



Salmon Recolonising the Avon Water, South Lanarkshire, 2019



William E. Yeomans, David McColl, Katie Grimmond & Bob Thompson*

Clyde River Foundation, Graham Kerr Building, University of Glasgow, Glasgow, G12 8QQ

*Avon Angling Club

Correspondence: william.yeomans@glasgow.ac.uk

www.clyderiverfoundation.org

Report reference: **2019/07**

Date: **12 November 2019**

1. INTRODUCTION

The Clyde River Foundation (CRF) has been monitoring fish populations in the Avon Water in South Lanarkshire since 2002. Upstream access for pre-spawning adult fish has been disrupted at three locations in the lower river by redundant weirs, two of which have had fish passes added in recent times. These are Ferniegair Weir (NGR 273180 654550) and Millheugh Weir (NGR 275265 650730). The third and furthest upstream, Craig Mill Dam (NGR 270982 642983) already has a rudimentary fish pass.

This report reviews the distribution of salmon in the Avon Water at the conclusion of the 2019 fishery survey season.

2. METHODS

Experienced electrofishing operatives from the CRF surveyed 12 sites upstream of Millheugh Weir during the summer and autumn of 2019 (Figure 1). Six were surveyed as part of a national initiative and were therefore chosen randomly but the others, sites from just below Linthaugh Bridge, Stonehouse (NGR 275222 647433) to below the confluence with the Glengavel Water (NGR 265189 638803) comprised high quality juvenile salmon habitat.

Electric fishing was carried out using an Electracatch or an E-Fish backpack kit (fishing setting 200V smoothed DC). When captured, fish were anaesthetised in a dilute solution of 2-phenoxyethanol, identified and their fork length measured to the nearest mm on a lengthing board. Where appropriate, scale samples were taken, and the fish photographed before being allowed to recover in natal water and returned to the river. Scales from all salmon caught in 2019 were read and interpreted by two experienced staff from the Marine Scotland Science Freshwater Laboratory at Faskally.

3. RESULTS

No salmon were caught among the six sites upstream of Craig Mill Dam (Figure 1). Salmon were present at all four sampling sites on the Avon Water between Millheugh Weir and Craig Mill Dam. No salmon were caught at any of the tributary sites.

In all, eight salmon were caught among four sampling sites between Millheugh Weir and Craig Mill Dam on 25 October 2019. This extended the known range of Atlantic salmon in the Clyde catchment by approximately 14.5km; adding approximately 5% to the known range of the species in the Clyde catchment.

Fish lengths suggested that two year-classes of salmon were present, and this was confirmed by scale reading. Figures 2-4 document the two year-classes of salmon caught in the Stonehouse area and Figure 5 the fish caught just below the Craig Mill Dam, near Strathaven. The smaller (0+) fish (79mm-108mm fork length) were spawned

during the winter of 2018/2019 and the older (1+) fish (139mm-172mm fork length) during the winter of 2017/2018.

4. DISCUSSION

The targeted juvenile salmon survey on 25 October 2019 was undertaken opportunistically with the involvement of the Avon Angling Club. It was late in the field season for electrofishing and in order to minimise the potential disturbance to pre-spawning trout (none were encountered) fishing time was kept to a minimum and surveys were terminated as soon as salmon were encountered. Salmon were caught rapidly in the Stonehouse area, much less rapidly at Strathaven and not at all upstream of the Craig Mill Dam.

Survey data show that salmon have been accessing the lowest reach of the Avon, below Ferniegair Weir, since at least 2002 and probably well before (Figure 6). The first electrofishing records of salmon from the foot of Millheugh Weir in the autumn of 2014, pre-date the opening of the Ferniegair fish pass downstream and the presence of two year classes confirmed spawning in the locality in the winter of 2012/2013 (Figure 6). Electrofishing data reported here are, however, the first scientific records of juvenile Atlantic salmon from above Millheugh Weir and are of particular interest since they are upstream of a fish pass opened in 2016 (Figure 6).

The Millheugh fish pass opened for the first time at the end of October 2016 but was damaged in a spate soon afterwards. The structure partially failed between December 2016 and March 2017 and a cofferdam was installed in April 2017 in preparation for remedial works. The fabric covering of the cofferdam was vandalised and split twice between April 2017 and October 2018, allowing enough water through for fish passage. The fish pass fully reopened on the 4 October 2018. A derelict lade, which formerly abstracted water at Millheugh Weir, was cleared by a community group during the summer of 2018 and was promoted as an alternative fish pass solution; its efficacy remains unclear.

Most salmon in the Clyde system smolt at 1+ and it is therefore impossible to confirm whether fish ascended the fish pass and spawned during the winter of 2016/2017 because any such fish will have gone to sea already.

Our data now suggests that Craig Mill Dam is the upstream limit of salmon distribution and Figure 6 shows the barrier in the context of all previous CRF fishery surveying on the Avon. The structure is too high for salmon to negotiate directly in the presence of the long horizontal apron downstream (Figures 7 & 8), and the fish pass is now derelict. It is imperative that this structure is reappraised if the full benefits of the Ferniegair and Millheugh fish passes are to be realised.

5. CONCLUSIONS

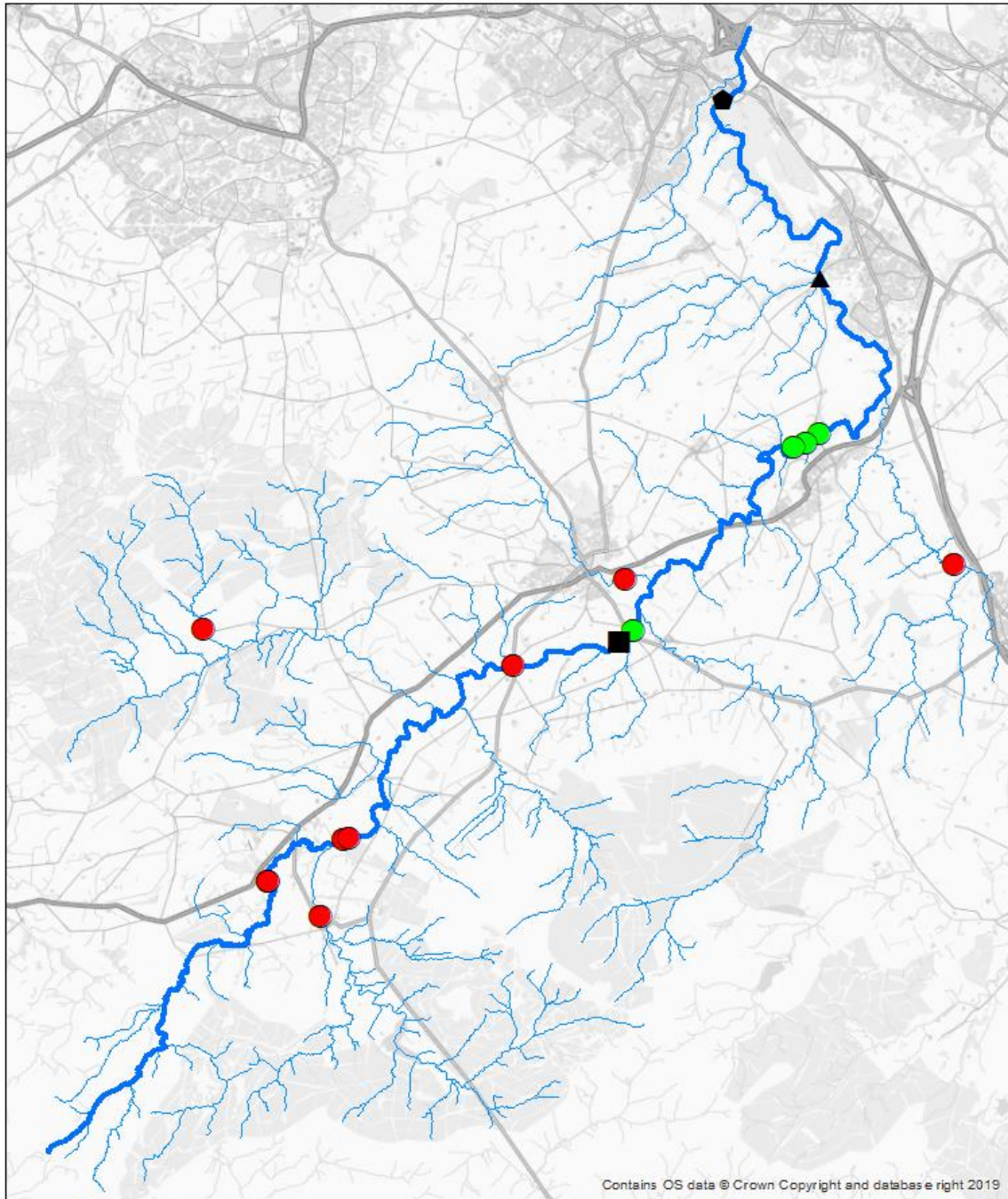
The eight juvenile salmon caught on 25 October 2019 allow the following conclusions to be drawn:

- 5.1 The Millheugh fish pass has allowed Atlantic salmon to access at least 14.5km of newly available habitat;
- 5.2 Craig Mill Dam now forms the upstream limit of salmon penetration in the Avon Water and its fish pass requires urgent reappraisal if full advantage is to be taken of the two new passes downstream;
- 5.3 Salmon have been breeding upstream of Millheugh Weir since at least the winter of 2017/2018; and
- 5.4 Salmon were passing Millheugh Weir and breeding upstream before Millheugh lade was cleared of debris and promoted as being made passable for salmon.

6. ACKNOWLEDGEMENTS

We thank the Avon Angling Club for allowing us to access the river and President Bob Thompson for accompanying us during the survey.

We thank David Stewart and Aya Thorne (Marine Scotland) for their scale-reading expertise, and Douglas McKinlay and Chris Horrill (formerly of Rivers and Fisheries Trusts Scotland) for their local knowledge.



Legend

- Salmon not recorded
- Salmon present
- ▣ Ferniegair Weir
- ▴ Milheugh Weir
- ▣ Craig Mill Dam
- Avon Mainstem
- Avon Water and tributaries

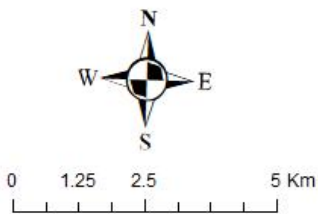


Figure 1: Locations of the Weirs, Electrofishing Sites and Salmon Distribution, Avon Water 2019



Figure 2: Juvenile brown trout (above) and salmon (below) from the Avon Water 100m d/s Linthaugh Bridge, Stonehouse



Figure 3: 0+ and 1+ salmon from the Avon Water u/s Linthaugh Bridge, Stonehouse



Figure 4: 0+ and 1+ salmon (above) from the Avon Water d/s Linthaugh Bridge, Stonehouse



Figure 5: 1+ salmon from the Avon Water below the Craig Mill Dam, Strathaven. The fish was caught adjacent to the Avon Angling Club's trout rearing facility.

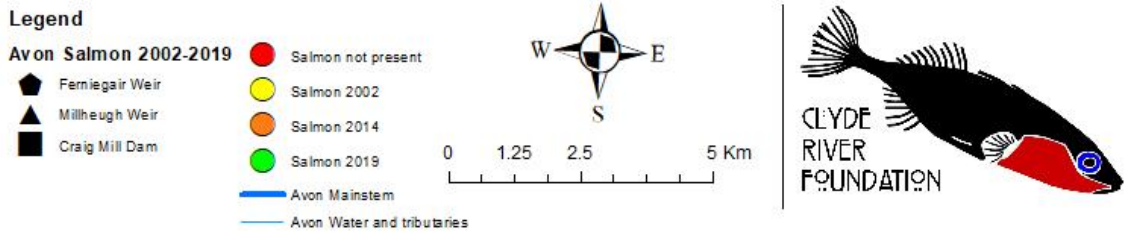
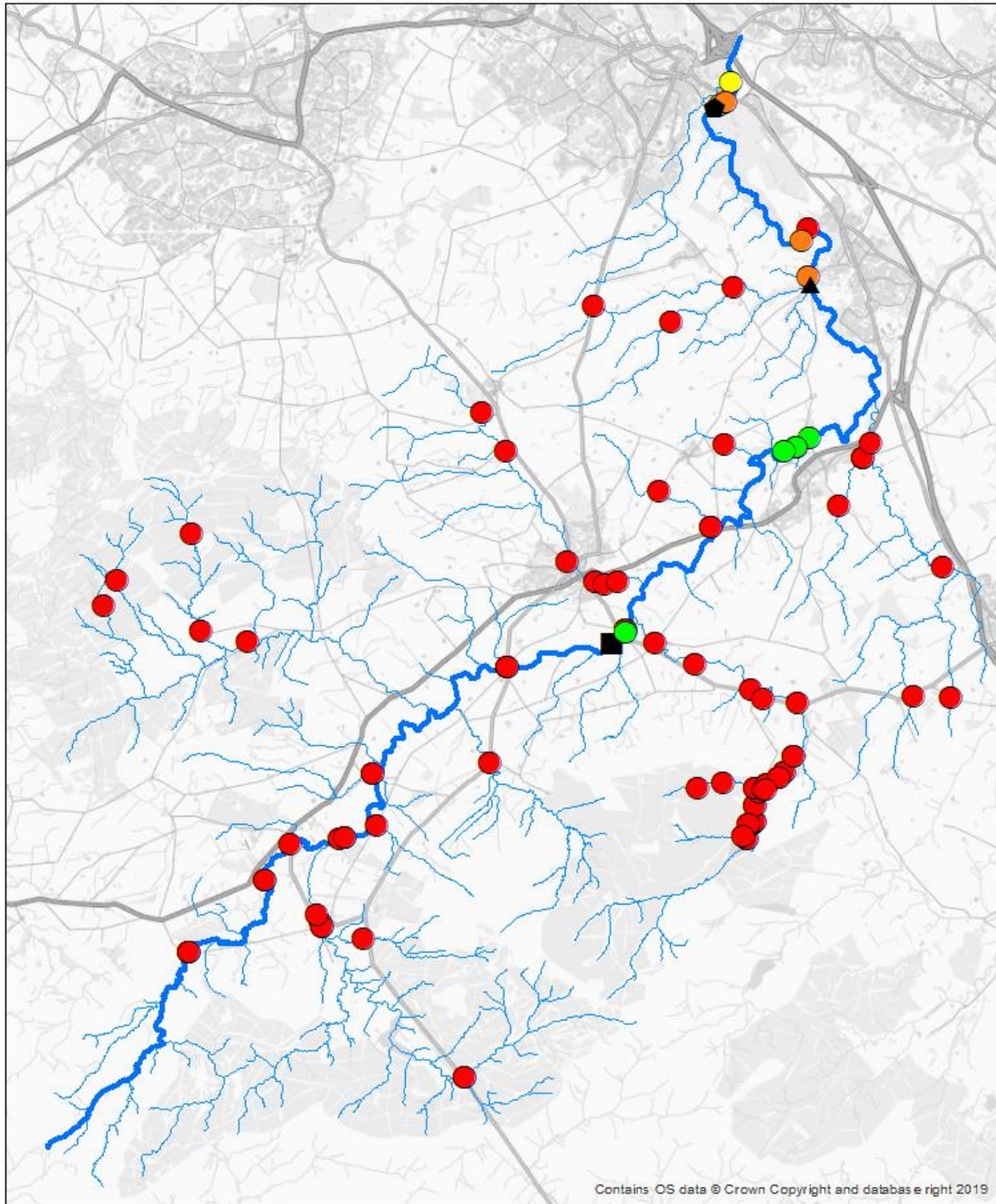


Figure 6: Current known distribution of Atlantic salmon in the Avon Water catchment in the context of Clyde River Foundation electrofishing data since 2002.



Figure 7: Craig Mill Dam, River Avon from the B7086, Strathaven



Figure 8: Craig Mill Dam, River Avon



Figure 9: The fish pass, Craig Mill Dam, River Avon