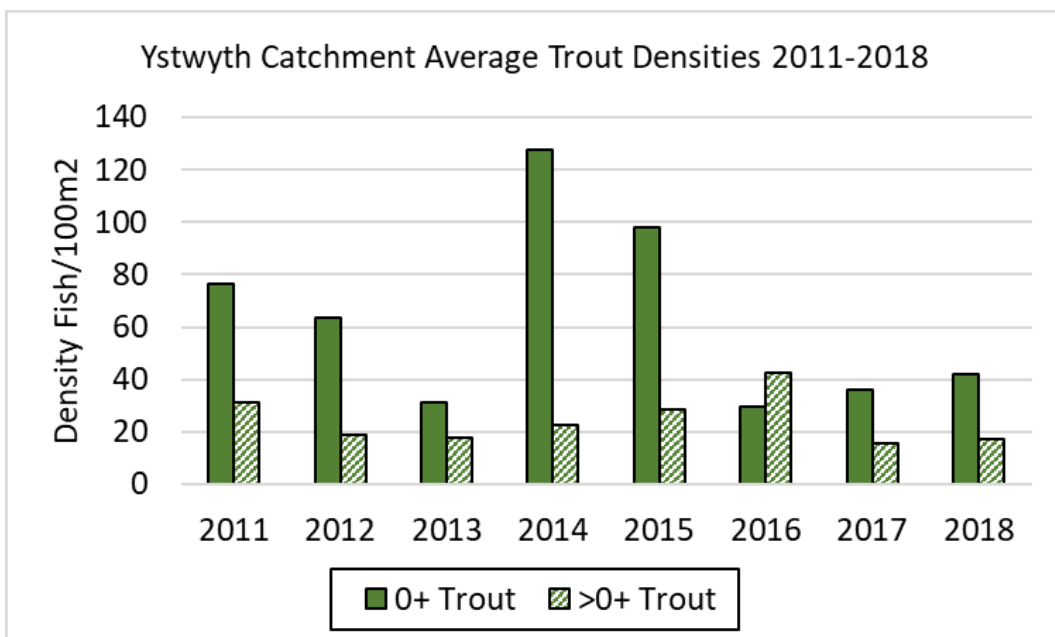
The graphs below show a simple comparison of average salmon and trout densities across the temporal sites on the Ystwyth catchment since 2011. NB – the data shown here are from Semi Quantitative surveys and, not every site in the programme was done annually.

The salmon fry and parr densities have declined on the Ystwyth catchment, during the period 2011 to 2018. Subsequently, the survey data indicates that salmon fry densities have declined from moderate levels between 2011-2013, to minimal levels during the 2015 to 2018 period. The 2018 survey results demonstrate a reduction in density since the 2017 survey year.

Additionally, the salmon parr survey results have demonstrated some fluctuation in density while, maintaining consistently low levels apart from the 2014 and 2017 survey years which, demonstrated a noticeable increase in salmon parr densities. The minimal salmon fry and parr density results correlate consistently, with the low quantities of rod-caught salmon recorded on the Ystwyth catchment. Although, the overall salmon densities remain below the 5-year averages.



The trout fry densities on the Ystwyth catchment have demonstrated periods of fluctuation during the period 2011 to 2018. The survey period begins with the 2011 to 2013 survey results which, determine a reduction in trout fry density before, a dramatic increase recorded in 2014 and 2015. This improvement was followed by one of the lowest trout fry densities on record in 2016, believed to be due to bad weather conditions. Subsequently, the results from 2017 and 2018 have seen trout fry densities begin to gradually recover. Alternatively, the trout parr densities have remained fairly consistent but, were punctuated by a significant increase in density in 2016. Consequently, the rod-caught trout quantities corroborate the survey density results. However, overall salmon densities on the Ystwyth catchment remain below the 5-year average figures although, these do include the unusually high fry densities recorded in 2014 and 2015.



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	0.2	0.6	42.2	17.0
2017 average density	1.0	4.6	36.1	15.5
Percentage difference to 2017	-77%	-87%	17%	10%
5-yr average (2011-15)	5.1	2.1	79.4	23.9
Percentage difference to 5-yr average	-95%	-72%	-47%	-29%

The salmon density averages have demonstrated a further decline in 2018, since the poor average results of 2016 were recorded. The 2017 salmon fry survey data was considerably below the 5-year average figures for this catchment which, continued to decline further on the Ystwyth catchment. Whereas, the salmon parr average densities are recorded as declining to below the 5-year average figure for this catchment which, is a concerning change.

Trout fry densities have shown improvement since the 2017 survey results however, the figures remain significantly below the 5-year average figure for this catchment although, this average includes the exceptional years of 2014 and 2015. Alternatively, trout parr densities have continued to demonstrate a recovery in densities but, the 2018 figure remains slightly below the 5-year average figure for this catchment.