

Meeting: Ruswarp Hydro Meeting Notes
Venue: The National Park Moors Centre, Danby
Date: Thursday 22 May 2014, 2-5pm

Attendance;

Mark Reid, Pat O'Brien (EA); Richard Noble (HiFi); Mike Ford, Dr Stephen Larkin (Esk Energy); Angus Oughtread, Stephen Till, (YERT); Michael Graham (NYMNPA).

Apologies;

Andy Wilson, Jon Bolland (HiFi)

Papers Circulated;

Notes of last meeting on 24 October 2013

Circulated by EA:

HiFi draft fish monitoring report 2013

River Esk logbook report 2013

Rod catch return summary to 17/4/14

Impact of Archimedes turbine on salmonid migration (Settle hydro) final report

Notes of Last Meeting;

MG gave a verbal update on the situation with the Northern Apprentice Team that a supervisor (Andrew Holtby) had been appointed and recruitment for a team of six would be completed soon.

Action; MG to recirculate the final notes

1. Update From Esk Energy on Operation of The Turbine and Other Issues

- 1.1 MF said the hydro had operated well in late winter, with two months of continuous generation. The contractors (Bentleys) have carried out most of the snagging work including removing the lower screen to fit noise abatement strips which will help deal with local concerns.
- 1.2 Esk Energy are still researching the loss of head which results in 43kW output as opposed to the 50kW the turbine is designed for. 200mm of head is being lost by the inlet screen not being angled appropriately which causes turbulence. The solution appears to be either a horizontal screen which is the least preferable option, or installing variable angle vertical bars. Since March the turbine has shut down on and off due to dry weather. ST asked whether alterations would affect fish pass entry and also asked about monitoring. MF said that fish pass entry would not be affected.
- 1.3 MR noted that Sean McGinty had taken over from Andrew Delaney although he had a different role within the EA and that he monitors the fish pass but not as often and AD used to be able too. He suggested that in the event of a debris blockage that Esk Energy rings the EA hotline. SL added that Esk Energy webcams on the turbine were checked daily.
- 1.4 ST asked if there was a problem with silt in front of the turbine MF replied that leaves can build up but these are being cleared regularly. Silt appears to go down the turbine in suspension and may be held at the bottom but no more than would be brought in on normal tidal flow.

2. Update from YERT

- 2.1 AO reported the Trust has obtained funding for 2014/15 from the Catchment Based Partnership for admin and for setting up the structure and approach of the trust. On 31 March YERT held a stakeholder event at the Moors Centre to brief all on actions to date. Stakeholders were able to discuss the way forward and prioritise future involvement. There was a good cross section wanting to join a steering group which is being set up by Simon Hirst and AO. A draft three year plan was discussed by trustees and then will go to the first steering group.

The YERT website www.yorkshireskrivertrust.org.uk has been launched and contains information about the Catchment Based approach. YERT had met with HiFi, EA, NPA, to establish the level of monitoring on the river and how this may be developed. One suggestion is to gather a group of people to pool knowledge about the river and to map changes over time in Sea Trout spawning and to overlay this with EA monitoring sites and a three year plan.

- 2.1 One commitment of the trust is to engage with the public. Keith Bristow has visited schools in the Whitby area, a young angler event is being held on 14 June at Danby with professional coaching available. This is one of six days education work planned. Esk Fisheries Association are setting up a junior member scheme and more information about this can be found on the website. Some additional funding has been made available for education by NYCC.

3. Presentation of Draft Monitoring Report 2013/14

- 3.1 Richard Noble gave a presentation on the 2013 monitoring report. The conclusions from the report follow:

Conclusions included in the Presentation

1. The proportion of tagged fish that successfully passed the weir (passage efficiency) was significantly greater in 2013 than in the baseline dataset.
2. The fish pass efficiency of sea trout detected in the array reduced from 100% in the baseline to 81% in 2013.
3. The delay between arrival in the pool and eventual passage was, whilst statistically significantly greater in 2013 than in the baseline, probably of little energetic consequence given the overall scale and duration of the sea trout migration.
 - However, it is possible that this delay may have consequences for successful passage in relation to potential increased risk of predation before passage.
4. There is some evidence of attraction of fish to the area in front of the hydropower outfall screens, which was most apparent when the turbine was active at flows $<6 \text{ m}^3 \text{ s}^{-1}$.
 - However, this area is also the deepest part of the pool so it is difficult to determine if the sea trout were seeking refuge in deep water or being distracted from the fish pass plume by the outfall from the hydropower screw.

The differences in behaviour observed between the baseline and the data from 2013 are confounded by the change in:

- the design in the fish pass;
- the changed bathymetry of the pool and;
- different hydrological conditions in each year.

It is too early to determine whether the observations in 2013 can be attributed to the activity of the hydropower scheme.

The observed reduction in fish pass efficiency of fish tracked in the pool is offset by the observed increase in overall passage success of all fish in 2013

Further years study are required to determine if this a verifiable and an ecologically important change in fish pass efficiency.

Further studies into the predation by seals on the Esk would be required to identify if this is a significant factor failure to ascend the weir. (ends)

Comments:

AO noted that changes in the depth of the pool by the turbine are a concern in that the deepest part of the pool has changed from the weir to the bank side. MF noted that the bank was now 3 metres away and the pool larger than before the turbine was installed and that fish may just be resting in the pool.

MF detected an error in the depth of water at the fish pass outlet in the report.

Action: RN to clarify and amend if necessary.

Action: All to submit comments to MR on the report as soon as possible which will then be published on the Environment Agency website.

2014 Study

MR explained that due to Defra funding cuts the EA had gone from a three to a two tier organisation and that the old regional tier would disappear. Funding for research on migratory salmonid had reduced nationally by around 1 million pounds. The Esk study had been allocated just £35,000, but in 2013 the study had cost £47.5k. MR explained it would be possible to make some cost reductions but that another £5,000 - £10,000 would be needed if a comparable study was to go ahead in 2014. The study included £12,500 spent on tags and £35,000 in the contract with HiFi.

MR suggested two approaches; either consider what could be done for the allocated £35,000, or attempt to find further funding to carry out the monitoring study. MR asked if any of the partners would contribute to the study and agreed to put this request formally in writing to partners. **Action:** MR to write to all partners

MF asked about direction of the study which he felt to be changing away from just monitoring the effect of the turbine on fish passage to being much more about fish behaviour. MR replied that the EA were doing their best to fulfil obligations and understand anomalies in fish behaviour that were associated with the study. He added that two years post monitoring with two years pre monitoring would be a good outcome. A discussion ensued about sources of funding without conclusion.

AO asked about timing requirements of funding needed. MR replied that the contract to HiFi needs to be let in June/July

Action: RN to circulate presentation to all.

Action: All who wish to comment on the report to MR by the end of May.

4. **Fish Counter**

4.1 YERT were still looking into this and will be in touch with Esk Energy and POB in due course.

5. **Potential CCTV Monitoring**

5.1 AO reported this was not to be pursued further.

6. **Update on the Settle Hydro**

6.1 The final report on the Settle Hydro has been circulated but there is little conclusive data to prove the turbine is influencing fish migratory patterns. MF noted the Settle turbine had been shut down for several months due to bearing failure.

7. **Any Other Business**

7.1 It was noted that in the log book data that circulated that there were a lot of anglers who were not contributing to the study therefore it was difficult to pull any trends out of it. YERT are trying to encourage contributions from more anglers and the EA agreed to compare the Esk with other rivers to see if there are any comparable patterns.

7.2 ST asked if EE are receiving the feed-in tariff. MF replied they were although it had taken around twelve months for payments to start but these were back dated. ST asked about the amount of electricity generated to which MF replied that a dry summer had given a lower than expected output. More recently power was fairly steady at 43kW from December to April, but up and down with the weather since then.

8. **Date of Next Meeting**

Tuesday 18 November 2014, 10-12 at The Moors National Park Centre Danby.