

Meeting: Ruswarp Liaison Meeting – final notes (including amendments by: EE, EA, HiFi, YERT, EFA)

Venue: NYMNPA Office, Helmsley

Date: Tuesday 19 June 2018 10am – 1pm

Attendance

Paul Slater, Pat O'Brien, (EA); Richard AA Noble (HiFi); Dr Mike Ford, Dr Stephen Larkin, Dr Rory Newman (Esk Energy); Angus Oughtread, Olly Foster (YERT); Rex Parry (EFA), Michael Graham (Chair) (NYMNPA).

Papers circulated; update from EA on Saprolegnia (re-circulation); notes of last meeting (20 June 2017), position statement by YERT.

Apologies: Stephen Till

1. Update from EA

- John Sherwood (Ted) now has a full contract with EA. John is primarily a fisheries enforcement officer, but the roles of fisheries staff is currently under review to allow specialisms in either enforcement or technical.
- Invitation for Fisheries Improvement Projects (FIP) must be coarse, trout, eel based.

Salmon 5 Point Approach

Net fishery restrictions have been deferred until 2019. EA are responding to objections then passing the case to DEFRA. All seem to be mostly supportive of the new measures

National Incident Reporting Scheme (NIRS) to EA hotline 0800 80 70 60 (Yorkshire area only)

2017, 4,500 incidents, 87% environmental. Attended 77%, roughly 2 per day.

77% of Cat 1 or 2 = 6.5/ month incidents attended. One dead fish is categorised as a Cat 3 incident so when reported EA retains the information but do not usually attend unless passing the site.

Important to remember fisheries staff are not on rotas and duty staff are thinly placed with a very large area to cover.

Saprolegnia since 2015

What Saprolegnia attaches to, and the noted damage seen to fish is a primary cause of interest. Most cases are seen to occur from August – October. A few cases are seen each year but in 2015 an estimated 400 cases were thought to have occurred. MF said flows were very low in September 2014 and again April – June 2015

Predators could be a factor including seals. Noted that there have been 6 unsuccessful attempts to capture/relocate the Topcliffe seal by The Angling Trust and British Divers Marine Life Rescue (BDMLR), supported by the EA.

PO'B agreed to respond to the EFA's concerns that a number of the points originally to be covered by the research have not been covered in the interim report and research. Post meeting note; PO'B confirmed this is the case for various reasons

Glaisdale beck EMFF project.

Managed by Simon Hirst (NYMNP), the project aims to add a rock ramp fish pass to the ford which currently acts as a barrier to fish in low-medium flows

2017 Rod catches

Rod catch data for the River Esk for salmon has increased significantly from 98 in 2016 to 157 in 2017 and it has been a good year for river flows. For sea trout the increase is from 432 to 566. However, ten years of data is needed to depict a trend.

Monitoring options at the turbine.

A discussion followed on recent publicity of fish filmed repeatedly jumping at the Framwellgate turbine in Durham city centre 17 miles inland on the River Wear. PO'B had visited the site with Phil Rippon. A deflector FGS strobe and sound array has been set up recently at a cost of £15k however these could scare fish away from the fish pass entrance. PO'B indicated that he thought fish were not being damaged and AO, OF and RP all disagreed with this.

Fish counts at Freeman's Reach are posted on the .Gov web site (search 'fish counts'). With the exception of the poor year in 2012 annual counts are in the range 12,000 – 27,000. The page for downloading daily and monthly data is;

<https://www.gov.uk/government/statistical-data-sets/river-wear-upstream-fish-counts>

EA's assessment over three years suggests that very similar numbers of fish are ascending the weir as previously with the new fish pass providing around 50% of the overall fish passage. Seems to be a better low flow pass, but effective in a large range of flows. An added benefit of the pass is that other fish are now better able to move upstream such as eels and grayling.

MF noted significant design differences between Ruswarp and Framwellgate in that the latter has open mesh covers whereas Ruswarp has an opaque covering which cuts out most light. The turbine therefore operates in the dark whereas Framwellgate is in daylight. Both turbines have a similar flow rate (4 cumecs) though the Framwellgate has the potential for 6 cumecs.

Removal of Egton Weir

In response to a question by OF, POB outlined a proposal to remove Egton Weir. A fish pass design has already been funded by EA and approved by the EA's Fish pass panel. The new idea for whole weir removal offers greater ecological benefits and discussions on taking this forward are in progress. There may be an opportunity to fund the works by the Land of Iron project (estimated at £60-70k and approved in May 2018). The proposal will also need planning permission from the NPA. PS added that the project is seen as a priority for the EA. MF raised that the "Land of Iron" project was about retaining and promoting our industrial heritage and that to support destruction of such heritage (in removing the weir) would be wrong and a major loss for future generations.

2. Update from Esk Energy

Two graphs were circulated to the meeting showing generation for each month separately, and cumulatively for each financial year. SL noted generation is normally low in the summer months but there can be some exceptions. 2017-18 was the best financial year for generation so far. (see Appendix 1).

- Incident reporting was discussed; there had only been one reported by EE in the year when a large log blocked the fish pass and it was removed the next day by EE and EA working together. Most debris blockages are cleared by EE as needed as it can adversely affect generation. Monitoring is visual, a camera by the inlet screen and a computer also warn of generation loss. Weekly inspections are carried out throughout the year and twice weekly in autumn to reflect the higher risk of debris in the river. The inlet screen being blocked is an early indication that the fish pass may also be blocked.
- Pat noted that Ruswarp is the only fish pass in Yorkshire not controlled by the EA where the EA get involved in clearing blockages but will only do so if the task is too great for EE.
- SL reported that an MSc student at Durham is undertaking a project looking at the opportunities for increased generation by the turbine.

3. Update from YERT

- YERT have engaged an Intelligence Operative to provide information and to work together with the EA/ North Yorkshire Police on illegal netting especially between Sleights and Whitby.
- A 5 year fisheries Plan has been drawn up by YERT, this was presented to the NYMNP in late April and a meeting is scheduled with Andy Wilson on 2nd August.
- YERT are working with the National Park to optimise resources and the future of work following the departure of Simon Hirst.
- Whitby Seafoods have sponsored the Young Angler initiative.
- People's lottery funding has been awarded for training (12 so far) people in juvenile fish monitoring.

4. Update from HiFi

Jamie Dodd (PhD student who worked on the Ruswarp project) was awarded his PhD this year – his thesis was entitled; “Assessment of passage efficiency: the influence of species behaviour and pass location on fish pass performance and also incorporated studies on fish passes at Rodley (River Aire), Eshton (River Aire near Gargrave) and Ripon (River Laver)”.

A paper and presentation about Ruswarp was accepted at the First International Symposium on Hydropower and Fish Management (alongside Fish Passage 2018 – International Conference on River Connectivity) in Albury, Australia in December 2018. The paper has been accepted for the special issue of the journal Marine and Freshwater Research that forms the proceedings of the symposium. It should be out by the end of the year. The paper is “Dodd et al. (2018) Upstream passage of adult sea trout (*Salmo trutta*) at a low-head weir with an Archimedean screw hydropower turbine”. and co-located fish pass. The paper focuses on the performance of the co-located pass over the 3 years between 2013 and 2015 and is limited to the basic passage metrics and delay data (including some more detailed statistical analysis

using “survival” (nb. “survival” here relates to a class of analytical methods related to the chance of an event occurring over time and not actually mortality in this case!) / proportional hazard models to determine the influence of environmental covariates (e.g. river discharge, lower pool level and turbine discharge) on the likelihood of passage (and how long it takes). See <https://fishpassage.umass.edu/first-symposium-hydropower-and-fish-management> for details of the symposium. I will share the final paper once we have the editors’ accepted proofs.

HiFi are continuing research into Hydropower and Fisheries in the EU Horizon 2020 project Fish-friendly Innovative Technologies for Hydropower - “FiHydro” - <http://www.fithydro.eu/>

5. ‘Position Statement’

AO introduced the Position Statement (circulated with the agenda). AO said that as stakeholders we should all share a common interest and commitment to the future of salmon and sea trout in the Yorkshire Esk. He was well aware of the communications that had been taking place between YERT/ EE/ EA re Ruswarp in the light of Framwellgate. The Position Statement was aimed at taking a holistic and open minded approach to the issue of upstream fish migration at Ruswarp (see also; ‘Monitoring options at the turbine’ above). The following key points were made;

- i) There is great concern about the recent links being made between the turbine at Framwellgate and the potential for fish damage. YERT would like a joint approach with Esk Energy to monitoring to ensure this isn’t happening at Ruswarp. Simple solutions are preferred. OF raised his report of 2010 and Simon Foster’s letter of 2009.
- ii) EE noted that there are significant siting and design differences between the array at Framwellgate and the array at Ruswarp and that there is no evidence of a problem at Ruswarp’ This is supported by the EA. If there is any evidence of damage to fish caused by the turbine then EE are willing to be involved in monitoring.
- iii) EE noted that Framwellgate are reporting that the fish are seen jumping in daylight in the turbine which is open to the light. It is not known if they jump in the dark. The Ruswarp turbine is permanently dark.
- iv) There is evidence from the HiFi monitoring studies to show that fish are using the fish pass in significant numbers. The monitoring studies showed that most fish were ascending the weir when the turbine was running. (RN noted that 50% of fish ascended the weir in less than 2 hours).
- v) Various options to monitor were discussed including fitting a camera and rolling up the exit screen. However, it was pointed out that this would change the conditions of the exit which is currently in the dark and so not be monitoring like for like. Other solutions were discussed, but none was found that would not alter the existing conditions. It was also suggested that a camera would only be able to pick up limited evidence of a fish entering the turbine and not if any damage was occurring. EE were reluctant to change conditions in order to be able to monitor whilst there is no clear evidence of a problem in relation to the turbine. YERT, EFA, OF expressed extreme

disappointment at this. Neither EA nor NYMNPAs pressed for any investigation.

- vi) The tidal conditions at Ruswarp mean the fish have a limited window to ascend the weir. RAAN said that during the monitoring exercises it was observed that whilst there is evidence of fish around the mouth of the turbine, none of the monitored fish entered the turbine through the screen, nor was there any related delay to fish passage. The delays in fish passage were thought to be more due to fluctuations in flow rates. The chances of higher passage rates are better when downstream water levels were higher e.g. high tides and high flows. MF said the Esk at Ruswarp was only really affected by tidal conditions at the higher spring tides.
- vii) RP said the EFA position was that he would like to see if there was evidence of damage to fish in the turbine and that if there was evidence there was a problem, then a solution proportionate to the damage should be found.
- viii) OF offered to circulate a proposal for monitoring following the meeting.
- ix) There was no conclusion on how to establish if there was any problem to be addressed. RAAN added that no simple study merely observing or not observing fish jumping at the turbine will answer that – moving from observing fish jumping at a turbine to identifying the impact on migration and spawning would require another huge and costly study. It would never be possible to determine any “damage” to a fish jumping at a turbine without having complete health checks before and after the event.

N.B There were post meeting clarification / correspondence of some points by email from POB, RP, OF.

6. Catchment fish population monitoring and the data review (Richard Noble)

This item was largely dealt with in the update by HiFi with RAAN to circulate data after the meeting. **Action RAAN.**

7. Water abstraction levels

- i) The liaison meeting in 2017 discussed possible variation in abstraction levels (see item 2, para 3). RP said that he had tried to engage during the year with EE on the subject without success. A request by EFA that EE consider varying the water abstraction levels through the year was discussed and both parties acknowledged the need to better understand the implications. RP asked if it would be better for less water to be abstracted by the turbine April – October and more during the rest of the year (by reducing flow down the fish pass) with the aim that it would improve fish passage.
- ii) EE thought that if the turbine was not running then the attraction of the fish pass would be lowered which would not achieve the aim. Although the turbine could be shut off in summer if that would give a benefit to the river, but EE was concerned about the effect shutting the turbine may have on fish passage. Noted that stopping the turbine spreads more water across the whole weir and may reduce the number of fish ascending generally. Noted; a 2012 Fishtek report on the baulk pass showed that large fish in good flows can ascend. A fish counter would answer a lot of the questions.

- iii) POB; EA happy to vary the abstraction permit on request of EE/YERT but didn't think this would help improve fish passage. The HiFi monitoring reports did not indicate any problems and it is thought that the deliberate co-location of fish pass and turbine improves the attraction to the fish pass. 97% of the fish monitored at the bottom of the weir ascended the fish pass.
- iv) OF had visited the weir with a Game and Wildlife Conservation Trust Officer who thought it would be very difficult for fish to get up the weir. RAAN noted from the monitoring work that some fish were likely to have used the baulk pass to ascend the weir.
- v) RAAN suggested that the baulk pass could be closed on a trial basis if the stock boards at the top were repaired, however he wouldn't advocate reducing the flows. Noted the onus is on EE not to knowingly take any action that would be likely to reduce fish passage. (The abstraction licence states EE should cease abstraction if EA monitoring proves a detrimental impact on fish populations). Noted the poor marine survival of salmon which has halved in recent years and this has been linked to climate change.

Conclusion; acknowledging there was no support from the meeting RP would recommend to EFA that the proposal be shelved as the discussion indicated there are probably no net gains to be had from 'trading water' in this way.

8. Remit and membership of the group

There were a lot of issues on the Esk and a conclusion that the liaison meetings should continue and with current stakeholders; EA, EE, YERT, EFA.

MF made a request that EE should be invited to wider stakeholder meetings on the river to which EA agreed e.g Catchment Partnership meetings.

Action: EA

9. Any other business

MF asked about availability of a fish counter. POB said EA would be happy to donate one, but there is still the issue of resources to collect and interpret the data. EA were not able to contribute to this as the Esk was not an 'indexed river' and there was no obvious driver or funding for a counter on the Esk.

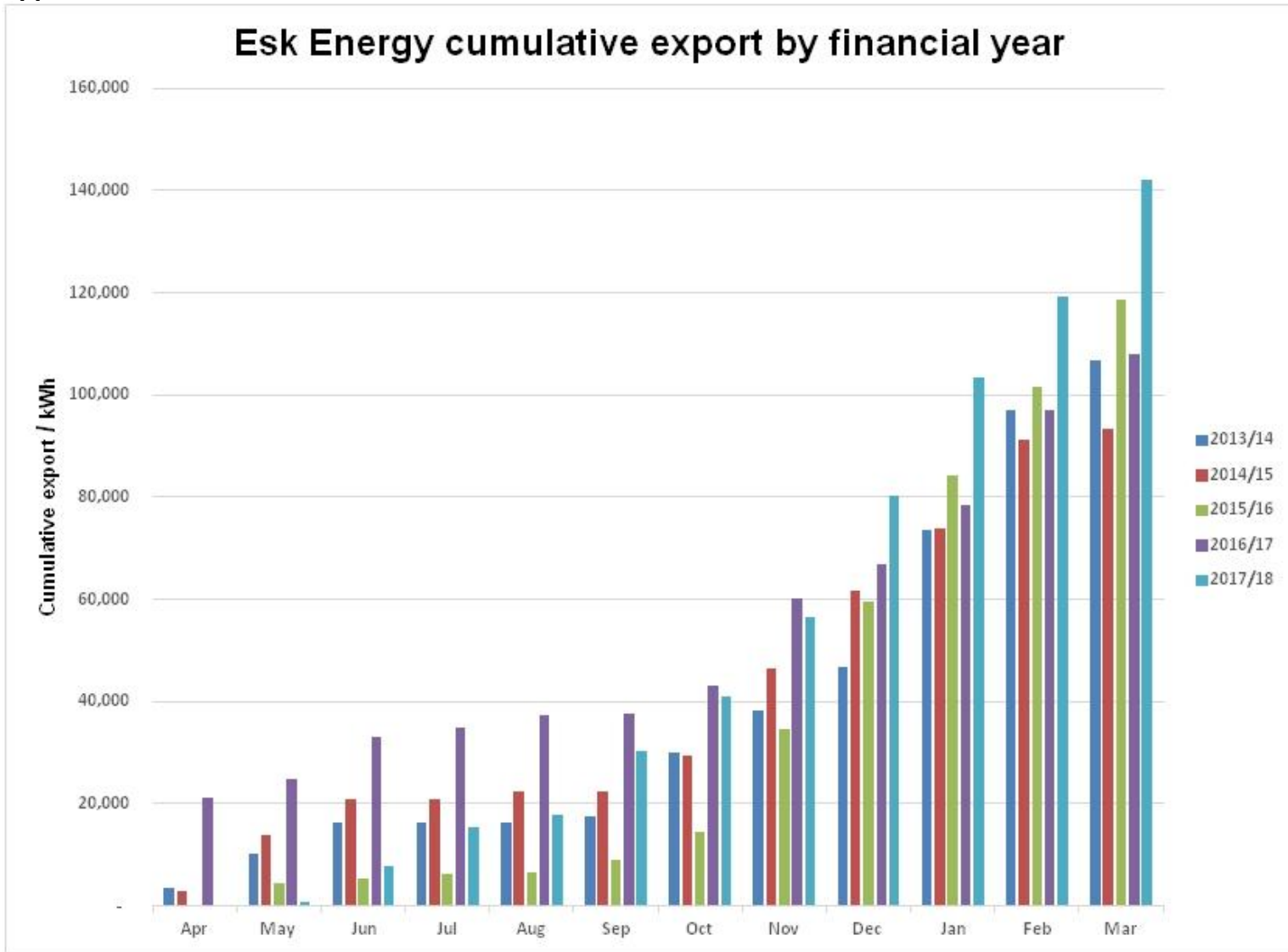
MG agreed to investigate the potential for funding the collation and verification of data of the fish counter from within NYMNPA.

Action; MG

10. Date of next meeting

The third Tuesday in June as previously agreed; 10am 19 June 2019 at Helmsley.

Appendix 1



Esk Energy Electricity Export

