

# Know Your River – Cleddau Rivers Salmon and Sea Trout Catchment Summary

## Introduction

This report describes the status of the salmon and sea trout populations in the Cleddau catchments. Bringing together data from rod catches, stock assessments and juvenile monitoring, it will describe the factors limiting the populations and set out the challenges faced in the catchment.

Action tables set out habitat improvements to restore freshwater productivity of salmon and sea trout populations. These tables also include some work which will be carried out by our partner organisations, not just Natural Resources Wales (NRW).

NRW has a duty, defined in the Environment (Wales) Act 2016 to have Sustainable Management of Natural Resources (SMNR) at the core of everything that we do. By applying the principles of SMNR in all of our activities - from agriculture, forestry and flood defence to development planning - we are undertaking catchment-wide initiatives that will deliver for fish stock improvements. Our reports highlight the importance of considering the whole catchment when identifying and addressing fisheries issues; and of working with partners.

NRW is committed to reporting on the status of salmon stocks in all of our principal salmon rivers for the Salmon Action Plans and condition assessments under the Habitats Directive in SAC rivers; all fish species in all of our rivers are reported for the Water Framework Directive (WFD). This report will fulfil these commitments and provide an informative and useful summary of stock status and remedial work planned, for our customers, specifically anglers, fishery and land owners; as well as our partners.



## The River

The Cleddau catchment comprises of the Rivers Eastern and Western Cleddau, which are water courses of the Daugleddau, a tidal reach entering the Bristol Channel through Milford Haven. The catchment is largely of lowland nature, although both rivers have sources within the Preseli Mountains. The rivers flow in a predominantly southerly direction until joining at the tidal reaches, where the river flows in a westerly direction forming Milford Haven. From their sources to the tidal limit, the Eastern and Western Cleddau are 25 km and 30 km in length and drain a catchment area of 810 km<sup>2</sup>.

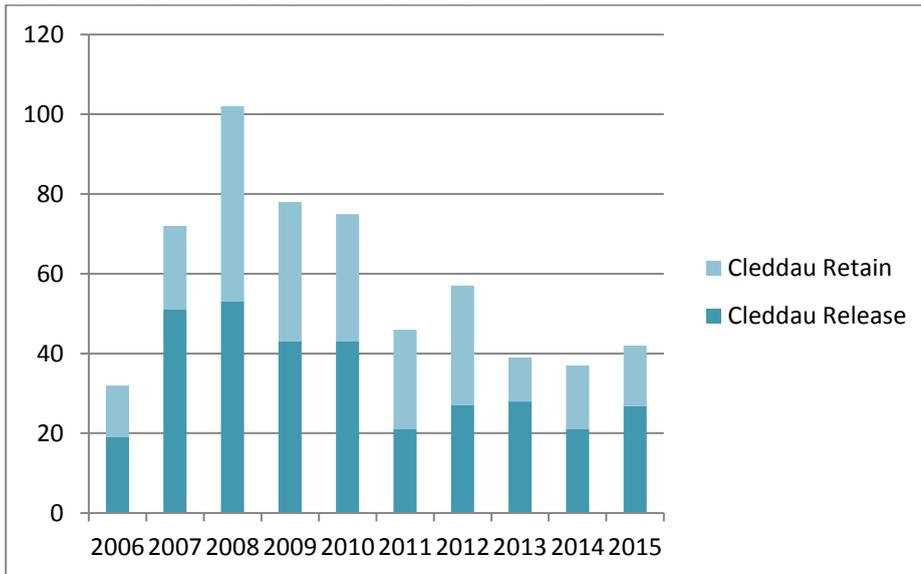
The Eastern and Western Cleddaus support a locally important salmon and sea trout (sewin) fishery. Sea trout are the principal salmonid, with a reasonable number of salmon also present. In addition, 6 compass nets are also licensed to operate between June and August.

## Rod catches

The following graphs show the total declared rod catches, including the numbers of fish released, for salmon and salmon and sea trout on the Eastern and Western Cleddau.

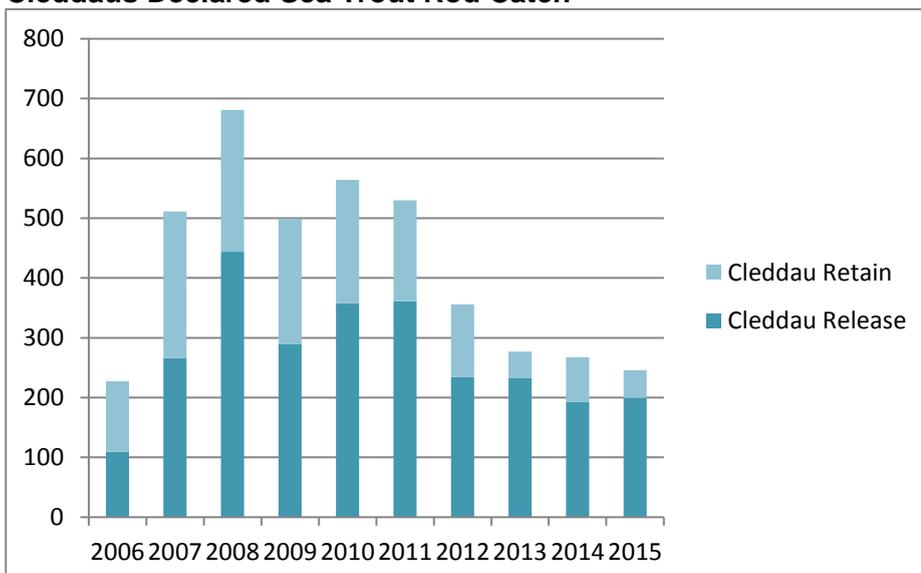
Declared salmon rod catches are variable over the period, with the highest catch recorded in 2008. The average proportion of the salmon catch returned alive for the period shown is 58%. The release rate in 2015 was 64%.

### Cleddaus Declared Salmon Rod Catch



Declared rod catches for sea trout are also variable over the period, and reported catches exceed those of salmon in all years. The highest recorded catch was in 2005, and the lowest in 2006. The average proportion of sea trout catch returned alive for the period shown is 66%. The release rate in 2015 was 81%.

### Cleddaus Declared Sea Trout Rod Catch

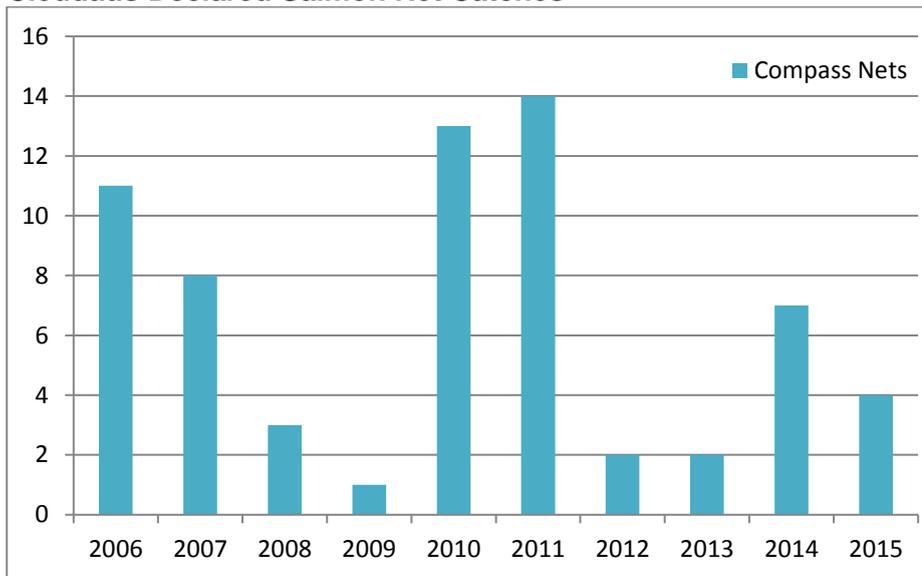


## Net catches

The following graphs show the total declared net catches of salmon and sea trout on the Cleddaus (6 compass nets).

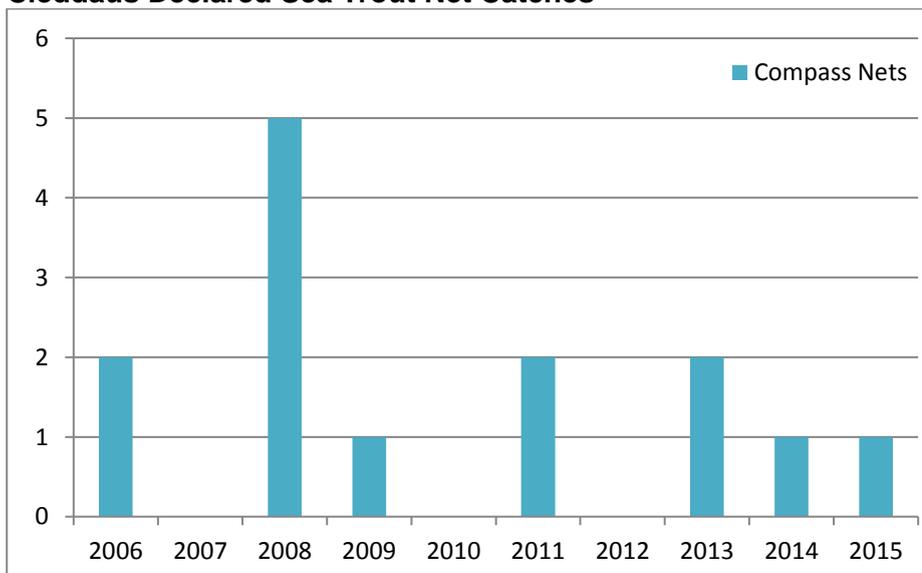
Declared salmon net catches are variable over the period, although there does appear to be a downward trend in catches over the period examined (2006 to 2015). The highest catches of salmon were reported in 2010 and 2011, and the lowest in 2009, 2012 and 2013.

### Cleddaus Declared Salmon Net Catches



Declared sea trout net catches for the same period are also variable, and also display a downward trend. The highest catches reported in 2008, whilst no sea trout were reported in 2007, 2010 and 2012.

### Cleddaus Declared Sea Trout Net Catches

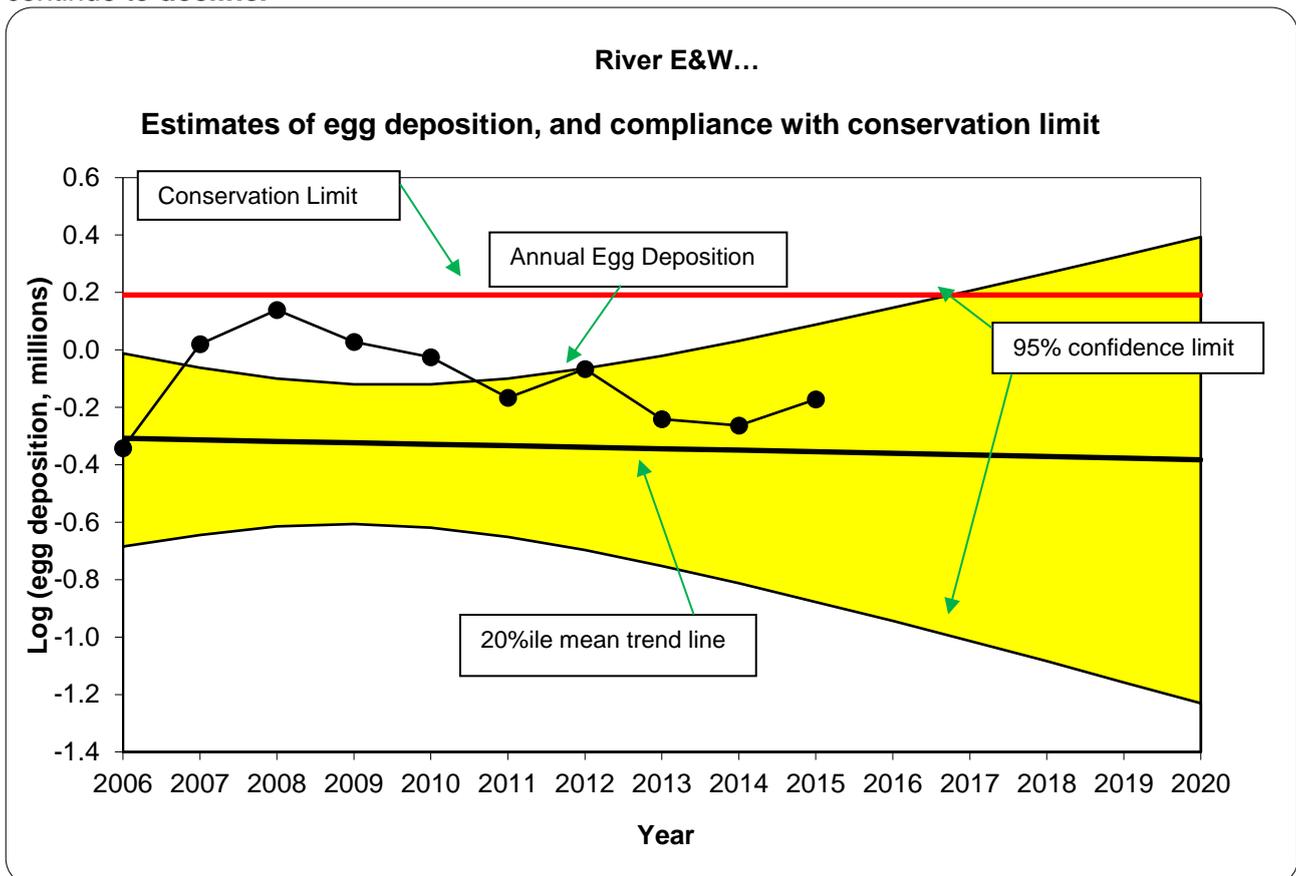


## Stock Status

### Conservation of Salmon

Salmon stock status is assessed through the use of 'Conservation Limits' which provide an objective reference point against which to assess the status of salmon stocks in individual rivers. The numbers of salmon a river can produce (and consequently the catches that the stocks support) are a function of the quality and quantity of accessible spawning and rearing area. This is why, in general, big rivers have larger catches and have correspondingly bigger total spawning requirements than small rivers. Thus, for any given river there should be an optimum level of stock which the CL seeks to protect. The conservation limit represents the number of eggs that must be deposited each year within a given catchment in order to conserve salmon stocks in the future.

The conservation limit for the Cleddaus is set at 1.55 million eggs, represented by the red line on the graph. The number of eggs deposited in 2014 is below the Conservation Limit, and the Cleddau is classed as '**At Risk**'. In 5 years time, the predicted status of the Cleddau salmon stock will be '**Probably At Risk**'. Based on current and future trends, the Cleddau salmon stock will continue to **decline**.

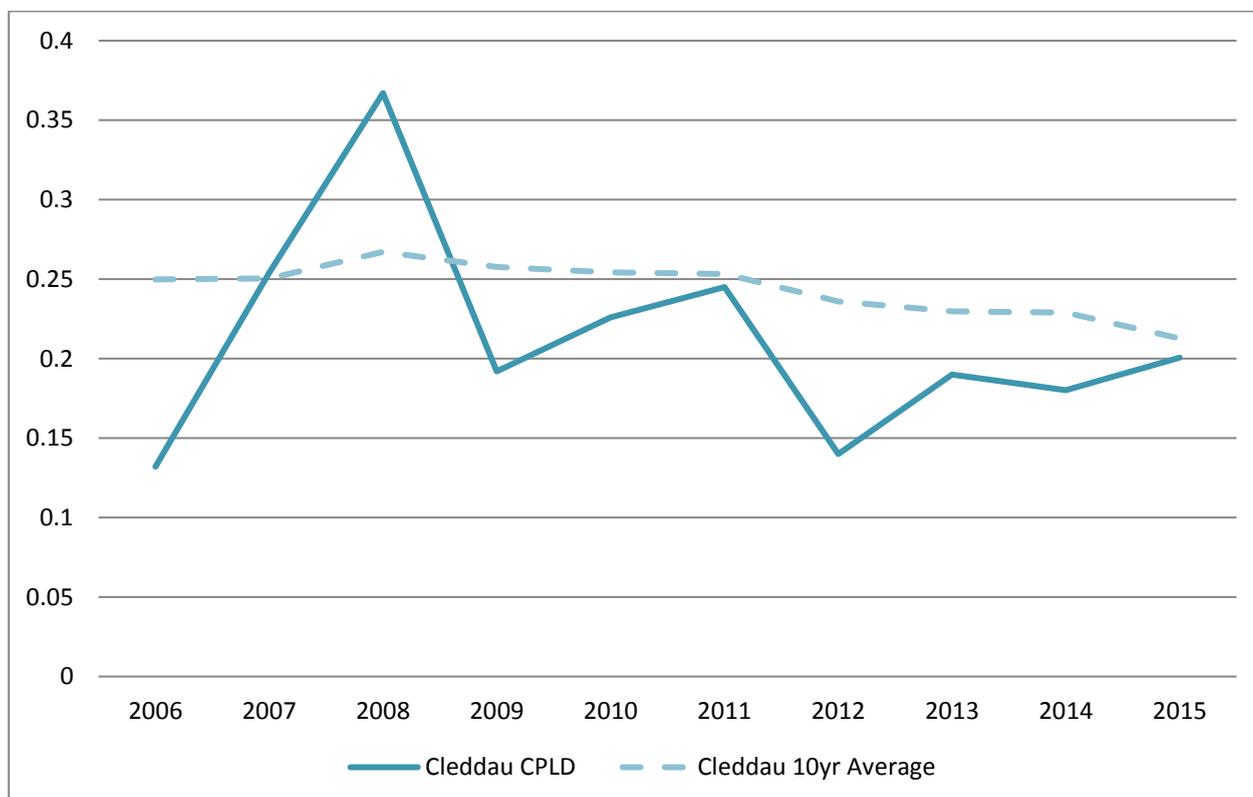


## Conservation of Sea Trout

Our approach to assessing sea trout stock performance is still under development. It is based on catch trends in the last three years compared with those in the previous ten. The assessment gives an early warning about potential problems and assists with considering whether any further management actions are required. It provides an indication of changes in fishery performance, though this is not always a reflection of stock performance.

Catch Per License Day (CPLD) is the average number of fish caught for each day fished on the river and as such accounts for the variability in the amount of fishing effort between years. These statistics can be a better guide than simply looking at the total catch.

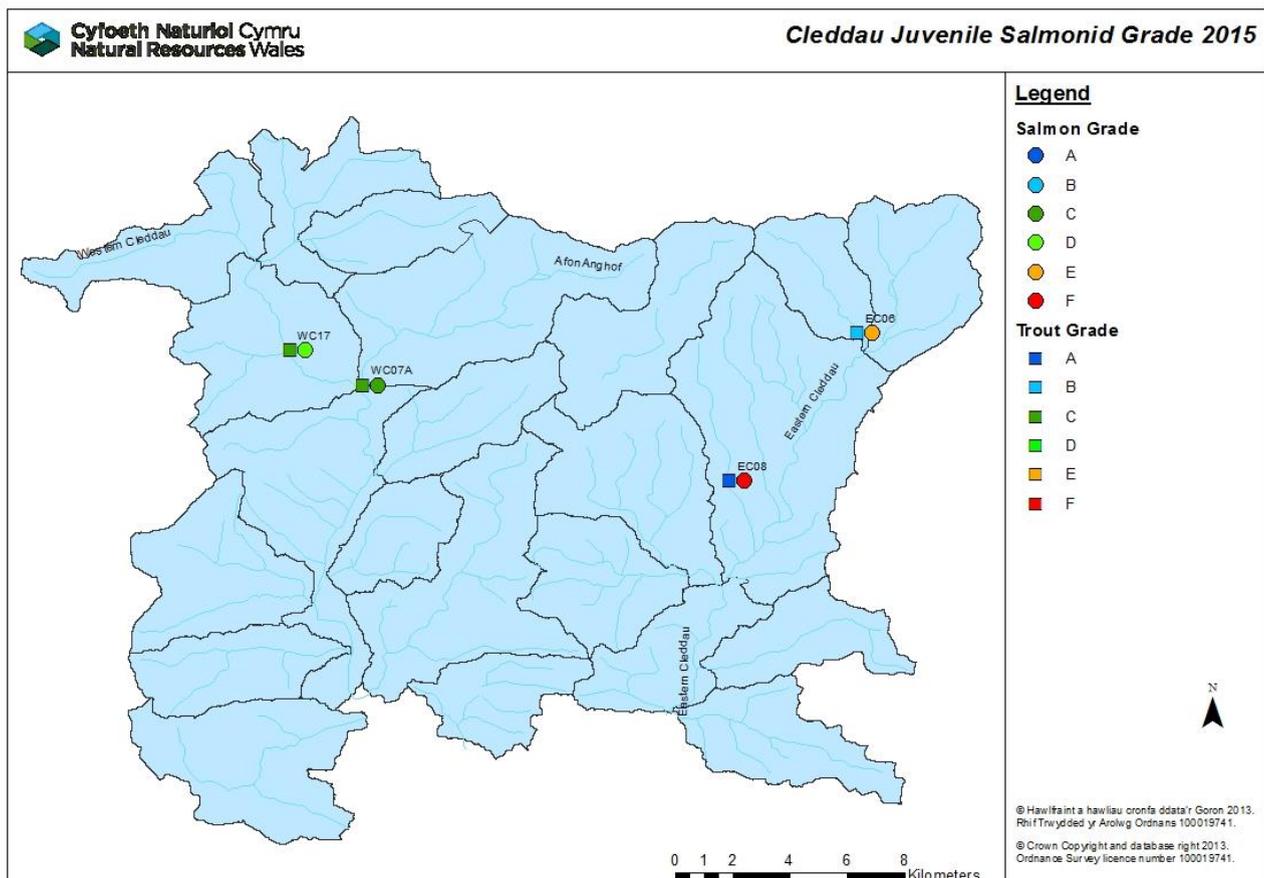
The CPLD figures for the Cleddau for the period 2006 to 2015 are shown below. Catch per License Day on the Cleddau is variable. The Cleddau sea trout fishery is currently classed as '**Probably at Risk**' (based on the 2015 assessment).



## Juvenile Monitoring

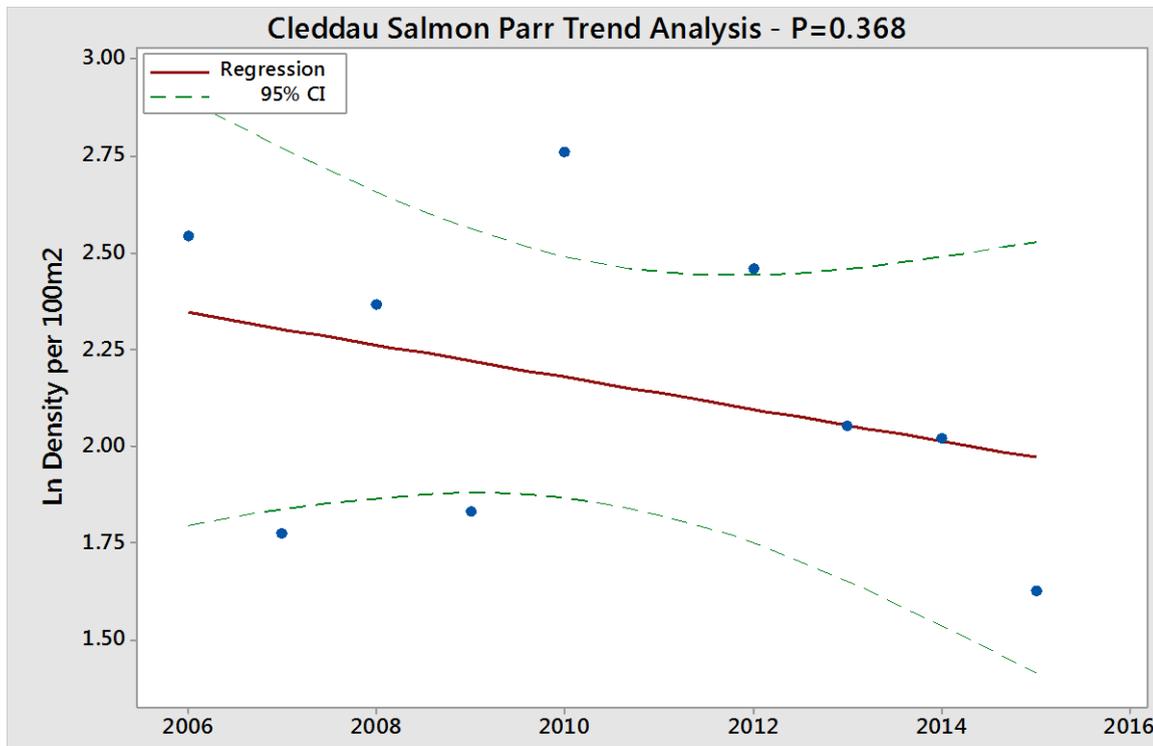
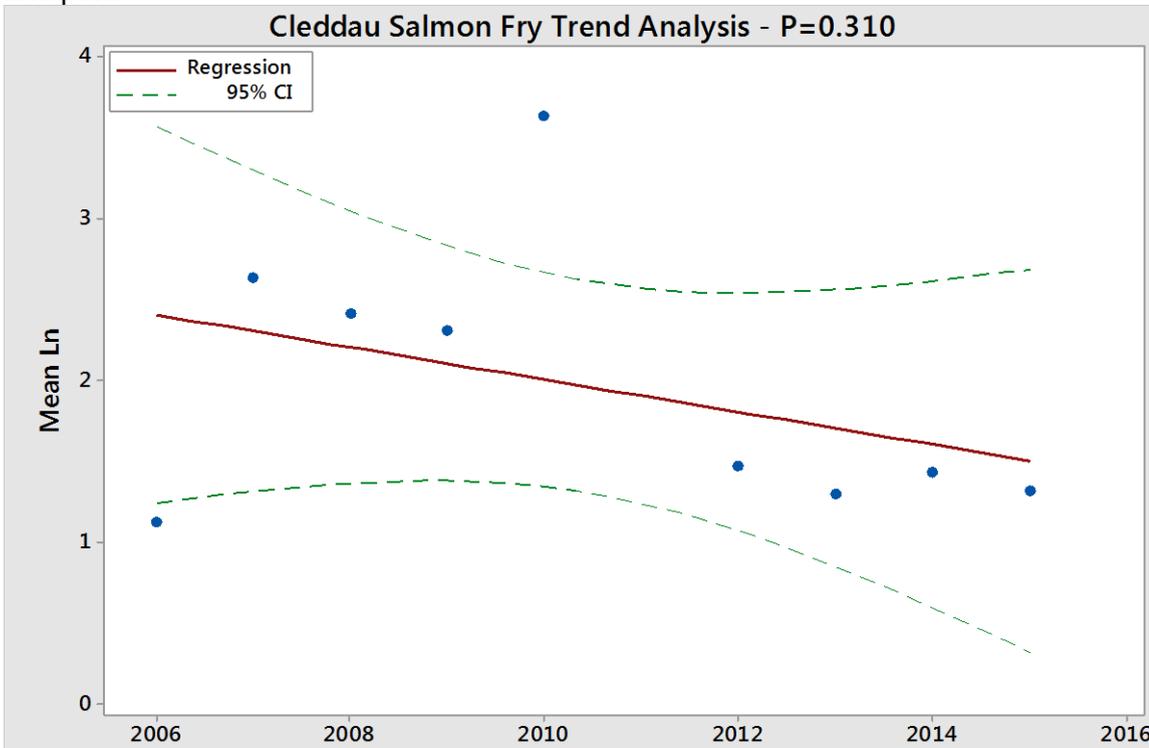
The following map shows the results of the 2015 juvenile salmonid population surveys. They display the National Fish Classification (NFC) grades which have been developed to evaluate and compare the results of fish population surveys in a consistent manner. The NFC ranks survey data by comparing fish abundance at the survey sites with sites nationally 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 NFC.

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

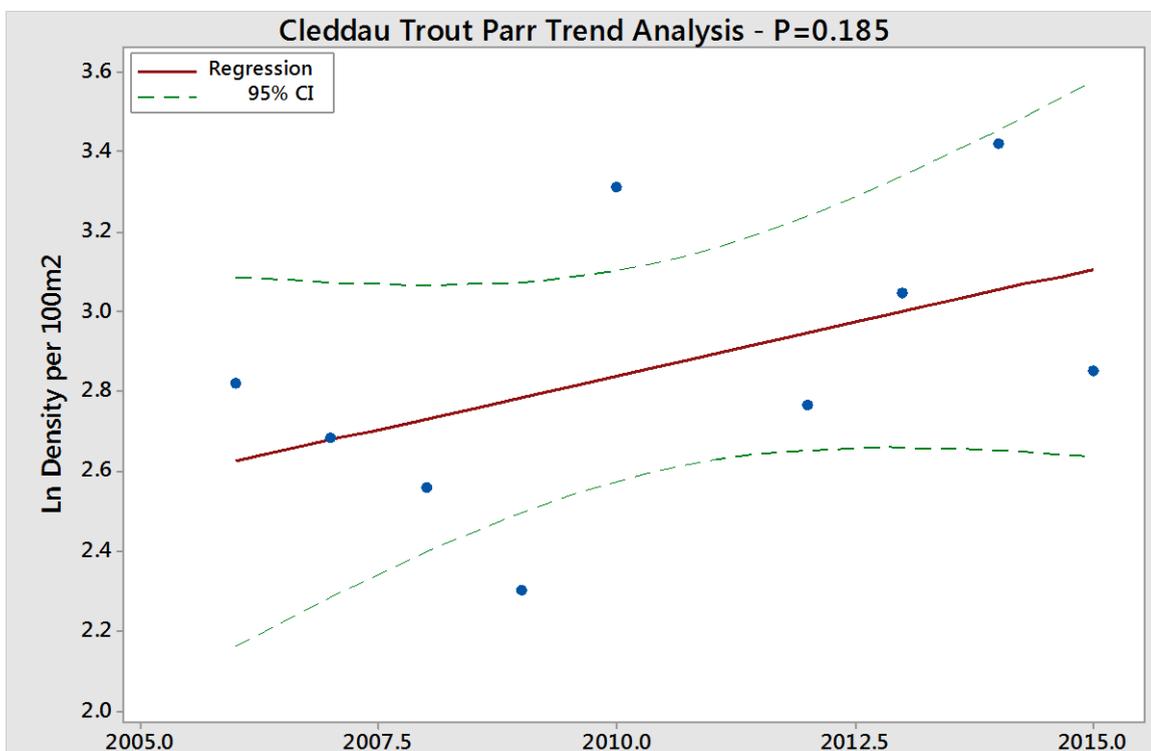
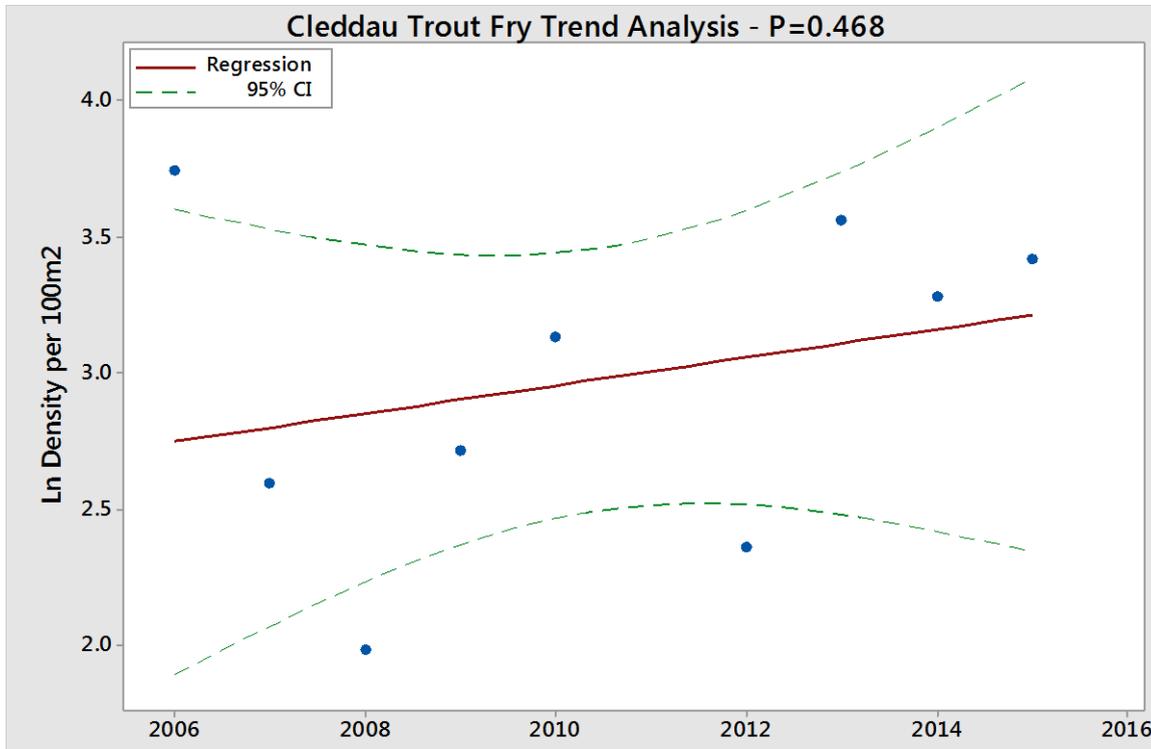


### Juvenile Trend Analysis

Juvenile salmon data shows downward trend in both fry and parr but neither of these trends are statistically significant. However densities for 2015 have shown a continued decrease for both fry and parr.



Juvenile trout data has shown upward trends for both fry and parr. The trend for trout fry is not statistically significant nor is the trout parr trend.



## Fisheries Mitigation Plan

Site	Mitigation action	Benefits	% target	Estimated cost	Lead	Partner(s)	Timescales for delivery
<b>Cleddau</b>	Exploring opportunities with Pembrokeshire Rivers Trust	Improved habitat for salmonid spawning	N/A	N/A	NRW	Pembrokeshire Rivers Trust	1-3 years
<b>Syfynewy</b>	Gravel replacement scheme	Improved salmonid spawning habitat	N/A	15, 000 over 3 years	NRW	DCWW, Pembrokeshire Rivers Trust	3 years
<b>E. Cleddau</b>	Modifications to Canaston weir	Improved fish passage	N/A	300,000 - 400,000	DCWW	NRW	2-3 years
<b>Deepford Brook</b>	Farm visits by Pembrokeshire Environmental Management team	Minimised impacts from Farming	N/A	N/A	NRW	Local Farmers	On-going
<b>Cleddau</b>	Catch and release to be increased to 100% until salmon population no longer 'at risk'	Potential increase in egg deposition	N/A	N/A	NRW	Pembrokeshire Rivers Trust	On-going as required
<b>Whole Catchment</b>	Enforcement action to reduce illegal activity	Reduction in illegal activity on catchment through intelligence led work.	N/A		NRW		Ongoing commitment