Juvenile Salmonid Summary
Aeron Catchment

This report summarises the findings of the 2018 juvenile salmonid monitoring on the Aeron 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 Aeron 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

Both sites on the Aeron catchment failed to record a single salmon fry whilst, only one salmon parr was caught across the catchment. This represents a further decline of the poor salmon numbers recorded in 2017 across this catchment. Consequently, this reflects the poor rod catch in 2017 with only one adult salmon caught across the Aeron catchment.

Trout Observations

Trout fry densities at one of the two sites was slightly reduced from an excellent level when compared to the 2017 data however, the trout fry densities at the second site remained excellent. The improved densities of trout parr will be as a direct consequence, of the excellent trout fry levels recorded in 2017. Additionally, the rod-catch statistics for 2017 correlate with the positive trout densities from this catchment, 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 Aeron 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

Cyfoeth Naturiol Cymru Natural Resources Wales

Aeron Trout Juvenile Grades 2018
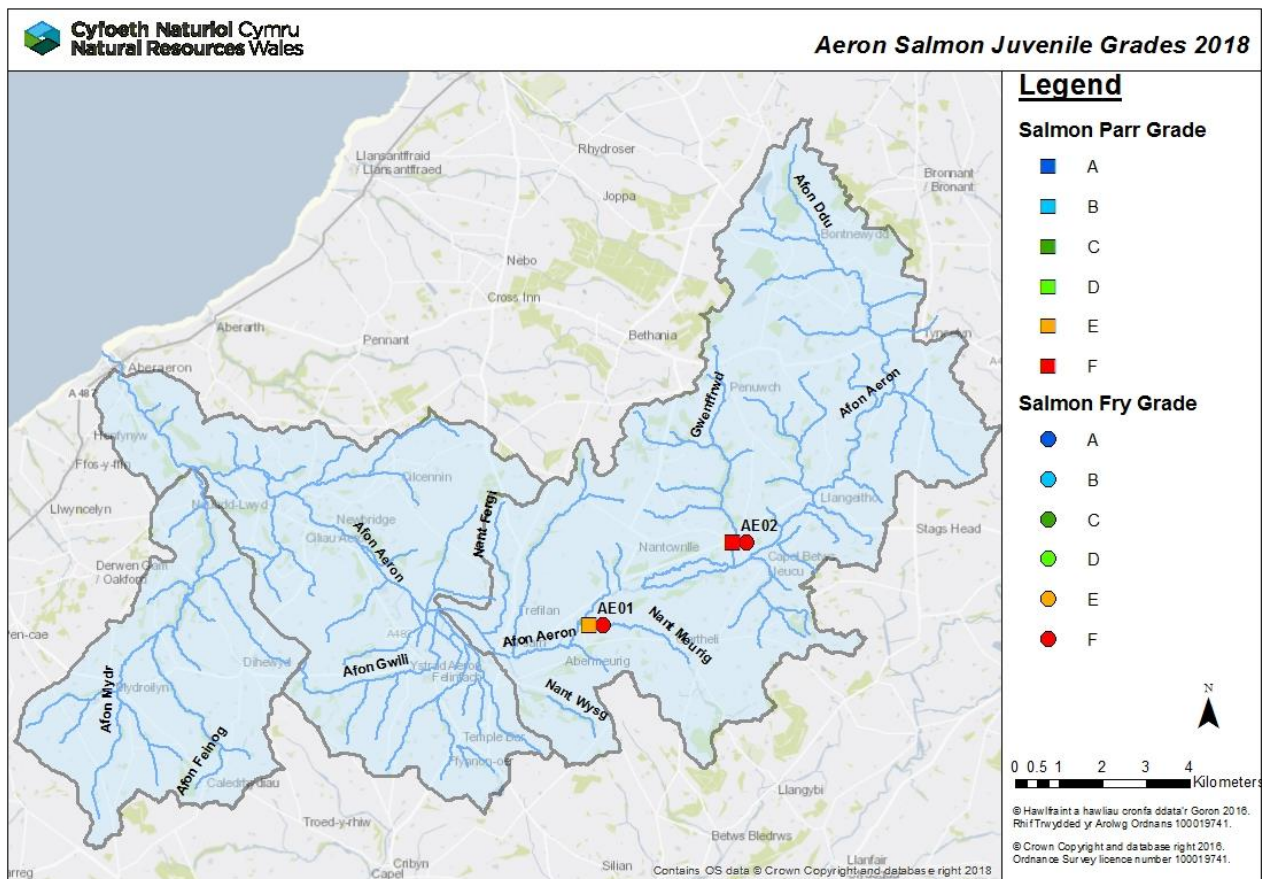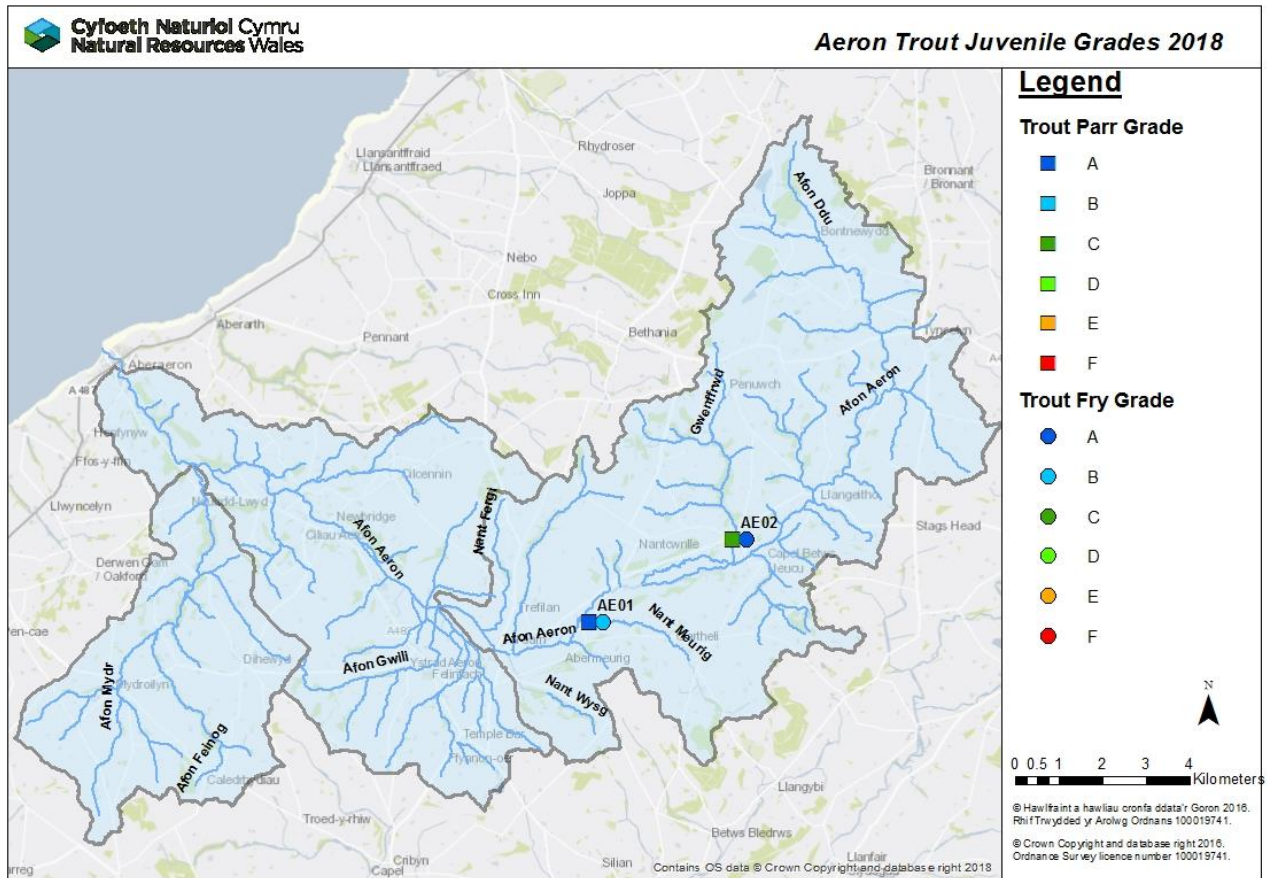
Catchment Population Trends

The graphs below show a simple comparison of average salmon and trout densities across the temporal sites on the Aeron 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 densities have demonstrated a considerable decline from strong densities in 2011 and have continued to decline in 2018 to minimal densities. Correspondingly, from 2012 onwards there have been limited rod-caught salmon numbers which, indicates an association between these two factors. Alternatively, the salmon parr density data indicates a steady increase from 2011 to 2013, before a gradual decline to minimal densities while interspersed by slight fluctuations.

Aeron Catchment Average Densities of Salmon 2011-2018
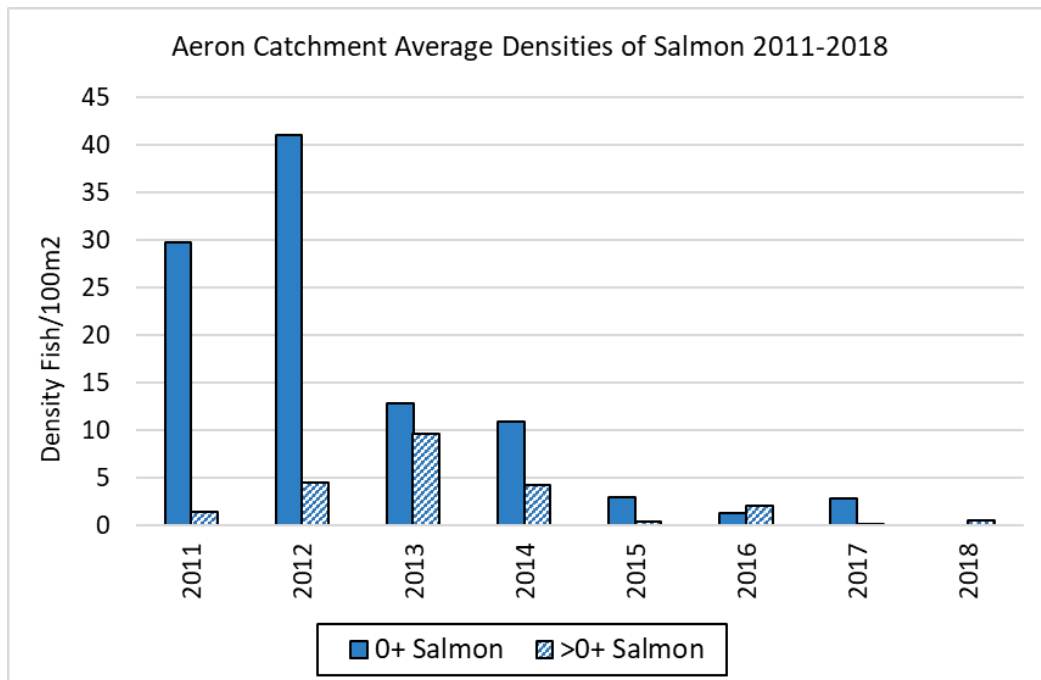
Trout fry and parr densities on the Aeron catchment have remained fairly consistent over the years. Trout fry density data demonstrate two distinct periods of decline in 2012 and 2016, but densities were quick to recover afterwards. The recovery during the 2013-2015 period, was followed by one of the lowest trout fry densities on record in 2016 which, is believed to be due to weather conditions. The results from 2017 saw trout fry densities return to their historic average however, this was followed by a decline in 2018.

Trout parr densities have remained very consistent during the 2011-2018 period however, trout parr densities did demonstrate a decline in 2017 which, can be attributed to the poor trout fry season in 2016. Positively, the 2018 survey data indicates a strong recovery which, is recorded as the highest figure since 2011.

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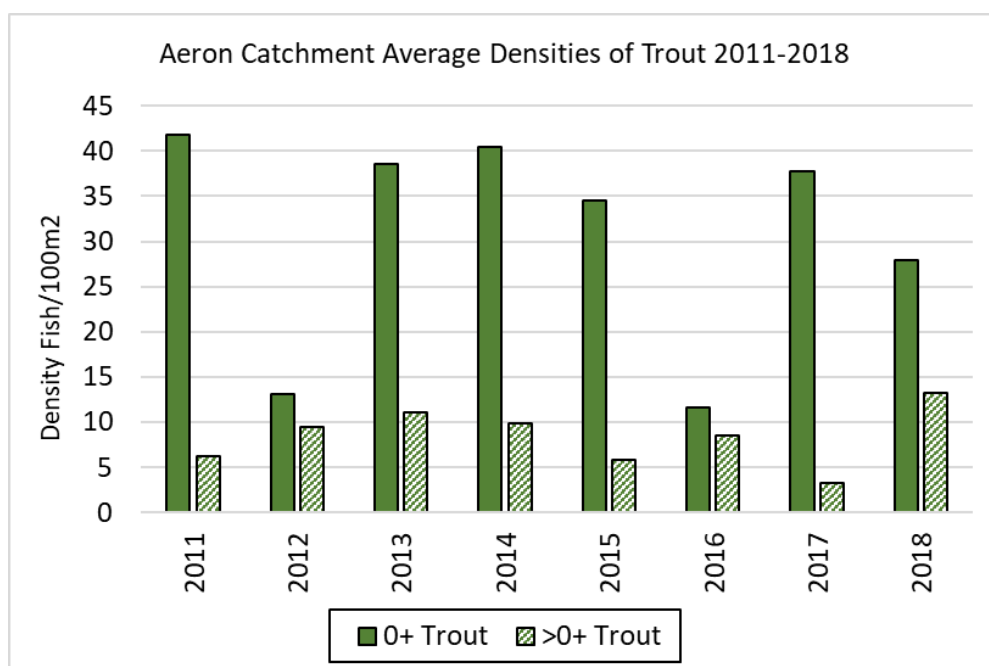
The following table shows a simple comparison of the catchment average density of juvenile salmon and trout from 2018, and compares this against 2017, and the 5-year average. NB - The five year average has been set from 2011 to 2015 as 2016 was a poor year.

	0+ Salmon	>0+ Salmon	0+ Trout	>0+ Trout
2018 average density	0	0.4	27.9	13.3
2017 average density	2.8	0.2	37.8	3.3
Percentage difference to 2017	**-100%**	**156%**	**-26%**	**302%**
5-yr average (2011-15)	19.5	4	33.7	8.5
Percentage difference to 5-yr average	**-100%**	**-89%**	**-17%**	**56%**

Although there has been a small improvement in salmon parr compared to the 2017 data, the overall salmon densities are concerning when compared to the five-year average figures for this catchment. The salmon fry densities were found to have declined to negligible levels in 2018 which, is a slight drop on the 2017 results but, significantly lower than the 5-year average.

The Aeron catchment has demonstrated a decline in trout fry but, an increase in trout parr densities. Consequently, the average density for trout fry has dropped below the 5-year average for the Ystwyth catchment however, the average density for trout parr has risen to above the 5-year average.