

EA NORTH EAST

CATCH

AUTUMN 2003

COMPLIMENTS OF THE ENVIRONMENT AGENCY

Youth centre secures angling's future

Speed trials show fastest fish

Rare parasite causes concern

North east fish hitch a ride



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AGENCY

FREE!

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MIXED NEWS FOR NORTHERN RIVERS

ONCE AGAIN there are some excellent signs that many fisheries across the north of England are continuing to improve.

You just need to take a look at the wealth of evidence contained in this issue - the news about the River Mersey, more fishery designations under the EU Freshwater Fisheries Directive and grayling returning to the improving Rivers Don and Calder in Yorkshire.

Now, after billions of pounds worth of investment, the Mersey, like the Tyne and the Tees, has gone from a lifeless "sewer" to a river with notable fisheries and a run of salmon, and the promise of further improvements still to come.

But, unfortunately it's not all good news. This issue of *Catch* also looks in-depth at a major pollution incident dealt with by the Agency and details a number of other fish mortalities over the last few months.

In an ideal world, fish kills caused by pollution would not happen and it is

odd to think that in some rivers these mortalities are evidence of improvement, not deterioration. As little as a decade ago a major pollution incident would not have killed any fish as the water would have been too contaminated to hold any fish at all.

The environment has improved sufficiently to support fish, and fish stocks have improved to show up any environmental accidents or setbacks.

Associated with this, a review of fisheries under the Freshwater Fisheries Directive is currently under way in England and Wales and is likely to result in a substantial rise in waters classified as coarse (cyprinid) or salmonid. The protection these waters will receive, and the further improvements in water quality required by the directive, can only help these fisheries thrive, which is excellent news for anglers, the environment and local communities.

Cameron Durie
Fisheries Technical Specialist



RIVERCALL

For information on levels in your local rivers you can call the following numbers

NORTH EAST REGION	0906 619 7722
Coquet, Tyne, Tees, Wear, Ure, Ouse, Derwent, Nidd, Wharfe, Aire, Calder, Don, Dearne	
NORTH WEST REGION	0906 619 7733
Derwent, Eden, Great Ouse, Ribblesdale, Great Ouse, Mersey, Mersey, Mersey, Mersey	
MIDLANDS REGION	0906 619 7744
Avon, Dove, Derwent, Severn, Soar, Trent, Trent, Trent, Trent	
WELSH REGION	0906 619 7755
Wye, Uis, Tyne	



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A WELCOME RETURN TO GRAYLING

A SPECIES of fish particularly susceptible to pollution has been found in stretches of two Yorkshire rivers - marking the improvements in water quality.

Grayling were found in a section of the River Don, near Rotherham, and the River Calder, between Sowerby Bridge and Brighouse, near Halifax.

Fisheries technical specialist, Chris Firth, said: "Grayling are like nature's pollution barometer. You only find them in waters of very high quality."

The Hull Fisheries Institute was carrying out a survey on the Don to collect information about fish fry. The survey found one grayling as far down the river as Aldwalke, near Rotherham, indicating the water in that stretch had vastly improved in quality.

"They have never been found so far down the river before," said Chris. "A number of grayling were introduced to the headwaters of the Don in 1983 and they have been working their way downstream ever since. This is great news for the River Don and a fabulous way to

mark 20 years since the fish were put back into the river."

The water quality of the Don was badly affected during the industrial era, as it became a dumping ground for untreated sewage and industrial waste. Massive financial investment has helped it return to its former glory.

In the River Calder, trout and grayling have recolonised the river between Sowerby Bridge and Brighouse for the first time in 150 years.

The river, which until the 1960s was grossly polluted and fishless, has been managed as a coarse fishery for the last 30 years and has received regular stockings to maintain its populations.

But it has also been the scene of a number of serious pollution incidents, one of which wiped out more than 70,000 fish.

Chris said: "Fortunately for the Calder, its physical habitat was not damaged as severely as many other river systems during the Industrial Revolution and it still retains many of its important habitat features, such as pools, riffles and glides.



A grayling - sign of improving water quality

These are now providing ideal conditions for the trout and grayling, which have proliferated during the last two years."

Local members of the Grayling Society who have fished the Calder are already comparing the river with more established grayling rivers, such as the Wharfe.

COUNTER CLOCKS THOUSANDS

TWICE the average number of salmon have been recorded at a fish counter on the north east's River Tyne this summer than over the same period for the last seven years.

The Agency's counter at Riding Mill, near Corbridge, clocked up thousands of fish swimming through it.

The counter recorded:

- More than 2,000 fish passing upstream during June
- More than 6,000 in July
- More than 4,000 in August

But it's not been all good news, as fisheries and environment management officers have also been monitoring salmon stocks in the Tyne throughout the summer months after reports of fish deaths. The lower reaches of the river and the upper reaches of the estuary were affected.

Officers believe the deaths were brought about by a fairly low concentration of dissolved oxygen in the estuary and high freshwater temperatures. Even though the oxygen concentration may not be low enough to suffocate the salmon, the resulting stress makes them susceptible to infections.

Around 1,000 dead salmon were collected

over July, August and early September and it is likely that around half as many died and were not collected.

Water quality technical specialist, Roger Inverarity, said: "Such salmon deaths have occurred in previous years but not to a significant extent since 1996. Since then we have had a sequence of relatively wet summers and improvements have been introduced to sewage treatment at Northumbrian Water's Howdon works.

"Because of the low flows and high temperatures, the deaths were not unexpected. If the improvements at Howdon had not occurred, we believe the conditions in the estuary would have hit salmon stocks as much as two months earlier than they did."

Roger said regular releases of water from Kielder Reservoir throughout June and into July had also delayed the onset of the problems by two to three weeks. The Kielder hydropower release policy is deliberately designed to do this, while balancing the needs of salmon with those of the rest of the river's ecosystem.

More recently, extra releases have been carried out in a bid to help struggling salmon out of the danger areas and further upstream

STRANDED FISH

A SUDDEN drop in water level in the Huddersfield Canal at Diggle, Oldham, Lancashire, left fish stranded.

Saddleworth Angling Society called the Agency and reported that fish were in distress and that some had been swept away.

Agency officers checked out why the water levels had suddenly dropped, leaving shoals of fish isolated in the deeper pools. Their investigations revealed that someone had left a sluice gate to a downstream lock partly open overnight. As a result the water had drained away unchecked.

The officers called British Waterways and a member of staff quickly arrived to shut the sluice gate and allow the water level to return to normal. This prevented the need for a fish rescue.

SURPRISE CATCH

AN unexpected catch was found in the Environment Agency's new salmon smolt trap on Kielder Burn in Northumberland this year - hundreds of toads.

Kielder Salmon Hatchery manager Peter Gray said: "The toads first appeared in ones and twos at the beginning of April. In mid April we caught more than 150 in just a few days but by early May the daily counts had dwindled to nothing.

"We must have seen more than 200 toads in total and the toad run seemed to coincide with the smolt run! Each day we netted out the toads from the trap and put them back in the burn downstream."

Rescue and restocking

STOCKING SUCCESS

RIVER survey work this summer has revealed juvenile brown trout in the upper reaches of the Lostock in Lancashire for the first time on record.

The results are a big thumbs-up for Agency stocking work, which kicked-off three years ago, with 2,000 brown trout parr (12 to 18 months old) introduced as an experiment.

The river was surveyed in 2001 and again in 2002 to check the movements of the fish. It was found they had travelled through the upper reaches of the river and had grown at a rapid rate.

Fisheries officer, Darren Wilson, said: "Following the River Douglas fish stock assessment work in the summer of 2000, we discovered that the habitat in the upper parts of the River Lostock was ideal for brown trout and salmon and sea trout.

"However, none were found and this was probably due to the historic pollution problems of the river. Despite improvements in water quality since, the presence of Farington Weir in the middle reaches of the river, which is

impassable to all species of fish, meant they were unable to return and recolonise the river naturally.

"Survey work this summer revealed juvenile brown trout in the upper reaches of the river. These have not been stocked and are naturally spawned fish from the population of brown trout which the Agency established from the stocking of brown trout parr in July 2000.

"This shows that the conditions are ideal for brown trout in the upper reaches of the Lostock as they are now successfully spawning, creating a new, self-supporting population."

Darren said the brown trout success story also indicated that salmon and sea trout could spawn and develop in the river, if they had access to the upper reaches.

The Agency is now looking into the possibility of installing a fish pass at the 1.45 metre high Farington Weir, which spans the whole width of the river. Subject to funding and negotiations with landowners, work could be underway in the next year.



Fisheries officer Darren Wilson with a brown trout from the Lostock

Darren said: "The stocking experiment has been a complete success. Not only have the brown trout thrived once stocked, they have spawned successfully

completing their life cycle. These will be monitored over the next few years to keep tabs on the juvenile fish and make sure they thrive as well as their parents."

River is "On coarse!"



Hedon Haven, a section of Burstwick Drain, is restocked

A THREE-year plan to stimulate the development of the River Aire's coarse fishery continued this year, with thousands of fish introduced into the river.

In January 4,000 chub, measuring between 15 and 20 centimetres, were stocked into the river between Crossflatts and Bingley in West Yorkshire.

In December last year 24,000 dace, between 10 and 15 centimetres, were distributed between Skipton and Silsden in West and North Yorkshire.

Great steps forward in water quality in the River Aire after major investment by water companies and industry have allowed the stocking work to take place.

Other stocking work in Yorkshire included:

- In South Yorkshire, the River Rother at Killamarsh received 1,500 mixed roach, dace, chub and barbel, all measuring between 15 and 20 centimetres. This section of the river had not recovered as fast as expected and its progress will continue to be monitored.

- Burstwick Drain, at Hedon, East Yorkshire, received 5,000 bream this year, measuring between 15 and 20 centimetres. The work is part of a project involving British Petroleum and the local community to develop the drain as a fishery, especially for local children. The work has been made possible through improvements in water quality over the past five years. In November last year, 1,000 chub and 1,000 dace were stocked.

CLUB GETS A HELPING HAND

AROUND 8,000 fish were moved to a new home by Agency fisheries officers after an angling club asked for help.

The Crown Angling Club found itself in a difficult situation when it was unable to renew its lease with the new owner of the club water near Hyde, Stockport, Greater Manchester.

The club had to move the fish as quickly as possible - and this was where the Agency stepped in.

Working with the club, Agency fisheries officers decided to move the fish and give them a health check at the National Fisheries Laboratory.

The pool was netted four times and the fish held in temporary facilities while the club found a new and suitable water.

A local farmer came to the club's rescue and offered a pool, which had very few fish already in residence.

After the fish had cleared their health check, they were moved into their new home at Todds Mill, Diggle.

Crown Angling Club treasurer James Burke said: "The removal and transfer of the fish by the Environment Agency fisheries team allowed the club to survive and keep its membership during a difficult situation."

FISH BONANZA FOR NORTHERN LAKES

SIX stillwater coarse fisheries in the north east have benefited from stocking programmes this year. All the fish came from the Agency's coarse fish farm at Calverton in Nottinghamshire.

- Killingworth Lake in North Tyneside was stocked with 1,000 bream and 300 tench, following previous stockings

by the Agency. Partnership work with North Tyneside Council has led to improvements at the lake, including 20 angling platforms suitable for disabled anglers, a new access path and planting work.

- A new fishery at Penshaw, near Washington, Tyne and Wear, created as part of the

restoration of an old colliery site, has received 1,300 bream and 800 tench.

- Wadsworth Fishery, near Bishop Auckland, and Seldom Seen Pond near Willington, County Durham, both received 1,000 bream.
- The recently restored Leazes Park lake in Newcastle, which is featured on these pages, gained 1,900 bream and 600 tench through the stocking programme.
- Brasside Pond, County Durham, received 1,000 bream and 200 tench to improve angling.
- In addition to the stillwater stocking work, the River Wear at Durham, Shincliffe and Chester-le-Street was stocked with 5,000 chub.



Fishing platforms installed at Killingworth Lake

BACK HOME AFTER EXTENDED BREAK

HUNDREDS of freshwater fish returned home to a Newcastle park earlier this year after an extended "holiday."

Carp, roach, bream, tench and perch were moved from Leazes Park lake in April 2002 before the lake was drained as part of a major refurbishment project.

But a year later Agency officers netted the fish, including a 20lb carp, from their temporary home at the nearby Exhibition Park.

They then used a specially adapted trailer to transport the fish back to Leazes Park, which is overlooked by Newcastle United's famous football ground.

Agency fisheries officer Phil Rippon said: "Apart from our help to move the fish, the Agency has contributed to this project by offering its expertise on improving habitat and managing fish stocks in the newly refurbished lake.

"We are more than happy to get involved in this project as part of our continued support for angling and our commitment to working in partnership to develop high quality coarse fishing venues in urban areas."

The Agency worked with Newcastle City Council and local fishing groups to ensure the needs of both the fish and anglers were met during the renovation work.

CLEAN-UP POND WELCOMES NEW STOCKS

BREAM, roach and tench were introduced into Swanee Pond in Barnsley, South Yorkshire, after a clean-up operation to deal with pollution.

Metal recyclers C. Soar and Sons agreed to pay for the pond to be refurbished and then restocked with the 600 fish after an oil pollution incident. The company was given a formal warning by the Environment Agency as a result of the incident.

Agency environment officer Anthony Downing said: "Although any pollution incident is serious, thankfully in this case minimal damage was caused to the pond.

"However, the Agency wanted to improve the existing facilities for anglers to enjoy their sport and this seemed like an opportunity to do that."



Swanee Pond in Barnsley

The Agency "grey bucket" helps top up the pond

Enforcement

ANGLERS BACK CLOSE SEASON

THE majority of anglers are in favour of keeping the coarse fish close season on rivers, according to independent market research.

Fifty per cent of anglers who fished for coarse fish in 2002 said they wanted the close season to stay – compared to 35 per cent in favour of scrapping it, the research revealed.

And there was even more support for keeping the season among anglers who coarse fished on rivers, with 55 per cent in favour of it.

The research, commissioned by the Environment Agency, showed that 78 per cent of the anglers quizzed had fished for coarse fish in 2002; 56 per cent had been coarse fishing on a river and 53 per cent had more than 20 years' experience in the sport.

Of those in favour of ending the close season, 36 per cent said there was no need for one while 34 per cent said they would value more fishing time.

Eighty per cent of those backing the close season said they felt fish needed to rest and breed and 19 per cent said it gave the riverbank time to recover.

The interviews were conducted with 2002/2003 full and concessionary rod licence holders and the sample was representative in terms of age and geographic distribution. It included both coarse and trout rod licence holders and salmon and sea trout holders.

Dave Clarke, the Agency's head of fisheries, said: "This wasn't a large survey – 400 anglers were polled – but those questioned were an accurate representation of the fishing public and they gave us an insight into feelings on the riverbank.

"The survey results certainly don't give us a mandate for proposing change. Any change would need considerable further research and in these circumstances it would be difficult to justify spending scarce funds on this.

"Before removing the close season from canals, we commissioned scientific research to assess the evidence for impacts to these fisheries. It was based on a comparison between those canals that didn't have a close season and those that did. The research cost us £50,000.

"Similar research on rivers would be more difficult and substantially more expensive. Such research would severely limit or preclude other fisheries research work."

The survey results will be scrutinised by the Agency's Regional Fisheries, Ecology and Recreation Advisory Committee's before they decide whether to advise the Agency to commission a major research project on the effects of removing the close season.

WATCH OUT!

There's a bailiff about

THE campaign to hunt the licence dodger continues, with crackdowns across the north.

Blitzes began this year in May as part of the Agency's national campaign, with thousands of anglers checked at 1,047 waters in England and Wales.

In the North East the evasion rate was 3.5 per cent and in the North West, 6.58 per cent. This compared with a national average of 8.47%. Bottom of the table was the Thames Region at 16.3 per cent.

In the North East, 2,669 licences were checked at 182 different waters and in the North West almost 800 anglers were checked at 75 waters.

The final evasion rate figures can fall, as some anglers produce a licence after the blitz.

In June, licence dodgers were the target of another crackdown, with a total of 2,133 anglers checked in the North East at 279 different waters. Ninety-four failed to produce a licence – an evasion rate of 4.41%, compared to 6.3% nationally.

In the North West 1,108 anglers were asked to produce a licence across 189 different waters. One hundred and nine failed to do so – giving an

evasion rate of 9.84%.

Steve Chambers, principal fisheries officer, said: "The revenue raised from licences means that the Agency has more money to invest in maintaining fisheries for the benefit of all anglers. We will continue to prosecute those anglers who think they are above the law, which could result in them landing a £2,500 fine."

So the message to dishonest anglers is clear – the hunt goes on and eventually you will get caught.



A bailiff checks an angler's licence

❖ In 2002, the Environment Agency carried out 220,000 rod licence checks.

❖ There are approximately 1.1 million licensed anglers in England and Wales.

New Lakes laws

NEW rules have been introduced to protect declining salmon stocks in south Cumbria.

Netting on the Leven Estuary is now banned during June, with the netting season reduced to July and August only.

A "catch and release" byelaw also means rod-caught salmon in the Leven and Crake catchment, upstream of the Leven viaduct near Ulverston, must be returned to the water unharmed.

The byelaws are likely to be in force for the next 10 years, but will be periodically reviewed. In the meantime the Environment Agency will monitor fish stocks and carry out habitat improvements in the catchment, working closely with landowners and anglers.

A Net Limitation Order has also been imposed, which means netting licences will only be issued to people who already hold these licences and who continue to fish year-on-year. No new netsmen or women will be able to enter the fishery in the next 10 years.

Jeremy Westgarth, a fisheries technical team leader, said: "We are very concerned about the salmon stocks in the Leven and Crake catchment. These new legal measures are vital to the conservation of these stocks. All anglers need to be aware of the changes and make sure they comply with the law."

The Agency is also recommending that anglers adopt "catch and release"



The Leven Estuary

when fishing for sea trout, as stocks have declined.

- The Leven and Crake catchment includes waters inland of the Leven viaduct, including the Rivers Leven and Crake, Coniston Water, Windermere, Esthwaite Water, Rydal Water, Grasmere, Elterwater and associated tributaries.

Copies of regional fisheries byelaws and further information about "catch and release" are available on the Agency's website www.environment-agency.gov.uk/fish or by contacting 0845 933 3111.

Court Shorts



A RESTAURANT owner was found to have 17 illegally caught sea trout on his boat the "Elizabeth Anne" when it was intercepted near Bridlington harbour, a court heard in June.

Andrew Wolski, the owner of Wolski's restaurant in Wakefield, was fined £250 and ordered to pay £350 costs after he admitted taking fish by means of an unlicensed net and taking fish in the annual close season.

The court was told that in October 2002, officers from the North Eastern Sea Fisheries Committee spotted the boat moving at high speed towards the harbour. As the boat moored up, the officers boarded and discovered 17 sea trout stashed in green polythene bags.

Wolski, of Ninevah Lane, Badsworth, Pontefract, did not have a fishing licence, caught the fish with a net and in the annual close season. During an interview he admitted catching the fish at Danes Dyke, about half a mile off the coast.

Fisheries principal officer Steve Chambers said after the case that it had highlighted the success of the Agency working with other organisations.

"Over recent years we have shared intelligence and worked closely with the Sea Fisheries Committees and other enforcement agencies. This is all leading to a better level of protection for fish stocks along the coast."

TWO Cleveland poachers admitted using a spear to illegally snare spawning salmon and sea trout.

John Richard Spaven and Darren Smitheringale, both of Thames Road, Skelton, near Saltburn, appeared before Guisborough magistrates in March, when they admitted three charges under the Salmon and Freshwater Fisheries Act 1975. They were each fined £150 and ordered to pay £150 costs.

The court heard that Agency officers spotted the pair late at night on December 3 last year at Skelton Beck. They were seen shining a light into the water before putting the fish into a bag and placing it in the boot of a nearby, parked car.

Officers discovered three fish in the car, along with a lamp and a long-handled spear.

After the case Agency fisheries officers Andrew Delaney said: "The use of lamps and spears to catch fish is barbaric and banned under fisheries laws across the country. It was outlawed centuries ago, which says a great deal about just how cruel it is."

A BAKER'S savoury glaze turned three kilometres of the Ouse Burn near Gosforth white, magistrates in the town heard in June.

Greggs Plc admitted knowingly causing polluting matter, a savoury glaze containing vegetable oil, to enter the Ouse Burn in April last

year. The company was fined £4,000 and ordered to pay £2,513 costs.

A DRAINAGE company was fined £15,000 in June after admitting polluting a tributary of Admergill Water in Blacko, Lancashire.

Lanes For Drains Ltd, of Leeds, was also ordered to pay £1,285 costs by Burnley magistrates. The court was told that a member of the public complained to the Agency about raw sewage entering a stream from a septic tank serving the Moorcock Inn, Blacko.

A FARMER was given a 160-hour community punishment order when he appeared at Penrith magistrates in May for causing farm effluent to enter a tributary of the River Lowther.

Robert Emerson, of Brougham, Penrith, was also charged with failing to comply with a Works Notice. He was ordered to pay £2,000 costs to the Environment Agency.

TWO neighbours were fined £1,500 each by Liverpool magistrates in May after they admitted polluting a brook with sewage effluent.

Anthony Crowney and Graham Powell, of Sandy Meadow, Wheathill Road, Huyton, were also ordered to pay a further £1,500 each in costs. The court heard that the men shared a sewage treatment plant, serving both their houses.

A "Consent to Discharge" into Netherley Brook had lapsed but even if it had not, the court was told that the sewage that entered the brook was more typical of raw rather than treated sewage and would not have met the conditions set by the Consent.

UNITED Utilities was fined a total of £7,500 and ordered to pay £870 costs by Warrington Magistrates in April, for polluting the River Mersey. The company admitted causing sewage effluent to be discharged into the Mersey and contravening a condition of a "Consent to Discharge."

WATERCOURSES running through an important conservation area and nature reserve were polluted when liquid waste was spread on land near Selby, the town's magistrates heard in April.

E Harper (York) Ltd, admitted causing organic liquid wastes to enter Firkin Mouth Drain and Dyon Drain at Aughton Common, near Selby. The company was fined £7,000.

The company also admitted a further incident, of causing organic liquid waste to enter Lendal Carr Drain and Ash Springs Drain at Camblesforth, Selby. It was fined £9,000 and also ordered to pay £3,548 costs.

CRODA Chemicals Europe Ltd was fined £24,000 and ordered to pay £1,866 costs by North Cheshire magistrates in June after polluting the River Mersey.

Samples revealed that a discharge into the river was not in line with conditions set by Croda's "Consent to Discharge." On one occasion the discharge was found to be twice as polluting as raw sewage. The company admitted six charges of contravening its Consent to Discharge.

AGREEMENT SIGNED

ENGLISH Nature and the National Angling Alliance signed an agreement in July to protect and promote a healthier future for England's freshwater environment.

The two bodies have agreed to work together to tackle threats such as pollution, siltation and the spread of aggressive alien plants. Closer contact between the two organisations will also help promote mutual understanding between angling and conservation interests.



INAUGURAL MEETING

THE first meeting of the Regional Netsmen's Forum was held this year and proved to be a great success.

It was planned to help cement communication between the netsmen and the Environment Agency, following the buyout of 52 of the 68 drift netsmen this May. Senior technical specialist Steve Bailey said: "It was very well attended and provided an opportunity for the free exchange of views and will help build good communication links."

Details are being finalised for another meeting this November, which will probably be held in Newcastle. For more information ring the Agency on 0113 244 0191.



FISHERIES SEMINAR

MORE than 70 people attended an Environment Agency fisheries seminar in Penrith this May.

The theme for the seminar year was improving habitats for fish and included presentations from Agency staff, talks by the Eden Rivers Trust and the newly formed Kent Rivers Group.

Next year's event will be held at the same venue, Newton Rigg College, on March 6 2004. For more details nearer the time contact the Agency's Penrith office on 01768 866666.

CHANCE TO HAVE A GO!

A WEEKEND of fly-fishing designed to encourage members of the Asian community to have a go at the sport proved to be a great success.

The event was organised by the Agency and Rotherham Council and was open to all-comers. Nearly 40 adults and children attended over the two days and were given expert tuition by members of the Salmon and Trout Association.

It was organised as part of the Agency's Diversity Action Plan (DAP), which aims to help women, the elderly, disabled and ethnic minorities to get access to the sport. A pilot study carried out as part of DAP showed that while angling was a popular sport, members of the Bangladeshi, Indian and Pakistani

communities were unlikely to participate.

The weekend included a fly-fishing coaching session at Thrybergh Country Park reservoir, Rotherham, a talk on game fishing, safety, rod licences and byelaws.

Karen Tait, community liaison and project officer for the Agency, said: "The Agency has a duty to promote fishing as a sport and we consider it to be a healthy and worthwhile pastime."

People taking part included members of the Bradford Bangladeshi Association, West Bowling Activity Group, Bradford and Noor-ul-aloom, Halifax.

Of 28 people who filled in questionnaires after the weekend, 14 said they would definitely fish again and nine said they might do.



MATCH RESULTS NEEDED

THE Environment Agency extended its call for match return cards this year to include all significant match venues on rivers in England and Wales.

Match return cards have been collected by the Agency for many years on some rivers, such as the Severn, Trent and Yorkshire Ouse. Information on the cards can then be used to monitor long-term trends in fishery performance.

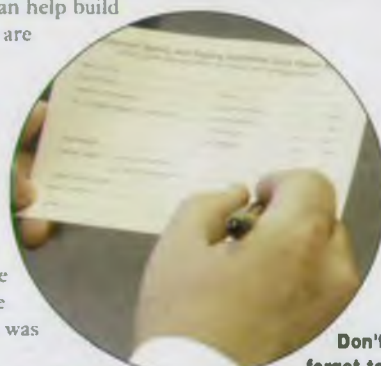
For example, analysis of cards for the Yorkshire Ouse over the years showed that there had been an overall increase in average catches since the mid 70s.

The cards also give information on the number of anglers fishing, how many of them are catching and the main species of the catches. Coupled with the Agency's population surveys, it can help build a good picture of how river fisheries are changing over the years.

Match results have helped the Agency spot how changes in water quality affect fish, for example on the Calder and Trent, and how obstacles affect fish, such as in the Yorkshire Derwent, Nidd and Tees. This all helps with fishery management plans. In the case of the Nidd, match results helped make the case for the removal of a weir which was affecting the fish upstream.

Fisheries officer Steve Chambers said: "It only takes a few minutes to fill in a card at the end of each match. This will provide very valuable information on how coarse fishing on our rivers is really changing from year to year.

"We hope that anglers and angling clubs will support this work in future by completing and posting the match return cards when requested by us."



Don't forget to fill in your match return card

ROD LICENCE DEFENDED

TORY leader Iain Duncan-Smith (pictured) was reported to have called for the abolition of the rod licence earlier this year.

The reports prompted Environment Agency's head of fisheries, Dave Clarke, to defend the licence.

Dave said the licence fee was a charge, not a tax, and brought in around £15 million, net of collection and enforcement costs.

"The £15 million net income is



used to pay for environmental and fishing protection and for fishing improvements. It is all spent to benefit fisheries and licence payers," he said.

Dave also questioned claims that the licence was deeply unpopular. "In recent years, independent surveys have consistently demonstrated that between 70 and 80 per cent of anglers think that the fisheries service we provided with the licence money was either fairly good or very good."

LANDMARK DEAL TO HELP SALMON STOCKS

AN HISTORIC £3.4 million buyout agreed earlier this year has dramatically cut the number of salmon taken from the seas off the north east coast by drift nets.

Fifty-two out of 68 remaining netsmen accepted a voluntary compensation scheme to quit drift netting to support the conservation of salmon stocks.

Last year, drift netsmen caught 42,000 salmon and sea trout as the fish headed for the rivers of the North East Region and eastern Scotland. The agreement could reduce that number by as much as 75 per cent.

From June, just 16 fishermen were licensed to use drift nets along the coast between North Yorkshire and the Scottish Border, compared to 142 licence holders in 1992. The buyout was a major step in phasing out a fishery that exploits salmon returning to many different rivers and will improve the long-term management of salmon stocks.

The agreement followed two years of sensitive negotiations, brokered and administered by the Environment Agency. The buyout was kick-started by a £1.25 million investment from the Department for Environment, Food and Rural Affairs. The remaining funds were raised by the North Atlantic Salmon Fund (UK) through private contributions.

Godfrey Williams, fisheries policy manager at the Agency, said: "This wasn't easy for the netsmen. It had an impact on their whole way of life. Regulations were already in place to phase out the use of drift nets - the buyout accelerated the process."

Barrie Deas, of the National Federation of Fishermen's Organisations, said: "We welcome this voluntary scheme that allows those netsmen who want to surrender their licence an opportunity to do so."

BATTLE TO SAVE FISH STOCKS

THIS summer has seen Agency officers called on to save fish stocks from the devastating effects of pollution.

Two incidents involving farm slurry in August meant officers had to battle against time to save remaining stocks in North Yorkshire and Cumbrian rivers.

Investigations into the exact causes of the incidents are on-going and if environmental laws have been broken, the Agency will seek to prosecute.

Thankfully, many thousands of fish were saved following quick and effective action by Agency officers after slurry entered the River Foss near Farlington.

More than 30 staff were involved, from teams as diverse as

environment management, the emergency workforce, hydrology and fisheries.

Richard Maxted, hydrology team leader, said: "Although there were around 2,000 fish deaths following the incident, many more thousands of fish and the river habitat in general were saved by the prompt action of Agency officers."

"Aerators from Hull, Newcastle and York were used along the banks of the Foss to put oxygen back into the affected water. Dozens of samples were taken to monitor oxygen and ammonia levels so that we could target our efforts to have the most impact."

"We also asked Yorkshire Water to raise the levels of oxygen in the effluent released from the nearby

sewage treatment works."

Slurry, like sewage, strips the water of oxygen so that fish effectively suffocate. Most of the dead fish were chub.

Sadly, only 10 days later the Foss was hit again with a mystery pollution which resulted in the deaths of more than 500 fish at Stillington. Because it was upstream of the first incident, officers do not believe the two are linked.

In the River Ive, near Carlisle, hundreds of fish, including salmon, stone loach and bullheads, were killed by pollution which affected about six kilometres of the river around Ivegill.

Agency staff again used aerators to prevent more fish dying. They also pumped water from the river onto

the bank so that it could return to the river with higher levels of oxygen.

Two members of the public alerted the Agency using the hotline number - 0800 80 70 60 - and this allowed officers to quickly get to the scene.

Simon Barron, technical advisor, said: "We are grateful to the people who called us about this and allowed us to respond quickly. Without their quick thinking it could have been a lot worse."

The slurry spills were the latest in a catalogue of pollution events across the year which have been a setback for some of the north's watercourses. *To find out more about how the Agency deals with pollution problems, turn to pages 16 and 17.*

DRIVE FOR A BETTER ENVIRONMENT

LEADING environmental organisations have called on water companies to take action to protect some of our most important rivers and wetlands from pollution and over-use of water.

While major environmental improvements have been realised by water industry investment since the 1990s, pollution and over-abstraction are still problems in some areas.

More than one in 20 rivers in England and Wales are considered to be 'poor' or 'bad' quality, rising to one in eight in urban areas.

The Environment Agency, English Nature and the Countryside Council for Wales set out their priorities for water industry investment in *A Good Deal for Water*, as part of the review of water company prices for the period 2005-10. The agencies believe the investment will bring economic and social benefits, as well as environmental improvements.

Environment Agency chief executive Barbara Young said: "Our environment programme asks water companies to invest in improvements across England and Wales. This will safeguard thousands of kilometres of lakes, ponds, wetlands and coastal waters."

Among sites earmarked for attention are Lake Windermere and Coniston Water in the Lake District, the River Irwell in Greater Manchester, the Manchester Ship Canal between Warrington and Manchester, the Martin Mere wetland reserve near Burscough in Lancashire, and the Rivers Brennand and Whitendale in Lancashire's Forest of Bowland, the River Aire in Bradford and a site at Thornaby in Middlesbrough.



SUCKERS FOR CLEAN WATER

LARGE sea lampreys were discovered in the fish trap at the Tees Barrage, Stockton-on-Tees earlier this year.

The presence of the five, large fish served as further confirmation of the improvements in water quality, as lampreys need good water quality to survive.

The barrage prevents salt water from the estuary going upstream. The combined effects of the man-made barrier and reductions in discharges by industry and water companies into the river and estuary have clearly been beneficial.

The populations of pollution-sensitive species have all shown improvements, with increasing numbers of sea trout, salmon and seals noted over the past 10 years. This is great news for both anglers and environmentalists.

Before the 1920s, lampreys could be found in abundance in the Tees, but as with other fish and wildlife, they fell victim to the effects of industry and population growth on the banks of the river. Untreated sewage effluent and

industrial effluent virtually wiped out all river life.

Bob Pailor, environment manager, said: "We are delighted at the discovery of the sea lampreys. The improvements to water quality have clearly made a real difference."

"Lampreys have an unpleasant reputation, feeding on and sucking out the insides of other fish, but they're a vital part of nature's balance."

The local chemical and steel industries, Northumbrian Water and the Environment Agency have all worked together to reduce discharges, clean up the water, regenerate aquatic environments and also contribute to the regeneration of the Stockton riverbanks.

Areas of the estuary once dismissed as derelict now boast valuable marshes and mudflats, which are important habitats for wildlife and plants. The upstream river is now a significant resource for recreation purposes.

● Turn to page 25 to find out more about lampreys

BREATHING EASIER

LATEST monitoring results have revealed how the Mersey Estuary has been transformed from one of Europe's most polluted waterways into a haven for fish and wildlife.

For the first time since the Industrial Revolution oxygen levels are high enough to support fish along the entire length of the estuary.

Levels of dissolved oxygen in the estuary water need to be at least 30 per cent for fish to thrive but when the Agency's predecessors started routine sampling in the late 70s, levels in much of the estuary were at zero.

Latest information from the Agency shows oxygen levels are now well above 60 per cent for the entire length of the estuary.

George Ager, the North West Region's strategy manager, said: "This is fantastic news for the Mersey. It was once a prolific fishery famed for its salmon but after the Industrial Revolution it became infamous for pollution."

"Not so long ago people said there were no fish in the estuary and folklore was that you couldn't drown in it because you'd be poisoned first! But nearly 20 years of hard work have paid off and now we have an estuary to be proud of."

"The hard work has not just involved the Agency and its predecessor, the National Rivers Authority, but also United Utilities, local industry and the Mersey Basin Campaign."

Fishery improvements

BATTLE LINES DRAWN AGAINST ALIEN INVADERS

AN ambitious cross-border project has kicked off to help bring damaging alien invaders under control across an entire river catchment.

The Tweed Invasives Project aims to loosen the stranglehold gained by Giant Hogweed and Japanese Knotweed - with some areas of the catchment seeing up to 10 feet of bank disappearing in the last few years because of the plants.

The project, on the Northumberland and Scottish border, is the largest of its kind in the UK and is strongly supported by residents of the River Tweed catchment, farmers, landowners and fisheries interests.

It is also a great example of cross-border working with the Scottish Environment Protection Agency, the Environment Agency, Scottish Natural Heritage and English Nature teaming up to tackle the problem. The Heritage Lottery Fund is funding most of the £375,000 project.

Tweed Invasives Officer Tim Barratt said: "The problem posed by invasives such as Giant Hogweed and Japanese Knotweed is that they

are capable of rapidly colonising large sections of riverbanks, hedgerows, meadows and woodland, where they out-compete and replace native flora.

"But it is not only the native flora that suffers, but also the associated wildlife, as these hardy invaders are not edible to our native insects and subsequently provide poor habitat for the rest of the food chain that would otherwise be supported.

"Another major side effect is the erosion that results from their colonisation. Each winter, infested riverbanks left bare by invasives that out-compete the native ground flora, are eroded and washed away, increasing river sediment loads and threatening the vital gravel spawning grounds of salmon, trout and grayling."

The project is initially being run for three years and aims to control the invaders throughout the entire 2,000 square miles of the Tweed catchment, including many of its tributaries and burns.

It will offer advice and training, as well as practical and material support for the control of invasives and the re-establishment of native flora.

Giant Hogweed - an alien plant

COVER STORY

TROUT stocks are benefiting from habitat improvements on the River Cover in North Yorkshire.

Overgrazing and moorland gripping had taken their toll, causing bank erosion and siltation problems. Much of the river had become too wide and shallow in places with many young trout washed out during high flows.

The Agency worked with farmers, the Yorkshire Dales National Park and the Wild Trout Trust to bring about the Upper Cover Habitats Improvement Scheme to strengthen riverbanks and provide a more stable environment for brown trout.

David Bamford, fisheries officer, said: "The landowners in the area have instigated a programme of grip blocking - filling in drainage ditches cut into the moorland. They have also significantly reduced the livestock stocking rates in Upper Coverdale. Some have also replanted heather and carried out some fencing of the riverbanks where this has been possible.

"By working with the landowners we aim to greatly increase trout survival in this part of the river, which in turn will help the populations throughout the whole of the Cover and the main River Ure."

MAKING HEADWAY

A PROJECT to help improve and protect two important chalkstreams was completed earlier this year.

The River Hull headwaters scheme saw work carried out at Foston Beck and West Beck, both recognised as Sites of Special Scientific Interest.

The Agency negotiated with the owners, English Nature and the Yorkshire Wildlife Trust, before creating a buffer strip, which will help protect the streams from damage by grazing livestock.

Damaged banks have been re-aligned and work carried out to try to establish new riverbanks. Agency officers used hazel faggots - or bundles - that were transported from a site in North Yorkshire.

The faggots were then staked to the riverbed along the line of the original bank and back-filled with silt from the river. Other work included creating fish refuges.



Hazel faggots used to establish new river banks

OBSTACLE OVERCOME

A MAJOR obstacle for fish trying to find their way to spawning grounds has been removed from a County Durham river.

The Agency teamed up with the River Wear Environmental Trust and local contractors Lumsden and Carrol to build a new fish pass on the River Gaunless, a tributary of the River Wear.

Before the pass was completed, sea trout had to struggle to get past a concrete pipe, which had created a weir across the river at Bishop Auckland.

The new pass uses natural stone to create a short section of meandering river channel, together with a series of pools. The £40,000 pass will open up new habitats and also help prevent fish becoming the victims of poachers at the notorious hotspot.

Agency project manager Phil Rippon said: "The River Wear has an increasing population of sea trout and the construction of this new fish pass will help them to continue to thrive by opening up a considerable area of habitat."

ANGLERS RETURN

A NEGLECTED stretch of riverbank has seen anglers return to it once more after improvement works.

The River Nidd immediately below Skip Bridge, west of York, was in a poor state and large sections of bank had eroded away.

This part of the river was rarely fished by anglers, who had moved to sections where fish populations were good.

The Agency worked with local landowners and angling clubs to put fencing along some areas, plant trees and shrubs and bring about improvements in existing bankside vegetation.

Extra funds raised locally allowed the project to be extended, with a further 1.5 kilometres of new fencing, repairs to two kilometres of existing fencing and the planting of more than 1,500 trees.

While it will take a couple of years for the main benefits to be seen, this stretch of river has already seen the welcome return of anglers.



BEFORE: The River banks is eroded heavily



AFTER: Fencing and planting has helped rejuvenate the area

STEP TO IT!

AS WELL as improved access for fish to the north's rivers- the Agency has been working to improve access for anglers to its fisheries.

New steps have been installed at Mitton on the River Ribble in Lancashire to make life a little easier for anglers using the Agency-owned stretch of water.

They used to have to endure a steep and arduous walk through Mitton Wood to access the lower stretches of the river but the new steps and footpath improvements have opened up the area, which is set in some of the most beautiful countryside in the Ribble Valley.

RIVERBANK RECOVERY

RIVERBANK improvements could soon bring about the return of spawning salmon to nursery areas of the River Ure in North Yorkshire.

The Agency worked with a landowner at Jervaulx Abbey, between Masham and Middleham, to encourage the return of bankside vegetation, and ultimately, salmon.

Trees such as willow and alder were planted to support the bank and minimise the risk of erosion. They will also provide habitat for

insects, mammals and birds.

Fencing was also put up along a mile of riverbank to stop livestock eating the new plants. Fish need bankside cover to encourage feeding and spawning.

Fisheries officer Dave Morley said: "This area of the River Ure is one of the key areas used by spawning salmon. Protecting these nursery areas is vital if the recovery of the salmon population is to be sustained. We are always very grateful to landowners for their co-operation."

WOOD WORKS!

LARGE wooden boards have been used in parts of the River Foss in North Yorkshire to help create currents, add oxygen to the water and provide cover for fish.

The Agency worked with the Foss Internal Drainage Board (IDB) to carry out the habitat improvement works for fish stocks.

Part of the work included the use of wooden "groynes," placed in a V formation to create the currents, as well as the introduction of spawning gravels and the planting of extra bankside vegetation.

The Foss contains a good population of fish, including brown trout, dace, chub, roach and barbel, although in places habitat is very limited and there are some localised problems with silt, which reduces water levels and makes it difficult for fish to spawn.

Simon Cranmer-Gordon, a fisheries officer, said: "We are very grateful to Dave Fulwood and his team from the Foss IDB for their co-operation and hard work in carrying out this project.

"It clearly shows that by working together we can manage our waterways to benefit all, especially wildlife, and we look forward to continuing the partnership on other schemes.

"This work will create a better habitat for the fish and in turn will result in an increase in fish populations in the whole of the Foss. It will also help to increase the populations in the main River Ouse in York."



The groynes installed on the River Foss.

SAFE HAVENS

NEW fish havens have been built alongside the River Derwent in North Yorkshire in a bid to improve young fish survival.

The first one was created at Howsham, north east of York, where a small overgrown pond close to the river was expanded and joined to the main river by a small channel. The second haven was built at Huttons Ambo, further upstream.

The new backwaters are designed to allow fish and wildlife to move freely between the ponds and main river. They will act as a refuge for fish in times of high river flow and also provide an area

where they can spawn in peace.

John Littlewood, fisheries officer, said: "The site looks like a muddy puddle to start with but plants quickly develop and spread from the existing marginal plants which we left in place. We expect many fish species to use the haven, including roach, perch, chub and eels.

"In the longer term this will mean more young fish surviving and will add to the numbers of fish being found in the Derwent. We are very grateful to the landowners for their co-operation and support, without which we wouldn't be able to carry out schemes such as this."



The fish haven at Howsham

North West Survey MAKING A

MANY years of partnership work in the River Irt catchment are now bearing fruit, a recent fisheries survey has shown.

Although the river and its tributaries are to be found in a remote and beautiful part of Cumbria, they were still touched by the dirty hand of industry and suffered indirectly through the scourge of acid rain.

This was particularly a problem in the mid 1980s and affected fish populations. The low pH levels had a greater impact on salmon production than on other fish, such as trout, as salmon are more sensitive to the increased acidity.

But the good news for the catchment is that an improvement in pH levels since the mid 1990s due to improvements in air quality and work to improve habitats has resulted in greater salmon production and distribution.

Juvenile

Agency fisheries officers carried out a survey of juvenile salmon and trout last year as part of the National Core Monitoring Programme.

Watercourses checked out included the River Irt, Cinderdale Beck, Countess Beck, Mecklin Beck, Mosedale Beck, Over Beck and the River Bleng.

Seven out of the nine sites which were also surveyed in 1994 showed an increase in salmon fry numbers this time. Other species found during the survey included eels, minnows and stone loach.

Environment Agency fisheries officer Ben Bayliss said: "The overall message from the survey is that at the very least the status quo has been preserved since 1994 and in some areas there are marked improvements.

Impressions

"Most notably the River Bleng showed improvements in both its trout and salmon populations.

"The Irt catchment is the subject of a Salmon Action Plan this year and initial impressions from this survey, along with recent catch returns from anglers, indicate that the catchment should exceed its Conservation Limit – or what used to be known as the spawning target."

Salmon Action Plans look at everything associated with salmon production and help the Agency identify where it needs to concentrate its efforts and attention. They cover all aspects of the river, including riverbank erosion, which damages fish habitat, structures blocking fish passage and, of course, poaching.

Ben said: "The action plan will

seek to work in partnership with fisheries interests on the Irt catchment to secure the future well-being of salmon on the river through various initiatives such as habitat restoration schemes and a reduction in the illegal exploitation of salmon and sea trout."

While there are still some localised habitat problems, the Agency has worked with

organisations and landowners to overcome many others in recent years.

Fisheries technical officer Mike Bell teamed up with the National Trust at Cinderdale Beck where the excessive growth of water hemlock was clogging up the gravel and erosion was causing problems. But these troubles have been just about eradicated and the result is an



Severe erosion downstream of Crag House on the Irt



Surveying in the middle of the Bleng catchment

COME BACK

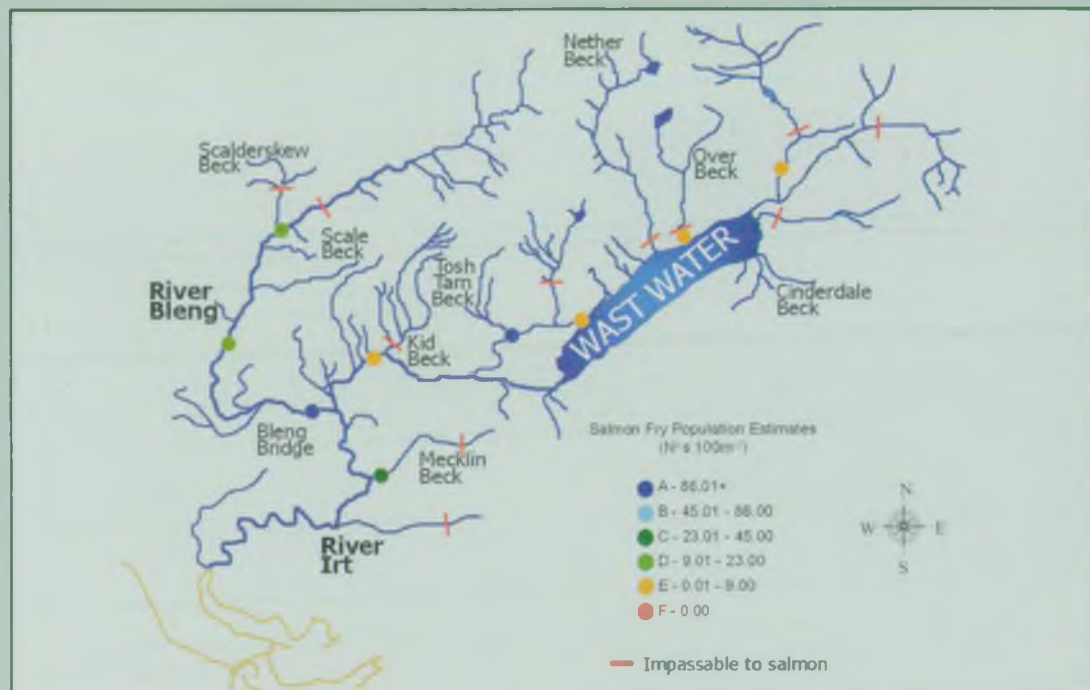


Fig 1. Salmon fry population estimates for sites surveyed on the Irt catchment as part of the core monitoring programme

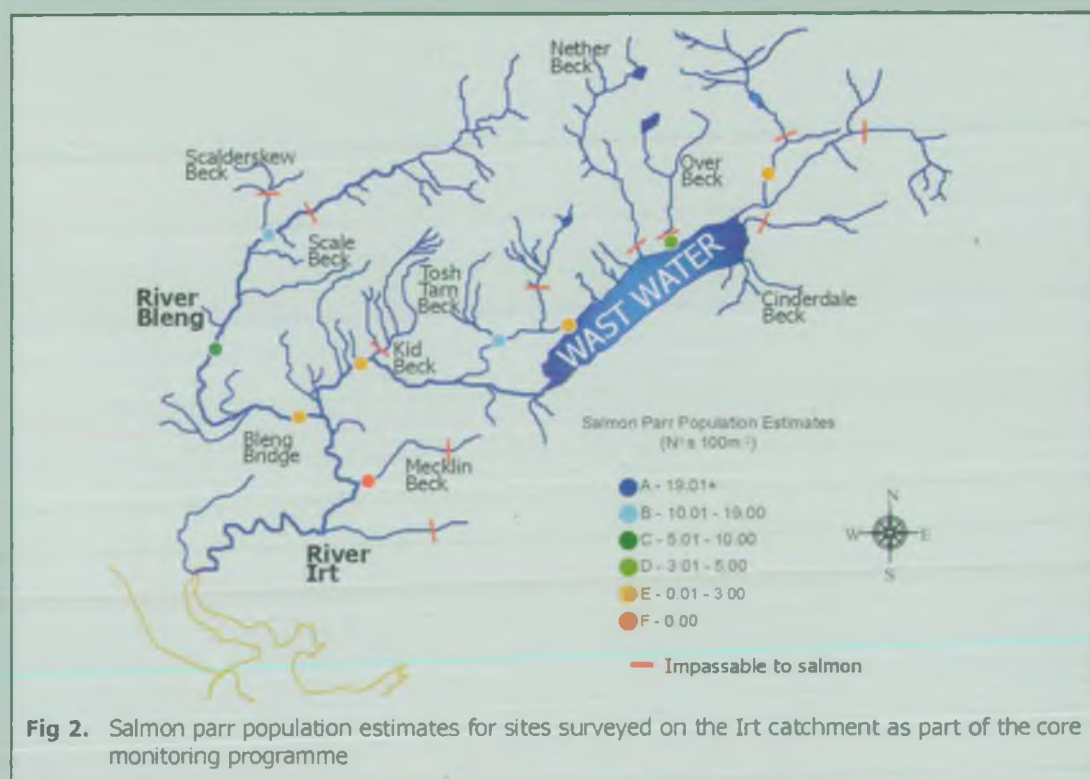


Fig 2. Salmon parr population estimates for sites surveyed on the Irt catchment as part of the core monitoring programme

increase in the numbers of sea trout spawning in the beck.

Improve

Mike is now working with local angling club Gosforth Anglers on Murkholme Beck in an effort to improve sea trout numbers and on Fogmire Beck, which is a tributary of Mosedale Beck, to help clear the way for sea trout to access spawning grounds.

This work will include trash clearance and removing man-made obstructions, and for the Irt catchment as a whole, will build on the success of everyone's efforts over the last two decades.

The River Irt

THIS river catchment is set in the beautiful and dramatic scenery of the Lake District. High on the Cumbrian fells, not far from England's highest peak Scafell Pike, is the Lakeland's deepest lake, West Water, at 258 feet. From it emerges the River Irt, which then heads in a southwesterly direction towards the coast.

In the Victorian era the Irt and the nearby River Ehen were famous for their rare black freshwater pearls and poachers were extremely keen to get their hands on the valuable mussels that produced them.

The upper part of the catchment is characterised by small streams and rivers, which drain the surrounding fells. Historically these areas have been affected by acid rain – notably in the mid 1980s – but the situation has improved over the years and the benefits are beginning to be seen.

Young Anglers GIVING ANGLIN

Young people are the future of any sport and locally-run schemes helping to promote angling are just one of the ways to ensure its survival. The Get Hooked on Fishing Project, which began in County Durham, has been tremendously successful and an angling and conservation centre, part funded by the Agency, has now opened to promote the sport of angling in a safe environment.

WHEN Durham social crime prevention officer PC Mick Watson came up with the idea of an angling project to stop youngsters from all social backgrounds drifting into crime, little did he realise what a great success it would be.

Now in its fourth year, the Get Hooked on Fishing project has gone national, with the support of a

number of different organisations, including the Environment Agency and Countryside Agency.

The latest landmark in the project is the opening of a £400,000 angling and conservation centre at Wasworth, Witton Park, near Bishop Auckland in County Durham.

Aimed at 10-16 year olds, it acts as a base for practical coaching, as well as teaching the theory of the sport

and the importance of respecting wildlife.

North east co-ordinator Colin Thrower, an Agency fisheries enforcement officer, has led the Agency's support for the facilities at the centre by tapping into Agency funding.

"We've got the facilities, we've got lakes and the river and everything the youngsters need," he said.

"The Agency has set aside £25,000 nationally to pay for anglers to attend recognised courses to become coaches and once more coaches are trained up then we're going to be able to get more kids through the scheme and into angling."

The centre is built in a former gravel works on land owned by Bishop Auckland Angling Club, which has created six lakes for coarse fishing and has rights on a nearby game fishing stretch on the River Wear.

It is fully equipped with a kitchen, showers, training and meeting rooms, as well as plenty of tackle storage. The young anglers from various parts of the country on weeklong schemes sleep in one-man



North west young anglers Neil and Lee Jones

Fishing fun

FAMILY days, taster sessions, coarse and game fishing instruction – it's all been happening across the north of England this summer with thousands of youngsters enjoying the fun.

Events organised by many different organisations, including the Environment Agency, have given young people the chance to try their hand at fishing and something exciting and new to do during the long summer holidays.

In Preston, around 250 children were given free coaching sessions and the chance to take part in competitions in an event organised by British Waterways, Lancashire Police and the Agency.

Ten-year-old Tanya Emmett rebaits her hook, watched by dad Brian, sister Carron and friend Rachel Fisher

Martin James, an Agency recreation officer, said: "We had an excellent response to the event on the Lancaster Canal at Ingol and children of all ages turned out to learn new skills and make new friends."

And for 12-year-old Samantha O'Neill, of Blackburn, it proved to be a very worthwhile exercise after she scooped the British Waterways junior champion title.

Martin said: "The Agency is extremely keen to follow up these events next year in Lancashire and anyone interested in getting involved should get in touch with me – their support would be welcomed."

Another major event in the summer was the Annual Angling Championships in Doncaster, organised by the National Association of Young People's Clubs.

On Sunday July 13, children from all over



G A FUTURE



The angling and conservation centre has six lakes for coarse fishing

tents on the side of the lakes.

Members of Hooked on Fishing Groups nation wide were lucky enough to try out the centre during the school summer holidays.

Sixteen-year-old Daniel Adams is a visitor from Stoke-on-Trent through the Stoke Angling For Everyone (SAFE) group.

"The centre is really great and I just hope they can set up something similar in my area," said Daniel, who had had some success with carp that day.

"I really enjoy the sport, especially if I'm coaching and seeing the smile on people's faces when they catch a fish for the first time."

At 16, Neil Jones, of Warrington, is already a champion angler. He got involved in Hooked on Fishing with the help of the Environment Agency's North West Region.

"The centre here is brilliant – we couldn't ask for anything better," he said. "There's nothing like this in our area, it's definitely something that we could do with to help young anglers get started."

Agency recreation officer Martin James is co-ordinator for Get Hooked on Fishing in the north west. He says the search is already on for a similar site.

"The demand is definitely there in the north west, all it needs is the site as we've already got the people there to make it happen," he added.

As well as a safe place for young anglers, the angling and conservation centre serves as a base for Bishop Auckland Angling Club's commercial fishery. The club's secretary John Winter is "thrilled" with the results.

"It was quite obvious to us that the two operations should be combined," he said. "The centre is absolutely superb, with facilities for all aspects of our operation."



Daniel Adams visited the centre from Stoke-on-Trent

"With plans to build another nine centres across the country, the Bishop Auckland one is being seen as a blueprint and people from other fishing groups across the country are visiting to see what can be achieved."

"Children are the future of the sport and without them it will not continue and we fully support the Environment Agency in its work to increase the number of youngsters getting into angling."



Laura Martin, 10, with her first ever fish, a bream, with fisheries officer Martin James, and PC Simon Lochhead.

England gathered to take part in the seventh annual championship, which was sponsored by the Agency.

Hunslet Boys' Club, of Leeds, won the team championship title for the second year running, and the individual first place went to Richard Pitts,

of Leeds, with 3.5 kilogrammes.

But the event was also a chance for newcomers to the sport to take advantage of free coaching through the National Federation of Anglers, under the Joint Angling Governing Bodies National Coaching Scheme.

Other events this summer included:

- Free angling sessions throughout August at Lonsdale Park Fishery, at Cumwhinton, near Carlisle. The Agency teamed up with the fishery and the Army Recruitment Office in Carlisle to provide sessions for under 16s, including free transport to the lake. Coaching was provided by Professional Anglers' Association coach Chris Bowman and all the tackle, bait and licences were free of charge on the day.

- Coaches from the Salmon and Trout Association worked with Agency officers to organise two day-long junior angling events at the New Mills Trout Farm near Brampton. Children spent the morning pond and stream dipping, learning how to fly cast and tie flies and then used all their new-found skills to do some fishing in the afternoon. Agency recreation officer Jo Barrett said: "Angling is a wonderful sport and hopefully some of these youngsters might take it up and join the millions who regularly enjoy fishing."

Six days of events throughout Lancashire were organised under the Recreation Activity

Programme, giving young people the chance to try coarse and game fishing for the first time or improve their skills.

British Waterways and the Agency organised a family day at Garstang in July. Martin James said: "Lots of people came along and it proved to be a great day out for all the family."

Useful contact details:

Contact the fisheries officers at your local Environment Agency office to find out about future events.

For more information about Lancashire junior angling days Martin James can be contacted on 01772 339882 or e-mail martin.james@environment-agency.gov.uk

Coarse angling: Glyn Williams, National Federation of Anglers on 01283 734 735.

Sea angling: David Rowe, National Federation of Sea Anglers on 01364 644 643.

Game fishing: Malcolm Hanson on 01672 511 628.

Emergency response

DEALING WITH THE AFTERMATH

A MAJOR fire led to one of the biggest environmental clear-ups in years for the Environment Agency - and fish life wiped out in a local coarse fishery.

At the height of the blaze, smoke could be seen 20 miles away from the Bartoline Works Ltd chemical factory at Beverley in East Yorkshire.

It took several hours for firefighters to get the blaze under control and then Environment Agency officers were left with the task of dealing with pollution problems, which occurred as a result of the fire. Polluted water escaped from the factory site into Beverley and Barmston Drain, which feeds into the River Hull.

Environment management team leader, Neil Smith, said: "It was the biggest pollution incident we've dealt with in years for this area. It was a major operation to try to

Pollution is still the enemy of the region's fish stocks and a call to deal with a fish kill is one all Agency fisheries officers dread. The effects can often be devastating, wiping out stocks, invertebrate life and often taking many years to put right. Here we look at several incidents, which sadly have taken place in the north this year.

contain the pollution to a relatively small stretch."

Fisheries technical officer, Alan Mullinger, said: "It may be some time before the full extent of the fish kill is known. The chemicals in the water slow

down the bacterial decay that brings dead fish to the surface.

"The levels of toxicity were obviously high as eels and newts could be seen trying to escape the polluted water by climbing the banks



A boom is put across the drain to help contain the pollution

"Fortunately, many of the fish stocks had migrated north to spawn, otherwise we could have seen a much bigger impact."



The Agency's Barmston Drain clean-up time



One of the earth dams across Barmston Drain

TACKLING THE PROBLEM

- Two weeks of Agency action

■ Friday May 23

10 am: Agency officers alerted by the fire service and immediately head off to the site and open a control room to deal with this major incident. The most urgent task is to deal with firewater but Agency environment officers can't get too close to the site as it is declared a no-go area. A boom is used to block off Barnston Drain and tankers collect contaminated water from outside the exclusion zone.

Fisheries officers are unable to assess the full impact of the pollution but unknown numbers of fish have been killed, mainly because of phenols.

Emergency workforce staff begin fencing off pasture land to prevent livestock drinking the contaminated water.

6pm: Environment officers

decide to take another course of action as they are battling to cope with the huge amounts of water. It is decided to contain a one-mile stretch of the water within earth dams.

■ Saturday May 24

3am: The emergency workforce completes the earth dams after working through the night.

8am: A slight breach of the downstream dam means further urgent steps needed.

Environment officers decide to put extra, more substantial dams in, both upstream and downstream. The contaminated water is finally contained within a one-mile stretch and tankers continue to take it away to be safely disposed of.

Fisheries officers are still unable to quantify the numbers of fish killed until the

contaminated water levels reduce.

■ Sunday May 25

Hundreds of tankers continue to take away the contaminated water and environment officers monitor the situation to make sure no water is flooding out of the contained stretch. Different options for dealing with the water are looked at and sampling of the water starts to assess how contaminated it is. Work continues on site to strengthen dams and prevent any breaches.

■ Wednesday May 28

Sampling of the water continues and negotiations begin with Yorkshire Water to see if the water can be treated at the nearby Beverley Waste Water Treatment Works.

■ Thursday May 29

Laboratory tests reveal the water can be treated at the Beverley works and Yorkshire Water agrees to take a trial load. Pumps and pipelines are installed and a trial load is sent to be treated.

Fisheries Officers note the first dead fish within the contained area. A count reveals 14 dead fish, made up of pike, eels, roach and tench. It is known that at this time of year, most of the stock migrates to the north of Beverley to spawn in the faster flowing sections.

■ Friday May 30

After a successful trial run, the pumps go into full operation to begin the mammoth task of sending 15,000 cubic metres of contaminated water the 600 metres to the treatment station.

■ Friday June 6

A team of fisheries officers carries out a fish rescue from a section of the watercourse. A total of 30 fish are removed and stocked into the clean part of the drain upstream of the dam.

COUNTING THE COST

SADLY this year has already seen several fish kill incidents throughout the North of England.

Many of these are reported to the Environment Agency by members of the public through the confidential hotline number 0800 80 70 60. And speed in dealing with these incidents is vital, often providing officers with the chance to limit the damage and prevent further fish kills.

Dave Clarke, the Agency's Head of Fisheries, said: "We cannot over-emphasise how important it is for people to get in touch with the Agency immediately if they spot a problem - something different about a watercourse or the sight of fish either in distress or dying.

"There are numerous occasions where the help of a conscientious member of the public has helped the Agency to contain a situation."

MORE than 1,000 fish died in a Teesside beck this June after sewage entered the watercourse.

All life along a 4.5 kilometre-stretch of Howl Beck at Guisborough was wiped out, including brown trout, eels, stone loach, bullhead, minnow and stickleback. The beck had been re-stocked in September 2000 following another serious pollution incident.

THOUSANDS of fish were killed following a pollution incident at West Green in Pocklington, North Yorkshire, in June.

A member of the public reported the incident to the Agency. Pete Stevenson, Environment Manager, said:

"There were thousands of dead fish, including trout and a variety of coarse fish. It was a tragic and unnecessary loss of life and it will take years for the river to recover."



Casualties of a pollution incident

A TWO-KILOMETRE stretch of the River Worth at Keighley in West Yorkshire was affected by pollution, which led to hundreds of fish being killed. The incident was reported to the Environment Agency by one of its fisheries bailiffs.

FARM slurry leaked into a beck in Cumbria and killed hundreds of fish. Trout, eels, bullheads and stone loach were among the fish killed in Lockholme Beck at Ravenstone Dale near Kirkby Stephen. The incident in May was reported to the Agency through the emergency hotline.

● All these incidents were being thoroughly investigated by the Environment Agency at the time of *Catch* going to press. Assessments were also being made with a view to future restocking.

fisheries committee

RELYING ON OTHE

PEOPLE with a variety of backgrounds, experience and interests make up the committees that keep a watchful eye on the Environment Agency's fisheries work in the north of England.

They are tasked with advising the Agency on its work to help fisheries as well as recreation, navigation and conservation issues.

The Regional Fisheries, Ecology and Recreation Committees (RFERAC) were formed in 1997 and there are two covering the north. The chairmen are appointed by the Secretary of State for the Environment, Food and Rural Affairs.

“ It is essential that people from all backgrounds get involved ”

The majority of members are drawn from fisheries backgrounds – rod angling and commercial netmen – with other members representing recreation, conservation, navigation and riparian (riverside land) owners' interests. There are also members drawn from academia and other Environment Agency regional committees.

Mary Dickinson, who farms in Northumberland, has been a member of the North East committee for more than 10 years, from the time of the former National Rivers Authority.

She has an interest in migratory salmonids, the effects of pesticides on fish, flora and fauna – and is a keen angler.

Committees sometimes have a reputation for being talking shops, with very little influence and, according to some cynics, very little use either. But for the Environment Agency, the Regional Fisheries, Ecology and Recreation Advisory Committees provide a valuable source of input and guidance into its work maintaining, improving and developing fisheries.



Mary

That was around 15 years ago, under the auspices of Yorkshire Water, before things moved to the National Rivers Authority and then the Agency.

He is an engineer by trade and a specialist angler, fishing for the bigger species such as carp and barbel.

While Andy finds the committee interesting and worthwhile, his major frustration is that it struggles to discuss area specific issues and instead seems to concentrate on national issues.

“But I do think it has influence. If there have been issues which have caused concern, there has been no problem getting people from the Agency's head office along to the committee to explain.”



Andy

“I find it extremely interesting and I learn something new at each meeting. The people on the committee are excellent, all with different points of view and qualifications, which makes for a very rounded membership.

“I would be very concerned if there were too many professionals and not many lay people as it can be very easy to take too scientific a line. It is essential that people from all backgrounds get involved.”

Andy Dalby, of Leeds, first got involved with RFERAC because he was a member of the Ouse Consultative Committee.

Fred French, of Ambleside, Cumbria, has had a long and distinguished involvement with angling and was recognised for his services to angling, conservation and disabled anglers with an MBE. Part of that work includes his membership of the North West RFERAC.

For seven years Fred, a Fellow of the Institute of Fisheries Management, has served on the committee and previously was on

Do you want to get involved?

The Agency is keen to hear from people from all walks of life who have a broad knowledge of fisheries, recreation, conservation and navigation issues. Individuals or organisations can make nominations for the committee. Terms of office usually vary from one to three years. If you would like to find out more or obtain a nomination/application form, contact Brian Marley (North East Region) or Rob McKissack (North West Region) by calling 0845 933 3111.

Local Fisheries Committees, which are supported by the Environment Agency, exist throughout the north, and play a crucial role in co-ordinating the views of anglers across the whole of the region. You can find out more by contacting your local Agency office.

ERS' EXPERIENCE



Members of North East Region's RFERAC visit the River Don in Sheffield.



RFERAC through his membership of the River Eden and District Fisheries Association.

For Chris, it was an important opportunity to represent local anglers.

“The Agency needs to consult and take on board the views of others”

“The freshwater environment needs looking after – many people are using it and we should consult as many of them as possible to make sure we are making the right decisions. The Agency needs to consult and take on board the views of others.”



several committees in the Thames Region.

“I get a great deal out of it because I feel it is a direct line between the hierarchy of the Agency and grass roots anglers and fisheries management. It's like a consumer committee and I class myself as a friendly critic.

“I also believe that members who serve on RFERAC should in turn communicate with the grass roots through Local Fisheries Consultative Committees.”

Chris Bowman, who lives near Carlisle, joined the North West committee just over three years ago. He has served on angling club committees since he was at school and heard about a possible place on

The committees' remit

- Matters relating to the status and well-being of fisheries;
- The arrangements for the raising of fisheries income;
- The regulation and management of fisheries, including the making of orders and byelaws;
- The combating of illegal fisheries activities, in particular the illegal taking of, and dealing in fish;
- Consideration of the implications for fisheries of other Agency activities;
- Matters relating to navigation, including: The setting of navigation charges; craft registration and licensing; the making of orders and byelaws; and interaction between navigation and other Agency activities;
- Matters relating to recreation, including: The setting of charges; the making of orders and byelaws; the management of Agency owned sites for recreational purposes; and interactions between recreation and other Agency activities;
- The Agency's conservation duty in relation to fisheries, recreation and navigation, in so far as it applies to inland and coastal waters, associated land and interaction with other Agency activities.

❖ Since the formation of the Agency each RFERAC committee in the north has dealt with nearly 500 separate issues.

North East Survey

The River Wharfe

ACCORDING to the old Yorkshire saying: "Aire is swift and Wharfe is lithe. Where Aire kills one, Wharfe kills five".

The river rises on the eastern side of Pen-y-Ghent, high in the Yorkshire Dales. It then winds its way through Wharfedale and the towns of Ilkely, Otley, Wetherby and Tadcaster down to its confluence with the River Ouse, one kilometre upstream of Cawood, near York.

Apart from the famous "Strid" at Bolton Abbey, the river is wide through much of its length but narrows at its downstream end in the tidal reaches. Most stretches are of good or excellent water quality.

Upstream of Burley in Wharfedale the fishery mainly consists of trout and grayling but below this, coarse fish make-up most of the population - but there are still stretches where trout and grayling dominate.

Salmon Successes

LIKE many rivers in the north of England, salmon and sea trout are once again increasing in numbers.

This return appears to have been boosted by high flows experienced during several years of the late twentieth century and the beginning of this century.

After the 1995/96 drought, flows increased to the extent where improvements in water quality allowed migratory fish to ascend through the tidal reaches. Surveys recorded adult sea trout and members of the public spotted salmon leaping at Tadcaster and Boston Spa.

In 2000 young salmon were caught at Ulleskelf and downstream of the Tadcaster and Boston Spa weirs. The fish were from two year classes, proving that adults had successfully spawned in the two preceding winters.

THE WINDING

SINCE the drought of 1995/96 the River Wharfe fish stocks have been surveyed each summer.

These surveys are extremely important as they give the Agency a greater insight into how fish populations in the river fluctuate under varying flow conditions. They also demonstrate how important warm years are for the recruitment of coarse fish and provide valuable information about the recovery of migratory fish stocks in the Wharfe.

There are eight monitoring sites in the coarse fish reaches of the main river, from Ulleskelf in the tidal reaches up to Otley, although surveys don't necessarily include every site every year.

Ulleskelf

Situated at the downstream end of the Wharfe, this site is subject to tidal variations. Surveys reveal almost exclusively coarse fish, although there are significant numbers of flounder. Salmon and sea trout have occasionally been recorded here. The dominant coarse fish is roach - ranging from three centimetres to 25cm. Dace and chub come next with the chub mostly measuring up to 20cm. Other species recorded include bleak, eels, bream, trout and a single salmon parr in 2000.

Tadcaster

This site has not been surveyed every year since '96 but when it has, it has



Fisheries officer Richard Holmes with an adult sea trout ready for release

produced large numbers of fish from a variety of species. Good numbers of large chub, barbel and dace have dominated catches but in 2001 and 2002 significant numbers of grayling were found. This is good news, as grayling require clean and well-oxygenated water.

In 2001, 12 young salmon were caught here, showing salmon are returning to the Wharfe and other tributaries of the Ouse after a long absence. An adult sea lamprey was also caught in 2001 - the first recorded in a fisheries survey - providing further proof of improving

water quality in the tidal reaches downstream.

Boston Spa

This site provides good catches of chub, barbel and grayling, similar to Tadcaster. It is also the most consistent site for records of adult sea trout and young salmon. The most unexpected fish at this site was a small tench caught near the weir, which probably found its way out of one of the many ponds and lakes next to the river upstream.

Wetherby Grange

Young roach, chub and dace are regularly caught at this slow-flowing deep section. Ruffe and perch are also recorded and barbel in one particular part of the site.

The Nunnery

This shallow, faster flowing section produces a mixture of trout, grayling, chub and dace in catches. The numbers of grayling recorded has fluctuated with the lowest in 1998 (two) and 2002 (12).

Castley

Grayling and brown trout make up the majority of the catch but in some years, chub, perch and roach have been recorded in significant numbers. In 2000 the greatest weight was made up of a single fish,

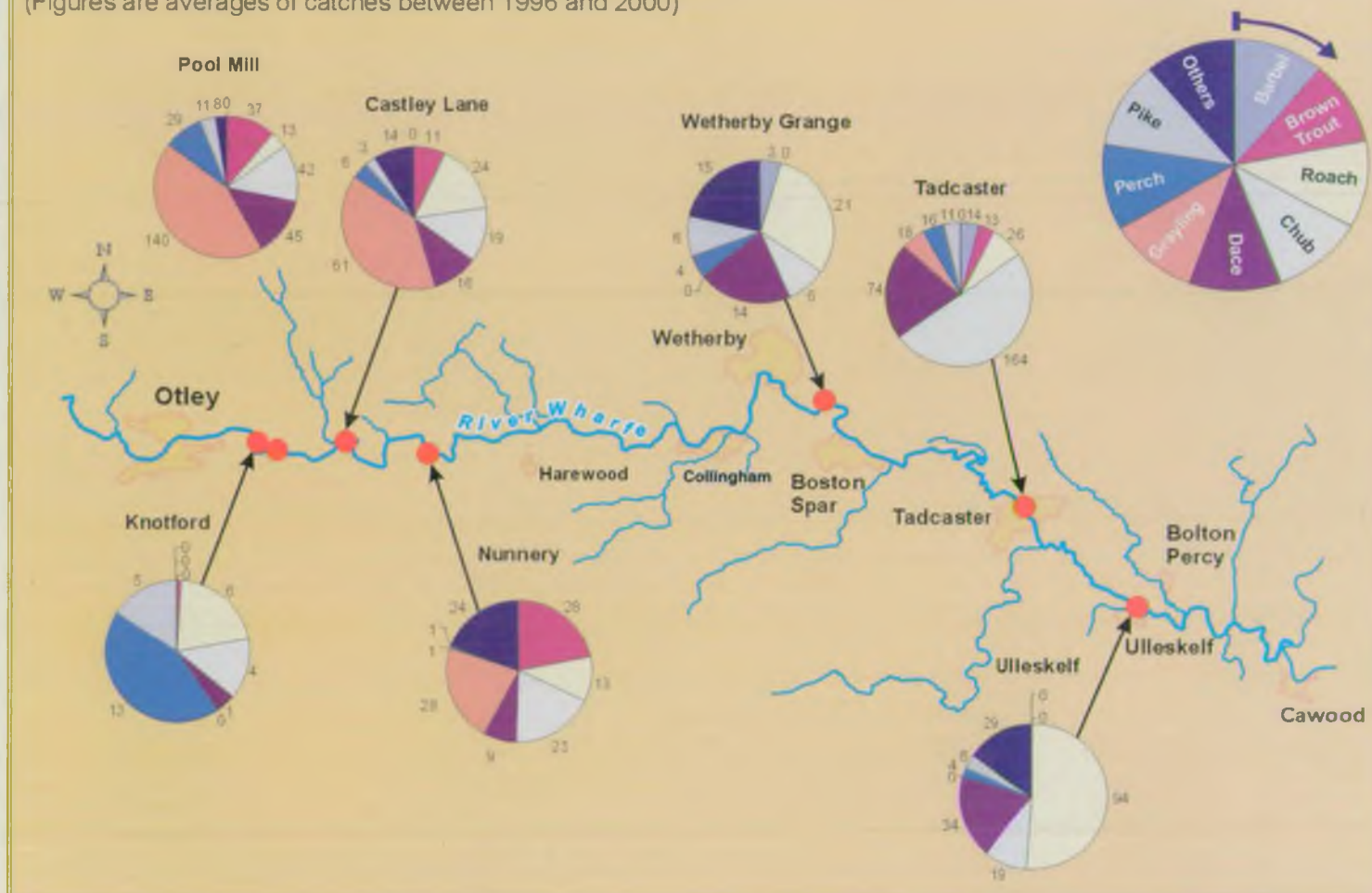


Fisheries staff surveying fish at Boston Spa

RIVERS WHARFE

RIVER WHARFE SURVEY POINTS

(Figures are averages of catches between 1996 and 2000)



an 18-pound mirror carp. Ruffe and pike are also caught here.

Pool Mill

This site contains a mixture of coarse fish, trout and grayling and catches

are good, despite the presence of large pike. The highest numbers of young grayling are consistently found here - with some up to 35 cm not uncommon. On several occasions a shoal of large, adult chub

has also been found. Numbers of dace have fluctuated but 1998 and 2002 appeared to show good numbers. This was the result of successful spawning in the low flows of '97 and 2001, showing how warm, low flows are important for dace.

Knotford

This is in the deep water upstream of Pool Mill weir and catches here are low - mainly roach, chub, perch and pike. Survey and angling catches appear to have declined here but it is unclear why. Measures to reduce pollution in the river do not seem to have changed the situation, as there has been no increase in catches as yet - so the Agency will continue to monitor the site closely.



Tench unexpectedly caught at Boston Spa

Can you help?

IF your club regularly holds matches on Yorkshire rivers, you might be able to help. The Agency is keen to collect information on angling catches so if you don't fill in match record cards, perhaps you could raise the issue with your club committee.

And if you are a trout or grayling angler on the Rivers Wharfe, Nidd or Ure, fisheries officers are keen for you to fill in a log book.

Further information is available from the Ecological Appraisal Team on 01904 692 296.

fisheries directive BID FOR GREAT

MORE than 11,000 kilometres of rivers and canals could gain European protection in a bid to help fish stocks.

This summer has seen a major public consultation on moves to designate 2,500 new stretches of watercourse under the Freshwater Fisheries Directive. Ninety reservoirs and lakes are also proposed for designation.



River Skerne – good enough to support a mixed coarse fishery at Durham

The Freshwater Fisheries Directive aims to protect freshwater bodies that are suitable for fish life. It focuses on the quality of the water and the key factors to make sure fisheries survive and thrive.

At present 20,000km of rivers and 139 still waters are designated in England and Wales. The Department for the Environment, Food and Rural Affairs, the Welsh Assembly Government and the Environment Agency have put forward the new suggestions.

The fact that many of these watercourses are being put forward for further protection under the directive is a testament to the hard work of numerous organisations and individuals. Their efforts have brought about great improvements in water quality and habitats and made many rivers capable of sustaining fisheries once again.

In the North of England, numerous areas have been suggested – too many to mention – but here's a snapshot:

- **Lower Browney, Northumberland**, was omitted from the original round of designations because water quality in the area was poor and improving it would have been costly. Since then, discharges from the coal industry have stopped and improved sewage treatment has led to improvements. The Browney system is now considered to have significant potential as a

spawning area for both salmon and sea trout and it is expected that migratory fish will increasingly use the catchment.

- **Hart Burn, Northumberland**, was also left out of the original round because water quality surveys were not carried out there at the time. The quality of Hart Burn now is good and shows the potential of the River Wansbeck

catchment to be further developed as a game fishery.

- **River Skerne, Durham**, until recently suffered from poor water quality but under the proposal the Skerne from Newton Aycliffe to where it meets the Tees will be designated as cyprinid, which means the water quality is good enough to support a mixed, coarse fishery. Recent surveys definitely back-up the proposal with good numbers of dace, chub, roach and gudgeon present in the lower reaches of the river and significant brown trout above Darlington. There has also been evidence of salmon spawning below South Park weir, Darlington in recent years.

- **River Tees, Teesside**, could be designated as salmonid from the Skerne confluence to the tidal limit at the Tees Barrage at Stockton. This is partly as a result of improvements to the Skerne's water quality. Evidence collected by the Agency supports the

What is the directive?

THE directive was implemented in the late 1970s when the majority of the current designations were made, although since then more waters have been added to the list.

Current designations cover 20,000 kilometres of rivers and canals in England and Wales and more than 100 still waters, which is one of the highest levels of designation in the EU.

But despite this, the EU Commission has warned the UK that it could be taken to court for inadequate implementation of the directive. So the Government have asked the Agency to look at the opportunity for designating more waters around the country.

Designated waters are required to meet certain minimum standards of water quality. Two sets of standards apply – one for salmonids and a lower one for cyprinids.

ER PROTECTION

designation, with increasing numbers of salmon and sea trout returning to the river to spawn and passage through the estuary possible throughout the year.

- **River Rother, South Yorkshire**, was one of the country's most polluted rivers only a decade ago but now supports a varied coarse fish population, with species such as barbel, chub and dace breeding annually. Anglers fishing the river report that the sport is excellent with good catches from various locations, including Catcliffe and Rother Valley.

- **River Calder, Wakefield, West Yorkshire**, has benefited significantly from water company investment in improved sewage treatment over the last five years. As a result, the once fishless pool below Chantry Bridge in the centre of the city now contains thousands of fish, including chub, barbel, roach, perch and dace. Recent fish population surveys carried out by the Agency reveal year-on-year improvements with



brown trout now present amongst the population.

- **River Gelt, Cumbria**, saw the last inaccessible section of its

waters opened up to salmon in 2000 when a fish pass was built to overcome the obstacle presented by a weir. Now salmon and trout can get through to the uppermost eight kilometres of the river.

The River Irwell, through Manchester – a popular spot with anglers

improvements, including removing blockages to fish migration, steps to tackle bank erosion and other habitats work. The project has been a team effort, with the Friends of the Yarrow (FRY), Chorley Borough Council and the Agency all involved.

Current and Proposed Freshwater Fish Directive Designations for North East and North West Regions



- **Heltondale Beck, Cumbria**, is a similar story to the River Gelt as the opening of a new fish pass on the beck has made seven kilometres of nursery stream accessible to fish once more.
- **Rivers Tame, Goyt and Irwell, in Lancashire and Greater Manchester**, all suffered from the same type of water quality problems in the past, mainly due to industry and high population densities. A decline in some of the traditional industries and investments in water quality improvements by water companies and other businesses have helped these rivers become more established as fisheries, with thriving coarse fish and salmon populations beginning to spread throughout their length.
- **River Yarrow, near Croston, Lancashire**, has seen more than £100,000 invested in river

- **River Ribble, Whalley, Lancashire**, has failed to meet conservation limits – or spawning targets – on its salmon runs. Measures have been put in place to maximise the number of fish escaping rod and net fisheries so that they can spawn. The lower river also supports a significant coarse fishery and the Agency has been carrying out re-stocking as the water quality has improved.

Consultation on the new designations ended in September and the final list should be announced at the end of the year. The consultation paper is available at www.defra.gov.uk/corporate/consult/fwfish/index.htm

Smolt traps Hitching a ride on the road to success

There are many reasons behind the Tyne's recovery and its present-day status as best salmon river in England and Wales. They include improvements in water quality, a clampdown on poachers, improvements to habitat and new fish passes. Another reason is the Kielder Burn hatchery and smolt trap, which have helped kick-start and then maintain the recovery in stocks.

THE future security of the Tyne as one of the nation's great salmon rivers is being helped by the work of a new smolt trap in a remote area of Northumberland.

Since the trap was completed at Kielder Burn late in 2001, more than 8,000 hatchery salmon smolts have been introduced into the Tyne from the project.

And their journey has been unusual to say the least – as they're forced to hitch a ride in a specially adapted lorry from the burn, past Kielder Reservoir and on to the North Tyne, where they are released to begin their journey downstream.

But it is because the burn is upstream of the reservoir, and so inaccessible to salmon and migratory trout returning to the system, that it is such an ideal place for fry and parr to be introduced.

"This means that there will be less competition for introduced hatchery salmon, allowing the introduced fish to survive in higher numbers than in the main river, where large wild populations of salmon and sea trout are already present," said Jon Shelley, fisheries technical officer.

"This higher survival should



The smolt trap under construction

produce more smolts, in turn producing more adult returns than if the fish were stocked into a part of the system where wild populations are already high. This is the principle behind the Kielder Burn stocking programme."

But while they are protected from existing wild fish populations, once in the Kielder Burn the fish are subject to all the pressures that wild fish experience, which produces fitter smolts than fish reared to smolt stage

entirely in a hatchery.

The new trap, funded by the Northumbrian Rivers Project and the Tyne Riparian Owners and Occupiers' Association, replaced an experimental one, built on an old weir across the burn.

The new one trapped more than 1,500 smolts in its first year and in 2002 around 700 smolts were trapped – this was because water levels were higher.

But it began to show its true potential this year when almost 6,000

were captured, transferred to the North Tyne and released to continue their downstream journey.

So over the last three years around 8,200 hatchery salmon smolts have been added to the Tyne from this project. It is estimated that these will generate approximately 450 returning adult salmon, contributing around 65 additional salmon to the Tyne rod catch – but more importantly helping to secure the future of salmon within the catchment.



Agency staff at work at the trap

Stages in the process

- 1 Fish are reared from eggs in Kielder hatchery. These are the product of wild salmon, captured by Agency officers.
- 2 They are stocked either in the autumn as fry, approaching a year old and around four centimetres long, or in the early spring as parr, a little over a year old and around seven centimetres in length.
- 3 The resulting smolts are then trapped in a purpose-built trap at the bottom of the burn.
- 4 The fish are transferred by road to the North Tyne, where they are released to begin their seaward journey.



A smolt caught by the trap

The Lamprey LAMPREY LOVING

DURING early April this year, low water conditions allowed fisheries officers in the Lake District to witness an amazing sight – the mass spawning of river lampreys.

About 100 of the fish, around 30cms long, were seen spawning in an area the size of a tennis court in the River Kent, above Levens Park.

The lamprey nests, (or "redds"), small depressions made by lifting stones with their suckers, were seen in open, shallow, water towards the

tail of a large pool. The spawning activity lasted for about a week.

Then in June this year sea lampreys were spotted spawning in the same area in the Kent, as well as in other rivers in Cumbria, including the River Eden around the Warwick Bridge area and the lower reaches of the River Derwent. The Eden and Derwent are designated Special Areas of Conservation, with lampreys as one of the key features of interest.

Fisheries officer Ben Bayliss said:

"Sea lampreys are by far the largest of the British lampreys and can reach lengths of one metre and weights of 2.5 kilos.

"Research workers have estimated that, in some populations, they can produce an average of 170,000 eggs per female.

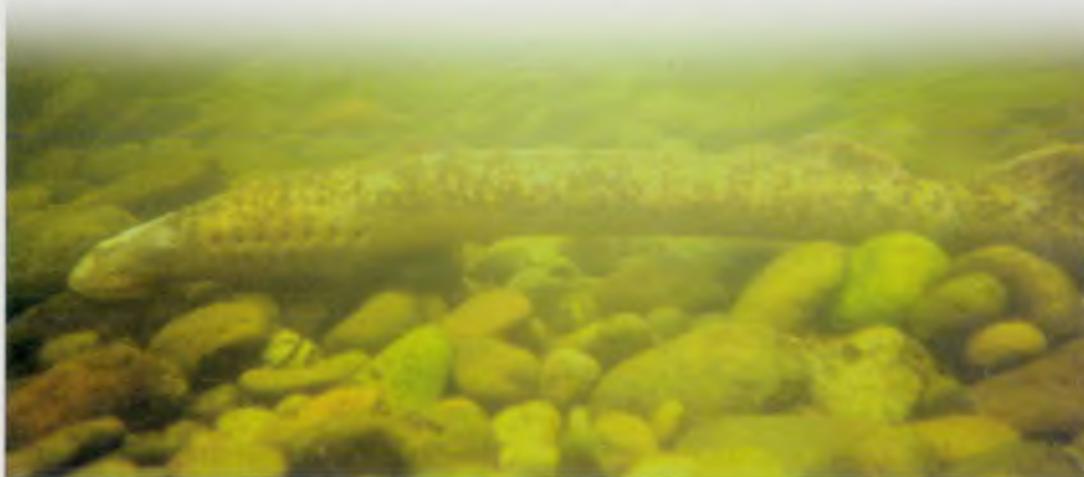
"As part of our work to better understand lampreys and their spawning distribution, the Agency is planning to carry out a redd counting programme on both the Eden and Kent catchments."

FACT...

Lampreys belong to a small but important group of animals known as Agnatha – literally jawless fish – and are the most primitive of all living vertebrates (animals with backbones). They are quite distinctive from all the other fish in the British Isles, which have their upper jaws fixed closely to the skull and hinged lower jaws.



The eel-like lampreys do not possess a jaw, paired fins, scales or bones, but can quite easily be differentiated from eels. A round, sucker-like disc surrounds the mouth, underneath the head, and inside are strong, horny, rasping teeth. River lampreys are only found in western Europe. Sea lampreys are found over much of the Atlantic coastal area of western and northern Europe and eastern North America.



The quest to discover more

A MAJOR study of river and sea lamprey populations in the Humber system is being carried out this year.

The work, which is being carried out by the Agency in conjunction with a number of local partners, will build on studies already carried out for the Rivers Ure, Yorkshire Derwent and tidal Ouse last year.

The valuable information will be used by the Agency to help protect the species, which is a key feature of the designation of the Yorkshire Derwent Special Area of Conservation and the proposed Humber Estuary Special Area of Conservation.

The Humber estuary acts as a major migration route for river and sea lampreys to and from the Derwent and Ouse catchments and is probably a major feeding ground for river lampreys.

On the basis of commercial catches at Naburn, it is believed that the Humber and its rivers could sustain one of the largest river lamprey populations in the UK.

But little is known about their distribution and spawning habitats in the system and this information needs to be gathered so that the



Dr Min-Ho Jang of the University of Durham, with lamprey tracking equipment

Agency's review of permits under the Habitats Directive can look at ways of reducing any possible threats to them.

This directive is a major piece of European legislation that aims to contribute towards protecting biodiversity (variety of life) through

the conservation of natural habitats.

The study includes:

- Field surveys this spring and early summer to record adult river and sea lamprey numbers and their spawning activity at sites on the Rivers Swale, Ure, Nidd, Wharfe and Derwent.
- Investigations into the potential for lampreys to enter major intakes, where large amounts of water are taken from the river
- The impact of poor water quality and physical obstructions, such as weirs, on the migration of the fish
- To begin to develop a 'model' of the different life stages of river and sea lamprey to help us understand what impacts upon them
- Gathering known information about river and sea lampreys in rivers of the Humber system and estuary

Project manager Dave Hopkins said: "This is a key piece of work to enable us to protect and enhance lamprey populations in the region and it is a good example of how working in partnerships can provide the information which we need."

River Mersey

The River Mersey has travelled the same rocky path as many rivers in England and Wales, from the days when it was recognised as a high class salmon fishery to the low point of gaining the unenviable title as the most polluted river in Europe. Thankfully, the picture looks rosier again, and in 1999 it was recognised as the world's best river clean-up. Here we go back through the centuries to look at the history of this great northern river.

A Mersey

"STURGEON, mullets, sand-eels, lobster, oysters, shrimps and the best and largest cockles in all England are caught, and mussels in such abundance that they are used to manure the ground."

These are the words of a traveller describing the catch from the River Mersey at Warrington.

Such a scene is difficult to imagine nowadays but the picture painted is one from nearly 300 years ago. According to contemporary reports salmon weighing between 50 and 60 pounds were regularly caught.

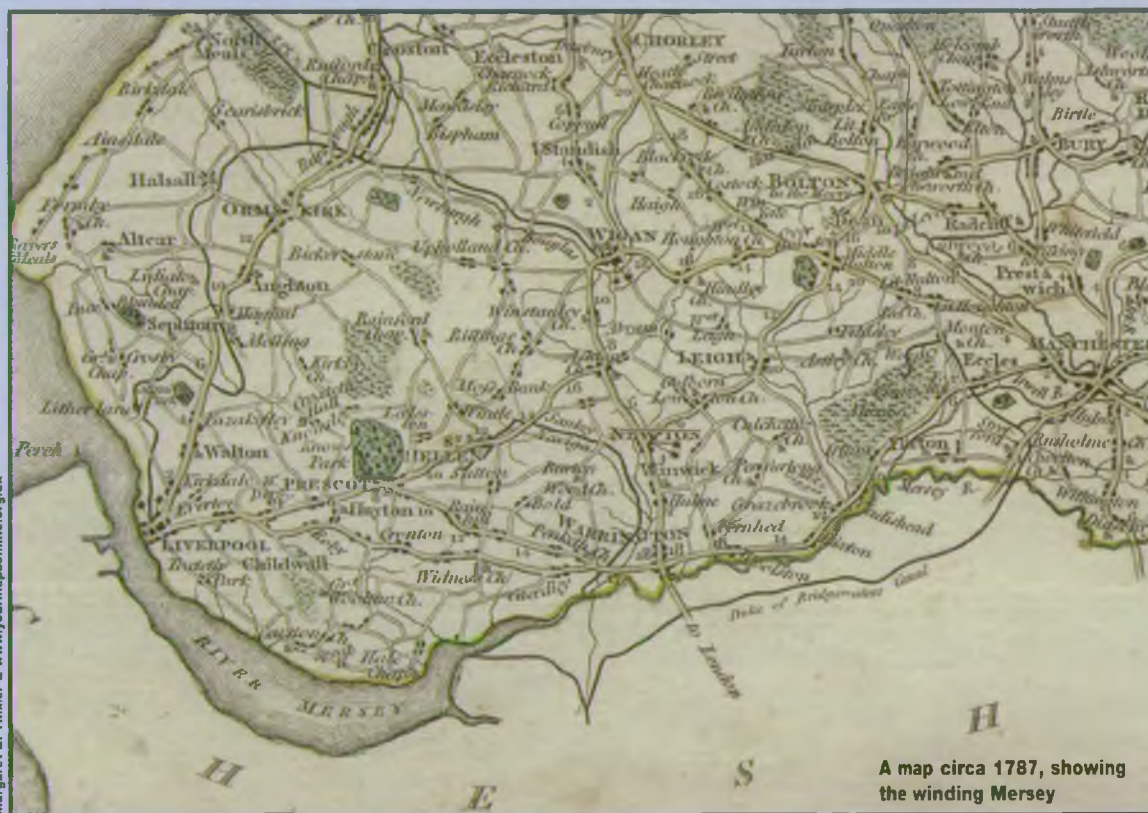
Documentary evidence of the Mersey's role as a productive source of fish and seafood to local inhabitants and an ever-increasing surrounding area dates back to the 12th century.

Records from the 1100s relate to the "right of fishing" on the Lancashire side of the River Mersey at Thelwall being granted to the Abbey of Shrewsbury and on the Cheshire side, rights being granted by William, Constable of Chester, to the Prior of Norton.

During the reign of Edward III in the 14th century, jurors of the court of Halton were called on to settle a dispute about the fishery involving Henry, Duke of Lancaster and local fishermen.

This century also saw a big increase in the number of fish yards, fish garths and weirs on the Mersey - with local courts busy hearing cases involving the obstruction of the river by fish yards.

In 1347 it was stated that: "No man in the City of Thelwall shall sell



A map circa 1787, showing the winding Mersey

MILLENNIUM

or buy fresh fish for re-sale before sunrise or salt fish before the hour of prime." And in 1367 records show that eight Thelwall fishermen were fined 3s4d for selling fish taken from the Mersey before daylight.

The value of fish yards is apparent from records in the 16th century. In 1532, a Thomas Boteler was forced to "convey" certain lands in order to pay a debt of £100 per year to Henry VIII. These lands included three fish yards "one of which let for more then the rent of three shops."

The fishery continued to grow and grow and in the 17th century, as well as the fish yards extending into the river, junkets, putts and putchers (conical, wicker baskets) were fixed in rows down the centre. The trade was now becoming a nuisance to ships trying to battle their way up and down the river.

"In the river are caught sturgeons, greenbacks, millets, seals and eels, lobster, shrimps, prawns and the largest cockles of all England."

Thomas Pattern wrote at the time: "You may well know the mischief that is done in the River Mersey at Eastham and have heard of the vast numbers of salmon and trout taken to supply all the country and market towns 20 miles round until the country is cloyed and they cannot get sale of them and give them to their swine. These weirs are also mischievous by hindering the passage of ships, boats and barges."

In 1712 an Act of Parliament authorised the Mersey and Irwell Navigation Company to create a navigation link along the Mersey between Liverpool and Manchester.



River Mersey at Warrington

It gave them the authority to demolish any mill, weir or other obstruction. By 1736, the work was completed.

The Mersey's catch was being sold far and wide by the mid 1700s. A traveller who visited Latchford wrote: "Here are caught great quantities of salmon and sparling (smelts), uncommonly large, which in spring are sent to London three times a week by stages."

The fishery at Warrington alone was worth £400 a year in 1763, now equivalent to a massive £35,000, and an extract from the Directory of Trade and Manufacturing in 1792 said: "There is a considerable market on Wednesdays selling lamprey and all sorts of fish. In the river are caught sturgeons, greenbacks, millets, seals and eels, lobster, shrimps, prawns and the largest cockles of all England."

The fishery meant great fortune

for many local people and in 1824 one fishmonger built a row of houses from the profit he made from selling sparling. Imaginatively, he called the houses Sparling Row. An angler wrote in the Manchester Courier in 1836 that some fishermen were making as much as £50 a season from sparling, which came up the Mersey in large shoals.

But the first warning signs of damage to the fishery were reported early in the century: "The constant disturbance and depredation to which fry are subjected have greatly reduced the number of salmon and fine flavoured smelts. They are now greatly diminished in number and size."

And in 1870 five salmon were found dead on the banks of the Mersey at Walton Arches.

The Industrial Revolution and rapid population growth were about to take their toll on the river. The

change in fortune was swift and dramatic. By 1948 commercial fishing had ceased and in the 1950s and 60s fish were absent from most of the river.

The Mersey today

LAST year, a humane fish trap at Woolston Weir, near Warrington, caught 26 salmon during October and November.

It also caught lamprey, dace, brown trout and sea trout.

The results were a major cause for celebration for Agency fisheries officers as only the previous year had seen the first salmon in the Mersey in living memory.

Major investment and hard work has led to an improvement in water quality and the gradual reversal of the Mersey catchment's fortunes. The work goes on and the results of continuing survey work are eagerly awaited.



Putts, similar to those once used on the Mersey

Conservation Saving the cray

FEARS that the crayfish population of a Yorkshire Dales river could be wiped out by a "plague" have prompted steps to protect the species.

The Agency worked with Paul Bradley, of Sheffield University, and English Nature to set up a new facility on the upper River Ribble to house the native white-clawed crayfish.

The move came about after Paul discovered crayfish plague amongst the river's population in 2000. The white-clawed crayfish is the only species of freshwater crayfish native to the UK.

Fisheries technical officer, Neil Handy, said: "The aim of the site was to breed native crayfish in captivity for future reintroduction into the upper Ribble system, given the likelihood that the majority, if not all, the existing population of white-claws would be wiped out."

Tanks fed by spring water were set up at Stainforth, north of Settle in

A white-clawed crayfish - now under threat



the Yorkshire Dales National Park, and a breeding population was caught and kept at the site. The project is now being further developed and the efforts to breed the crayfish will continue.

● THE Environment Agency teamed up with Kirklees Council this summer to carry out a crayfish survey in rivers, ponds and streams between West Bretton and Denby Dale in West Yorkshire.

Ecologists were on the hunt for both the American signal crayfish and the native white-clawed crayfish. The Agency's Ellie Andison said: "The survey will give us vital information which can be used to safeguard the future of our native species."

"They are often driven out of their natural habitats by the larger, more aggressive American signal crayfish and it is important we keep track of which species are where and how healthy their numbers are."

PROTECTION

A RANGE of measures to help protect the environment has been put together for the River Tyne, if plans for a new tunnel get the go-ahead.

The Tyne and Wear Passenger Transport Authority has signed a legal agreement with the Environment Agency, which will limit and control any potentially damaging environmental impacts from the building of a new Tyne tunnel.

The impact of any work on both water quality and fish populations will have to be carefully monitored and measures put in place to counteract any harm from the proposed development.

After the signing of the agreement earlier this year, the Agency formally withdrew its objections to the project.

The plans for the £139 million new Tyne crossing are currently the subject of a public inquiry, which is being overseen by Deputy Prime Minister John Prescott. A final decision is expected later this year.

If it is given the green light, work on the two-lane tunnel between East Howdon and Jarrow could start in 2005. It is expected to take about three-and-a-half years to complete.

Environment Agency ecological appraisal team leader Sarah Peaty said: "The River Tyne is now recognised as the best salmon river in England and Wales and we want to make sure that the quality of the environment is protected if the tunnel project goes ahead."

EVICTION ORDER FOR UNWANTED

TWO squatters have been given their marching orders by Agency fisheries officers after causing chaos in a North Yorkshire wildlife pond.

The Agency stepped in to help after the warden at Hassacar Pond in Dunnington near York spotted the unwanted guests.

The squatters were two fish, put into the pond illegally. They were causing a lot of damage to the wildlife, eating both the weed and the resident insect population.

The pond has a very rich water beetle population, including several nationally rare species. It is also believed to be the only Yorkshire home to the

scavenger water beetle and contains a healthy population of the protected great crested newt.

Terry Weston, of Dunnington Conservation Group, contacted the Agency after seeing the fish and the damage they were doing. As a result the chub and 9lb grass carp were caught and transferred to a more suitable home.

John Littlewood, an Agency fisheries officer, said: "We were happy to help out and remove these fish as they were clearly causing a problem. If they had been left much longer they could easily have completely wiped-out the resident beetle



Fisheries officers John Littlewood and Dave Morley, with Kieran Weston.

MEASURES

"The measures that the Agency has agreed with the passenger transport authority will make sure the safe passage of fish continues along the river and that the quality of the river does not deteriorate as a result of any work.

"This is a major step in ensuring the River Tyne's prestigious environmental title remains untarnished."

The agreed package of measures includes:

- Water quality recording every 15 minutes to check that sediment levels in the river do not exceed an agreed threshold
- Immediate action to be taken if this threshold is breached, which could mean stopping work and/or modifying methods of working
- The funding of an extended fish monitoring programme and a fish tracking scheme on the Tyne, plus money towards fish habitat improvement work
- A ban on major dredging work between March and November, when there is the greatest movement of salmon up and down the river.

The Agency has also said that the water quality and sampling programme must be up and running for three years before major dredging work takes place.

GUESTS

and new populations.

"The fish may have been put in the water by someone who did not realise the damage they could cause and they may have been a lot smaller when introduced."

The Salmon and Freshwater Fisheries Act prohibits the introduction or removal of any fish unless approval has first been obtained from the Environment Agency.

John said: "Agency officers are more than happy to advise people about the suitability of fish for their waters and about the movement procedures. However, we will seek to prosecute anyone who moves fish illegally – as we must protect the health of the north's fish and fisheries."

AN environmental charity is asking for help to track down all the ponds in the Yorkshire and Humber region.

The Ponds Conservation Trust is a registered charity that has been helping local communities restore and improve local ponds in the north for over 5 years. It was formed by a consortium of organisations, including the Environment Agency.

It is calling on people to get in touch if they know of a pond that could benefit from some management, or can contribute to the knowledge of ponds in the UK.

All ponds are of interest – whether they are on private land or in public open spaces, have water in them all year or just part of the year, have recently been constructed or are part of our history.

PONDS CENSUS



A member of staff surveys a pond

Garden ponds are also of interest if they are home to protected species such as the great crested newt or water vole.

Anyone who gets in touch will be sent a questionnaire. The results will then be fed into two pieces of work run by the trust: Ponds for People, a community based restoration project, and Ponds in Partnership, a study of the ecological quality of the UK's ponds.

Jamie Townend, ponds officer, said: "By helping us locate and record ponds in your area, we can help prevent the loss or damage of these important and diverse habitats."

For more information email info@pondstrust.org.uk or download a copy of the questionnaire from the website at www.pondstrust.org.uk

Matchmaking for

MUSSELS

A DATING agency could be among the desperate measures needed to hitch-up lonely, middle-aged mussels with new partners.

Scientists from the Environment Agency and English Nature are considering the drastic step in a bid to help adult freshwater pearl mussels in England and Wales.

The mussels don't get about much and have a limited sex life. As a result the youngest ones are middle-aged, their numbers are dropping and thousands are living solitary lives in empty beds.

The picture is different in Scotland and Ireland, where the mussels breed successfully, but if their cousins south of the border don't get their act together, extinction could be looming large.

In Irish and Scottish rivers, breeding pearl mussels are found together in dense beds. Their reproductive process relies on what can only be described as group sex, with large numbers of males releasing sperm into water that is filtered by the females.

But individuals have become scattered in the English and Welsh populations and fertilisation has become

difficult, with the shellfish some distance apart.

Anne Lewis, conservation and ecology technical officer, said: "This is a rare species that is under threat around the world, not just here. To lose it would be a tragedy."

"The Agency has a responsibility to protect this species as part of the UK Biodiversity Action Plan – a strategy to conserve, enhance and work with nature and ecosystems rather than against them."

"Conservation bodies have reached a point where some very hard decisions need to be made. We can't simply monitor these populations until they become extinct. We need to take active measures to prolong their existence."

The freshwater pearl mussel, as suggested by its name, produces a pearl. Pearl fishing, which is illegal now, has been cited as one possible reason for a reduction in the density of populations, which has then



The pearl mussel, given a helping hand

caused breeding problems.

David Fraser, of English Nature, said: "We don't fully know why freshwater pearl mussels are not breeding but illegal pearl fishing is probably an important factor."

Fish Science

SWIMMING against the CLOCK



Barbel prove to be quick off the blocks
in latest round of speed trials

NINE fish species have been put through their paces in a high-speed tunnel to test their swimming speeds.

Barbel came out top after they consistently exhibited superior swimming performance whereas eels were discovered to be poor swimmers in general.

Bizarre as the whole experiment might seem, it serves a very serious and valuable purpose. Environment Agency scientists will use the information to help design effective fish passes, allowing fish to overcome man-made barriers in the rivers of England and Wales.

The tests also show which fish can swim fast enough to avoid being pulled into water intakes when water is being pumped from our rivers by water companies and other industries.

Darryl Clifton-Dey, fisheries technical specialist, said: "Effective design of fish passes requires robust data on the swimming performance of river fishes under a wide range of conditions.

"Although some information on fish swimming can be found in



A barbel - the fastest of the fish tested

scientific literature, the data is often based on inadequate numbers of fish tested at a single or unstated water

temperature, so a more thorough study was warranted."

The first phase of the project

tested brown trout, chub, dace, roach and elver. Fish were collected from the wild wherever possible and held in outdoor tanks for at least a week before testing at Fawley Aquatic Research Laboratories.

An eight-metre long flume tank was used to examine the endurance of fish over 200 minutes. Flow around the flume was generated by a paddle wheel and the fish were monitored using overhead close-circuit TV cameras.

"Burst" swimming performance was tested in a high-speed tunnel, with the flow generated by a large pump. The speed through the tunnel was gradually increased until the fish could no longer maintain their position.

The second phase looked at the performance of barbel, grayling, eel and bream. In total, more than 11,000 fish swimming performance tests were conducted across the two phases.

Endurance swimming ability generally increased with fish length. This was particularly noticeable with barbel and grayling.

The swimming performance of grayling showed a general decline at high water temperatures, in both burst and endurance tests, whereas the performance of bream in endurance swimming trials showed a general increase with increasing temperature.

Eels were generally poor swimmers and performed less well than the other species.

And the tests may go on - as there is very little information on other native species, such as pike, perch and larger bream.

Burst speed of fish at 10 degrees celsius (cm per second)

Fish length	Trout	Chub	Dace	Roach	Elver	Barbel	Bream	Grayling
10cm	108	118	117	108	30	191	128	135
15cm	135	130	135	127	-	215	-	154
20cm	155	138	147	141	-	232	-	168

DID YOU KNOW?

- Fish contain two types of swimming muscle. Red muscle is continuously fed with oxygen from the gills and is used for slow swimming. White muscle is used for bursts of swimming of 20 seconds or less. It has stores of energy, which can take up to 24 hours to replenish, once used up.
- Different species have different amounts of each type of muscle, depending on their way of life. Pike, which are ambush predators, have little red muscle but lots of white.
- Besides the speed of fish, swimming speed is also affected by the fish's length, water temperature, amount of oxygen in the water and water quality.



An eel is put through its paces in the testing tank

Disease dossier

RARE PARASITE SPARKS CONCERN



A close up showing crucian carp infected with the nematode worm

ROUTINE fish health checks by Environment Agency officers have resulted in the discovery of a parasite, only seen once before in British waters.

The nematode worm, *Philometroides sanguinea*, infects crucian carp and goldfish by breaking through their gut wall and maturing inside their bodies. The discovery was made during a routine check on a batch of crucian carp from the south of England at the Agency's National Fisheries Laboratory.

The find has sparked concern for declining crucian carp populations in the country and led to the suspension of all fish movements to and from the suspect waters. Further tests are also being carried out to make sure the parasite has not escaped into the wild.

Nigel Hewlett, a senior fisheries scientist with the Agency, said: "This rare parasite was detected following a routine check which was carried out after the Agency received an application to move fish from a water in the south of England. What it revealed was very worrying.

"This new parasite can be fatal to crucian carp. The fish become infected by eating the larvae, which subsequently burrow through their gut and into their bodies where they mature.

"The female adult worms

confirmed by an independent expert from the Czech Republic, is a further blow to crucian carp populations in England and Wales. The species is already suffering from loss of habitat, competition and hybridisation with feral goldfish and parasitism

still has a restriction on the water 10 years on, preventing the movement of any fish from it.

Essential information

- Before fish can be introduced into any waters, the owner must have a written consent from the Environment Agency. (Section 30 Salmon and Freshwater Fisheries Act 1975)
- As a condition of the consent, a mandatory health check is carried out on any fish destined for waters which are not fully enclosed and where there is a risk of fish or disease organisms escaping into the wild.
- A health check, whether it is carried out by the Agency or an independent fish health expert, is not a guarantee of fish health but an assessment of the risk of disease.
- If a health check reveals any of the more serious parasites or diseases, known as category one and two, or any new or unknown parasites are found, consent is refused and a restriction is placed on the source water.



A crucian carp

then migrate into the muscle of the tail. They burrow out of the fin rays, exposing themselves to the water – and burst open, violently dispersing their larvae and causing damage to the tail of the fish."

The discovery, which has been

by a species of introduced tapeworm.

Philometroides sanguinea, which is widespread through most of Europe, was first recorded in England in 1993. It was found in crucian carp living in a fully enclosed stillwater in the Thames catchment. The Agency

CARE URGED AFTER VIRUS OUTBREAK

Anglers are being urged to obey rules on disinfecting nets on some fisheries following a second outbreak of a virus that can decimate carp populations.

The Centre for Environment, Fisheries and Aquaculture Science (CEFAS) and the Environment Agency have confirmed the presence of Spring Viraemia of Carp (SVC) in a batch of fish at Staunton Court Fishery, Gloucestershire.

A virus that mainly targets carp and their variants causes the disease. But it can also infect roach, tench, rudd, goldfish, pike and wels catfish. Nigel Hewlett, Senior Scientist at the Agency's National Fisheries Laboratory said: "There is no reason why anglers should not fish affected waters, but they should ensure that they follow on-site rules and respect the rules on disinfecting nets placed by other fisheries."

Atlantic Salmon

THE Atlantic salmon, *Salmo salar*, is considered by many of those who fish for them to be the king of sporting fish. They are large and powerful and notoriously difficult to entice to take a bait or lure, particularly the more traditional flies favoured by some anglers.

The life cycle of the salmon is both complex and fascinating. During late autumn and early winter adult salmon dig nests, known as redds, in the gravels found in shallow, cold, clean, fast-flowing waters by fanning strong currents into the gravel with their tails. The females deposit their eggs, around 700 to 800 per pound body weight, in the freshly excavated gravel where the male then deposits his milt to fertilise them. The eggs, around six millimetres in diameter, are then recovered with gravel. Most of the adults then die, although about 10 per cent will survive and return to the sea as "kelts" where they can recover and return to spawn again the following year.

Alevins

After about three months the eggs hatch into "alevins" which still have the yolk sacs attached to provide the young fish with food for another four to five weeks. Then the alevins emerge from the gravel as "parr," which display distinctive fingerprint like parr marks on their flanks. These will stay in the river, eating invertebrates, for one, two or three years before they undergo an amazing transformation and migrate downstream as smolts.

When smolts head down the river their body chemistry changes dramatically to enable them to cope with the move from freshwater to saltwater. Their bodies become very silver and the scales become loose

and easily dislodged. As they reach the sea they head off to feeding grounds off Greenland and the Faeroes where they spend between one and three years feeding on fish and crustaceans. They can grow very large.

At some stage after feeding at sea, salmon will return to the river where they were spawned, even finding the exact tributary, and start the cycle over again. It is thought that pheromones from other juvenile salmon in the system may help in this process, although it is not fully understood.

Salmon that spend just one winter at sea are known as grilse and as a rule of thumb weigh 8lb or less, although one

and become dark red in colour. The males develop a large hook on their lower jaw called a kype, which in extreme cases can push right through the upper jaw and protrude from the top of the snout.

Adult salmon can only be confused with sea trout, the migratory form of the brown trout. They can be distinguished by having a forked tail with a wide wrist (it is difficult to hold a sea trout by the wrist). The jaw does not extend beyond the level of the eye and the black body spots tend to be more like an X while the sea trout has round spots. Juveniles can be distinguished from trout as

they have a deeply forked tail, are more bullet shaped and have no colour in the adipose fin on the back. On the trout, it is red.

Memories

Anglers use a range of lures and baits, including artificial flies, spinners, plugs, prawns, shrimp or worms, to catch salmon. As salmon tend not to feed in freshwater it is uncertain why they take a bait at all although many people speculate that the passing bait may trigger

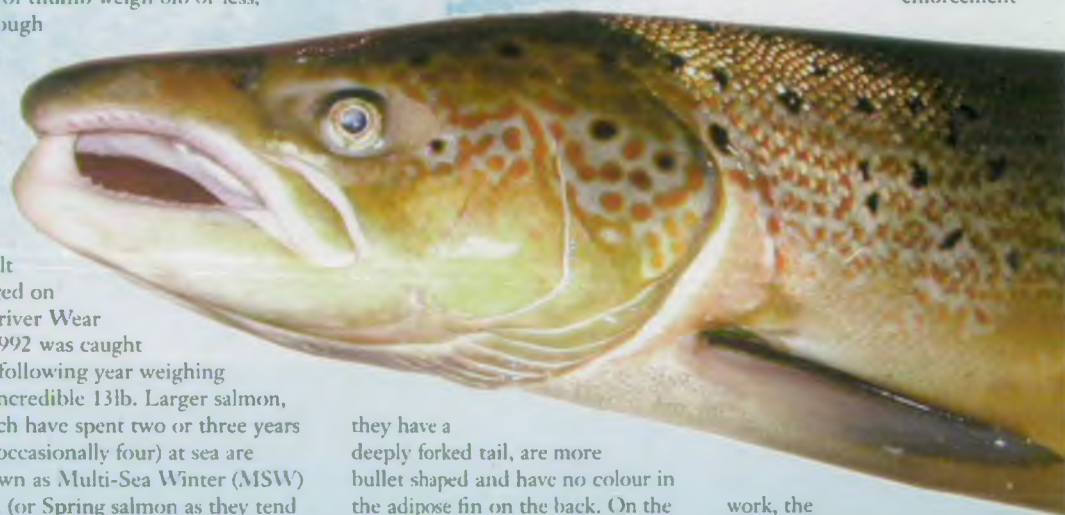
memories in the fish or somehow provoke it into a strike. The British rod caught record is one of the oldest on the books standing at 64lb on the River Tay in Scotland by Miss G W Ballantine in 1922. For most anglers a fish of 30lb or more would be the fish of a lifetime.

Exploited

Commercial fisheries have exploited salmon for centuries although international concern over the species has led to many of these being restricted by quotas, limitation orders or buyouts. The large drift net fishery operating off the North East coast has recently been subject to a voluntary buyout leaving just 16 netsmen operating.

While these fisheries may have contributed to the problems faced by salmon populations, other factors such as habitat degradation, pollution, dams and weirs, which block upstream migration, and even climate have all been identified as causes. Work over the last 20 years or so on many northern rivers has led to a dramatic recovery in local salmon stocks. The River Tyne is now the best salmon river in England and Wales based on angler catches. Salmon have even been found in the recovering rivers of the industrial north such as the Mersey and the Ouse. Continued active protection of stocks and improvements to habitat will be needed.

In addition to its habitat and enforcement



work, the Agency operates a salmon hatchery at Kielder, which provides juvenile salmon in mitigation for the effects of Kielder Reservoir and to help boost recovering populations in other rivers. The salmon is still under threat but continued work by all those with an interest in this remarkable fish will give it a very good chance.