

RIVER FROME & RIVER PIDDLER

REDD COUNT REPORT

2011/12



River Frome & River Piddle Redd Counts 2011/12

Introduction

Salmonid spawning takes place in the late autumn and winter. Migratory salmonids such as salmon and sea trout migrate upstream to spawn in their favoured locations in rivers and streams, and bury their eggs in depressions in the gravel created by kicking the gravel up with their tails. These areas are called redds and are fairly easy to spot when river conditions allow.

Redd counting has been taking place on the Wessex rivers for many years and has proved to be a very useful fishery management tool for both River Keepers/riparian owners and regulatory bodies. Casterbridge Fisheries have been redd counting for many years now and has developed a consistent and reliable programme for collecting this valuable data in line with those employed by the Environment Agency on the other Wessex rivers.

Aims & objectives

Redd counting provides the following information:

- A record of the spawning range in each year under specific flow conditions
- A comparison between years, allowing trends to be identified over time
- Identifies obstructions to fish passage
- Identifies areas of clustered spawning
- Identifies under-utilised spawning habitat
- The identification and later assessment of gravel cleaning sites
- Provides spawning data for the interpretation of fish population surveys

Ideally redd count data is collected every winter. However, river conditions can be unfavourable for long periods and monitoring windows missed, or the redds are flattened out and confidence in the accuracy of a count is too low. For this reason every effort is made to collect reliable data when river conditions allow.

In addition to the above, redd count data is of great importance when used to monitor the success of recently constructed fish passes, hydro electric schemes and in river enhancement projects.

Overall redd counting gives fishery owners, managers and other interested bodies a detailed indication of salmonid spawning abundance within the river catchment. The

collection of this information is an important tool for the future research of our changing rivers and will continue to drive enhancements leading to the protection and promotion of our migratory salmonid stocks.

Methodology

The following methodology is used to collect the Redd count data and has been developed in conjunction with the Environment Agency (EA) to retain a high level of comparability with historical data collected by the EA and its predecessors.

- Redd counting takes place in late December and early January when the Salmon and sea trout have only just finished spawning
- Water conditions must be suitable for full observation of redds and any fish in the immediate area
- Individual salmon redds are mapped using GPS, the length and width of each redd is recorded and whether the redd has been cut on a gravel cleaned site
- Redds >1.1m wide are recorded as Salmon, <1.1m as sea trout
- Surveyors are experienced operatives who are competent at redd counting and work in pairs in line with our redd counting work instruction and risk assessment
- Information on the numbers recorded, measurements taken and, if possible, photographs, are then compiled and submitted in a detailed report

With experience it is possible to differentiate between salmon and sea trout redds by recording the timing of the spawning, gravel size and the size and shape of the redds excavated. The monitoring team should always consist of at least one person involved in the previous surveys to maintain a high level of consistency.

Funding

This year's redd counting was funded as follows;

- **The Environment Agency**
The River Frome from Maiden Newton downstream to Wool Bridge
(SY 59490 97647 – SY 84435 87127)
- **Lulworth Estates**
The River Frome from Wool Bridge downstream to below Bindon Abbey
(SY 84435 87127 – SY 85901 86791)
- **Frome Piddle and West Dorset Fisheries Association**
The River Piddle from Tolpiddle downstream to West Mill
(SY 78050 93942 – SY 90944 87666)

The Environment Agency (EA) funded the River Frome count, as they have done in previous years.

The Frome, Piddle and West Dorset Fisheries Association (FP&WDFa) were very keen to match the EA funding and have a detailed redd count done on the River Piddle, as the last count was done in the winter of 1992/3.

Finally, the Lulworth Estate funded a downstream extension of the redd count to monitor the Salmonid migration around their 2010 hydro electric scheme at Bindon Abbey.

The estate have done some fine work repairing the existing fish pass around the new turbine and adequate fish passage was observed through both the fish pass and the previously existing hatches, that were adjusted by contractors Kingcombe Aquacare a few years ago. Salmon were observed using these hatches soon after they finished work.

Again one redd was marked immediately above the turbine and due to lower water levels, three redds were recorded below the structure. Differing only slightly from last year.

As in 2011 the number of redds recorded upstream of this structure, were encouraging. We see no reason for it to hinder upstream salmonid passage.

Results

Conditions for Redd counting this winter were again on our side with worryingly low water levels. Only a few days delay, due to coloured water from a short spell of heavy rainfall.

Very few spawning fish were still seen in the rivers (generally cock fish in the vicinity of the redds) indicating the majority of the spawning was complete, giving a high confidence in the correct timing of the count.

Assessment of key spawning areas after the main count was completed indicated that there was little or no late spawning activity and that this year's count again has a high level of accuracy.

The total counts are as follows for salmon redds, as defined by the above methodology. This year's figures are in red.

1. Total number of River Frome Redds counted;

2008/9	-	235
2009/10	-	168
2010/11	-	131
2011/12	-	448

2. Total number of Redds counted above Louds Mill fish pass was **104** (included in above figures).

3. Total number of River Piddle Redds counted

1987/88	-	109
1988/89	-	123
1989/90	-	73
1991/92	-	84
1992/3	-	39
2010/11	-	111
2011/12	-	174

The above historical figures for the River Piddle have been supplied by the Environment Agency.

Discussion

There were no salmon redds recorded on the Cerne, Hooke and Sydling water, this is probably a result of the low winter flows which appear to have limited upstream migration in 2010/11 and 2012.

The amount of redds counted up stream of the new fish pass at Louds mill is again more than pre fish pass years. This 2012 count was **104**, well above the twenty redds that were recorded in 2011, (44 2010, and 44 the year before). A cluster of redds below the tilting weir at Hangmans Cottage in Dorchester was again recorded, suggesting a problem with migration at this structure, not only for Salmonids but probably Eels and Elvers.

On the River Frome the condition of Hyde hatches near Notton again made it very difficult for any upstream migration of Salmonids and consequently no redds were observed upstream of this structure.

The higher number of redds recorded on the river Frome and Piddle was again very encouraging.

Conclusion

The overall numbers of salmon redds recorded on the river Frome and river Piddle, were of great excitement this winter, the largest number recorded for many years, these figures tie in with the data collected by the Game and Wildlife Conservation Trust at their fish counter in East Stoke .

Recommendations

It is important to continue the redd count monitoring on these rivers in order to assess the changes to our migratory salmonid stocks and to identify those factors limiting spawning success.

In addition we need to monitor the impacts of the changing pressures on this fragile ecosystem, such as hydropower schemes, and ensure that both individual and combined effects are not becoming new limiting factors to the success of our migratory salmonids.

It is recommended that there is need to redd count both the River Frome and River Piddle in future years in order to better understand their interactions. In addition the continual monitoring of structures/barriers, both new and old is an important part of managing our fisheries.

It is imperative we continue to do all we can to help these fish.

Finally, we would like to acknowledge all those who have given their permission for us to carry out this and previous years monitoring. Without your support we would not have the data we need to influence and highlight areas of concern on these catchments. Thank you.



Hyde Hatches Notton.