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FREE

ANGLE ON THE

Broads

HELPING YOU TO GET THE MOST OUT OF FISHING ON THE BROADS



**Code of
Conduct**



**Fish Species
in the Broads**



**Pike Fishing
Guide**



**Where to
Fish**



**ENVIRONMENT
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The Broads are one of Britain's best known angling locations and one of the region's premier tourist attractions.



WHERE TO FISH

A guide to the species of fish most likely to be caught at different locations throughout the Broads is given on these maps. The preferred methods for catching these fish are also shown.

UPPER THURNE - A DELICATE JEWEL



WHERE? WHEN? HOW?

An understanding of the tides and the seasonal migratory pattern of fish in the Broads rivers is essential or you might easily end up fishing where there are no fish!

FOCUS ON PERSONALITY

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CODE OF CONDUCT

A BRIEF HISTORY OF BROADLAND PIKE

The origins of the broads are now lost to history, but it is doubtful if they have ever been without the pike, a truly ancient fish, existing in Norfolk for considerably longer than the broads themselves.



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The Environment Agency Fisheries Team is responsible for surveying the fish populations within the Norfolk Broads. The team has data sets extending back over 20 years.

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A series of interconnected shallow lakes isolated from the main river system and virtually undisturbed.

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Welcome to the Broads.....

DEBBIE JONES

(ENVIRONMENT AGENCY ANGLIAN REGION FISHERIES ECOLOGY AND RECREATION MANAGER)

This magazine has been published to provide anglers fishing the Broads with comprehensive information to help them enjoy and appreciate the wonderful fishing opportunities the area has to offer.

The Broads are one of the United Kingdom's most special and historic fishing areas. They really do have something to offer all anglers, whether it be a bag of roach through to a specimen pike. However, the Broads environment is a fragile one, and your help is needed to ensure that our valuable fisheries are cared for and developed for current and future visitors to enjoy.

Contained within the pages of this publication you will find a wealth of information, best practice, hints and tips that will help ensure the success of not only your holiday, but also help conserve the environment and the quality of the angling it provides in the Broads.

'Angle on the Broads' has been produced as part of the

Broads Fisheries Action Plan (FAP). The FAP is a partnership between the Environment Agency, The Broads Authority and the Broads Angling Strategy Group. The primary aim of the FAP and the partnership is to produce a long term strategy for the sustainable development and conservation of Broads Fisheries.

Whether you are a regular visitor, or here for the first time, I'm sure this publication will have something to interest you.

I hope you enjoy the magazine, and the great fishing the Broads have to offer!

If you have any comments on this magazine, or would like a copy of the Broads FAP please contact:

FAP Project Manager - Simon Johnson
Environment Agency
79 Thorpe Road
Norwich NR1 1EW
01603 662800



A quiet bay on Hickling ideal for small fishing boats.

BASG Committee



Broads
Angling Strategy
Group

Angle on the Broads is the brainchild of a partnership of a group of anglers with the Environment Agency and the Broads Authority. Set up in May 2000, the Broads Angling Strategy Group aims to ensure that there is adequate provision in the Broads for anglers and that the quality of

the fishing is safeguarded for the future.

The group is composed of anglers with a wide range of experience, but all of whom are Broads anglers at heart.

Under the chairmanship of John Nunn, who has been fishing and writing about the Broads since his childhood in the sixties, the group is made up of conservation pioneer and angling writer, Chris Turnbull; local tackle dealer and author Martyn

Page; Norfolk pike angling's historian, author and artist Stephen Harper; Barton Broad enthusiast Bob Jackson; NFA angling coach and match fisherman Dennis Willis; Broads Authority Member Bill Knight; well known match angler Tom Boulton; Trinity Broads enthusiast Richard Barnes; Norwich and District Angling Association's long serving secretary Cyril Wigg. Environment Agency's Fisheries Team Leader Simon Johnson and the Broads Authority's Trinity Broads Project Manager, Cath Wilson complete what is a formidable team.

The group has helped develop a Fisheries Action Plan which aims to provide a long term strategy for the Broads with emphasis placed on increased access for anglers and better information for visiting anglers. This publication along with the group's Code of Conduct leaflet will provide fishermen with better information, as well as giving angling the high profile it merits.

PLEASE REMEMBER THE CLOSED SEASON APPLIES TO THE BROADS AND RIVERS 15TH MARCH - 15TH JUNE INCLUSIVE

A FISHERIES ACTION PLAN FOR THE Norfolk Broads

At 300 square kilometres, the Broads are one of Britain's best known angling locations and one of the region's premier tourist attractions.

The sport accounts for at least 17 percent of visitors to the area and contributes in excess of £20 million to the local economy each year.

For many it is the lure of some of the biggest pike in the country at places like Hickling and Wroxham Broads, where British record predators in excess of 40lbs have been caught.

For others, it is the opportunity to catch a bag of roach or bream and simply get away from it all in a quiet reed fringed bay, or even fish in a winter match in the city reaches of Norwich.

"The Broads has something to offer to all fishermen."

However, despite its undisputed reputation as one of the nation's favourite angling destinations, the fisheries of the Broads present many, sometimes complex issues that affect the potential maintenance, improvement and development of this important resource.

For the reasons above the Broads were selected by the Environment Agency to be its pilot project for developing a Fisheries Action Plan (FAP).

FAPs have emerged largely in response to 2000's Government review of the Salmon and Freshwater Fisheries Act. One of its key recommendations was for greater consultation between the Agency and local angling interests.

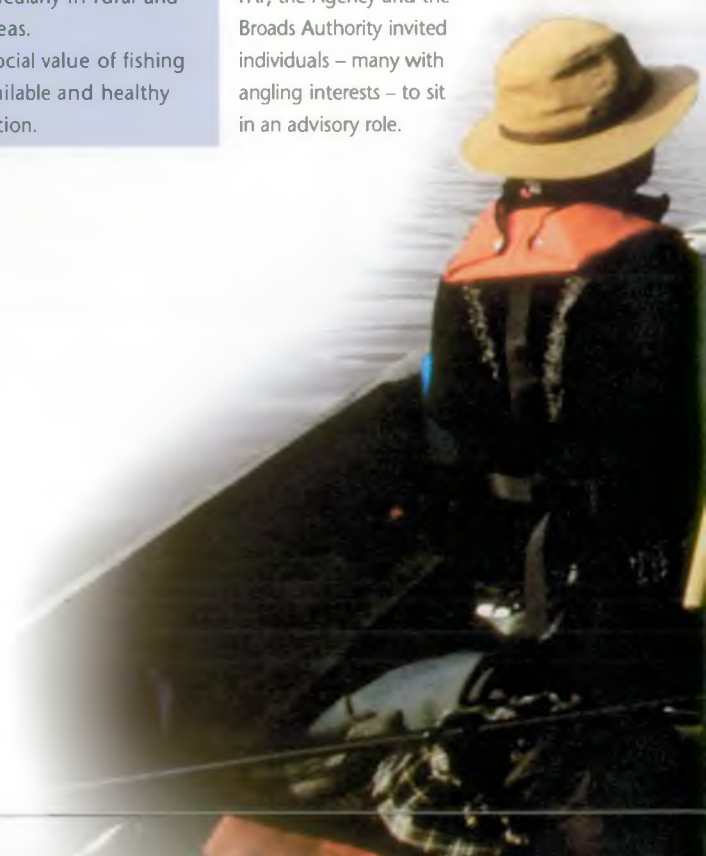
It also sets out the following objectives for the conservation and management of freshwater fisheries.

- ◆ Ensure the conservation and maintain the diversity of freshwater fish, salmon, sea trout and eels and to conserve their aquatic environment.
- ◆ Enhance the contribution salmon and freshwater fisheries make to the economy, particularly in rural and low income areas.
- ◆ Enhance the social value of fishing as a widely available and healthy form of recreation.

FAPs are regarded as the best way to make the above happen in a framework of consultation with all fisheries interests.

At the time this new idea was evolving, the Agency was working with the Broads Authority to develop an Angling Strategy for the Broads. It was decided that the strategy should adopt FAP status and become a model for successful fisheries management.

As partnership is at the heart of the FAP, the Agency and the Broads Authority invited individuals – many with angling interests – to sit in an advisory role.





Enjoying the tranquility the Broads has to offer.



“The Broads have something to offer to all fishermen.”

Known as the Broads Angling Strategy Group (BASG), it consists of members representing angling, conservation, navigation and commercial interests, all of whom share the common desire to keep Broads fisheries special.

The group meets four times a year and works alongside the Agency and the Broads Authority in development of the FAP for the area.

The group has a strong angling feel. Several Associations, clubs and a consultative are represented comprising 2000+ members and in excess of 25 fishing club and groups.

Aside from FAP development, BASG also advises the Agency and the Broads Authority on day to day management issues as they arise.

The fact that the Government Review recognises the contribution that fisheries make to rural economies, combined with this new initiative on the Broads means that local and visiting anglers alike can look forward to a greater say and greater fishing.

The FAP concentrates on four main areas:

- ▶ Fisheries Management and Ecology
- ▶ Access
- ▶ Information and Education
- ▶ Urban Fishery Development.

The emphasis of the FAP is on action and not just activity. In the short time since it has started to be developed there have been several early successes. Production of this magazine and the

‘Catching Fish in the Broads’ Leaflet are actions stemming from the Information and Education section which aims to provide quality fisheries information to local and visiting anglers. With combined print runs of 30,000 it is hoped these two publications will enable anglers fishing the area to enjoy catching fish in a sustainable, safe and responsible manner.

The FAP provides a framework for fisheries development over the next five years and beyond. Whilst funding can never be guaranteed, one thing we can be certain about, is that for the first time, the fisheries of the Broads have in place a strategy they so rightly deserve.

If you would like a copy of the FAP, or have any questions or views on the Broads fisheries issues please contact the two project managers:

Simon Johnson
Environment Agency
79 Thorpe Road
Norwich
NR1 1EW

Tel: 01603 662800

Or

Cath Wilson
Broads Authority
18 Colegate
Norwich
NR3 1BQ

Tel: 01603 610734

Simon Johnson – Environment Agency

THE BROADS

A guide to the species of fish most likely to be caught at different locations throughout the Broads is given on these maps. The preferred methods for catching these fish are also shown.

The species listed are the ones you are more likely to catch, other species are present at all venues. Conditions vary according to tides and wind directions. These will affect the speed of flow, which in turn will make alternative methods work other than those labelled

for a given venue. For example a faster than normal flow where a light feeder is indicated may lead to a heavier feeder being a better option, or float tackle might be more appropriate if the current slows down.

The locations for various species are for the summer and autumn months, you would be advised to refer to main text for winter locations.

KEY

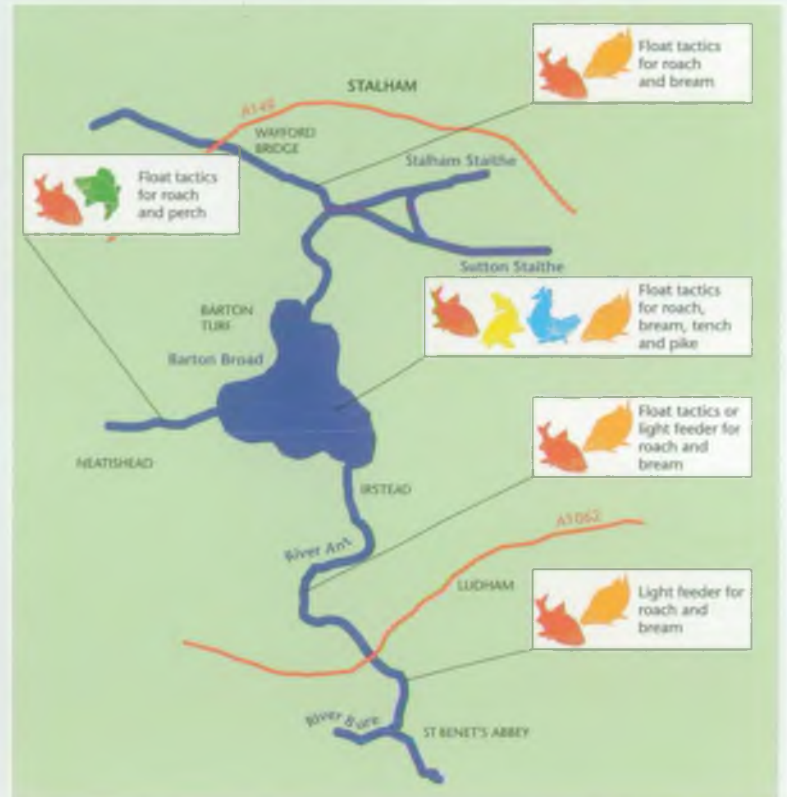
-  Bream
-  Roach
-  Tench
-  Perch
-  Pike
-  Rudd





The still solitude of a broad.

RIVER ANT



RIVER BURE



RIVER THURNE SYSTEM



SOUTHERN RIVERS



Upper Thurne - a delicate jewel

The Upper Thurne stands out as the area where Broads fishing legends were founded. It was here in the 1930's that Jim Vincent made his name pike fishing the wilderness that was Horsey Mere and Hickling Broad. Later, in the 1960's, Dennis Pye hit the angling headlines with regular catches of giant pike from these same waters. Other local anglers such as Frank Wright, Len Spencer, Bill Giles and Reg Sandys caught pike in such numbers and of such great size that the Thurne became a magnet for pike anglers from all over Britain. In 1960 the English record pike, a colossus of 40lb, was landed by Norfolk farmer Peter Hancock on Horsey Mere. The Thurne system's place in English pike fishing history was established.

Its reputation was to be added to two decades later with record fish caught by local angler Derrick Amies and by the well known pike angler and writer, Neville Fickling, maintaining the Thurne's name in the record books.

Bumper catches of bream from Deep Dyke, between Heigham Sound and Hickling Broad, specimen rudd from the reedy margins of the system and large tench from the Thurne in the vicinity of the Martham Broads have all added to this area's reputation as an angler's paradise.

Of all the rich landscapes of Broadland, the Upper Thurne System is probably the one that encapsulates most people's image of the Broads most accurately, yet it is the most vulnerable to the whims of nature's forces. Situated within sound of the breaking waves, the whole area was twice inundated with seawater during the 20th century. In 1938 and 1953, the low marram hills were breached by high tides and gale force winds as a tidal surge swept along the low lying coasts of the southern North Sea.

The inundated land took a long time to recover and even now high levels of salt remain in the subsoil. Indeed, high salinity in the low lying land that surrounds the Upper Thurne has led to regular fish kills from the toxin given off by the *Prymnesium parva* algae.

Most affected have been the pike stocks, which were devastated in 1969 at the height of the Thurne System's reputation for exceptional pike catches. It was to be twelve years before reports of large pike from the area heralded its return to the front pages of the angling press. But sporadic fish kills caused by prymnesium have continued - the last kill in 1999 having another marked effect upon the area's pike population. More threat from salt comes via the increasingly dangerous tidal surges that force the deadly saltwater further up the gently graded rivers. This serves to fuel the killer algae with a more salty habitat. *Prymnesium* only occurs in the Thurne System, within the Broads catchment area. However it is well known in Israel and also Holland. It is hoped that some information from these two countries can lead to a better understanding of what triggers the killer toxin produced by the dying algae

and perhaps lead us to a point where we can successfully combat that threat.

Such threats have led to the formation by the Broads Authority of a working group to study the factors influencing the area's ecology. This group has met regularly throughout the last two years. It is composed of people with diverse backgrounds and leisure interests, but with a common commitment to protect and improve this area. The Upper Thurne Working Group is looking to increase our understanding of what is a complex ecosystem. Local landowners, anglers, birdwatchers, boat hirers, parish councillors and holiday cottage owners have joined forces with the officers of the Broads Authority and Norfolk Wildlife Trust to set about preserving this most precious Broadland jewel. Leadership is provided by the group's Chairman, Professor Tim O'Riordan from the University of East Anglia.

One approach being taken is to find out more about where the salt concentrations are heaviest and what can be done to protect fishstocks from algal kills. One possible solution is to provide the fish with refuges of fresh, algae-free water that they can retreat to at times of prymnesium threats. Pumping freshwater into the system has been tried in the past, but was found to lower surrounding water tables to an unacceptable level. Another scheme for the future is the possible provision of algae-free lagoons adjacent to

broads, from which water could be pumped. Already tried, with some success, is the installation of barriers across boatyard entrances in winter to halt the progress of salt water into these densely populated fish holding spots.

The threat of higher sea levels in future makes the likelihood of greater danger from salt tides even more of a problem. With this in mind some members of the group strongly support the concept of a barrier across the River Yare at Great Yarmouth as the only realistic way of protecting the Broads. However, we are told that the cost would be prohibitive.

Fishing from a small dinghy in this landscape of reedbeds, stark drainage pumps and distant sand dunes is a lasting memory for many who visit the Broads. Marsh harriers soar over the beds of sedge and reed that provide the thatch for so many local dwellings; great crested grebes dive for the small roach and rudd that abound in the shallow bays of Hickling Broad, Heigham Sounds and Horsey Mere; coots dive and feed on the rich weedbeds that give cover for the young fish. In winter, the sight of a bittern can add so much to a day's pike fishing. Away from the boat channels in shallow reed-lined bays, rudd can be caught alongside the reeds as can large tench and bream. The angler can find true solitude in such bays.

What a pity if we were to stand by and let events take a course that will prevent future generations from enjoying it too.....

John Nunn

"...regular catches of giant pike from these same waters."



(Far Left) Martham North Broad as it should be.

(Left) A mid winter 20th-1200 from Heigham Sound.

WHERE? WHEN? HOW?

A GUIDE TO CATCHING M

Our rivers and broads are unique in the British landscape. So it should come as no surprise that those who fish them must be prepared to confront him. Without such thought opportunities will be missed and a visit that is not planned for the right time and the seasonal migratory pattern of fish in the Broads rivers is essential or you might

TIDES

The first consideration is that our rivers, and indeed many of the broads themselves, are tidal. What makes this so is the very gentle gradient of the region's rivers, allowing the tide to penetrate far inland. All the rivers of east Norfolk that form the Broads navigation flow into the sea at Great Yarmouth. Anyone who stands on one of the Great Yarmouth bridges will notice just how powerful the tidal flow can be. As far inland as Norwich, Beccles, Wroxham, Barton Broad and Heigham Sounds the tidal flow can be clearly seen. There are two high tides and

two low tides each day and the time of high tide and low tide progresses by just under one hour each day that passes. The further down river you travel towards Great Yarmouth the stronger the tidal flow will become – thus we find that legering takes over as the only viable fishing method in the lower reaches of the rivers. Times of high tides can be seen in local newspapers and from tide tables available in tackle shops. These sources tell us the time of high tide at Gorleston so some adjustment is needed to calculate when high tide will be at various localities in the Broads. As a guide, high tide at Norwich is 5 hours and 5 minutes later than

Gorleston, at Brundall it is 4 hours and 35 minutes later than Gorleston. In national newspapers the time of high tide at London Bridge is featured. Usefully this is roughly the same time as high tide at Horning, Beccles and other parts of the middle reaches of the Broads rivers.

There are variations in the strength of tidal flow from one week to another. A variety of influences cause these variations and anglers need to be aware of these. Many anglers are aware of the changes in tidal flow brought about by Spring Tides, those that occur at and immediately after the day of the New Moon and the Full Moon. At these times the tides are



Boat dykes – a magnet for fish in winter.

Quiet bays for dinghies.



ORE FISH IN THE BROADS

surprise when fishing them that the angler must consider very carefully the conditions promised so much could prove a disappointment. An understanding of the tides easily end up fishing where there are no fish!

stronger, which means that they penetrate further inland and the flow is that bit faster. However, in the Broads there are other influences at work that the angler needs to know about. A sustained period of north west winds leads to higher tides in the

flee at the first hint of it. It is not easy to detect salt in the water – dipping your finger in and sucking it works where the salt levels are high, but saltwater makes its progress upstream along the riverbed (saltwater being denser than freshwater).

water levels as the tidal surge meets the floodwater coming downstream. The result will often be a slowing of the flow and indeed on some days the flow comes to a complete standstill. This is usually not good for fishing – the fish that inhabit our

“There are variations in the strength of tidal flow from one week to another.”

Broads. These are increasingly associated with invasions of salt water up the Broads rivers. They occur mainly in autumn and winter, but are not unknown in the summer. In autumn their effect upon fish populations is profound. The fish flee the lower reaches of the rivers seeking refuge from the salt further upstream. This has the result of making large stretches of the rivers completely devoid of fish by the time November arrives. Any angler visiting the area in late autumn and winter would be advised to avoid these lower reaches. Examples are: anywhere downstream of St Benet's Abbey on the Bure, downstream of Potter Heigham on the Thurne, downstream of Brundall on the Yare and downstream of Burgh St Peter on the Waveney. For pike anglers visiting in winter these distributions of prey fish should be borne in mind. It should also be noted that pike are very vulnerable to salt and will

Therefore the degree of saltiness will be higher away from the surface of the river. What may appear to be a salt-free river can in fact be far too salty for the fish population to bear and they will have fled far from where you are hopefully setting up your gear!

High tides brought on by north westerlies, combined with large amounts of rain will lead to very high

rivers are used to flowing water and they will often stop feeding when the flow slows to nothing. There is, of course a period of still water, referred to as slack water, when each tide changes from flood to ebb. This is generally a period when bites stop for a while. It offers the angler the chance to accurately rebait the swim without the worry of a strong flow making groundbaiting somewhat hit or miss.

Look for perch like this around boatyards.





Try the Upper Thurne for tench.



Some boats are just too big to fish from!

“The centre of Norwich in fact provides the best winter sport of all.”

SEASONAL MIGRATION

What a difference the seasons make. Fish are distributed much more widely in the summer than in winter. Roach and bream can be caught as far downstream as Stokesby on the Bure, Reedham on the Yare and Somerleyton on the Waveney in the summer. But in winter the fish become congregated in huge numbers in very localised spots, many miles upstream of these spots. The reason for this migration has already been partly explained – fish flee the lower, more brackish reaches of the rivers. However other factors are at work too.

The open expanses of large broads such as Hickling or Barton are inhospitable places for fish in winter. Without the cover of weedbeds fish are vulnerable to predators such as cormorants and pike, so they leave such areas and find sanctuary in narrow waterways, such as the dykes that lead into broads and in boatyards. Water temperature too is a factor, with the

temperature remaining higher in such places that are not constantly at the mercy of cooling winter winds. Cormorants are far less inclined to hunt their prey in such places; for starters there are too many people around to suit these shy birds. Thus, where they are accessible the boatyards become favoured winter venues for anglers. Stretches of river to which boatyards are directly connected also offer fine prospects in winter. Notable stretches being through Wroxham, Horning and Potter Heigham. Even where there are no boatyards but where a river passes through a built up area such as at Beccles, the prospects for the winter angler are far brighter than on more picturesque but barren stretches elsewhere. The centre of Norwich in fact provides the best winter sport of all and is a mecca for match anglers from November through to the season's end. So good is the fishing in the centre of Norwich in winter that the stretch demands a chapter of its own elsewhere in this publication.

THE BOAT TRAFFIC EFFECT

Broads fish are used to boat traffic, they have to be. This means that it is possible to

FISHING FROM DINGHIES AND SMALL CRAFT

The fish have sought the peace and quiet of shallow weedy bays away from

“Always wear a Buoyancy Aid.”



Correct use of Buoyancy Aid.

catch fish throughout the day on a busy stretch of river, without the fish being put off by the constant passage of boats, except in narrow stretches such as along the River Ant where daytime fishing is virtually impossible. However, presenting your tackle in the place you want it and how you may wish to is another matter. Boat wash and boats travelling through your swim see to that. A better bet during the busy period of the day is to find a spot away from the rivers and the navigation channels that cross the broads – for this you will generally need a dinghy or a boat with a shallow draft. Where fish have the choice, such as on a large broad, they will stay in the weedbeds in the shallow bays and close to reedbeds during the daytime. At night they leave such areas to feed in the boat channel. So it is obvious where the angler should be depending on the time of day.

If your visit spans more than a one week period a quiet spell on the rivers can be found in the middle of Saturday – changeover time. It is not until mid-afternoon that traffic picks up and you will find very light traffic for about five hours. In the wider reaches, such as the lower Yare and Waveney, fishing through the day is thoroughly practical and large catches of roach and bream can be made using swimfeeder/quivertip tactics. However, you would be well advised to steer clear of busy areas of the narrower confines of the

River Bure between Horning and Wroxham and the River Ant during summer days. Much wiser to seek the peace that the many side broads offer.

the boat traffic for a good reason – to get away from the turbulent water and feed in an environment that offers them food and cover. The stealthy approach that a dinghy allows the angler is all important. Forget about outboard motors and use a bit of muscle power. Oars allow you to get fit at the same time as maximising your chances of catching fish.

But there's much more to it than just ensuring a quiet approach. For many, fishing from a small boat will be a new experience – one that involves a whole new way of thinking. Remember that fish-scaring vibrations travel very effectively through the shallow water to ruin any chance you might have had of catching fish. Some golden rules govern small boat fishing – quiet footwear such as trainers are essential; and your gear needs to be organised in such a way that movement within the boat is kept to a minimum; it is important that the boat is not overcrowded – a safety factor as well as making it much more efficient fishing; linked to not being overcrowded is the necessity of keeping fishing gear down to a minimum – for instance one landing net, preferably with a short handle, is all that is needed rather than two anglers each taking their own. Rods should be tackled up before setting out in the boat – it is awkward for two anglers, each with a twelve foot rod, to try and tackle up in a dinghy that is only eleven feet long! Float fishing is the most effective method when using a small boat, unavoidable small movements of the small boat make bite indication unreliable using leger tactics.

Mooring the boat should be achieved as quietly as possible, with mudweights being lowered gently down in the water rather than being thrown. A comfortable seat will help cut down fidgeting and will also encourage you to remain seated out of sight of the fish.

The safety aspect of fishing from a small boat should never be neglected – **ALWAYS WEAR A BUOYANCY AID.**

“...a small boat will be a new experience”



Broads bream get bigger every year.

**TACTICS FOR THE
BROADS**

The "where to fish" maps in the early pages of this magazine have general guidance on what tactics to use in the different parts of the Broads, now for a little more detail.

It must be recognised that flow rates

over 10lb are present – so a size 12 – 8 hook is appropriate. The experienced pole fisherman will find the roach by controlling the pace of his maggot or caster baited smaller hook as it makes progress just off bottom. Below Thurne Mouth on the Bure, Brundall on the Yare and Beccles on the Waveney are the areas most suited to such tactics.

places. Often the current is very slight here and a lightly shotted float is a practical choice.

On the broads themselves remember that the water is shallow, keep your tackle as light as possible. A crystal waggler is a good bet, being less visible to your quarry in the shallow and sometimes, clear water. Try to find a balance between delicately

“On the broads themselves remember that the water is shallow.”

vary a lot and they dictate how you will be able to fish. The lower reaches of the Yare, Waveney and Bure have powerful currents that make legering with a heavy open end feeder the most successful tactic. Used in association with a stiffly mixed groundbait and large baits such as worm, sweetcorn or bread this is a good method for the bream that inhabit these reaches. It must be borne in mind that they grow large – fish of 7-8lb are fairly common, fish of

Upstream of these points float fishing becomes a more viable proposition, although a light feeder fished with a quivertip rod will provide excellent catches, particularly of bream. Fishing from a boat will allow the angler to have control of a stick float as he trots maggot or caster for the abundant roach stocks. Perch like the areas around quay headings where moorings are situated – try a float-fished worm close to the bank in such

presented terminal tackle and the ability to cast at least 15 yards to your fish – get too close and you will scare them. At night, when the bream feed more enthusiastically a betalite illuminated float or light leger gear will suit your purpose. Try to keep light to a minimum, using a torch to bait up or unhook fish when necessary rather than having a powerful light going all the time.

John Nunn

SAFE TACKLE SET UPS

WAGGLER



(Waggler rig) Excellent control of moving bait fished just off bottom, or tripping the riverbed.

STICK FLOAT



(Stick float) Presents a moving bait, often maggot or caster fished just off bottom. Easily controlled from a boat.

POLE RIG



(Pole rig) Useful method in slower reaches of rivers and on broads.

BLOCK END-FEEDER



(Block end feeder) Use maggots, casters or chopped worm. Fish heavy or light feeder according to strength of flow.

OPEN END FEEDER



(Open end feeder) Carries groundbait laced with feed i.e. maggots, casters, chopped worm, sweetcorn. Fish heavy or light according to strength of flow.

STAFF PROFILE

GRAHAM GAMBLE EA FISHERIES OFFICER

One of the longest serving fisheries officers in East Anglia Graham has been involved in the management and surveying of Broads fish populations for 20 years.

A keen fisherman, Graham has caught many fine specimens including pike and carp in excess of 30lbs and roach to 3lbs. Being a true 'all rounder' his interests are not just confined to the specimen scene, and Graham also fishes in coarse matches and is a keen fly fisherman (fluff chucker!) having competed in local, regional and national events.

"..we do not only benefit anglers and fish but also the wider environment."

Based in Norwich, Graham has seen many changes in both the organisations he has worked for and the quality of fishing the Broads provide. But what has kept Graham's enthusiasm for the job and the sport going during this time? When asked this question Graham replies,

"As well as being a Fisheries Officer I am an angler, and as such I can see the work we do not only benefits anglers and fish but also the wider environment" I get a lot of personal satisfaction that myself and the rest of Norfolk Fisheries Team can make a difference by contributing to the long term management of our precious Broads fisheries".

One thing is for sure that over the years the Agency and the wider angling community have benefited tremendously from Graham's experience and commitment to the job.



FISH CITY

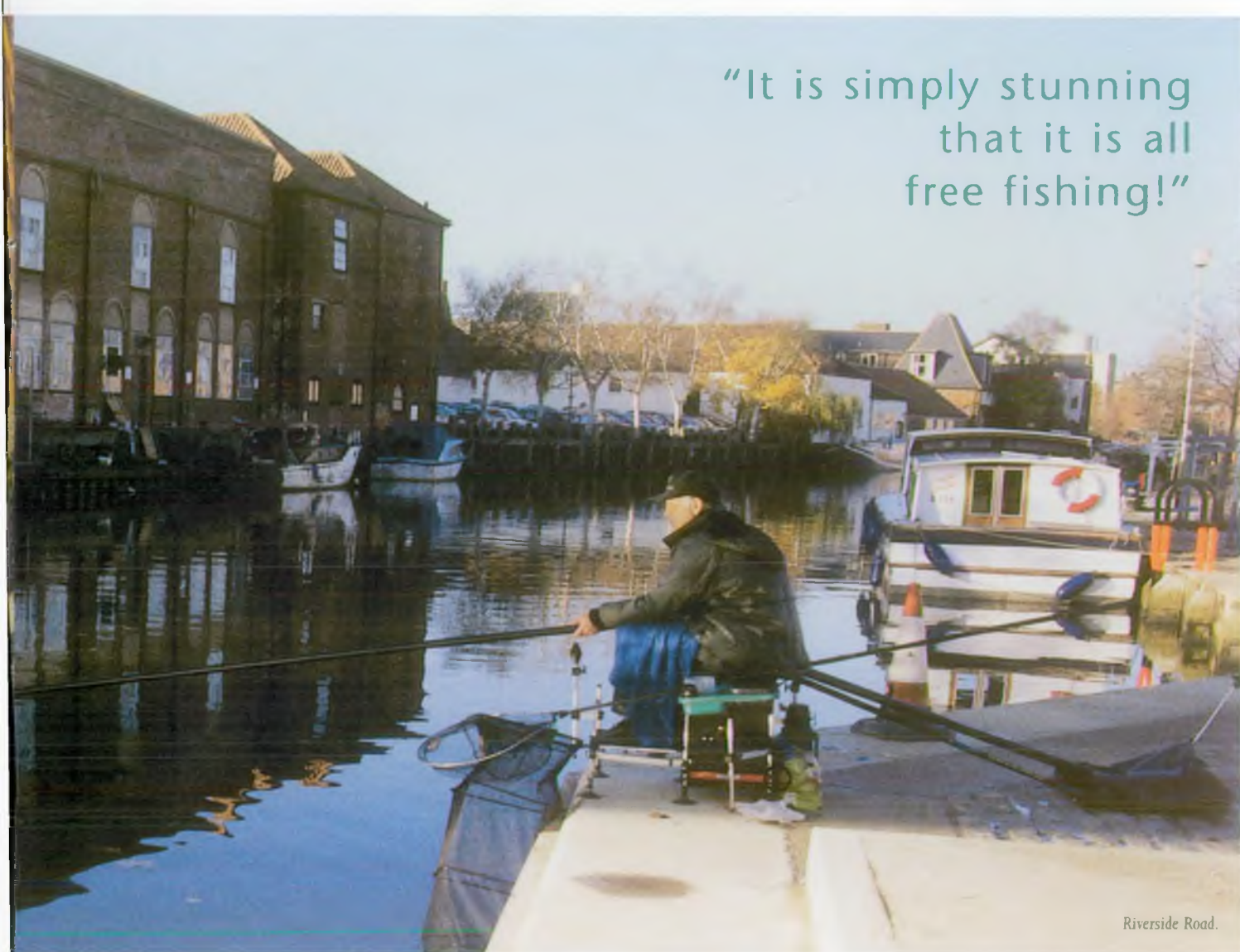
If you're fishing on the Broads you're close to one of the country's premier roach venues, where, whilst some good summer fishing can be found, it is the winter fishing that hits the headlines.

In the autumn and winter of 2001/2002 double figure bags of prime roach were common place and catches of 20lb plus often being needed to get in the first three frame of the many matches held on this fishery. So, where is it? Well, mention of a holiday angling on the Broads usually evokes images of sweeping expanses of open water, reedy bays and woody riverbanks. Yet significant stretches of the Broads waterways are in urban areas and around boat moorings and boatyards, running through villages, towns and up into the centre of the City of Norwich. They can offer some fantastic fishing for both local and visiting anglers, particularly for those fishing early in the day, or in the holiday off-season, when the banks and boat traffic are much quieter. The autumn and winter months bring some spectacular sport when fish, particularly shoal upon shoal of roach, congregate in urban areas and around boatyards and boat dykes.

The jewel in the crown of urban Broads fishing focused upon here is the river Wensum from behind the Norwich City football ground, along the Riverside walk beside the Riverside development's clubs, multi-storey car parks, restaurants, shops, cinema and houses, to the Yacht Station and up past

historic buildings such as Pulls Ferry and Cow Tower into the heart of the City. While roach are the real draw, there are also plenty of obliging perch, some clonkers too; some of us specialising in hunting them out have had plenty over two pounds, with a number of three pounders. If you can locate them, bream shoals can give you some bumper weights; match records have gone through the roof to around 70lb when a good angler gets a hot peg. With so many prey fish for them, pike anglers can find both numbers of pike and specimen fish. The marvellous thing is that there really is something for all tastes and angling ability; if you fish it you will find a really mixed and very friendly bunch alongside you - pike anglers with rod pods sitting next to match anglers and kids with a few bits of tackle. It is simply stunning that it is all free fishing! Matches in the zones allocated for them where casual anglers should give way to them have to be booked at a modest cost via Norwich City Council.

When it comes to fishing it, you will find that tidal forces channelled in the banks are probably the biggest factor to come to terms with, influencing depth of water and height from the high banks, flow rate and even direction of flow. So it makes for very active and stimulating fishing, where you have to



“It is simply stunning
that it is all
free fishing!”

Riverside Road.

be constantly changing depth, rig etc, to present the bait in whatever manner the fish want it on the day. Virtually all fine line running water techniques are relevant from strung and bulked stick and waggler floats with a steady stream of loose feed, feeder fishing or long pole methods fished static over feed or eased through. Feeding with groundbait, hemp, maggots and casters, bread and corn will catch virtually everything, though the perch love the worm chop and hookbait approach. It is always worth regular feeding on more than one line and switching between them if bites drop off, in order to keep up a steady flow of fish. The banks are all virtually all hard surfaces, so those with seat-boxes with adaptations for rod rests, bait box stands etc will be more comfortable. Those same hard banks make fish care an issue, and any specimen hunter must have some kind of padded unhooking mat with them. It is always worth a polite inquiry to local tackle dealers for up to the minute advice on hot-spots and methods.

This awesome fishing was nearly lost to angling though. In 1997, anglers suffered a double whammy when anti-anglers mounted a concerted effort to get angling banned in Norwich, coinciding with plans being announced for the redevelopment of the Riverside. Being a free fishery with no controlling club or association it had no effective voice to fight for it. So, determined to protect a fishery so vital for winter match fishing, easy access for kids and other beginners, the Norfolk Anglers Conservation Association launched their resources into a campaign to save the future of angling here. Through innumerable building delays and

debates on safety features they lobbied via the press, the developers, and the councillors and council officers, holding numerous meetings with them and even the anti-anglers. Others rallied to the cause, people like local match ace Steve Borrett, who organised a petition and presented our case at a City Council meeting, to show the council just how deeply many anglers, and their citizens, opposed plans to rail off the water's edge, and prevent us from being able to fish. Angling as a whole does not do a good enough job of selling itself, but having made these people aware of the enormous social and economic value of angling, the future of it on Riverside was secured, the needs of anglers built in as far as possible, with match, specimen and pleasure anglers flocking to fish it when it reopened in the winter of 2001. What's more, the NACA has done such a good job that now the council plans to create a proper strategy for angling and fisheries in Norwich, and incorporate it into further plans for riverside developments. The exciting proposed extension of the Riverside Walk all the way to Whitlingham Broads is just one example of how even more of this splendid fishing could be created in Norwich.

Please come and enjoy this fantastic fishery, but play your part in it by acknowledging that conflicts between angling and conservation, boat users and even between different anglers interests is often most acute in urban areas. Read and heed the advice in the Environment Agency's Golden Rules and BASC's leaflet.

Colin Smith, Secretary Norfolk Anglers Conservation Association.



Awaiting the first run of the day.

FISH CARE - RETAINING FISH

IF YOU USE A KEEPNET:

- ▶ Large fish should not be retained in keepnets.
- ▶ Make sure it is of adequate size with a fish-friendly mesh and complies with local byelaws.
- ▶ Ensure there is enough depth of water for your net.
- ▶ Put keepnets in the shade on hot, sunny days.
- ▶ Do not tow fish in keepnets behind boats.
- ▶ Keepnets should not be left unattended for extended periods of time.
- ▶ Ensure that your keepnet is secured properly to the bank or boat to protect it from the wash of motor cruisers.
- ▶ Do not keep pulling the net out of the water to show off your catch as this will harm the fish.

UNHOOKING FISH

- ▶ Use barbless or reduced barb hooks where possible. They are kinder to fish and hook removal is much easier.
- ▶ Carry several disgorgers (you will always lose one!) and forceps for the removal of larger hooks.
- ▶ Always wet your hands before handling any fish. Do not use towels, wet or dry, as these can remove the protective slime from fish.
- ▶ Be mindful of unhooking surfaces,



○ BEST PRACTICE

ensuring that they are soft and wet. Use an unhooking mat for pike and other large fish.

- ▶ Fish should be weighed in nets or weighing slings and not by the gills.
- ▶ When taking a photograph, ensure that your camera is made ready before you take the fish out of the water.
- ▶ When holding fish, always make sure you keep them low to the ground.
- ▶ Fish should be returned quickly and gently to the water after weighing (if necessary) or at the end of the day, if retained in a keepnet.

FISHING METHODS AND UNATTENDED RODS

- ▶ Baits and lures should never be left trailing behind moving motor cruisers and dayboats. This practice is not only ineffective for catching fish, it is also dangerous.
- ▶ Pike fishing requires specialist knowledge and tackle. It should not be attempted unless you are confident that you can unhook and safely return your catch. If in doubt, seek expert advice.
- ▶ It is an offence to leave baited rods unattended. They can endanger water birds and fish (particularly pike) which might gorge the bait or snag the line. There is also a danger from passing boats.
- ▶ Be aware of crime. Do not leave rods unattended on the bank or boat.

WILDLIFE AND THE ENVIRONMENT

- ▶ Do not drop any litter - use litter bins and disposal points.
- ▶ Choose your swim with care to reduce the risk of snagging bankside trees, vegetation and obstructions in the water.
- ▶ Take extra care where people feed waterfowl; the birds may have learned to associate people with food at the site and their expectations will increase the risk of entanglements.
- ▶ Remove immediately rigs caught up in vegetation, branches or underwater snags where it is practicable and safe to do so.
- ▶ Beware of birds swimming into your fishing line. Swans can reach your bait one metre below the surface, and other birds often dive for food. Wind in your tackle if you think birds are at risk. Hooks and line should never be discarded, especially baited hooks. Line should be cut into one inch lengths and disposed of with care or better still, taken home.

SAFETY

- ▶ When fishing from hire craft, moor safely and always wear a life jacket.
- ▶ Wear appropriate footwear on deck and always be mindful of slippery surfaces.
- ▶ Be aware of power cables, especially those overhead in boatyards.
- ▶ Observe the speed limits. Be considerate to other water users. Always watch your speed!

▶ Angling is very important to many people but it is just one of the many legitimate water activities. Please respect other users' rights.

USEFUL INFORMATION

ENVIRONMENT AGENCY

24 hour emergency hotline number for reporting all pollution and environmental incidents relating to water, land and air
Call 0800 80 70 60

NATIONAL SWAN SANCTUARY HOTLINE

0700 SWAN UK or 01784 431667

RSPCA

08705 555999

DON'T FORGET YOUR FISHING LICENCE

If you are 12 years old or over, you require a fishing licence - available from Post Offices. For telephone sales, call 0870 1662 662

LOCAL RIVERSIDE TACKLE SHOPS

Norwich - Griffin Marine, Griffin Lane, Thorpe.
Brundall - Brundall Angling Centre,
Riverside Road.

Wroxham - Wroxham Angling Centre,
Station Road.

Potter Heigham - Latham's, Bridge Road.

FISHING SEASON

The annual coarse fish closed season (15TH MARCH - 15TH JUNE INCLUSIVE) applies to the broads and rivers.

A Brief History

of the Pike of Broad

Broadland - a word that conjures a kaleidoscope of waterscapes, lined with reeds and inhabited by herons and anglers and set against vast Norfolk skies. And yet Broadland is not only the Norfolk Broads; rivers, lakes, pits and ponds; water is not difficult to find, but to the angler, it is the broads and pike fishing that are inseparable and they go together better than any of the old clichés; and nowhere in Britain is more synonymous with pike and pike fishing than Broadland.

The origins of the broads are now lost to history, but it is doubtful if they have ever been without the pike, a truly ancient fish, existing in Norfolk for considerably longer than the broads themselves. It is now generally accepted that the vast majority of the broads were man-made. These hand cut peat diggings originated from as early as the ninth century and there is much

managed the land and water sympathetically, without the intense farming practices that have devastated the broads in only a few decades, from the wildlife havens that they once were.

What battles were fought with monsters lost and landed? Verbal tales now lost to the mists of time, although one intriguing reference does survive, reproduced in Patrick Chalmers', *The Angler's England*, of 1938. It relates to a 'thirty pound pike taken from Hycelyngge (Hickling) Broad on a trowing lure of bryte shel' during the reign of King Edmund, in the ninth century. In fact accurate records of pike fishing exploits go back little more than one hundred years but fortunately, Broadland has escaped the melodramatic pike lore that has characterised other areas of Britain where pike have often been shrouded in mysterious and unbelievable tales of huge and monstrous pike.

“...nowhere in Britain is more synonymous with pike and pike fishing than Broadland.”

evidence of this once very important peat industry. The 'turves' of peat were cut to be used mainly as fuel and records exist relating to the monastery at Norwich which purchased 400,000 turves of peat annually for the princely sum of £12, as documented in E.A. Ellis' *The Broads*, 1965.

The Natural History Museum in London is the source for information regarding the earliest remains of our friend *Esox lucius* yet found in Britain. These were excavated from the Cromer Forest beds at West Runton in Norfolk and date from over half a million years ago; so I think we can safely call the pike a true and established native of Great Britain and, in particular, of Norfolk.

For centuries, man has hunted the pike in Norfolk, initially for food and much later, for sport. We can only imagine and wonder at the size and numbers these pike would have attained during periods of our history when circumstances were so much kinder to the environment. A much smaller human population

Towards the end of the nineteenth century, as leisure time and public transport became more available to a much larger percentage of the general public, (rail transport in particular), the Norfolk Broads came to be regarded as a major area of recreation for holiday-makers from all over Great Britain; and with them came the anglers.

The fame of the broads as an angler's paradise soon spread far and wide with the advent of mass media; newspapers, country and sporting journals and books dedicated to angling; and what a glorious place those Norfolk Broads must have been to fish. Crystal clear waters that teemed with life; vast beds of water plants inhabited by endless shoals of fish of a multitude of species, preyed upon by pike - huge pike that grew fat in an ideal and balanced environment and flourished in their isolation.

Pike of over ten pounds were commonplace; twenty pounders - a regular possibility, but no precise records of captures from these early days seem to have survived although several vague



land

mentions exist of thirty and even forty pounders. Some of the largest fish were of course recorded and often set up, including John Nudd's 42 pounder of 1901, J.W. Butler's impressive 35 1/2 pounder of 1932, Tom Stevenson's beautiful 31 pounder of 1937 and A. Jackson's 35 1/2 pounder of 1948.

Jim Vincent, (later followed by his son Edwin), was the first angler to carve his reputation with the pike of Broadland. First and foremost an ornithologist, and one of the first conservationists, he was employed on the Whiteslea and Hickling estates throughout his life to improve the habitats of breeding and migrating birds and to develop wildfowl for the shooting seasons. To this end, he was very successful and became renowned nationwide, guiding the aristocracy, including King George V, on duck and coot shoots and in acknowledgement of this, in 1930 he was invited to stay with the King at Sandringham.

Strangely, Jim Vincent did not become captivated by pike fishing until around 1920, at the age of 36, however, the other species of Broadland fish never interested him at all. But from then on, pike would become an obsession and the Jim Vincent 'Norfolk' method of deadbait spinning and the Jim Vincent spoon were products of this passion that have taken their place in pike angling history. And yet, Jim Vincent's greatest contribution to Broadland pike angling is without doubt the restocking of pike into the Thurne system that he organised after the sea flood of 1938.

When the sea smashed through the Horsey Gap on February 12th, 1938, the resulting salt floodwater wiped out all freshwater fishes in the Thurne system with the exception of eels. The task of restoring the area's pike fishing was taken on by Jim Vincent who, during the years 1939-45, caught many pike from the Bure broads, in particular those of Great Hoveton and Ranworth, to restock the Thurne system. In one notable day in late February, 1939 fishing Ranworth Inner Broad, he and his regular fishing partner, Stuart Boardman transferred 49 pike for a total weight of just under 276 pounds, the largest being 17 lbs 4 ozs.

All these pike were captured using barbless hooks to protect the pike from damage; pike conservation well ahead of its time for 1939. (Ref: Peter Collins and *Memorable Coarse Fish* by Faddist, 1953, p. 76).

By March, 1944, Jim Vincent had captured 23 pike in excess of twenty pounds, (Ref: *The Fisherman's Bedside Book* by BB, 1945, p. 481), the largest being a 29 1/2 pounder from Hoveton Great Broad in 1930, captured during a north-west gale. The thirty pounder that he so longed

for was to elude his efforts, although a fish lost by him after slipping the gaff was estimated at 35 pounds.

So Jim Vincent did not capture a real Broadland 'monster' but perhaps he is the greatest of all the Broadland pikers - not for his captures that were impressive enough - but for his contributions to the pike angling of Broadland. Jim Vincent died aged 60 on 4th November, 1944; his legend lives on.

It was not until the 1950s and the advent of a new attitude towards angling that pike fishing began to be taken seriously by a new breed of angler, the 'specimen hunter', and so the scene was set and in the early 1950s, one man in particular burst upon the angling world in a blaze of publicity with a string of big pike captures. His name was Dennis Pye and he stamped his own identity on pike fishing in Broadland - an identity that is still felt today.

Pye's style of fishing for pike is well documented; large livebaits, float fished on leadless tackle close to the edges of the vast Norfolk reedbeds.

"Deadbaits in amongst the thick weed will not work", Dennis Pye often said. But he was to be proved wrong. Bill Giles and Reg Sandys were contemporaries of Dennis Pye but their fishing methods differed dramatically. They used livebaits but their open minded approach to other methods, in particular, the ledgered deadbait, was to set a new style and direction for pike fishing on the broads and, along with the Taylor brothers' 'rediscovery' of the static deadbait at Wotton Underwood, for pike fishing in general. A style that would ultimately prove to be the deadliest of methods in attracting a series of monstrous pike - even more deadly than the free swimming livebait.

The first 'heyday' of Broadland, during the 1960s, saw some impressive pike boated, the largest being the 35 pounders caught by Reg Pownall and Frank Wright and Peter Hancock's 40 pounder. Then in 1969 came *Prymnesium* and the demise of fishing on the Thurne system. There have been numerous outbreaks of the alga *Prymnesium parvum* throughout the twentieth century and as recently as 1995, but none worse than 1969. It is when *Prymnesium* dies that toxins are released into the water and oxygen is greatly reduced. When fish cannot escape these toxic areas, disastrous fish kills occur and it seems that pike are particularly at risk, often dying before other species in the same areas. After the summer of 1969, it would be ten years before the first pointers to the recovery of the Thurne's giant pike would begin to appear and during those years, very few pike in excess of thirty pounds would be recorded from Broadland,



A BRIEF HISTORY OF THE PIKE OF BROADLAND



Large fish still exist despite modern problems.

although Dan Leary's 32 pounder from Decoy Broad in 1974 is one notable exception.

In 1979 came the first signs of recovery. Initially from limited areas of the Thurne system, they were to be followed by the captures of massive pike from other Broadland waters, in particular the Norfolk Flyfisher's Lake at Lyng, and would be so dramatic as to almost overshadow the pike captures that had occurred prior to 1969; and with them would come once again a new breed of angler - the 'specialist

"In the 21st century, the real 'monsters' from Broadland are few and far between."

angler'. Highly motivated and determined, resourceful and well equipped with state of the art tackle, but above all, open minded to any and every method that might catch for him his intended quarry - the re-found monster pike of Broadland.

In 1985, this new 'heyday' of pike fishing on Broadland was to culminate in the capture of a new English record pike. On 2nd February, 1985, Neville Fickling staggered the angling community by landing a pike of 41 lbs 6 ozs from the River Thurne, and in August of the same year, Derrick Amies captured the same fish at 42 lbs 2 ozs. Another English record at the time, this fish remains the record pike for Broadland.

In the 21st century, the real 'monsters' from Broadland are few and far between. Thirty pounders have once again become a very rare occurrence. The Thurne system, the jewel in Broadland's crown, is once again in decline, due

to re-occurring *Prymnesium* outbreaks. Pike anglers have turned their attentions away from the Thurne and its broads to other waters - and thankfully Broadland is not short on pike fishing and twenty pounders are still relatively common.

And so as we head into the new millennium, it is interesting to speculate on what the next century will hold for Broadland piking. With the ever increasing popularity of pike angling and the pressure put upon the sport by outside influences, how will the next generation of pike anglers shape and protect their sport from old and new enemies? No doubt new problems will arise, such as global warming and the rise in sea levels that has been much discussed in recent years. If this does happen, the results for Broadland will be disastrous. We can only hope that the measures that will have to be taken to safeguard financial considerations, such as boating and tourism will also benefit angling, for as always, angling will be found well down on the list of priorities should any such catastrophe ever occur.

We derive so much pleasure from our chosen pursuit and long may this continue on the waters of Broadland for the generations of pike anglers to come. I hope they too can fish with freedom for its wild and crocodile-headed monsters. However, with the old problems that continually re-appear and the new problems and pressures on our sport in an ever more crowded environment, it is doubtful if we will ever see a comparable number of big pike caught from Broadland, and I am sure the pike anglers of the future will look back on the second half of the twentieth century as the golden age of Broadland pike.

Stephen Harper

EA FISHERY SURVEYS



The catch.

INTRODUCTION

The Environment Agency Fisheries Team is responsible for surveying the fish populations within the Norfolk Broads. The team has data sets extending back over 20 years.

Fish play a pivotal role in the ecological dynamics of the Broads. The interpretation of survey results is used to determine the current ecological state of the broad and to predict potential comparative stability or change.

FISHERIES BROADS SURVEYS

The surveys determine the following for each Broad:

- ▀ Fishery status classification
- ▀ Mean biomass of fish.
- ▀ Mean density of fish.
- ▀ Fish species assemblage.
- ▀ Community composition.
- ▀ Age structure.
- ▀ Growth rates.
- ▀ Year class strength.
- ▀ Length frequency.

The fisheries survey mean biomass estimate is used at each survey to classify the broad in terms of a fishery (Table 1).

Norfolk Broads surveys are carried out in late summer, typically July/September. Sampling at this time of year enables the collective fish populations to be determined including the Young of Year (YOY), since most species will have spawned earlier (roach

typically spawn late April to June).

The Broads have two very different habitat areas, open water (limnetic) and the marginal area (littoral). The techniques for surveying these areas are themselves very different.

- ▀ Seine Netting is deployed in the limnetic area. This technique involves setting a 100 metre seine net with a 'cod end' (effectively a tied bag end in the net) set in a circle, from and back to the pontoon where it is subsequently hauled in and the captured fish recorded.
- ▀ Electro-fishing is used in the littoral area. Electro-fishing is conducted from a boat, along the littoral margin using a generator, electro-fishing box, cathode and hand held anode. The anode is immersed, sweeping a hand net through the sampling area to catch any fish at a series of intervals called points. This technique is termed point abundance sampling (PAS). Data gathered from these surveys are presented as:
 - ▀ Mean biomass - grams per metre squared (g/m^2)
 - ▀ Mean density - individuals per metre squared ($\text{ind.}/\text{m}^2$).
 - ▀ Mean Percentage Standard Growth rates (mPSG).*

*mPSG is calculated by examining the annuli (radial marking present on fish scales) and taking detailed measurements. From this, the age and growth rate of the individual can be calculated. Fish are aged as either at the beginning of their growth year (1) or between one year and another (1+). This is denoted by the numeral for the year and the suffix + to denote whether the fish is still in its

growing season. Typically, + notation is used between April to September.

FISHERIES MONITORING PROGRAMME

The most recent monitoring programme adopts the principle 'less is more', concentrating on fewer broads but at a more intensive level and frequency. Broads have been selected based upon a variety of criteria:

- ▀ Importance as a fishery.
- ▀ Ecological interest.
- ▀ Changing nutrient status (undergoing improvements in water quality etc).
- ▀ Representative of a river catchment.
- ▀ Maintenance of historical data sets.

All 3 main river catchments are represented (Table 2) and concentrate on 6 broads. Sampling frequency varies between broads and is based on a hierarchical ranking.

BROADS FISH POPULATIONS

Broads fish communities tend to be dominated by roach (*Rutilus rutilus*) and bream (*Abramis brama*). The principal species, roach, is usually the most frequently caught, at times, up to 93% of the total number of fish caught.

The principal piscivore (predator of fish) is pike (*Esox lucius*). However, perch (*Perca fluviatilis*) although much smaller than adult pike, is also a significant predator of smaller fish.

CURRENT STATE OF BROADS FISH POPULATIONS

The 3 annually surveyed broads are represented below.

BARTON BROAD:

Barton is currently undergoing a change in its nutrient enriched state. Various projects have been undertaken to reduce nutrient loading. Phosphate stripping has been installed at the upstream sewage works at Stalham and the nutrient rich sediment is being suction dredged from the broad to reduce the reservoir of available nutrients. The broad is showing signs of increased water clarity and improved water quality.

Barton is classified as a D class fishery (Table 3) based upon sampling of the limnetic area. However the littoral margin estimates indicate that the fish community in these areas of the broad are much higher (>46 g/m², A class fishery) (Barton Broad 2001 PAS survey). Littoral margin estimates are usually modified by a relative multiplier (effectively modifying the estimate relative to the area it represents), which produces a lower overall mean total estimation. When taking a holistic approach, the true picture is most likely to be somewhere between these two estimates. No bream were captured in littoral margin PAS sampling.

Growth rates for bream are very good (mPSG 182%), significantly above the national comparative average. The data are based upon fish caught in limnetic seine sampling (2001 survey). The species is long lived. The 1996 survey caught large individuals over 16 years old. The larger prey and subtly different prey types preferentially selected by bream is thought to explain the better growth rates of bream in comparison to roach.

Roach growth rates between 1996-2000 (1 year to 5 years of age) were below the national average, 81% mPSG (based upon data held by the National Fish Laboratory for "Southern areas"). Fisheries data show that only 1994 and 1995 were years of good growth. The 1994 year class was strong for fish in their first year (0+).

The 2001 PAS littoral margin survey estimated roach to be 29% of the mean total biomass for the broad whilst dominating the density (84%).

Pike dominated the littoral margin estimates, 66% of relative biomass. This is a typical feature of large predators; relatively few in number but often significantly larger than other fish. Pike accounted for only 1.5% of the mean total density for the littoral margin.

Perch feature more prominently in density

estimates (10% 2001 PAS survey) than pike and are anticipated to have a more profound effect upon fish populations that they integrate with. They are more active predators and are present in greater numbers than pike, often found in close association with smaller specimens of bream and roach.

Eels are rarely sampled in recent seine net or PAS surveys. None were caught during 2001 fisheries limnetic survey, and they contributed a mere 0.6% of the mean total biomass estimation for the PAS littoral margin. This reflects a general decline in eels across the region. Declining eel populations is not a recent phenomenon. The EA fisheries data show that eel populations have exhibited early signs of decline as far back as the 1980's. The recent dramatic drop off in eel density and biomass is probably as a consequence of such long continual declines reaching critical mass. The populations may have reached the point where the population is too small to be able to replace their losses (stock limited recruitment).

Seine netting



WROXHAM BROAD:

Wroxham has long been known for its population of large roach. Roach over 3 years of age are relatively uncommon on most of the Norfolk Broads. It is considered that other broads lack the suitable habitat that encourages larger prey items, favoured by older fish. As a consequence, large specimens are highly regarded by anglers and much sought after.

Currently Wroxham is classified as an A class fishery. This is primarily as a result of captures of large numbers of roach (often larger and older than those found on other broads). Growth rates are average, mPSG 91% of the national average. However, this is an improvement of >10% from the 2 previous surveys. Larger specimens show signs of better growth rates. This can be attributed to more suitable, larger prey items for these fish to feed on.

Bream growth rates are good, mPSG 130% over the national average. The broad supports a population of large bream (>370mm). These fish are not always caught in seine surveys though they are undoubtedly present. Chance capture of part

of a shoal strongly influences biomass estimates due to their relatively large size.

Bream fry do not usually show up in seine net sampling of the limnetic area of the broad. This is primarily due to net mesh size. Also small bream tend to favour the relative security of the littoral margin where there is structure to seek refuge. Furthermore, the favoured prey is also to be found there. However, bream only contributed 0.45% to the mean total density estimation for the littoral margin indicating how unsuccessful bream recruitment appears to be in this broad. Survival of older fish appears to be much better. This may be indicative of specific food resource requirements that are simply not available in sufficient quantity for young bream, but since they share the same food requirements as young roach in their first year, it is more likely to be a lack of suitable spawning habitat.

Pike dominate the littoral margin biomass estimates (80% in 2001 PAS survey) though at

Roach



typically low densities (0.8%). The high biomass estimates are concurrent with the overall higher mean total biomass and density estimates within Wroxham Broad.

Eels were not captured in the 2001 PAS littoral margin survey. This is unusual, given that they are a littoral margin species

HICKLING BROAD:

The macrophyte (water plants) growth in recent years has precluded the use of seine nets in sampling the fish populations on Hickling. The 1998 survey was compromised due to excessive plant growth when the broad was classified a C class fishery. Therefore, PAS littoral margin surveys are exclusively used since they are not affected to the same extent. PAS survey 20001, indicates that the broad is a class B fishery (though the final modifier to the estimate will probably classify lower). The mean total biomass estimate was 14 g/m².

Bream only contributed 0.4% to the overall estimated density and >0.1% to the biomass,



TABLE 1. FISHERIES BIOMASS CLASSIFICATION

FISHERY CLASSIFICATION	MEAN ESTIMATED BIOMASS (G/M ²)
A	>20+
B	>10
C	>05
D	<05

TABLE 2. NORFOLK BROADS SURVEY PROGRAMME

BURE CATCHMENT	2002	2003	2004	2005	2006	2007	2008	2009	2010
BURE BROADS									
SOUTH WALSHAM	●			●			●		
WROXHAM	●	●	●	●	●	●	●	●	●
ANT BROADS									
BARTON	●	●	●	●	●	●	●	●	●
THURNE BROADS									
HICKLING	●	●	●	●	●	●	●	●	●
HORSEY MERE	●			●			●		
YARE CATCHMENT									
ROCKLAND			●			●			●
WAVENEY CATCH.									
OULTON			●			●			●

TABLE 3. BROADS FISHERIES BIOMASS CLASSIFICATION

BROAD SURVEY	YEAR OF CLASSIFICATION											
	1984	1985	1987	1991	1992	1993	1996	1998	1999	1996	1998	1999
WROXHAM	D			A					A	*		
BARTON		B			D		B			C	D**	
HICKLING						D		C			D***	
ROCKLAND	B		D	D								
OULTON	A		B	B								

* in preparation ** PAS survey not included *** PAS survey only

indicating the scarcity and relative small size of those fish caught.

The scarcity of bream throughout the broads, in particular the smaller younger fish is of some concern. The causes of this are as yet unknown.

Roach accounted for 74% of the estimated mean total density and 41% of the biomass. Growth rates were slightly below average when compared to national averages (mPSG 92%).

Rudd growth rates were also below average (mPSG 82%). Rudd surprisingly contributed 8% of the mean total biomass estimation and 6% of the density. This is unexpected since rudd usually occur at low densities so contributing very little to the relative biomass estimates (typically between 0.04% and 0.6%). The mean biomass estimate for Rudd, 1.234 g/m², exceeds Barton and Wroxham biomass estimates, 0.27 g/m² and 0.23 g/m², respectively. This may be indicative of more suitable habitat available for rudd. Hickling has

extensive littoral margins, which are accessible to such fish.

Pike biomass was low, 5g/m². This was evident in comparison to Barton and Wroxham, 30.7 g/m² and 41.6 g/m² respectively. Pike contributed 35% of the mean total estimated biomass at a relative density of 0.4%. The decline in pike, on a once famous pike fishery, is not fully understood. The effects of Pymnesium (a brackish water alga) may have suppressed this population, though we may be witnessing a phase within a natural cyclic pattern.

Perch growth rates were generally good and their presence in relative biomass was 11.5% at a relative density of 10.7%.

Eels were poorly represented in the 2001 PAS survey, contributing just 1.9% to the relative biomass. However, the mean biomass of 0.27g/m² at a density (0.004 ind./m²), lower than that of Barton, indicates that those eels present were of slightly larger size.

SUMMARY

- ▶ Fisheries data suggests that Barton broad is undergoing a change in state. The fish community appears to be responding favourably to the various efforts in cleaning up the broad, though several more years of data will confirm or refute this supposition.
- ▶ Wroxham Broad continues to hold significant numbers of larger specimens of roach and maintains a high biomass classification. The paucity of small bream is of concern but larger specimens are present.
- ▶ Hickling presents the most challenging environment in which to survey and attain reliable, representative estimations of the fish community. The elevated levels of rudd are encouraging though other species success is yet to be determined.
- ▶ Rockland and Oulton are due to be surveyed in 2004. The findings for these broads will be interesting to compare to the 1991 data.
- ▶ Scarcity of eels throughout the broads is of grave concern. The quality of eel data has been elevated in current fisheries surveys to attempt to gain a better insight on eel population dynamics.
- ▶ Bream continue to be present on most broads at very low densities. Surveys often fail to pick up many young fish or those of intermediate age. The fisheries team is currently looking into the feasibility of monitoring bream movements and assessing numbers, through a tagging experiment, to better understand the fish behaviour. It is considered that the information could be used to provide more informed decisions on the management of this species.
- ▶ Pike recruitment is currently being looked at. A series of artificial spawning beds have been constructed and placed into Ormesby Broad in an attempt to provide more spawning habitat and enhanced recruitment. If successful, the technique may be applied to other broads.
- ▶ Overall, fish populations within the Norfolk Broad are looking promising. Good angling opportunities exist in most broads with fine examples of roach to be caught in Wroxham Broad, and large numbers of smaller fish well distributed throughout most other broads. Large bream can be caught in Barton Broad as well as other areas, and pike are to be found in most broads. The patient angler may well be rewarded with a large double figure predator (fish to 28lb were caught last year).

Andrew Hinds, Environment Agency



Aerial view - Filby Broad in foreground, looking north.

Situated north-west of Caister-Upon-Sea lie Ormesby, Rollesby, Lily, Ormesby Little and Filby Broads, collectively known as the Trinity Broads. A series of inter-connected shallow lakes isolated from the main river system and virtually undisturbed.

As the main landowner, Essex & Suffolk Water's primary aims are to maintain the role of the Trinity Broads as a potable water supply for Great Yarmouth and its surrounding villages. As a private water company they are also responsible to maintain and enhance the conservation value of the area. The water resources of the Trinity Broads are also important to the wider community for recreation, wildlife conservation and irrigation.

The Trinity Broads project was set up in 1997 to manage the conservation and recreation in the area. It is managed through a partnership agreement with Essex & Suffolk Water, the Broads Authority, Environment Agency and

English Nature.

The overall aim of this partnership is to restore the Trinity Broads to benefit nature conservation, public water supply and recreation. A five-year management plan (2000-2005) was drawn up in consultation with the local communities and other Trinity Broads users.

SO WHAT MAKES THE TRINITY BROADS SO SPECIAL?

The Trinity Broads are isolated from the River Bure by a sluice, constructed in the mid-nineteenth century and located in the Muckfleet drainage channel. This has protected the Trinity Broads from the effects of saline intrusion and increased nutrients from the River Bure, therefore the water quality remains relatively good. As there are no motor cruisers and petrol outboards are limited they have remained a peaceful, preserved and tranquil place.

SO WHY EXACTLY DO THE TRINITY BROADS NEED MANAGING?

The Trinity Broads have relatively good water quality and have remained relatively undisturbed, in contrast with many other broads, and so have become particularly important for wildlife. This is recognised by their designation as a Site of Special Scientific Interest in August 1998 and their proposed European designation as a candidate Special Area of Conservation under the Habitats Directive. The site may also later form part of the Broadland Special Protection Area under the Birds Directive.

In common with other broads, the Trinity Broads have been subject to continuous human use for many hundreds of years but in the last 50 years they have been neglected from regular management. Intervention is needed to maintain reedswamp and open water habitats, thereby conserving the otherwise threatened wildlife that is adapted to living in them.

The open areas of water support an array of different aquatic plants including notable species such as flat-stalked pondweed (*Potamogeton friesii*).

Extensive fringes of common reed, reedmace and true bullrush surround the margins. The landscape of alder and oak woodland provides a screen from

“The open areas of water support an array of different aquatic plants...”

“...the woodland and reedswamp creates a variety of habitats for foraging and nesting birds.”

Right: A weedy corner of the Trinity Group. Below right: Such places attract tench of this quality.



Bittern in flight.

arable land and settlements beyond and creates a sense of isolation which adds to the "wilderness feeling" of these Broads.

The diversity of the woodland and reedswamp creates a variety of habitats for foraging and nesting birds. The species list includes wintering bittern, Marsh Harrier, sedge warbler, kingfisher and Cetti's warbler.

The open areas of water support nationally important numbers of wintering wildfowl including pochard, tufted duck, shoveller and goldeneye.

Traditionally the Trinity Broads support a low level of activity. Boating, sailing and angling are regulated in order to maintain current and appropriate levels of use.

Access rights exist for a limited number of boat owners whose properties lie adjacent to the broads. The local parishes of Ormesby St Margaret, Ormesby St Michael, and Fleggburgh also have local parish staithe. Four small-scale outlets hire rowing boats to the public for angling and pleasure rowing. Apart from the above there is no other public access (see below for details).

Angling is mainly carried out from rowing boat and broadshore angling is generally not accepted except from Rollesby Bridge car park (A149), where facilities have been provided, and from the broadshore of Filby Broad, adjacent to the A1064 at Filby. Between the 15

March and the 15 June each year the Environment Agency's Closed Season is enforced (see East Anglian Byelaws: Environment Agency. 2002).

Ormesby Broad is currently being restored through the biomanipulation of fish. Biomanipulation of fish is a technique designed to reduce the predation of water fleas by bream and roach fry. Water fleas play a vital role in maintaining clear water and therefore are essential for the re-growth of aquatic plants. They feed on algae which would otherwise bloom and result in turbid water. Aquatic plants are able to re-grow in clear water and provide habitat for fish, water fleas and other aquatic insects.

The project began in 1994 and at first was very unpopular with the local angling community. In 1998 the Trinity Broads Fisheries Conservation Group was set up by the Broads Authority and Environment Agency and now local anglers are informed and consulted regularly on the project. The group are also involved in winter pike monitoring and habitat creation for fish.

As Trinity Broads Project Manager my role involves the day-to-day management of the area: patrolling, reedswamp management, wildfowl counts, wildlife monitoring guided walks, liaison with local landowners and project management. Due to the fact I

manage a local area I have good communication with the local community and so I am able to deal with specific Broads Authority issues if they should crop up. The local community also have a point of contact. Obviously I cannot be everywhere at once so I have voluntary warden's who are able to assist with certain aspects of my work such as patrolling, practical jobs and wildfowl monitoring. They are useful source of distributing information and answering public enquiries.

Why not check the area out for yourself. Filby Bridge car park can be located on the A1064 between Filby and Burgh St Margaret. There are parking facilities and a boarded walk that leads down to a bird hide (approximately 1 mile return). Alternatively for Broad views and food why not try Filby Bridge Restaurant (A1064 Filby), or the Eels Foot Inn (A149 Ormesby St Michael) Both locations hire out rowing boats so you can explore the Trinity Broads, but remember – if you row out you have to row back! If you are angling please remember your fishing licence.

If you would like more information on the Trinity Broads please contact:

Cath Wilson, Trinity broads Project Manager, Broads Authority, 18 Colegate, Norwich, 01603 610734.

Cath Wilson, Broads Authority

FISH SPECIES in the BROADS



BREAM

Abundant in large shoals throughout the rivers and Broads, this slab-sided, bottom-feeding species is predominantly nocturnal by nature although they can also be caught early and late in the day. Large 100lb+ catches of bream are occasionally taken by using a specialised approach with plenty of groundbait. Look for them in quiet areas of open water but take care not to overfill the keepnet should you be lucky enough to enjoy a red-letter day. Broads bream are getting considerably bigger than they used to be, while 2, 3 and 4lb fish are commonplace with any over 7lb generally considered a specimen, huge double figure fish do turn up from time to time.

TACKLE AND METHODS:

From a boat try float fishing with a waggler, with the bait tripping or laying on the bottom. From the bank try legering, perhaps using a swingtip where flows allow or otherwise using a quivertip in faster water. Swimfeeder fishing can be highly productive, as can a method feeder. Recast regularly to lay a bed of feed, but beware of striking at line bites, which may scare the fish out of your swim.

BAITS:

Bread, maggots, casters, sweet corn, worms and groundbait.

LINES:

3lb – 6lb reel line with 3lb – 5lb hooklinks.

HOOK SIZE:

Forged sized 18 – 8



ROACH

With silver/blue scales and vermillion fins, roach are a firm favourite species of coarse anglers. Nicknamed the water sheep, this ubiquitous species is a true shoal fish, which mostly feeds delicately on the bottom but will rise to intercept slow-sinking baits presented on light tackle. Abundant in an average size range of between 2 and 10oz, but specimen roach over 1lb are reasonably commonplace, tending to feed early or late in the day and even after dark throughout the winter. While huge 2lb roach are reported every season, most of them are roach/bream hybrids, so take care to identify them correctly. Throughout the spring and summer months roach are widespread throughout the rivers and Broads, however, once the winter sets in they tend to congregate in large numbers in and around the boatyard areas.

TACKLE AND METHODS:

Float fishing using either a waggler for trotting mid river or stillwater fishing, or a stick float for trotting close in. Feed little and often, baiting to demand. Pole fishing is the favoured approach of match anglers, using a short line and elastic. In faster water try legering using a quivertip, perhaps combined with a maggot swimfeeder.

BAITS:

Bread, maggots, casters, sweet corn, hemp and tares.

LINES:

2lb - 4lb reel-line with 1lb - 3lb hooklinks.

HOOK SIZE:

20 – 12



PIKE

At the top of the Broads food-chain, this increasingly popular predatory species is superbly camouflaged to lurk in the reed beds having with the perfect body shape to accelerate from a standstill and strike into its prey. Pike are commonplace throughout the rivers and Broads, where huge fish over 40lb have been caught in the past. Unfortunately, fish this large are unlikely today, however plenty of 20lb specimens exist.

Requiring specialist tackle and skilful handling techniques, inexperienced anglers are advised not to fish for pike, which despite their ferocious looks are one of our most delicate species.

TACKLE AND METHODS:

Float fishing baits on or off the bottom from a boat, otherwise either floatfishing, freelining or legering from the bank, but always with effective bite indication that will properly register both runs and drop back indications. Never leave the rod unattended and always use a wire trace of 20lb minimum breaking strain. Always strike runs as quickly as possible.

BAITS:

Freshwater or sea fish baits and artificial lures.

LINES:

15lb minimum.

HOOK SIZE:

Semi-barbed doubles or trebles. 8 – 6.

Containing a diverse variety of non-tidal, tidal and estuarine habitats, the Broads and its rivers, the Thume, Ant, Yare, Bure, Waveney, Wensum and Chet all support a large diversity of fish species. Beside the abundant shoals of roach and slab-sided bream, good numbers of perch and fabulous specimen pike are amongst the species traditionally associated with Broads angling that can be caught throughout the freshwater areas. Beside these species, chub, dace, gudgeon, minnows, brook lamprey and even barbel can also be found in various areas of the non-navigable upper reaches of the Wensum, Yare, Bure and Waveney.

Tackle tangling eels abound everywhere and can make the use of maggots and worms impossible in the summer, especially after dark. Estuarine species such as flounder and smelt that smell like pungent cucumber travel far upstream from Breydon Water, the estuary through which all Broadland's rivers eventually drain into the North Sea. Other saltwater species, such as bass, grey mullet and goby are all occasionally found as far inland as Hickling Broad and Heigham Sound. Migratory sea trout regularly run as far upstream as the Cathedral City of Norwich

before their progress is eventually stopped by the last sluices of the upper Wensum.

Away from the busy boat traffic, in the quiet reedy backwaters of the Upper Thurne and Trinity Broads, shoals of beautiful rudd abound alongside good numbers of tench, both of which offer superb summer fishing prospects. Carp that have escaped during floods from fisheries have become increasingly commonplace, especially in the Waveney and Yare, growing to well over 30lbs. Finally, although of little interest to anglers, numbers of ruffe, their spikey appearance often leading to confusion with zander (a species not present in the Broads), abound, alongside both three and ten sticklebacks, found in various areas of suitable habitat.

Each species requires various different angling techniques and baits employed for their capture, there are the six main angling species likely to be encountered along with a few tips which may aid the visiting angler put together some worthwhile catches.

Chris Turnbull



TENCH

Found predominantly on the Thurne and Trinity Broads. With its distinctive olive flanks and small red eyes, this hard fighting popular summer species grows to a high average size in the Broads with 3 to 4lb fish commonplace and specimens over 5 and 6lb a distinct possibility. Primarily a bottom feeder, look for them close to lilies or along the reedy margins, particularly where the bottom is hard.

TACKLE AND METHODS:

Float fishing laying on the bottom, or otherwise using the lift-method. From the bank perhaps try legering with a running leger or paternoster, with swimfeeders being particularly effective.

BAITS:

Bread, maggots, casters, sweetcorn, worms, groundbait and hemp.

LINES:

Strong 5lb – 6lb reel lines, with 4lb – 5lb hooklinks respectively.

HOOK SIZE:

Forged, size 16 – 8.



PERCH

Now making a strong comeback from the disease that decimated their numbers in the 1970's, this bold, dashing predatory species is once again regularly caught throughout the rivers and Broads. With an average size of 4 to 12oz but with 2lb specimens increasingly commonplace and 3lb whoppers a distinct possibility, perch are once again becoming one of the Broads' most exciting angling species. Perch love hiding up under cover, especially in deeper water; look for them beneath overhanging trees, under permanent moorings or in deep reedy margins.

TACKLE AND METHODS:

Float and leger fished deep or on the bottom.

BAITS:

Worms, maggots, casters, small fish, small spinners and lures. (NB. With fish and lures, pike will make use of a wire trace and stronger lines essential.)

LINES:

2lb – 6lb according to the size fish you are expecting.

HOOK SIZE:

18 – 8



RUDD

Whilst becoming increasingly rare throughout the country, this dashing species with its beautiful golden flanks and crimson fins is still commonly caught in various areas of the Broads, especially in the Upper Thurne and Trinity Broads. With an average size of 4 to 10oz, any fish over 1lb could be considered a specimen although undoubtedly fish over 2lb are occasionally caught, especially on Hickling Broad. A bold feeder, with jutting bottom jaw which makes it adept at surface feeding but equally happy to feed on the bottom, rudd are a restless shoal fish and always on the move. Seek them near the marginal reeds or lily beds in and around the quiet bays, but be careful not to spook them with a clumsy approach.

TACKLE AND METHODS:

Float fishing - waggler set shallow or slow sinking. Feed little and often.

BAITS:

Breadflake or crust, maggots, casters and sweetcorn.

LINES:

2lb – 4lb reel line, with 1lb – 3lb hooklinks.

HOOK SIZE:

20 – 12

A YEAR IN THE BIRDLIFE OF THE BROADS



Hickling Staithe at sunrise.

“...it is home to
an incredible
wealth of
wildlife.”

The Broads is a very special wetland area. As well as providing an opportunity for quiet recreation coupled with some wonderful scenery, it is home to an incredible wealth of wildlife. The birdlife in particular is of national renown, and attracts birdwatchers from all over the UK.

Perhaps the most obvious birds are the resident waterfowl, present on the rivers and broads throughout the year. Along with the ubiquitous mallards, there are many coot, moorhens and great crested grebes, plus greylag, Canadian and Egyptian geese. Many of the coot and moorhens have become accustomed to boats and people, and in particular the coot have become very bold. The coot is the larger of the two, with a bright white bill and shield on its forehead. If you see one out of the water have a look at its feet, which are huge, with special broad lobes which help it swim and dive. Both male and female great crested grebes are attentive parents, and during the summer can be watched feeding their stripy-headed youngsters. When very young the chicks will often hitch a ride on their parents' backs. None of the three species of geese mentioned are native to the Broads, all having been introduced for sport or ornamentation. They have found conditions here much to their liking and their numbers have increased to such an extent that they have become troublesome, over-grazing the reed around the broads and along the river banks and causing a nuisance on people's lawns. So although it is tempting, please do not feed them.

Other waterfowl you may see include tufted duck, pochard, teal and gadwall, particularly on some of the quieter stretches of water or nature

reserves, such as Hardley Flood, Hickling Broad, Ranworth Broad, Strumpshaw Fen, Surlingham Church Marshes or Berney Marshes. Hundreds of these ducks visit the Broads from the continent in the winter, although only a few pairs remain to nest in the summer.

One bird you'll need a keen eye to spot is the kingfisher. Listen for its loud, sharp, squeaky call and then look out for a flash of cobalt blue! Although they can be seen throughout Broadland they are not common. There is plenty of water for them to fish in, but their numbers are limited by the availability of suitable steep banks for them to nest in. Other obvious large birds you'll see are herons, known locally as 'harnsers', and cormorants. They can regularly be seen perched on posts and trees at favoured localities such as Hickling, Ranworth and Barton Broads and along Breydon Water.

One Broadland speciality you are much more likely to hear rather than see is the bittern. A little smaller than a heron, its drab brown plumage camouflages it perfectly among the reeds. It is a rare and secretive bird of the larger reedbeds. During the spring and early summer they have a far reaching deep booming or thumping call, reminiscent of a distant abrupt foghorn, which with luck, you can sometimes hear around dawn and dusk. It is actually in winter that you are most likely to see one, flying low over a reedbed.

Spring brings a whole suite of summer migrants returning from Africa to nest in the marshes and woodlands. Swallows are a familiar sight skimming low over the water, while house martins with their white rumps and the far larger sickle-winged swifts hunt insects higher up. Common terns, smaller

sparrow. Great spotted woodpeckers are common in the woodlands throughout Broadland and can regularly be heard drumming or giving their loud 'kik' calls as they fly between trees.

By mid July there is far less bird song and the marshes can seem almost abandoned. But this is an illusion. The birds are all feeding their newly hatched young and are too busy to sing. Then, as the autumn approaches, adults and youngsters alike are all busy feeding and putting on fat reserves for the coming winter, or, in the case of migrants, preparing for their flight down to Africa where they will spend their winter months.

One typical bird of the Broads you are almost certain to see if you keep a good look out is the marsh harrier. Once a great rarity, protection has enabled their numbers to rise to a healthy level. They hunt by gliding low over the reedbeds, grazing marshes and adjacent arable fields on long, stiff

wings, but will soar up on occasions. Although most migrate in the winter to North Africa, small numbers have recently begun to stay here for the winter and they can now be seen year round.

Of the other birds of prey the kestrel and sparrowhawk are common, while you could be lucky enough to see a hobby, one of our small falcons, chasing dragonflies for prey; or you might even see an osprey. These summer visitors pass through each spring and summer on their way to and from Scotland and favour broads and rivers with clear water where they can see their fish prey. Particularly favoured localities include Wheatfen, Rockland Broad and Strumpshaw Fen on the River Yare, Alderfen Broad and How Hill on the River Ant, and Hickling Broad on the River Thurne.

The open grazing marshes of the river valleys are home to a variety of wading birds such as lapwing, redshank, snipe and oystercatchers. Large numbers of these winter on muddy estuaries such as Breydon Water, but smaller numbers remain on the grazing marshes throughout the year, and it is here that they breed. The mudflats of Breydon Water, which are exposed at low tide, provide food for hundreds of wading birds and are an important refuelling stop for thousands of others on their way to and from their Arctic breeding grounds. In late summer Breydon attracts many black-tailed godwits and avocets, as well as waders such as dunlin, ringed plover, curlew and redshank.

As darkness falls three nocturnal species may become apparent. Tawny owls can often be heard calling from various areas of woodland. As well as the familiar 'tu-wit tu-woo' they more frequently give a loud 'keewick' call. Barn owls are widely distributed and can sometimes be seen hunting the more open grazing marshes. The other bird to look and listen out for is the woodcock. A nocturnal wading bird, it hides away in areas of damp woodland by day, but flies out to feed at night.

During the spring and summer the males display low over their territory, flying slowly, giving a regular series of alternate strange sounding croaks and whistles.

By early autumn most of the summer visitors have been replaced by a multitude of wildfowl that come here for the winter.

At this time of year the Broads are home to nationally important numbers of duck, geese and swans, with hundreds and thousands of teal, wigeon, shoveler, pochard and pintail duck, whooper and Bewick's swans, along with white-fronted, bean and pink-footed geese who have moved here to escape the colder winters further north or east on the continent. Various birds of prey also move here, and hen harriers, merlins and peregrine falcons are regular visitors.

Phil Heath Broads Authority Fen Warden

daintier relations of the gulls, grace many of the Broads such as Wroxham, Barton, Hickling and Hoveton Great Broads, as well as the specially constructed rafts on the mudflats at Breydon Water.

Particularly early in the morning and towards dusk, the reedbeds and fens are a cacophony of noise, with reed and sedge warblers singing to attract mates and defend their territories. Both are superficially similar, though the sedge warbler is streakier with a more prominent white stripe over the eye, and often does a characteristic song flight up over the reeds. Along with these two you may hear the monotonous reeling of a grasshopper warbler, or the rather melancholy series of chirps of reed buntings, the males of which, with their striking black heads, sing from the tops of small bushes. The resident bearded tit lives in some of the reedbeds and you may be lucky enough to spot one whirring low over the reeds, or hear its distinctive 'pinging' call coming from deep in the reedbeds.

A summer visitor familiar to everyone is the cuckoo, and these can be heard in the spring and early summer in most habitats. The adults usually stop calling in mid-June and depart for Africa in late July or early August, while the young of that year make their own way south several weeks later. The woodlands and riverside scrub is also alive with sound as migrant warblers such as the chiffchaff, willow warbler, blackcap, whitethroat and garden warbler join in with our common resident species, such as the blackbird, wren, robin and hedge

Heron.

Pike follow the prey fish.

Pike (*Esox lucius*) and the Norfolk Broads are inseparable, particularly as an attraction for holiday anglers hoping to emulate the successes of Hancock, Fickling and Amies in catching pike of UK record proportions.

So how do you go about catching pike whilst on holiday on the Norfolk Broads?

PIKE FISHING ON THE



A good double taken on a spinner bait.

TACKLE

To enjoy any degree of success you will need to be equipped with suitable tackle to catch pike. Most anglers today probably have a carp rod or two and these can be put into service for bait and lure fishing with reasonable safety. The correct rods will make the experience that bit more enjoyable, but a 11 to 12 foot carp rod that has a medium, compound type of action and a test curve of between 2 and 2.5lbs will cope with leger or float rigs used in bait fishing; a spinning rod of 9 to 10 feet with a medium to heavy rating will allow you to fish with spinners, lures or to 'wobble' and 'sink and draw' dead baits.

These will need to be combined with a medium sized fixed spool reel, filled to the spool lip with 15 lb BS mono filament line for bait fishing or 30 to 40 lb BS braided line for lure fishing, to allow easy casting.

or some silicone float stops to set the depth of the float, a supply of medium sized swivels (size 10) and a selection of wire traces.

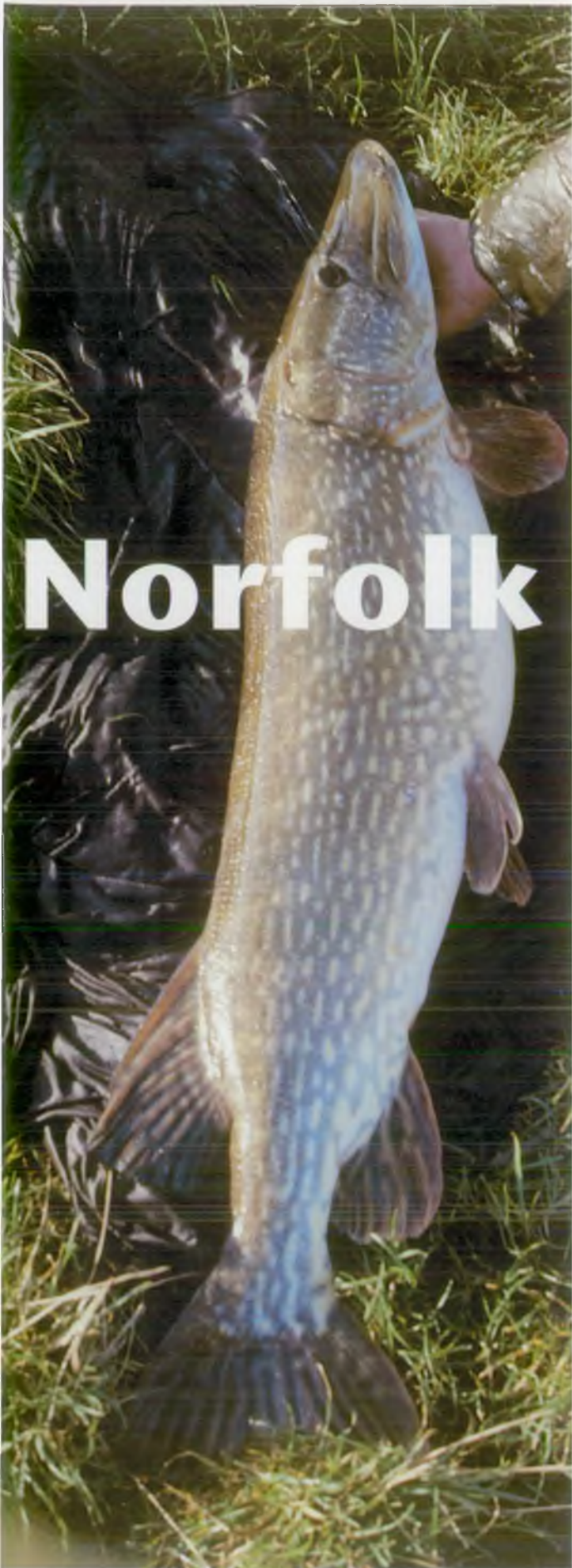
If you do not have the experience to make your own wire traces we would recommend that you purchase these wire traces ready made from the tackle shops around the county.

You will need an uptrace for float and lure fishing, one with a link clip for quick hook trace and lure changes and a couple of medium size 'snap tackle' hook traces for your bait fishing. The uptrace / spinning trace is necessary to reduce the risk of a bite off should the pike's teeth come into contact with the line immediately above the bait or lure. The uptrace / spinning trace should be approximately 6 inches longer than the hook trace!

You will need some weights to cock the float and hold the tackle in place, to help with casting and bait presentation. Swan shots (SSG's) will provide this and 1 ounce arlesey bombs will provide greater weight for holding the river bottom in strong flows, whilst also allowing you to make longer casts. The weights can be attached to the bottom uptrace swivel with 6 inches to 24 inches of mono-filament line (6 lb BS) to suit clear bottoms or fishing amongst weed. Alternatively use a large bore run ring and large bead to allow free

"You will need to be equipped with suitable tackle to catch pike."

Moving on to the terminal tackle end, you will need a selection of pike floats, particularly a long thin balsa float (see rig diagram 2), some small 5 mm diameter beads, a spool of Powergum



“...such a magnificent creature.”



Even in the bottom of the boat this pike is protected by a large handling mat.

Norfolk Broads

running of the link on the trace.(see rig diagram 1)

Most of the setting up of your tackle is shown in the detailed illustrations which accompany this feature.

Finally you will need a strong pair of forceps, an unhooking mat and a landing net with at least 32 inch long arms, 42 inch arms being better. To start fishing for pike without these items is unwise, for both you and the pike!

The float rig will work from the boat or bank! Do not leave the rods if you use a bite alarm, it is illegal!

LURE FISHING

A very popular method and one suited to the holiday angler as it doesn't require bait and storage for it. This is particularly true of anglers using cruisers as their means of holiday afloat. With a spinning rod or carp rod and associated items as described earlier, a selection of spinners, spoons and lures and those spinning traces to prevent bite offs, the lure angler can cast and fish for pike at any point the cruiser stops on the journey. Please do not use your lures whilst the boat is in motion as this may risk disaster for the pike and water birds if they come into contact with the moving lure or lost tackle, if it is snagged and lost. Furthermore this practice is illegal and against local by-laws! You are only permitted to fish with lures from a moving boat when rowing is the means of propulsion.

METHODS

FLOAT / LEGER FISHING

Bait fishing is probably the most reliable way of catching pike using float legered or simple legered dead baits such as herring, mackerel, smelt or sprats. These are readily available in fresh frozen packs from tackle shops.

The float fishing rig in diagram (2) if correctly loaded with SSG's or with long enough nylon linked bomb will serve well in open running or still water over clean or weedy bottoms. Ensure you plumb the swim to ensure you set the depth correctly for the float to register bites correctly. If you have difficulty with the depth you could straight leger using a drop off indicator in conjunction with an audible bite alarm, although this is better practised from the bank using bank sticks. It cannot be used effectively from boats.

Another way of 'lure' fishing with added attraction is to wobble or sink and draw with dead baits. This has the visual attraction, plus the benefit of the scents being released from the dead bait! A worthy method if normal lure fishing or float fishing are unproductive!

PIKE FISHING ON THE NORFOLK BROADS

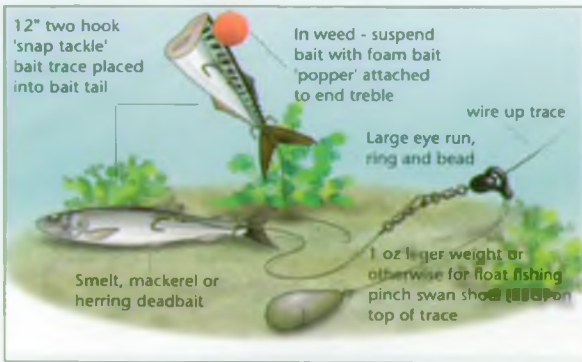


Diagram 1: Legered dead bait.

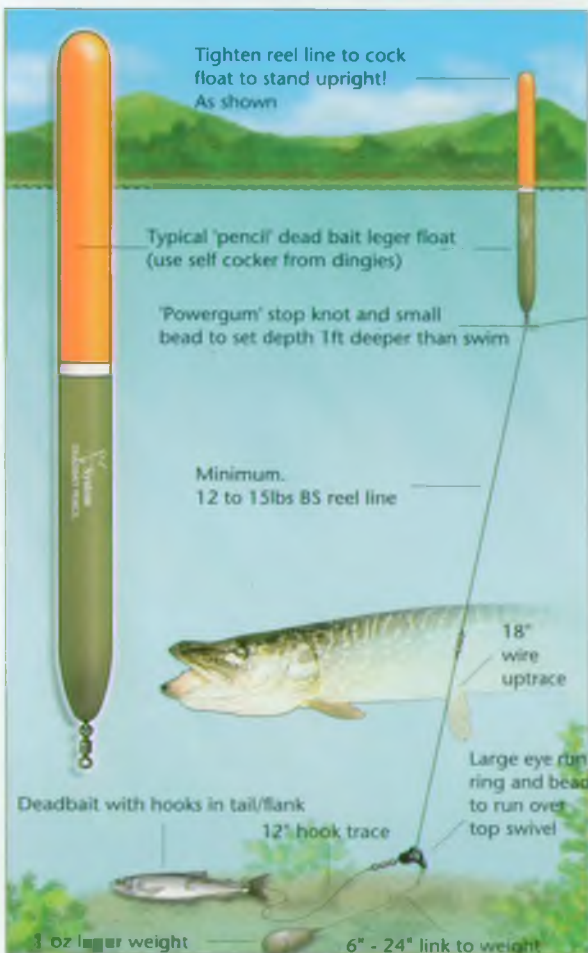


Diagram 2: Float leger.

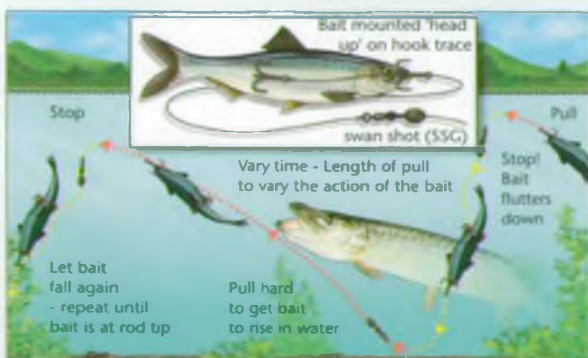


Diagram 3: Sink and draw.



Find, and ensure you don't damage, those gill rakers! Before inserting your fingers look out for the hooks.

HANDLING AND FISH CARE.

This section should be at the front of this article really, as the way you put the bait on the hooks and set your tackle up can dictate whether you are fishing safely when pike fishing. Accepting you have taken the advice given earlier then perhaps being at the end is not so much of a risk!

To many, the 'hard', almost menacing, appearance of the pike makes them believe that old *Esox* is indestructible and in fact threatening. Nothing could be farther from the truth, this magnificent fish is as vulnerable to damage and disease from poor angling practices as any species. So please consider this and the advice offered in the following paragraphs and continue to work with us to protect the pike stocks that reside in the waters of the Norfolk Broads and surrounding fisheries.

Whilst many of you will fish from the bank, a lot of holiday angling is done from on board a cruiser, day boat or dinghy. This immediately presents its own problems in handling your pike once caught. To accommodate this situation safely, please ensure you carry an unhooking mat (carp fishing kit again!) or put some suitable padding on the deck or bottom of the boat before starting to fish. Contact between the pike and the hard surfaces offered within a boat do great damage to the fish and must be avoided. Have that minimum 32 inch landing net set up and at hand when fishing.

If the tackle is set up correctly and safely, when you hook your pike play it firmly and get it to the net as soon as possible. Once netted lift it onto the handling mat in the net and dependant on its size, prepare it for unhooking with

those forceps.

If it is a large specimen it will be easier to unhook it laying on the mat, you may find this easier if you kneel astride it! If it is a small pike, under 10 lbs or so, it may be possibly easier to chin lift it and unhook it off the mat. Either way with bait or lure, take a firm hold on the pike's lower jaw by inserting your left or right hand (left if you are right-handed or vice versa) under the gill cover, avoiding the gill rakers in the process and run your finger up to the centre of the 'V' of the jaw joint and gently pull the lower jaw open and away from the upper jaw, or take the weight of the pike and lift it for unhooking!

With the pike's mouth open locate, release and remove the hook(s) from the pike and place them safely away from you and the fish. If you are going to weigh it, do so using a proper weigh sling, do not place the hook of your scales through the pike's gill cover, it is barbaric and may severely damage the gill rakers and jaw!

If a photograph is required of your catch ensure that the fish is held low above the ground whilst being photographed – it is far more sensible to kneel or crouch rather than to stand holding the fish high above the ground. Once weighed use the weigh sling to carry the pike back to the water, don't carry in your hands or arms, if it flaps or struggles and you drop it onto the bank or decking it may not recover. Once in the water support the pike until it decides to swim off itself and savour the pleasure of having safely caught and returned such a magnificent creature!

Hopefully with our joint effort, you and other anglers can come and catch those same pike over and over again, making each other's holiday angling a pleasure and for those who live and fish these same fisheries all year round, an equal pleasure.

David Batten

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