

Managing fisheries in Norfolk, Suffolk, Essex and the Broads

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Environment Agency**

**Broads Angling Services Group launch event
20 May 2018**

Norfolk & Suffolk Broads- Angling's National Park!

- UK's most unique & important natural freshwater fishery resource
- 18% of visitors went fishing
- Anglers influenced expenditure worth between £91 million - £153 million in 2013
- 39% of private boats and at least 40% of hire boat activity influenced by angling



Broads Angling Strategy – Working in partnership to maintain, improve and develop angling & fisheries in the Broads area



4 themes encompass the issues affecting fish stocks and fishing:

- Sustainability
- Access to angling in the Broads
- Communication & Education
- Environments for fish



Broads Angling Strategy – providing the framework for managing fisheries

Access to angling in the Broads



giving
nature
a home



Broads Angling Strategy – providing the framework for managing fisheries

Communication & Education – Working to ensure anglers have the information, guidance & confidence to fish the Broads



www.basgonline.org



Broads Angling Strategy – providing the framework for managing fisheries

Environments for fish – Working to ensure thriving fish stocks and an environment that supports them



Environments for fish: Understanding fish stocks

Vital to enable effective fisheries management

- Hydroacoustic surveys provide fish density distribution data for the Broads tidal rivers and are completed on annual basis
- Hydro Survey boat also fitted with water quality sensors to check dissolved oxygen, salinity, pH etc along whole river alongside fish data – Massive WFD benefits!
- Electric fishing surveys – e.g winter boatyards & match catch data
- Improving our knowledge of Broads fish ecology e.g. fish tracking & ARIS/side imaging sonar

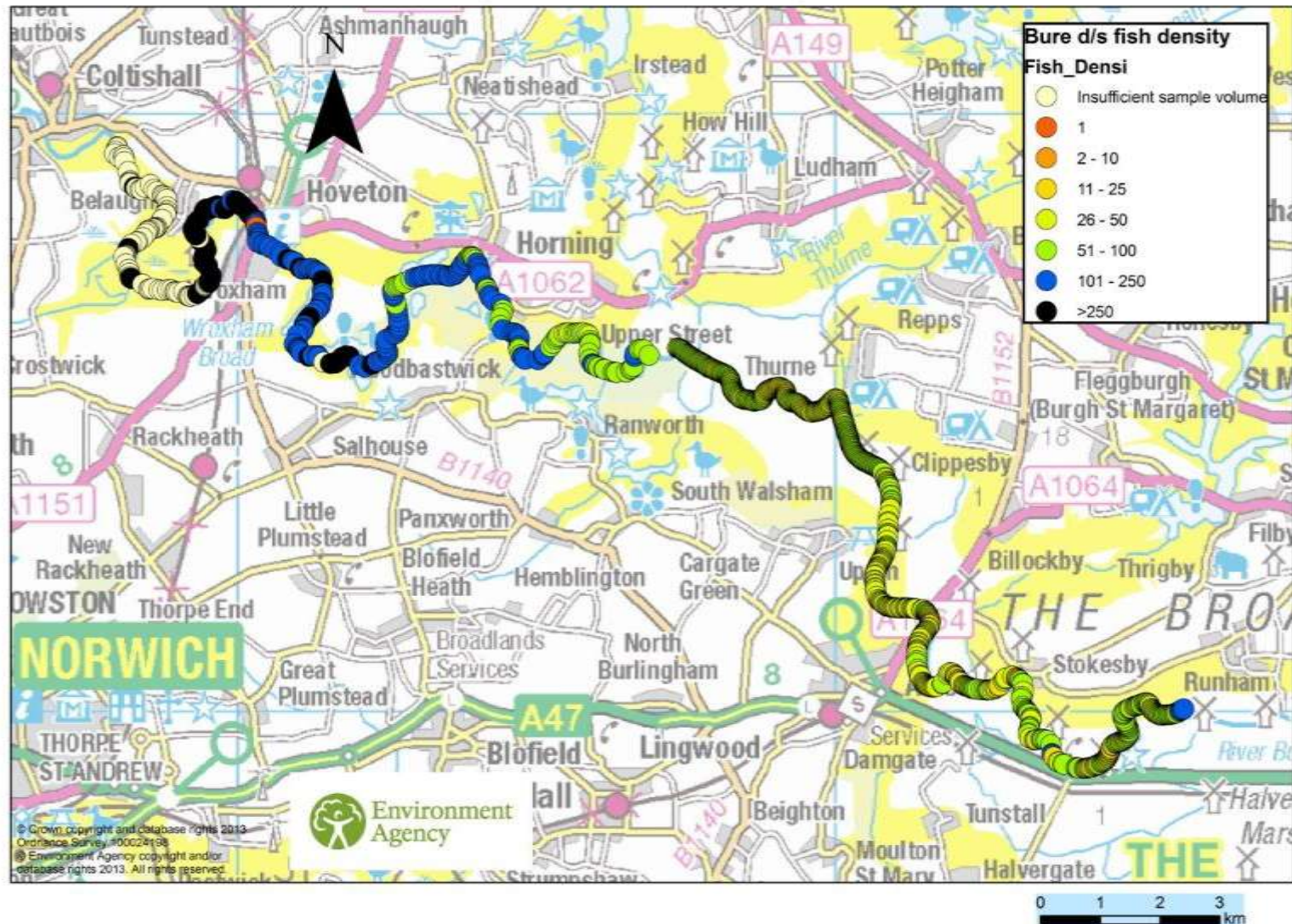


Routine NFMP hydroacoustic fish survey 2014

High fish densities reflecting excellent habitat diversity

Overall mean fish density in river much higher reflecting excellent angling results

River Bure: Hydro acoustic fish density 2014.



Environments for fish:

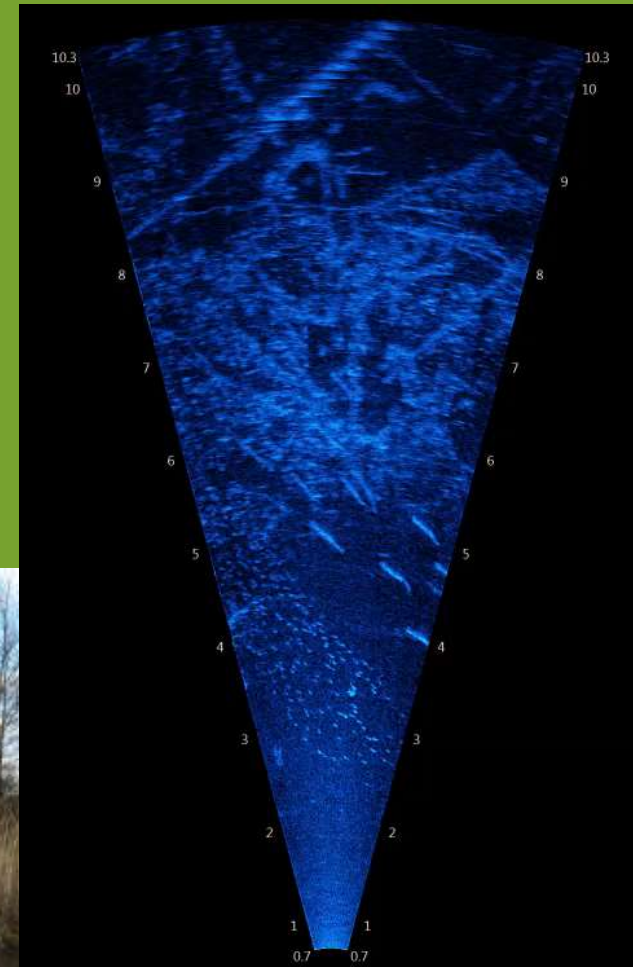
Traditional fish survey techniques – eg electric fishing to assess young fish



Environments for fish: understanding fish movements eg ARIS

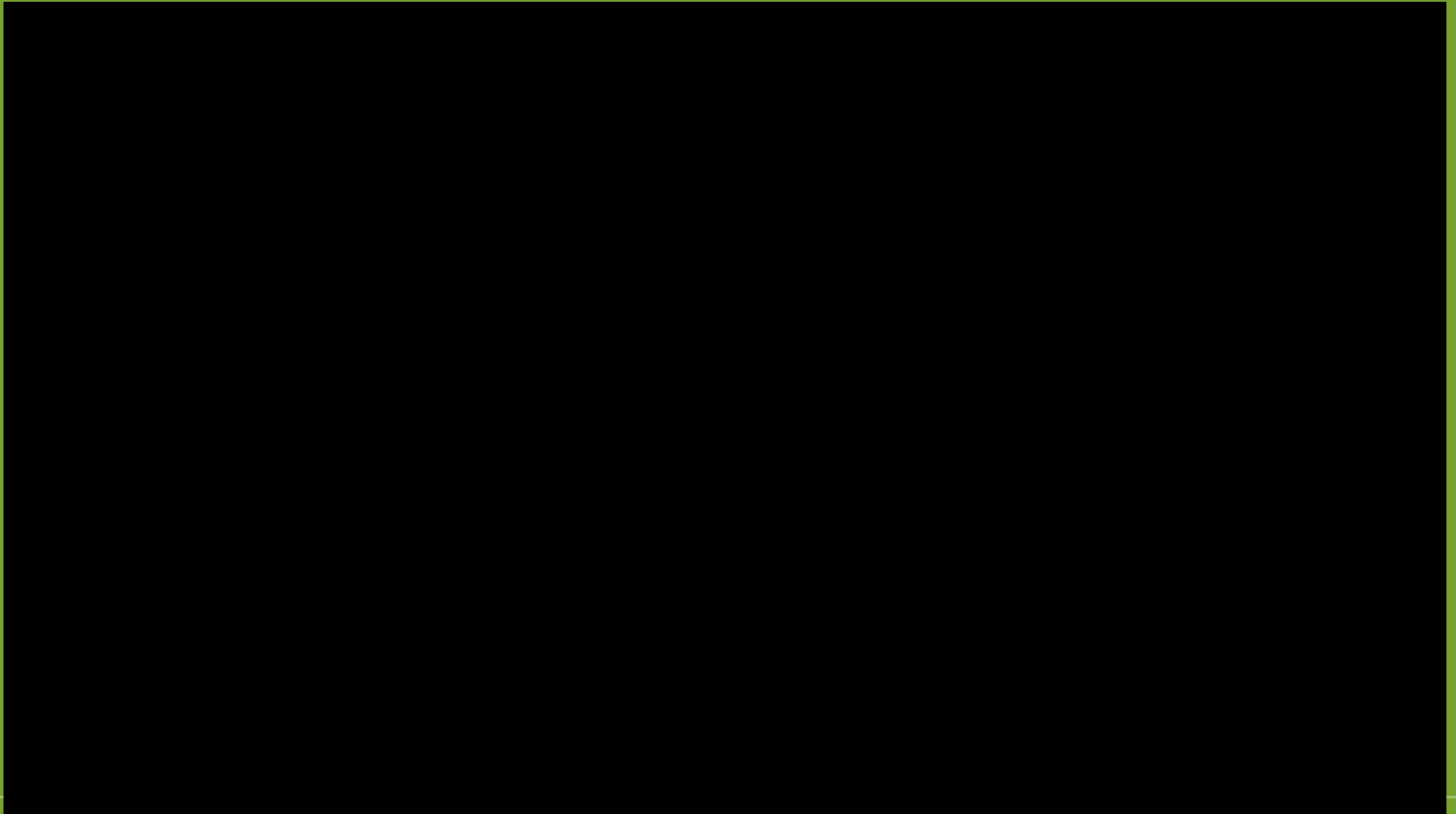
Coarse fish are complex creatures in a complex environment – we need to understand how they use it.....

Seasonally AND on a daily basis!



Environments for fish:

Developing new multi-method techniques – ARIS and side-imaging sonar
e.g. for assessing spawning fish without disturbing them



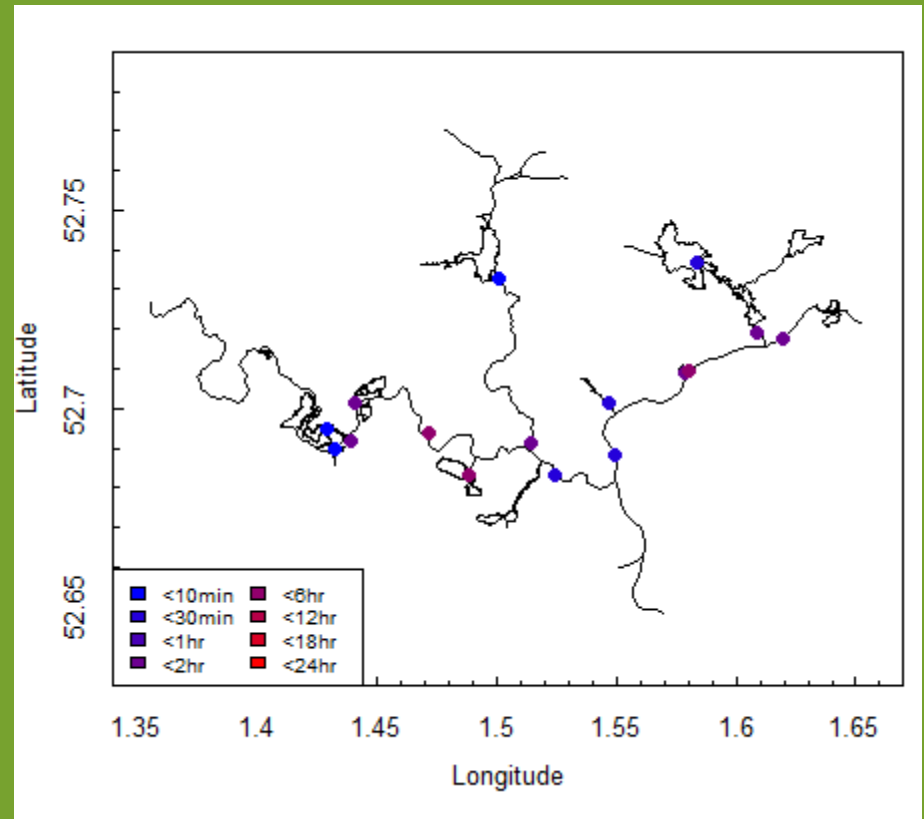
Understanding fish movements in the Broads

Northern Broads Fish Tracking Project

Fish are more nomadic than
you'd think!

e.g. Movements of acoustically-
tagged Thurne pike from mid-
Jan to March

(pike captured and tagged from
Zone 3 – Potter Heigham to
Thurne Mouth)



Environments for fish:

Natural threats to fisheries: **Salt surges & Prymnesium**



Environments for fish: Saline incursions

Seasonal storm surges down the East coast not only cause flooding.....

Serious impact on fish stocks, trapping & killing thousands of fish



Environments for fish: Saline Incursions

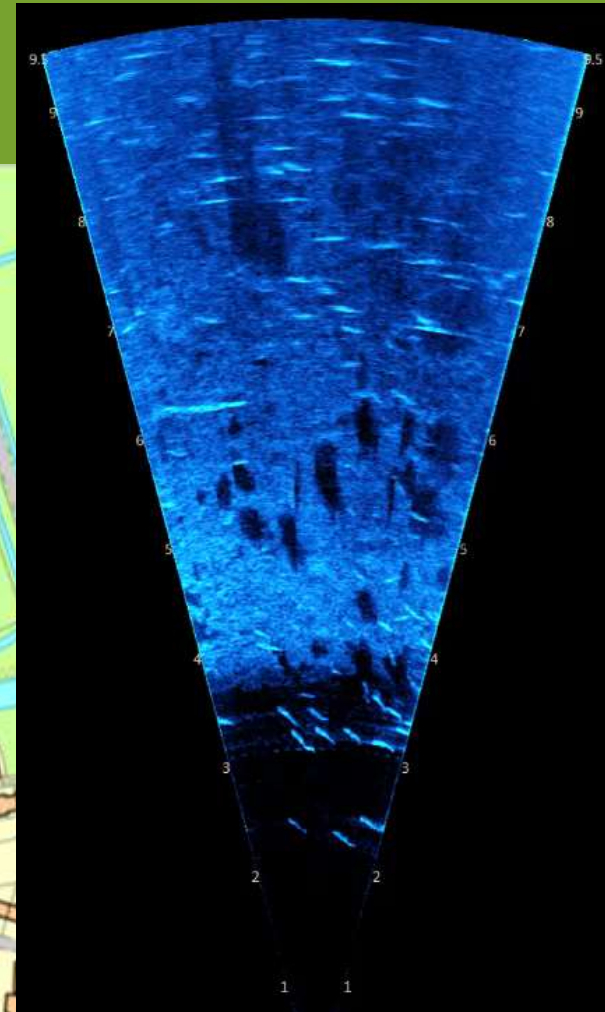
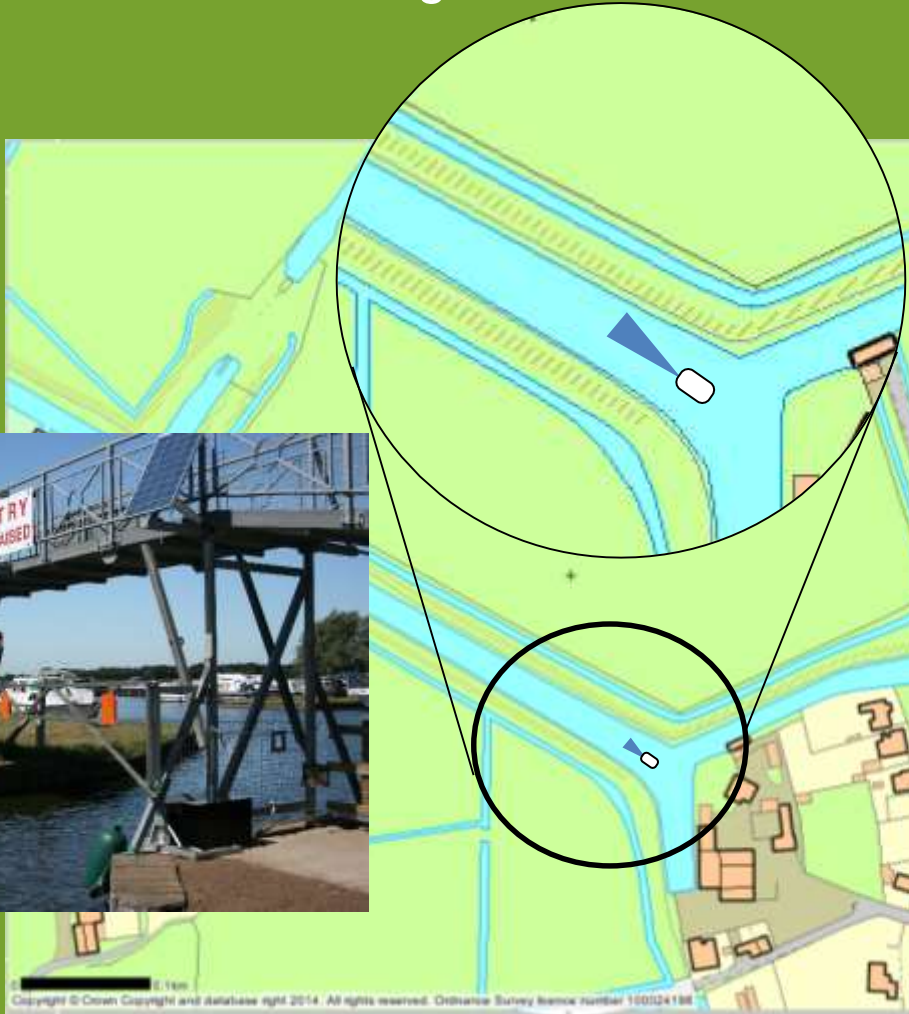
How do we manage the risk of saline incursions to fish?

- Understanding fish stocks, their distribution & the habitats they use
- Responding to incidents – saving fish & gathering evidence
- Ensuring that fisheries are considered as part of the future management of the Broads

Saline Incursion & Prymnesium - Incident response & Management

Saving fish

- Potter Heigham barrier protects 100's 1000's of over-wintering fish
- ARIS sonar survey can be used in incidents to assess numbers of fish at risk + manage incidents



Environments for fish: Saline Incursions

Incident response partnership – Broads Salinity Monitoring Project

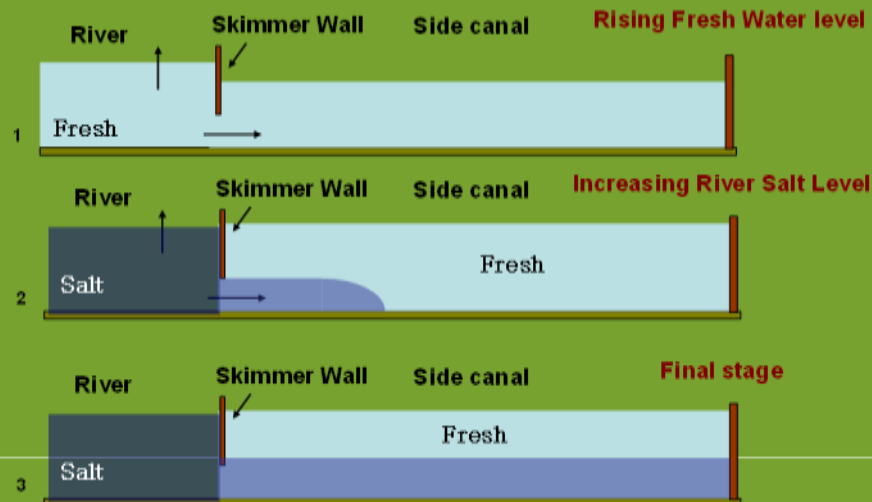
- Working with angling volunteers to extend our WQ monitoring and impact assessment capability during incidents
- New data showing extent of saline incursion on southern rivers & high risk to fish populations
- Has lead to stronger business case for additional fixed telemetry monitoring and incident response e.g. River Chet
- Initiative helping to build data for publishing angler info during incidents
- Potential to extend existing partnership model with sonar capability to enable anglers to help pinpoint fish at risk during future incidents



Environments for fish: Saline Incursions

Future management: new options to reduce the risks in future?

- Commissioned Deltares report in 2015/16
- Catchment scale – Broads barrier options appraisal; creation of washlands to reduce extent of saline incursion
- New site specific fish protection measures – air curtains (now considered unfeasible); ‘skimmer wall’ concept being assessed



Environments for fish: Saline Incursions

- 'Skimmer wall' initial 3D modelling results suggest it may be able to reduce salinity penetration into dead-end dykes (modelling based on Acle dyke)



Prymnesium Improving management and understanding of toxic algae blooms



Exercises:



Partnership – Hydrogen peroxide trial



Environments for fish Fisheries enforcement & regulation –
Partnership working – Norfolk Police, Broads Authority & YOU!
Report incidents of illegal fishing 0800 80 70 60

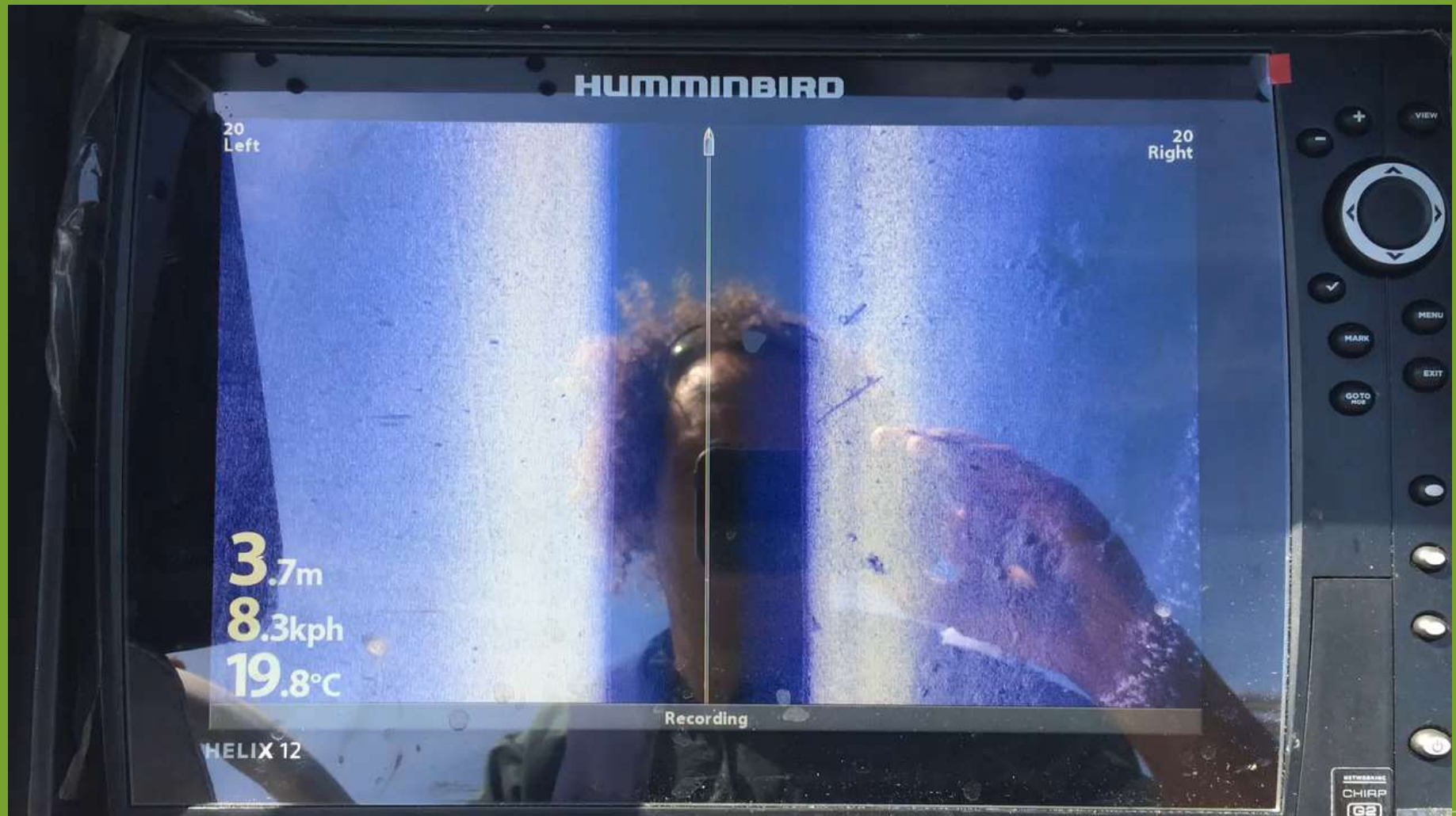


Environments for fish Fisheries enforcement & regulation – Checking for illegal nets



Environments for fish Fisheries enforcement & regulation –

Checking for illegal nets



Environments for fish Fisheries enforcement & regulation – Checking for illegal nets

