

Management of Pike in Designated Brown Trout Fisheries Review Group

29 May 2017, Citywest

Attending: Sean Long, Myles Kelly, Josie Mahon, Colm Fitzgerald, Paul O'Reilly, Catherine Kerins, Sam Shephard, Joe Keena, John Connolly, Paul Byrne, David Hamill

Apologies: Declan Cooke

Before the presentations commence JK read a statement wherein he claimed IFI were biased towards a pro pike policy and that was particularly clear in the ESRI study. POR refuted this and stressed that the ESRI is an independent body.

Presentations

- Dr. Paddy Gargan (IFI)
- Dr. Karen Delanty (IFI)
- Mr. Paul McLoone (IFI)
- Dr. Ken Whelan

The format for the meetings with the invited experts was not set.

While each expert has their own specialist area, they were circulated the following key questions:

1. The benefit of pike management?
2. Do wild brown trout populations increase or decrease in designated wild brown trout fisheries where pike management is carried out?
3. What is international 'best practice' in the management of both spp.?
4. Is pike a native sp.?
5. Is the theory that pike prefer to prey upon brown trout rather than other spp. valid?
6. What effect does pike predation have on other coarse fish spp. in the designated fisheries?
7. What impact do other spp. have on brown trout in the lakes?
8. What Irish river systems and lakes now contain pike but did not contain pike when record keeping began?
9. Can pike be effectively removed from systems into which they have been introduced?
10. Which Irish waters (if any) are more suited to pike than brown trout now- and why?
11. What scientific evidence is available to demonstrate what would happen to other spp. populations if IFI stopped managing pike in the designated waters?
12. Which waters, if any, should be considered as unique 'brown trout fisheries', and why?
13. What, if any, is the optimum level of natural predation to sustain healthy species populations?

Dr. Paddy Gargan

1. JK – The future of the 12 lakes is at stake here. The work done on Sheelin by MOG is the most comprehensive. Your data is congruent with Robert Rosell. Studies that don't work to CEN fisheries sampling standards (15747) to see what is available in the fishery at the time are of no value. Would you agree?
PG We netted at 7 sites with a mix of mesh sizes (Standard MOG) so samples taken from this and additional samples from pike management netting.
2. SS what is the impact of this on actual predation pressure on trout?
PG The impact, even if seasonal, can still be significant. 30% of pike diet is trout so this can be evaluated to an absolute number. For the trout population you will have to check with MOG.
3. CF what about the numbers of pike in each length category and the % occurrence of trout in the typical diet of a pike of that length? In simple terms, do lots of "small" pike eat more trout than a few "large" pike?
Yes this is a good idea to see where effort should be concentrated
4. DH Roach and Sheelin: March Survey – relative abundances of trout and roach etc
PG even now it does not seem that roach are the dominant food item
DH spring based studies do not give the valuable type of data needed.
PG we can look at the data to the current time.
SS Empirical data will not give the required answers. The top down pressure will not come from this type of data. The work being done by CF will likely yield results that will ultimately be more useful.
PG Pike predation on trout is year round and it has seasonal peaks and dips.
5. JC Roach abundance to trout is 4:1
PB Littoral feeding v Pelagic shoaling. How can preference be based on the numbers if those numbers are not available to pike.
PG This has not been looked at in the preferential argument
DH the 2008 MOG/KD paper is heavily based on preferential feeding, so there is a problem here. Can Sheelin be compared to other lakes.
PG Not really clear. But underlying trends surely can hold true.
6. JK Impact of recent pike introductions. Pike can have devastating impacts. Cavetown. Donegal lakes, Connemara. Some pikes allow optimal spawning for pike and trout can be rendered extinct. Especially small lakes.
7. PB How was this seasonal data fed into the report – Ration of Trout to roach to perch (PB hands PG a table) Where previously, similar data was used to make assumptions in the 1996 study to estimate predation impact. TAM measure to net pike from Sheelin.
PG Not sure
PB 2008 FOI result was that very little of the data supported the 1996 position and your information would tend to support more what is in the FOI. The netting numbers seem to suggest more pike in the water than food to sustain them. How is that possible?
There are occasions when pike are presented as having a voracious appetite for trout but can these figures be fully relied upon?
PG I will take away your table and try to establish what is in it and how it relates to these numbers.
PB Is that report peer reviewed?

Reports are unlikely to be peer reviewed – only papers arising from the data. Not sure if any papers came from the report
PB The data presented to us in the FOI was incomplete – nothing for 1984 and 1982

Dr. Karen Delanty

1. JK – should pike management in the designated fisheries be based on the Annual Fish Stock Monitoring Programme?
KD No
2. JK – quoting a paper “regardless of its origin pike should be appropriately managed to ensure... “
KD – I could not comment on this quote out of context.
3. JK in the 1995 and 2008 reports you support the position that pike are salmonids principle predator, despite other fish in the lake
KD We looked at all the fish. Some comments made on management, but this was not in the scope of the paper. There were low numbers of trout at the time so the occurrence of trout in pike stomachs was considered significant.
4. JK At DP presentation MOG said more research was needed. Should it not be handed over to PP for extra comment and better techniques applied?
SS Another paper will be forthcoming on the SNIPS data presented to us by DP
5. JC Pike will be controlled with or without high authority.
6. PB If we had the DP data before the WFD programme began what would the implications be?
KD Can't comment on that
PB Is pike native?
KD not in a position to answer
7. PB What genetic study has been done to establish is trout native to Ireland
KD Andy Fergusson has done trout genetics in Ireland. Niall McKeown and PP have also published papers.
PB Are there any fossils of Irish trout?
KD Not sure
PB Any data on whether trout are native?
KD not to my knowledge
PB Is there a higher standard of fact to establish whether or not pike are native
8. SL Is the 2008 report still applicable?
KD Many questions have been raised since. More analysis is needed.
9. Do the current data support the reports position?
This work is not completed
10. PB do we have an evaluable of the suitable spawning habitat for pike – can limited spawning habitat cap pike production?
KD As enrichment killed off weed growth the pike spawning was restricted
PB Is there a threshold figure that will provide a cap?
KD not known
11. What about the nature of the spawning substrate. Plant species. Is the work on pike recruitment really accurate? Why was there not a uniform application of the spawning

capacity argument (as seen in Inchiquin) to lakes like Mask?

KD Don't know.

12. SS there is 30 years of data on Sheelin. Trout, phosphates, Zebra mussel. Is trout abundance being driven by pike...or something else?

KD It is so complex. Lots of factors. Eutrophication is the main one. It restricted charophytes, mayfly but drove on the roach. Pike went up and down too. Zebra mussel have masked the effect of eutrophication.

SS is it unrealistic to consider trout/pike outside the whole wider system?

KD yes. But water quality will continue to have the most impact

CK Especially now that piggery expansion is occurring. Also some town water treatment plants are over capacity.

13. JK RR spoke about Zebra mussel etc interactions. MOG spoke about when the lake was pea green. Not good pike spawning. Now Zebra mussel in the lake and pike spawning improves. So should lakes with zebra mussel need management as more light will make more spawning habitat available? Pike production areas are dynamic – is that fair to say?

KD Yes – there are lots of inputs

14. JK Does the CPUE of trout go up or down when pike are managed?

DH The figures as presented are not always correct. In 1986 the CPUE fell. "no effect from arterial drainage". But now we know the situation was otherwise. Genetic work should show importance of spawning streams. How as arterial drainage effect rivers and lakes in the long term?

The OPW programme was not trying to improve fish numbers. The impact was not expected. This is now understood so OPW trying to reinstate natural features etc. More spawning habitat, nursery habitat, adult habitat. More recruitment to the lake. That was 2008. TAM before that in 1997 – stream rehabilitation programme. Between 1982 and 1996 pike management on Corrib was halted. During the managed period and non-managed period there was no appreciable difference in CPUE. The upswing in CPUE after the Rod War seems to indicate that angling has a big impact. CPUE increased after angling was stopped on the lake. The best CPUE was found post 1996.

15. SS The data that Martin based his research on is just 2 time series. Both hypotheses are valid based on the same data. They are essentially just questions.

16. PB how are the results of the stock survey on Sheelin looking?

KD I can only comment on the catches of 1 boat at this time.

PB the 200 survey presents a CPUE of 5 but it should actually be 3.74 and in the 2015 the CPUE was 3.76 so trend is upward. What is driving the increase?

KD Yes the figure is wrong. CPUE should be 3.74. The current CPUE for pike is consistent enough (5-70 fish per survey). But other impacts that need to be considered include Zebra mussel and stream rehab works.

17. PB Roach are general quite low now. An inverse relationship between roach and trout. Any studies to examine the interrelationship between the 2 species?

KD. No. Not the basis of our work.

PB Is there an over emphasis on pike/trout relationship when there is so much else going on?

- KD Our studies are not geared to answering those questions of pike / trout relationship. We are only looking for numbers.
18. PB The IFI data showed 378 pike stomachs were looked at. 74% had food. But only 46 of these contained trout – so why so IFI reports published show such a difference.
SS The data are good enough to support a peer reviewed paper.
19. JK The use of CEN standard nets is better than angler / electrofishing data.
KD no too many empty stomachs from nets. The CEN standard is based on European populations of fish. Not the best method.
JK But is you don't know what is in the water you can't say what they preferred to take.
CF the CEN nets only give a CPUE no the actual population sizes.
JK but you need to know the population size to see the whole picture
KD We will never have that level of data
20. PB – Re the 1996 report: Comparing the CPUEs in fisheries that are not comparable. Spawning capacity, euphotic zone, littoral areas...
KD Yes those graphs showing pike / no pike are not comparable.

Mr. Paul McLoone

1. JK – did you use CEN standardised netting for all your work?
PMcL No – there is not a standard set for this type of study. It would be impractical to use existing CEN standard to study any lake for 12 months of the year. But we do have data from CEN standard studies from the lake.
2. DH Roach were not well established in Sheelin during the PG study. This study should make seasonal feeding patterns apparent and show the predation by pike on other species.
PMcL we will know what the stock in the lake is and what is in the pike stomachs.
3. JK You can't do a study without using a standard. What standard are you using?
PMcL CEN standard studies have been used on the lakes. We tested our methods against the standard in the Lough Derg Survey – it compared CEN against MOG and Electrofishing. So we have a sample of the stock and also monthly data.
SS Relative Abundance of fish is stable so one intensive sample is used in CEN studies. Lough Conn was CEN surveyed in 2015. Derravarragh will be in 2018
4. MK asked JK if he was saying that he would not accept the findings of the study even before the project has finished?
JK Yes we have concerns.
5. PMcL the CEN nets are not suitable for studying pike in Irish lakes. In one three week period no pike were caught but they were taken by the other methods.
6. PMcL we hope to get 30 – 50 pike per survey and will present the data by size range. We have not encountered any 30lb pike, but have 20lb fish. The gear is not likely to get 30lb pike – this is something more likely to be encountered by angling. The CEN nets not capable of catching larger pike, even the MOG method has limited ability for this size.
7. PB – Pike digestive rates. Time between meals.
PMcL we will take into account that digestive rate is temperature dependent.
PB Yes other studies have established the temperature range.
JC Spurious science. Someone I know had 3 pike in a tank and they ate any time food was put in the tank.

In general discussion JC agreed that cold blooded fish will digest faster in warm and slower in cold conditions.

8. JC The designated trout lakes should be managed. Pike need to be controlled. I once caught 23 pike on frogs at Castleree in the 1990s. But then with the “boom” there were so many [redacted] that not a fish or pike in the same stretch in 10 years. And the trout too. Pike need to be controlled in 12 lakes and anywhere they get out of control. Just like the foxes. But not the destruction or elimination of the species

Dr. Ken Whelan

1. Benefit of pike management: In large lakes if left alone a balance will be reached. But how can you tell there is balance and what other impacts are affecting this. Until we understand the ecology we will not be able to determine the correct management approach
2. JK have you done any direct research in the designated lakes?
KW No
3. JK If you want to have a big trout fishery you need pike management
KW I don't agree. There are many predators – which one do you control first? Must be based on an understanding of the ecology.
4. JK Does this research exist?
KW No. We should be cautious of doing anything until we get the numbers. Ree is an interesting example – trout improving, pike numbers increasing. But pike associate more with coarse fish shoals.
5. KW advocated managing the western lakes as salmonid fisheries but using the midlands and Shannon lakes to experiment on. Pike should be designated as a sport fish. An unmanaged pike population will not make trout extinct or cause unreliable angling
6. Are pike native: Not based on the DP study – no provable theory as to how they colonised Ireland naturally was put forward.
7. Can we have top class pike and top class trout fishing in one lake? I don't know. The only way to see is to run a study in a midlands lake. Not a pike management question - a lake management one.
SS Are you saying that removing pike might impact negatively on trout in a lake like Sheelin?
KW Yes
JK this would have bad implications – very emotive. Sheelin is unique. Should be managed as such.
KW Trout need to be protected. But the management action to achieve this is not straight forward.
8. PB – Are pike non-native or naturalised?
KW Naturalised – absolutely as this stage. But they should be managed where they negatively impact on the lake ecology/desired angling outcomes.

Actions

The following actions were assigned:

- MK to upload presentations to web on receipt

- Additional questions be put to the previous meeting's presenters as time was short on the day