

Meeting: Ruswarp Fish Monitoring Meeting Notes

Venue: NYMNP Office, Helmsley

Date: Tuesday 21 June 2016 1pm

Attendance

Mark Reid, Pat o'Brien, Paul Slater (EA); Dr Richard Noble, Jamie Dodd (HiFi); Dr Mike Ford, Dr Stephen Larkin (Esk Energy); Angus Oughtread, Stephen Till, (YERT); Rex Parry (EFA), Michael Graham (NYMNP).

Apologies: None

Papers:

1. Draft Final Report - Investigating Fish Passage: Acoustic Fish Tracking Project – Yorkshire Esk, Ruswarp (HiFi)
2. Ruswarp Monitoring – Study Review and Future Actions (EA)
3. Ruswarp River Improvements (Esk Energy proposal)

1. Presentation and discussion of the draft Final Monitoring Report

- 1.1 Richard Noble gave a presentation on the initial analysis of the 2015 monitoring data and the conclusions of the overall 5 year study (2011 – 2015). He shared a table of 'Summary Results', which is at Appendix 1. Over the period of the study there were 179 sea trout and 19 salmon tagged. The catches for tagging and the rod catch showed similar proportions of the two species. There had been some problems and inconsistencies with the study including technical problems with the hydrophone equipment (especially in 2010), and weather/floods sometimes affecting the detection of fish.
- 1.2 All parties were grateful of the collaboration and funding from EA, NPA, HiFi to allow the study to be completed.
- 1.3 AO suggested that the report should state both the negative and positive impact of the turbine and recommendations for mitigation added where appropriate. YERT do not agree that overall fish passage was the most important metric and were concerned that delays could influence stress, disease and predation.
- 1.4 Other areas of concern from YERT/EFA included;
 - 10% of fish were not detected after tagging and it was requested that this be highlighted in the report and probabilities for their disappearance given.
 - fish pass efficiency, which at 67% is much lower than the expected 90-95%. The addition of probable explanations in the report would be welcome.
 - Could EA look at how the efficiency of the fish pass could be improved?
 - There was no mention of saprolingia in the report
 - The 'Salmon 5 point approach – restoring salmon in England' should be referenced
 - RP shared a set of graphs showing various fish metrics against year. He suggested that all showed negative trends for fish with the exception of Attraction Efficiency and Overall Passage Efficiency.

- 1.5 A number of complex points about fish behaviour, technical and policy issues were raised in the course of the discussion and it was agreed that EFA and YERT would send a combined formal response on the draft report to the EA. SL asked if the EFA and YERT formal response could be sent on to all of the meeting participants. Esk Energy will be making comments on the report and will be happy for them to be shared in return.
- 1.6 RN added that the report was of national and international importance and thought the data will be looked at many times. He thanked the group for their input and thought the report would be the better for it.

2 Fish Pass Operation & Maintenance

Esk Energy continue to clear debris from the turbine screen and from the fish pass inlet on their routine visits. If the fish pass is blocked by anything that cannot be cleared the EA Incident Hotline has been used and this practice will continue.

3 Update from EA

EA have stopped annual stocking of the river.

The overall health of the river will continue to be monitored

Noted that enforcement in the tideway could have a positive effect on fish stocks

4 Update from Esk Energy

MF reported that electricity generation was above budget in 15/16 with 130Mwh produced (117 in 14/15) and there had been no downtime due to technical problems this year. An upstream river level sensor had failed and been replaced with a dual sensor type, which would shut the turbine down if one sensor failed. CCTV had been repaired and data on the website has been improved

The renewable electricity generation to date has offset all the carbon used in the manufacture of the turbine.

Repayments to the loan from the National Park are helping to fund their grant programme.

There have been many talks given and school visits to the turbine over the course of the year

The pattern of rainfall – and therefore electricity generation was visibly different each year.

5 Update from YERT

A meeting was held with anglers and riparian owners / stakeholders in December to review activities and agree a plan for 16/17. The key areas of focus are;

- The enforcement issues experienced in 2015 relating to illegal netting in the tideway and off the coast will be addressed by joint working between YERT/EA/Police and hopefully the Association of Inshore Fisheries and Conservation Authorities.
- Incidence of disease was seen throughout the fishing season in 2015 with one incidence reported so far this year. A watching brief is in place.
- Project work on the river through the catchment partnership fund secured funding to carry out Glaisdale Beck restoration project aimed at reducing

diffuse pollution from Farms, restore bank erosion etc. First phase completed by end May 16.

- Secured funding from the peoples post code lottery to run a second year of young angler / river fly monitoring / adopt a stream / salmon in the classroom and stage a river festival event at Danby Moors Centre on Bank Holiday Sunday. Esk Energy will be invited to participate in the river festival.

Through the catchment partnership fund monitoring of sites on the river for juvenile salmonids by HiFi has been maintained. The monitoring will provide a clear understanding of trends ahead of the 2017 WFD surveys.

A three year plan is to be published on the YERT website

Through This Exploited Land project plans have been agreed to remove a barrier on Glaisdale Beck which combined with other works it is hoped will open this significant tributary as a spawning habitat.

Rod catch returns for 2015 (draft) are 52 salmon, 286 sea trout (80/424 in 2014, 107/364 in 2013). The effects of disease in 2015 had a profound effect on rod catch.

6 Downstream gravels

At the meeting in September to discuss the build-up of gravel it was agreed that no action would be taken until 2016 when the monitoring was finished. MF re circulated the paper proposal 'Ruswarp River Improvements' prepared for the September 2015 meeting for discussion. EFA/YERT were concerned about the effect moving gravel could have on erosion and predation levels. EA had no objection to the proposal. MF was clear that he wanted all parties to want the solution.

RP offered to contact the Wild Trout Trust to ask for a visit from their Conservation Officer to seek recommendations on how other changes could best be combined with gravel moving to maximise benefits to fish.

It was agreed that Esk Energy would contact everyone once the final monitoring report was published and look to arrange a site visit in summer

7 Any other business

None

8 Future meetings

Whilst the Fish Monitoring Study has been completed, the group felt it desirable to maintain an open dialogue and that it would be beneficial to have an annual meeting. The third Tuesday **20 June 2017** was agreed.

Summary tagging, passage and delay metrics for tagged sea trout that passed Ruswarp Weir via the main fish pass in the two years of baseline data (2011 and 2012) and three years of post-commissioning (2013-2015).

Metric	Baseline			Post-commissioning			Total
	2011	2012	Total	2013	2014	2015	
n tagged	38	10	48	46	44	41	131
n detected on ATS array	14	3	17	31	32	18	81
Attraction efficiency	37%	30%	35%	67%	73%	44%	62%
95% Bayes CI	(23-52)	(9-59)	(23-49)	(53-80)	(59-84)	(30-59)	(53-70)
n ascending weir	14	3	17	26	22	13	61
Overall passage rate	37%	30%	35%	57%	50%	32%	47%
95% Bayes CI	(23-52)	(9-59)	(23-49)	(42-70)	(36-64)	(19-46)	(38-55)
n using main fish pass	14	3	17	25	18	11	54
Fish pass efficiency	100%	100%	100%	81%	56%	61%	67%
95% Bayes CI	(82-100)	(47-100)	(85-100)	(65-92)	(39-72)	(39-80)	(56-76)
n sea trout with >5 tracks prior to passage via main fish pass	1	1	2	9	9	4	22
%	7%	33%	12%	36%	50%	36%	41%
95% Bayes CI	(0-28)	(4-77)	(2-32)	(20-55)	(29-71)	(14-64)	(28-54)
Median track duration (m)	4.75	2.62	3.58	2.72	3.12	3.07	2.87
Interquartile range	1.65-12.64	1.55-8.91	1.58-9.50	0.88-7.52	0.75-9.58	0.87-7.35	0.84-8.24
Mean track duration (m)	9.40	7.74	8.56	10.13	10.08	9.75	10.05
Median cumulative time in array before passage via main fish pass (m)	5.54	1.55	4.75	23.15	26.36	30.95	23.60
Interquartile range	1.55-23.74	NA	1.54-27.79	5.10-57.18	2.44-85.82	13.07-98.27	8.04-70.95
Mean cumulative time in array (m)	23.00	108.36	38.07	47.58	72.90	74.72	61.55
n sea trout with cumulative time in array <10 minutes prior to passage via main fish pass	9	2	11	8	5	2	15
%	64%	67%	65%	32%	28%	18%	28%
95% Bayes CI	(40-85)	(23-96)	(42-84)	(16-51)	(11-50)	(4-45)	(17-48)
Median time from 1 st detection to passage via main fish pass (h)	0.23	0.31	0.26	2.36	3.34	2.63	2.69
Interquartile range	0.08-1.34	NA	0.09-1.41	0.77-15.60	0.39-18.11	1.19-49.88	0.79-17.28
Mean time from 1 st detection to passage via main fish pass (h)	8.67	100.66	24.91	23.32	12.23	26.61	20.29
n sea trout with delay <1hr from 1 st detection to passage via main fish pass	10	2	12	7	6	2	15
%	71%	67%	71%	28%	33%	18%	28%
95% Bayes CI	(47-90)	(28-96)	(48-88)	(13-47)	(15-55)	(4-45)	(17-40)

Values in RED represent data that are incorrect in the draft report (failed to update text correctly during the re-analysis of full dataset) – the data in this table are the final results and the text in the final report will be amended to reflect this.

