Hoveton Great Broad Bio-manipulation

BASG

ifm
Institute of Fisheries Management

ANGLING TRUST

Hoveton Great Broad Bio-manipulation

- Anglers Partnership with NE since conception in 2013
- Many thousands of hours spent through volunteer effort
- Adoption of an evidence based approach

- Large concerns over potential impact to the wider catchment
- Additional investment in fishery science and tracking secured
- Data and evidence to date shared with BASG in Jan-19
- Mitigation measures not fit for purpose
- 2019 spawning and migration assessment almost concluded

- BASG engaged with the IFM for an expert independent assessment April 2019
- More evidence becoming clearer by the day

- The need to give the fish a voice and protection in their natural environment

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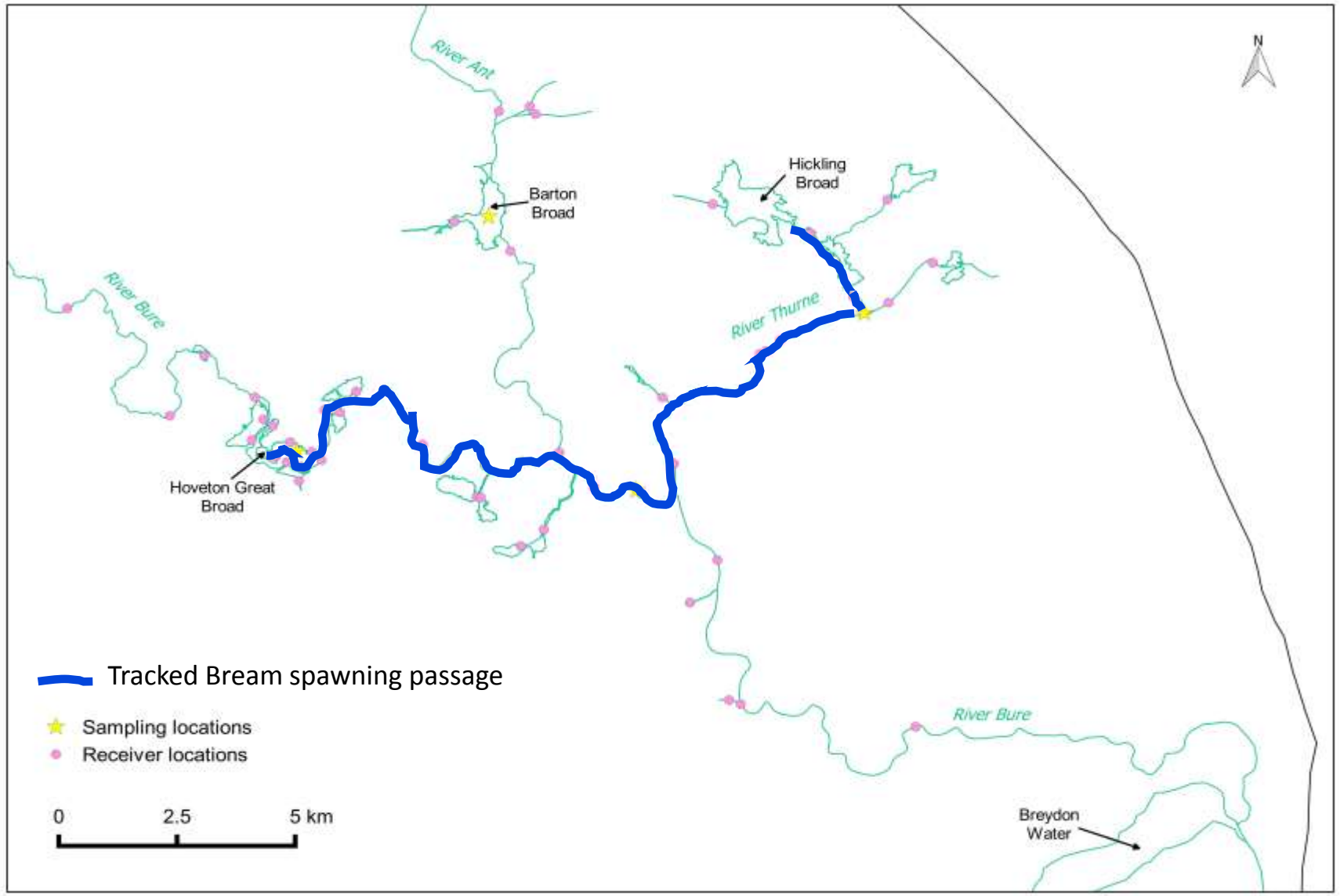

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What the IFM experts are saying

- It appears unlikely that exclusion of spawning bream from entering HGB will be sufficient bio-manipulation to reduce phytoplankton densities, increase water clarity and ensure macrophyte recovery.

- Bio-manipulation in HGB by excluding spawning bream could have severe impacts on local stocks in both HGB and the River Bure, affecting fish community structures, aquatic ecology and angling.

- It also produces a dilemma for the Environment Agency with its duties to ‘maintain, improve and develop fisheries in a way that, amongst other things, enhances the socio-economic contribution of fisheries and puts people at the centre’, and as a competent authority for the Water Framework Directive charged with maintaining or improving the ecological status of water bodies.

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Proposed way forward

Discussions will be held with Natural England to clarify the points raised in the Problem Analysis and recommendations from the IFM report.

Based on the evidence now available, the angling community will assess the potential of using legal powers to restrict the closure of HGB to fish passage.

This is based on the ECJ ruling in July 2015 (The Weser Case: Case C-461/13 BUND V GERMANY), that any deterioration caused through the manipulation and closure of fish passage could be subject to legal challenge, not only for the Broad itself, but also with the growing evidence of the critical relationship that HGB has in the wider Bure Catchment.

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Additional items for discussion

What are the statutory bodies doing?

This will run is in parallel to any Environment Agency activity

Is isolation of the Broad the correct approach

Could improved aquatic plant growth be achieved using partial area fish exclusion techniques and be seriously considered as an alternative to the proposed isolation plan

BA themselves now see excessive Barton Broad weed as a risk to navigation

There needs an appropriate balance between ecology and recreation access

Is there a fully successful bio-manipulation they can used as a reference model

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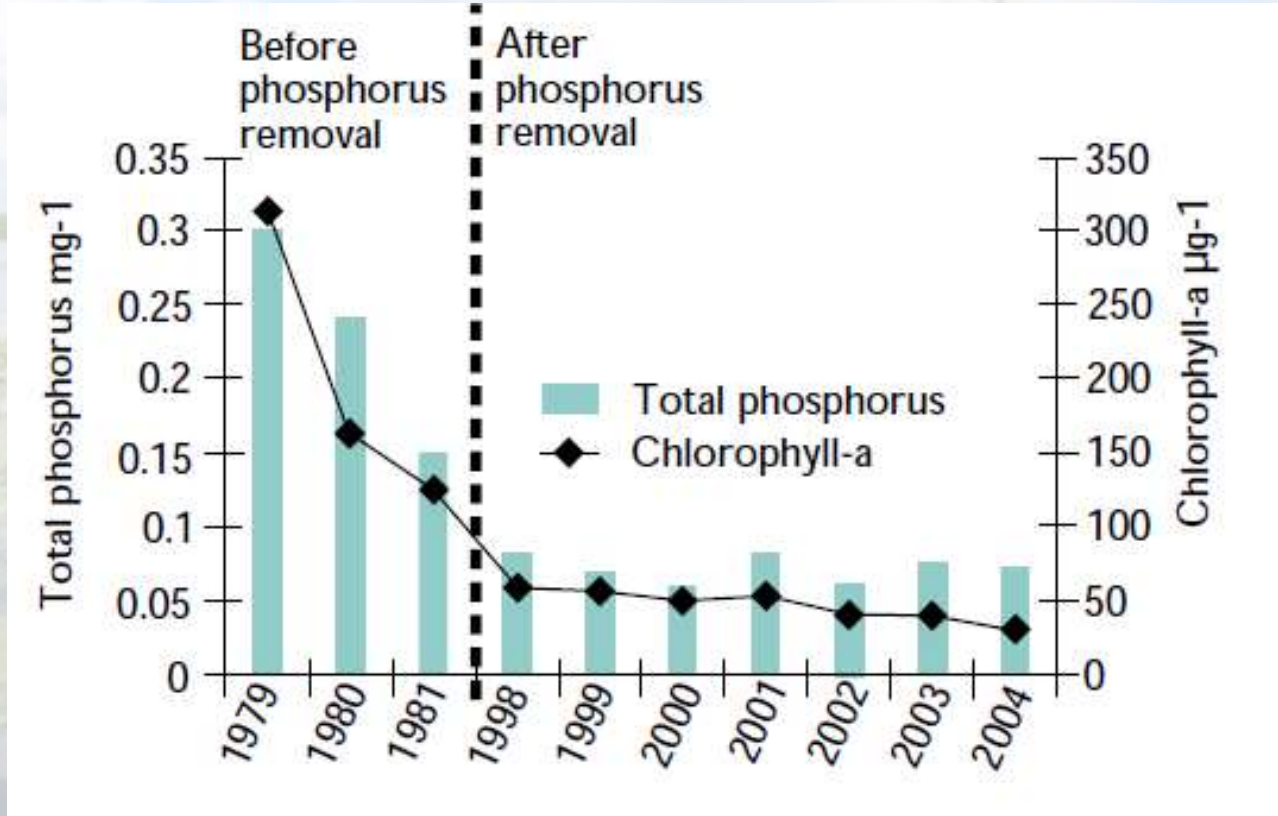
Additional points for discussion

It isn't clear on the current nutrient load within the Broad, indeed there remains little evidence that the removal of cyprinoid fish alone would achieve the project objectives.

Annual average total phosphorus and algal (Chlorophyll-a) concentration in Barton Broad with resultant P stripping from STW's.

Source Clearwater 2000 project

Fish seem to have minor impact



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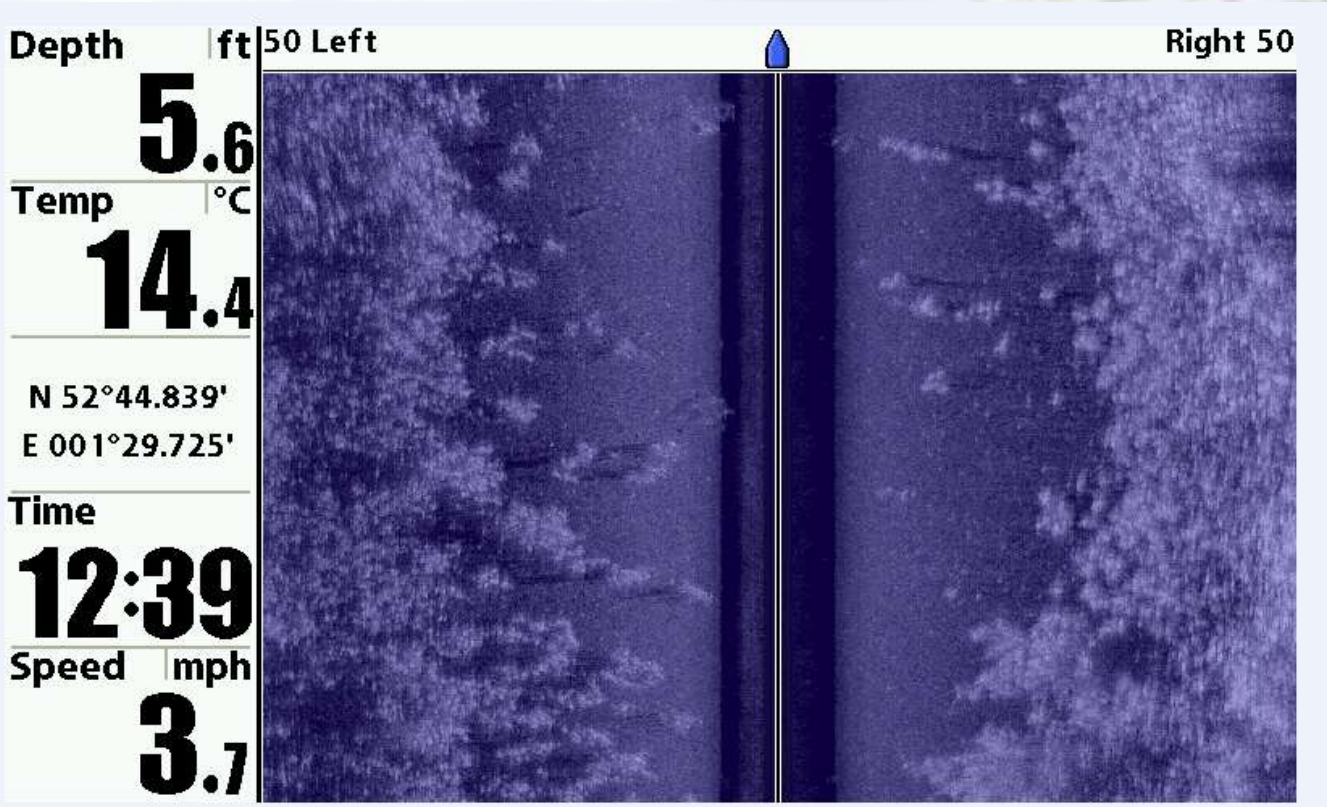
Additional points for discussion

The roles of fish and other organisms in phosphate recycling and control of zooplankton that in turn control phytoplankton, water clarity and macrophyte recovery should be regularly monitored and modelled against project objectives.

Evidence from Barton Broad clearly shows that with decreased nutrient load only plants can re-establish themselves.

As demonstrated in this side scan Image from 2014 taken 1km outside the enclosed area with fish present.



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Additional IFM recommendations for discussion

The targets for fish exclusion by the fish barriers need to be quantified and overtly stated.

Likely impacts of the bio manipulation of fish on the WFD ecological status of both HGB and the River Bure should be modelled.

The age and size structures and diets of relevant fish species in the communities of HGB and the River Bure should be monitored and related to the need, if any, to remove fish of particular species and sizes in order to achieve project objectives.

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Additional IFM recommendations for discussion

End points for fish removal and fish exclusion operations should be pre-determined for various scenarios.

A preliminary study should be carried out to assess the efficacy of a partial bio-manipulation excluding bream spawners, effects on recruitment, potential impacts on catchment stocks and to inform future approaches.

Mitigation measures for effects on angling during the fish exclusions should be discussed, as well as establishment of a new fishery adapted to a restored environment.

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Additional feedback from survey the team for discussion

Data show elevated fish densities above any other broads during the preliminary stages of the project 2013-2016

2015 spawning season showed huge bream presence during spawning and evidenced

Current data awaiting confirmation, but volunteers report few bream observed anywhere on the northern broads system other than the HGB complex

Conclusion to date: Closing the HGB complex to fish and bio-manipulating the fish stock will have a profound effect upon the local fish community as well as wider afield, potentially affecting the wider Northern Broads System.

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Questions?