Juvenile Salmonid Summary
Loughor Catchment

This report summarises the findings of the 2018 juvenile salmonid monitoring on the Loughor 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 Loughor catchment. The temporal data is used to look at trends in juvenile salmon and trout densities therefore, 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 Loughor catchment has demonstrated a recovery in salmon fry and parr densities which, have not been recorded on this catchment since 2013 however, these were recorded at low densities. This could be attributed to the slight increase in salmon rod catch recorded in 2017. The minimal density of salmon fry recorded in 2017 reflects the exceptionally poor salmon parr results in 2018.

Trout Observations

An overall gradual decline is evident in the trout fry and parr densities during the period 2011 to 2018 which, corroborates with the trout rod-catch numbers that were at a 22-year low in 2017. However, this decline has been punctuated with slight recoveries during this period, with a considerable recovery of trout parr in 2018. Alternatively, trout fry densities were recorded as declining once more in 2018, following a slight recovery in 2017. The increase of trout fry recruitment in 2017 can be argued, to have led to an increase in trout parr densities in 2018.

Salmon and Trout Classifications

The following maps show the results of the routine juvenile salmonid population surveys from 2018 on the Loughor 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

Loughor Trout Juvenile Grades 2018
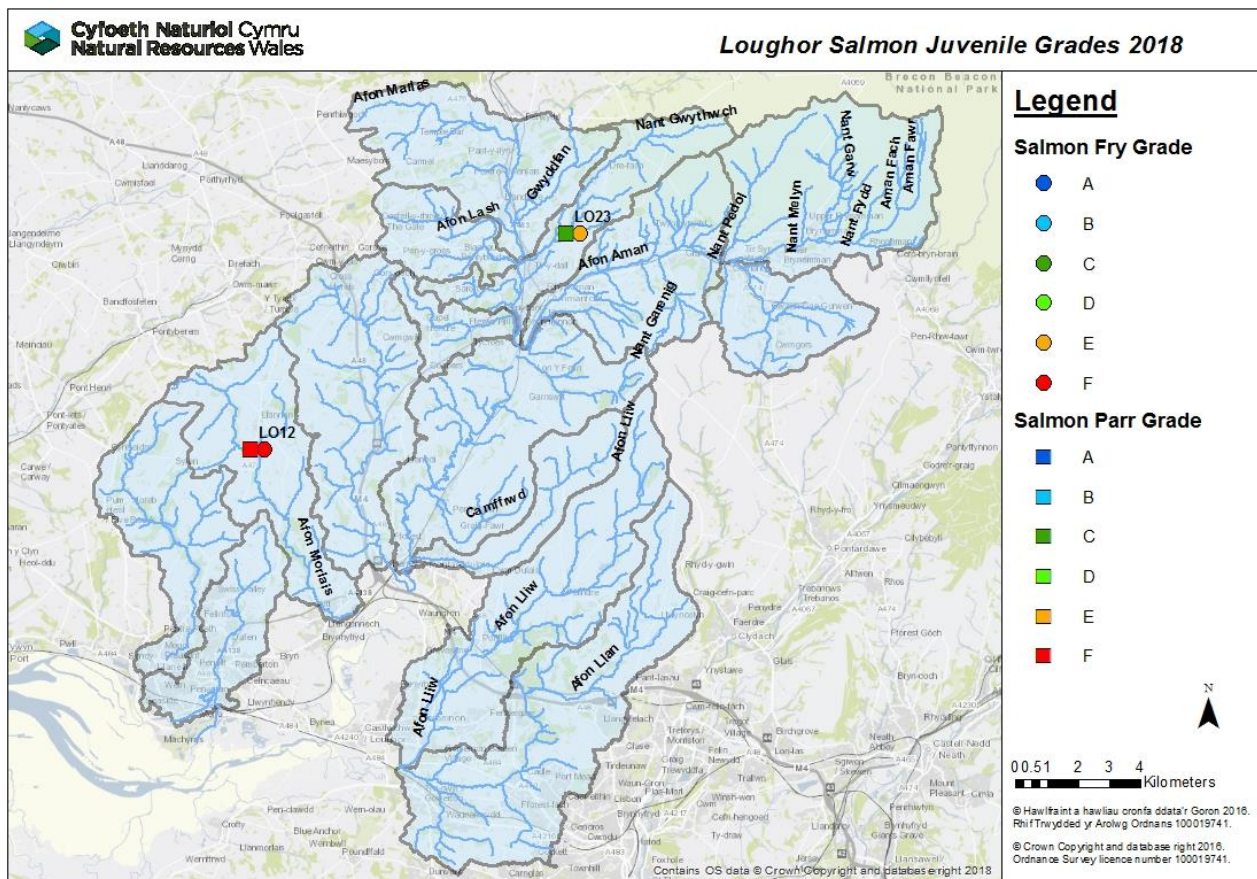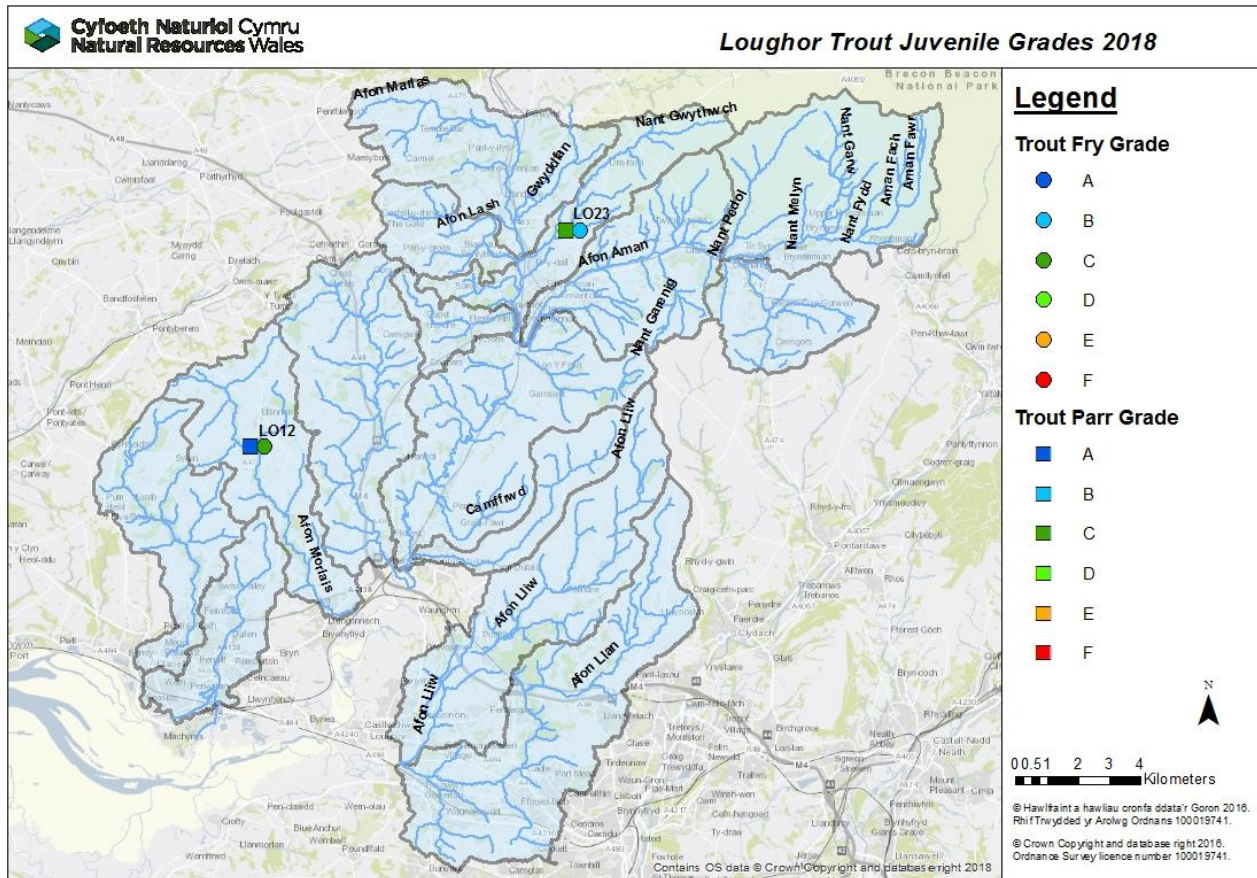
Catchment Population Trends

The graphs below show a simple comparison of average salmon and trout densities across the temporal sites on the Loughor 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 densities had not been recorded on the Loughor catchment since 2011, until the survey of 2018. The period 2012 to 2017 had been surveyed for fry and recorded as fishless which, are exceptionally poor results. However, the 2018 survey has recorded a recovery in the density of fry similar to the 2011 figure. Additionally, salmon parr densities on the Loughor catchment have also made a recovery, following a fishless period since 2012.

The rod-caught figures for 2013 to 2018 indicate minimal quantities of adult salmon in the Loughor catchment, with a slight improvement in 2017 which, could be correlated with the return of fry and parr densities to the Loughor catchment.

Loughor Catchment Average Densities of Salmon 2011-2018
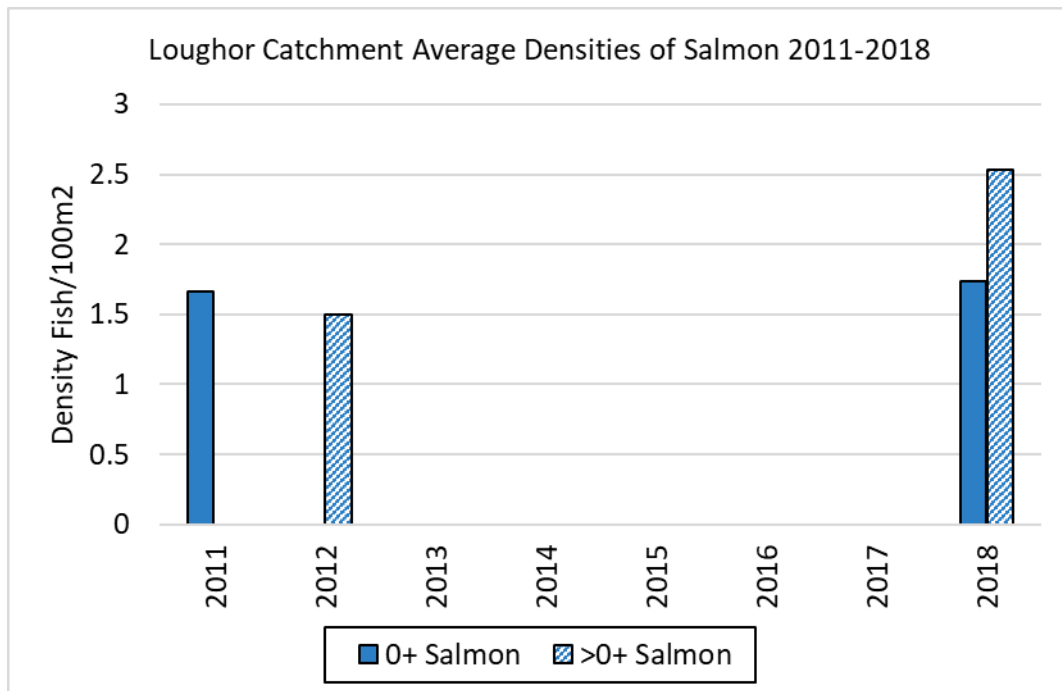
Trout fry densities on the Loughor catchment have regularly fluctuated, with the highest densities recorded in 2011, 2014 and 2017. Consequently, being interspersed with low density recordings in 2012, 2013, 2015, 2016 and 2018. Alternatively, trout parr densities have remained more consistent but, demonstrate a gradual decline from a high in 2011 to its second lowest recording in 2018. The density figures for trout correlate with historic rod-catch figures which, have correspondingly shown a reduction in trout numbers in the Loughor catchment.

Loughor Catchment Average Densities of Trout 2011-2018
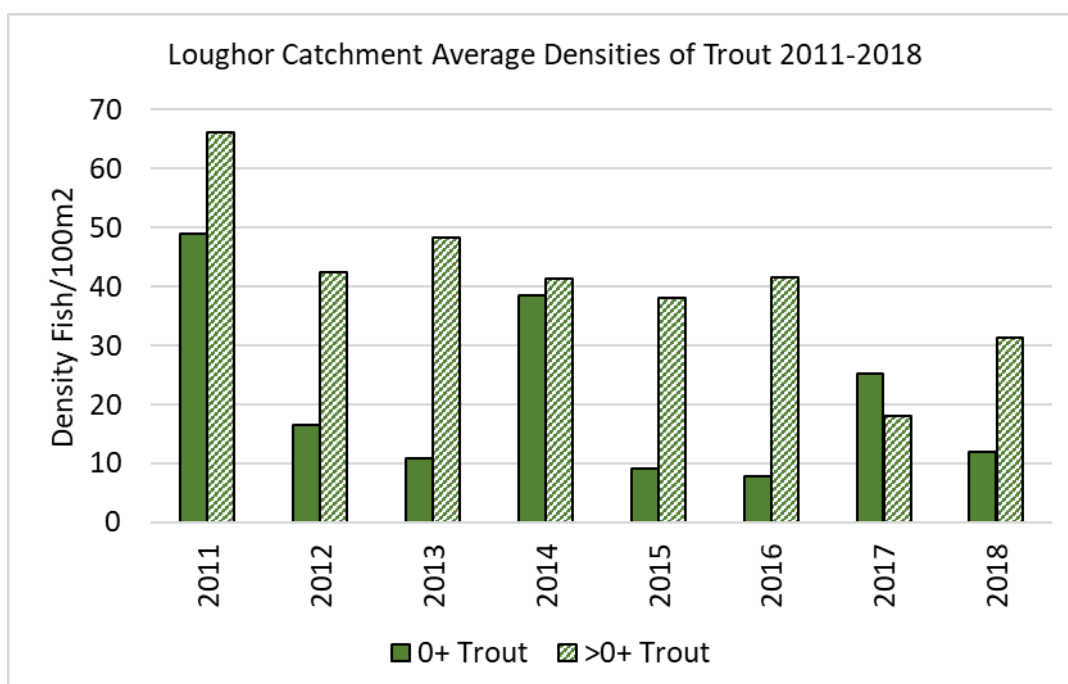
The following table shows a simple comparison of the catchment average density of juvenile salmon and trout from 2018, and compares this against 2017, and the 5-year average. NB - The five year average has been set from 2011 to 2015 as 2016 was a poor year.

	0+ Salmon	>0+ Salmon	0+ Trout	>0+ Trout
2018 average density	1.7	2.5	11.9	31.4
2017 average density	0	0	25.3	18.2
Percentage difference to 2017	**21%**	**60%**	**-37%**	**208%**
5-yr average (2011-15)	8.7	5.6	24.8	47.3
Percentage difference to 5-yr average	**-80%**	**-55%**	**-51%**	**17%**

The 2018 survey data has demonstrated an impressive recovery in salmon fry and parr densities subsequently, improving from minimal densities during 2013-2017 which, are both significantly higher than the five-year average figure for the Loughor catchment. Alternatively, the trout fry densities have significantly declined since 2017 which, is concerning when compared to the 5-year average figure for the catchment. The trout parr density recorded in 2018 was recorded as being considerably higher than the 2017 figure which, can be attributed to the increase in trout fry density recorded in 2017 however, the 2018 trout parr density is concerning as it is significantly below the 5-year average for the catchment.