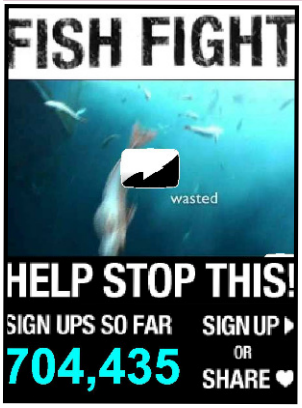
WSA MISSION STATEMENT

We wish to improve the salmon population of the Wye by bringing together all individuals, associations and representative bodies sharing their skills and knowledge in a common aim. We want to ensure that funding is targeted towards increasing salmon production and that those efforts are monitored for best practice by qualified scientists. We will lobby the agencies and bodies responsible for factors that are perceived detrimental to the Wye environment. We will seek representation to any relevant body in order to pursue our aims. We want to bring new impetus and new solutions to all areas in order to achieve our goals.

WSA Newsletter

Wye Salmon Association

Nov 2011 Issue 3



Half of all fish caught in the North Sea are thrown overboard dead. Over 700,000 people have supported the campaign so far! By supporting the Hugh Fearnley Whittingstall backed campaign your name will be added to a letter sent to Commissioner Maria Damanaki, Members of the Common Fisheries Policy Reform Group, and all MEPs. Help us stop this insane waste, add your name to the petition on ***www.fishfight.net/***

PROPOSED NEW BYELAW

New byelaws now proposed for the Rivers Wye and Taff & Ely (Rod and Line Byelaws 2011) extend the existing catch and release requirement, by prohibiting the removal of salmon and migratory trout taken by rod and line at any time.

Stocks of salmon in the Wye and the Taff & Ely are at risk of continuing to fail to achieve their conservation targets. Consequently the EA [Wales] believe it is necessary to take steps to ensure that as many salmon as possible survive to spawn.

The new byelaws have been advertised or a period of 6 weeks as they [EA[Wales]] are obliged to do by law. That gave everyone the opportunity to consider the proposals and decide whether they support or object to them. There were about 57 replies to the consultation [50 objecting and 7 supporting]. EA]Wales] now have a duty to reply to those letters before passing the bill and its consultation details to the Welsh Assembly Government for a decision on ratification.

EDITORIAL

We now have a circulation of 357 of which 254 have confirmed support for our mission & objectives. So what you may say, as a friend reminded me 'apart from gathering a considerable group of like minded individuals together you have yet to deliver anything', although his words were more robust! Well a little like the swan most of the effort has gone unseen.

We have made a formal offer to cooperate with & publicly support the Wye and Usk Foundation [WUF] in so far as it relates to the conservation, protection, rehabilitation and improvement of salmon and salmon angling on the river Wye. We have offered to fund raise, support habitat improvement, and provide volunteers if required in pursuit of these above stated aims given that they [WUF] will publicly and actively support juvenile salmon stocking on the river Wye, in particular the stocking of 0+ parr in autumn and that they will fund raise, support catch up and otherwise provide manpower if required for any stocking initiatives approved by EA.

EA[Wales] are now in the process of running a pilot scheme as a joint venture with volunteers for rearing smolts in a semi natural environment called 'Semi Natural Rearing' (SNR). Autumn parr have been stocked into an existing pond which has been converted so as to be suited to SNR. The project has been co-ordinated and funded by a middle river owner under the guidance of the EA, a local gillie has volunteered to manage the site and the Wye Salmon Association is providing a security system and CCTV camera. Results will be monitored over the winter and smolts released next spring. SNR has been shown in studies elsewhere to possibly increase the yield of returning adults by a factor of 3 to 5 times more than stocked out fry. Pete Gough of EA explains that the scheme is 'to explore the potential role of SNR as part of an agreed stocking plan with the objective of producing quality output whilst not placing any natural populations at any risk'.

We have lobbied a middle river owner, who publicly expressed a view that there are plenty of fish in the middle river but they are not being caught because of coarse anglers filling beats. We have suggested to him that he may like to make one part of his beat, the one with the best pools, salmon only next season, advertising it heavily [WSA would be delighted to help with that in order to carry out such a trial] & reduces prices to al level that gets it fished hard. We are now in the process of agreeing with him the opportunity for WSA supporters to make this happen. We will email you with this opportunity soon. Maybe then we could see in real terms how well a middle river beat can fish when not limited by lack of rods.

We are now developing plans to lobby the relevant bodies with regard to fish eating birds, abstraction and compensation water releases.

As we declared in our last issue 'we have no intention at this stage of creating a fee paying membership, preferring, to build on the interest in our first newsletter & create a base to support initiatives that we believe are taking place elsewhere'. Conscious that time is moving on and with an expectation that projects related in particular to our aim of improving the salmon population of the river are on the move, we now actively seek to raise funds and identify potential volunteers to support such projects. Follow the link http://www.surveymonkey.com/s/2DZRYC3 and you will find a questionaire asking you to identify what, if any, funding and support you would be prepared to provide.

So a start .....

WHAT'S HAPPENED ON THE RIVER?

The season ended with a rush & total of around 850 rod catch. A number of fish were taken on the upper river beats during October, most notably Glanwye with 19 fish. Middle river remains depressed with a total for the season of 77 fish for the 70 miles or so from Monmouth to Glasbury. A couple of small 3 foot mini spates in September failed to improve things significantly for the middle & upper river seeming not to move many fish. It was never really high or prolonged enough to do much good. Rainfall was mostly on the upper catchment around Llangurig & although the Irfon did get some water later in the month the water was peaty for much of the time & once again fell away quickly. Jim Fisher had a fish from Larder Pool on the Lower Irfon & later in the month one from around Newbridge. Odd fish were reported in the Erwood area beats such as Gromaine, Llanstephan and Rectory, the best being Spreadeagle with seven fish. All these were pretty stale however, at this stage there seemed to have been little movement to the upper river & none of the much reported grilse run from the lower river appearing at all.

Once again it was lower beats that were still seeing fish though at times they were difficult to tempt. Again there were reports of fish still entering the lower river including those very small grilse but not many of these were coming to the fly. Coedithyl had four fish including as 5lb grilse by Richard Parrish. Bigswier was easily the most productive beat at this time & raised their score to over 200 with over 40 fish for the month. Two lady anglers were particularly successful with two fish in a day each. Shelia Belcher had two from Wyeseal on an Ally's Shrimp and Lucinda Wrigley with a fish from Wyeseal & another from the Rocks on a Stoats Tail. Upper Bigswier reported four fish where Clive Mason, John Scriven and Wayne Tyler all scored. Cadora had six, three to Geoff Franks in a day and Wyesham had 22 including clean fish of 9lbs and 11lbs by Ray Morris & Mike Timmis respectively.

Don Macer Wright had a couple of fish from his beat at Wyebank in the 4/6lb range & Ingeston recorded two after a long blank spell. That seemed about it from the middle river until Golden Mile who reported five fish including a 9lb fish for owner Ian Thorpe, two by Steve Roberts at 12 & 15lbs, plus a 10lb fish for John Hutcheon. Steve Roberts also had the first fish of the season from the Whitney beat earlier in the month. Again that was very much it until the Red Lion, Moccas where Ken Powell had a small fish & on the opposite Letton bank Stuart Smith had a fish. Whitney reported another fish.

Permission has been obtained from EA for catch up of fish for the hatchery & as I write all bar I fish have been caught from various beats Bigsweir to Glasbury, with most from the lower river

Once again there is speculation as to just what stock of fish we have in the river. Lower beats have seen good numbers of fish but continued reports of running fish, especially grilse have again failed to materialise elsewhere despite reasonable running water at times. Is it the fact that most of the rivers stock been trapped in the bottom six miles or so for most of the season given a false impression of fish numbers, These fresh fish, usually good takers, were subject to heavy fishing pressure & exploitation may well have been higher than had the fish spread throughout the other 90 miles or so of river which seems much more lightly fished these days, at least for salmon. Some major fish producing beats of the middle river have had little or nothing to show. Perhaps we should expect good numbers of fish on the redds, though resource to carry out this valuable means of assessing our stock seems unavailable. We have little means of calculating what fish might be entering the river, spawning, or even exiting the river as smolts., a matter that perhaps we can help resolve ?

SEMI NATURAL REARING

The use of hatcheries for restoring or enhancing natural populations of salmon has been carried out for over a hundred years with varying degrees of success. However, today, scientists, fishery managers & anglers are still arguing over the efficacy of this technique to the extent that a broad based polarisation of views exists between those who are for and those who are against stocking with very few individuals in the middle. In reality the effectiveness of hatchery programmes has been unpredictable with some showing definite success and others being totally ineffective or even harmful. This probably explains why there are quite opposing views with people who have shown definite improvements supportive and those people who have failed to show a benefit conclude that it does not work.

The greatest benefit of stocking when carried out correctly is that it is more efficient at producing returning adults than natural spawning. Studies on the St Johns River showed that stocking with 0+ parr was about three times more efficient, and smolts approximately eight times more efficient than natural spawning, in terms of converting eggs into returning adults. Unfortunately, in reality the failure of stocking programmes to produce expected results is rarely attributed to anything other than aspects of hatchery operation as opposed to fisheries management practices associated with stocking. In recent years it has become fashionable to condemn the use of hatchery reared fish for increasing stocks but this has rarely been backed up by sound scientific analysis of all the components of a stocking programme.

With Wye salmon stocks, in some areas, dwindling & some strains facing serious threats of extinction, artificial supplementation of natural stocks could become crucial in helping to maintain a healthy spawning population. The balance must shift, to a more scientifically based concept of Conservation Aquaculture where decisions are made on sound ecological principles.

The concept of semi-natural habitats for rearing Atlantic, and Pacific salmon has been around for over 40 years, albeit with little scientific evaluation initially. Semi natural rearing [SNR] is different to stocking out using smolt ponds. In smolt ponds larger parr are typically introduced and retained for only 8 – 12 weeks. In SNR ponds, younger parr are retained and fed for up to 18 months before they smolt and are able to migrate. The fish are grown on in predator proof ponds with some feeding taking place. The general idea is to reduce domestication and encourage the parr to become as similar to a wild fish as possible. The parr are grown on until they are smolts and therefore will remain in the river for a minimum period of time (reducing predation and other natural fatalities).. To date the best examples of semi-natural rearing ponds (SNR's) have been on the Atlantic coast of Canada. SNR's on the Miramichi in New Brunswick and on the Morell river on Prince Edward Island have attained smolt survival similar to that of wild fish. More appropriately perhaps a good example is on the Mawddach and Conwy in North Wales, where SNR's have been in operation for nearly 20 years. A report by Dr Nigel Milner (APEM) concluded that the contribution of the hatchery reared fish to the total run was between 12 and 18%. In addition to this many studies in the last few years have shown how naturalisation of hatchery salmon, prior to stocking, can increase the survival rate of the 0+ parr by 3-4 times.

*I*S ABUNDANCE THE ANSWER?

Most people in the United Kingdom are aware the level of many oceanic species is at danger point. Most people, however, including many anglers, have no idea that the Atlantic salmon population has fallen by 80% since the 1970's. Since then in many areas, despite massive reductions in netting, widespread catch and release and a few excellent recovery projects, led by the Tyne in England and Wales for instance, the overall trend continues downwards. Within this trend, there is a huge difference between regions, in the south west continuous falls in most rivers, but in the north east a steady improvement starting in the early 1990s, led by the Tyne. The figures seem to show rivers producing large numbers of smolts, naturally, or via enhancement, are the winners, abundance generates abundance! All of which is simple and logical & since we know how to create such abundance, again as the Tyne shows, why not use exactly the same technology, with local variations, elsewhere? The answer from some has been the assertion that to maintain the genetic integrity of salmon on a river by river basis (even by tributary) is critical to restoring stocks to their once normal level! The Tyne's imported 75% of its hatchery ova and this worked well & the salmon's particular ability to adapt to a wide variety of environments this suggests seems to be ignored.

Is it time for this position to change , the importance of abundance accepted, with all methods of stocking, not just the Tyne system, of enhancement examined. This article challenges the current deadlock, in which genetics have been used as prime justification. The evidence does not seem to support the claims, for the facts make it plain salmon adapt freely to the ideal Darwinian example. The once level of over netting has largely been halted, the most significant issues of habitat restoration addressed and the sudden increase in MSW numbers excellent news. The time therefore, is now right for a new dynamic approach to salmon restoration, we must capitalise on its Tyne triumph, the simple aim increasing numbers of wild fish spawning in our much cleaner rivers, while private initiative is essential in partnership!

In fact it is the old question, "which came first the chicken or the egg But in this case the question is, "did a particular 'type of salmon develop its characteristics via adaption in response to a specific environment, or did that environment become populated by fish of a specific type because their physical characteristics suited that particular environment. Today's assertions on the importance of maintaining genetic integrity have become ever more strident, it's not that simple surely. if it were the once widely employed practice of stocking with imported, particularly spring fish normal pre-war, would have failed. Two prime factors seem to have been overlooked. First, the salmon's ability to adapt to very different environments & second the importance of abundance both to influence the predator ratio & to impact upon the level of marine nutrient transfer. The simple fact is that for the Atlantic Salmon to survive at all, given the considerable variety of fresh water habitat it colonized as the ice melted post the Ice Age, its ability to adapt must have been the dominant factor. Thereafter the principle of a Darwinian "survival of the fittest'' meant obvious preference for success by particular physical types, the contrast between the small typical Hebredian fish and its much larger cousins found in the Tay perfect examples.

What happens at sea is a major influence of course, the swings between grilse & MSW fish the most visible example, usually occurring as a universal pattern, although some changes in established types of fish returning are not always explicable as a general trend. The Spey once had a major late run of very large salmon, while on Tweed the variable domination by different types, autumn versus spring etc, is well documented fact. Meanwhile in the ocean changing environment, currently polar ice melt, will continue to occur, about which nothing can be done by salmon supporters. But against this, human activity in Greenland, Faroes etc. plus all forms of netting, is largely controllable. All of which will influence the type of adult salmon surviving to spawn, as well as for instance, netsman concentrating on large fish rather than grilse, over the years the latter will become the dominating type spawning. What is more, with the net take massively reduced around the British Isles, a swing away from grilse to larger MSW fish is now being widely reported. Which said, if ice melt means feeding grounds are further away and more time at sea to mature is required, this in turn will increase MSW numbers.

In seeking solutions to reversing the fall in total Atlantic salmon numbers this position many claims are made regarding the critical importance of genetics, combined with fresh water habitat improvement. The pursuit of habitat improvement led in particular on the Wye by WUF admirable and was much needed. It is clear that stocking is most effective where habitat restoration has taken place and of course should be a prerequisite of any stocking program. We should be extremely grateful for WUF's unstinting efforts to see the Wye's habitat restored to the best possible condition. However without fair numbers of fish present at all stages in their lives and unless predation is controllable, natural recovery will be unlikely to occur. In the same way that cod stocks on the Grand Banks did not recover as fishing ceased, unless adequate spawning numbers exists, despite an immaculate environment, salmon restoration will not take place.

Not since the restoration of the Nith in Scotland in the 1930's has there been a greater salmon restoration triumph than that achieved on the Tyne, & the credit for this lies with the often maligned Environment Agency. First they had to resolve the pollution problem so that smolts that still existed could reach the sea alive, then make sure the upper river was in good order, & lastly establish a major hatchery to compensate for loss of spawning habitat due to the Kielder reservoir its *maximum output some 600,000 parr in 1996, total production 1979 to 2002 about 7.7 million juveniles, and continuing.*

While the original justification for the Keilder hatchery was to compensate for loss of spawning facilities due to the reservoir

in fact the latter 7.7 million were distributed over the whole system. This included the South Tyne, as well as typical headwater streams and tributaries, the action in mitigation for pollution based loss of smolts in the lower river a sensible and logical step.

A detailed analysis of this issue was prepared by scientists led by Dr. Nigel Milner of the EA's national team at Cardiff "The role of stocking in recovery of the River Tyne salmon fisheries". It is extremely interesting reading, but its value as a judgement on the contribution made by the hatchery is limited as no formal monitoring of the stocking programme was carried out and there was a difficulty in identifying or evaluating the long-term sustainable benefits of the stocking resulting from the later generations of the progeny of hatchery-origin parents, No information on this was available to the report. A great deal of guesswork must therefore have been involved and despite " progeny of hatchery parents'' unavoidably being treated as wild fish, the report concludes that the dominant recovery process was natural recolonisation, but that stocking was probably an important contributory factor in accelerating and stabilising recovery of salmon stocks during the early years. How many of the spawners busy with that natural recolonisation were in fact that same "progeny of hatchery parents'' One cannot tell but in terms of genetic importance it is of real significance because in the early days, 1978 to 1983, given the shortage of local Tyne parent fish, "foreign" ova had to be imported with Scottish & other nothern England sources included Tay, Dee, Conon, Ullapool and Wester Ross providing 75%.

So what was the level of wild fish output prior to 1980'? The recorded rod catch ranged from the mid 1960's to 1979 between around 500 and just 50 with a mean of almost 300, which with a 10% catch rate suggests 3000 average total run. With say 40% being hens that spawned, i.e, 1,200, averaging 60 smolts each migrating, a total of 72,000 would head for the sea. In which case the 3,000 adult return would represent a 4.2% rate of oceanic survival, and say 10% to the coast, which given the pollution problems seems a quite probable figure. Against this the report includes an estimate of hatchery origin spawners the total rising to some 2,000 fish by 1986 (estimates roughly max 4,500 and min1,000) thereafter falling as oceanic returns fell sharply. As one would expect it took some time for the rod catch to reflect the associated increase in mature fish returning still only 417 in 1984, but with 1, 129 the following year, thereafter with normal swings, it rose to 2,844 by the year 2002. To cap this remarkable achievement the last five year catch results were 3614 , 2807 , 3144, 2947 and 4638.

Success seems undeniable and fully justifies what conservative scientists called a dangerous gamble when all those foreign ova were imported! But it also reflects the greatest credit for Peter Gray, hatchery manager, whose concept of how and when to release juveniles as six month parr both to limit early pre-migration predation and "harden" them long before smoltification seems logical and effective.

The impact upon the major, and cummulative spawning effort by later generations of progeny of hatchery-origin parent's cannot be ignored simply because they cannot be identified. The report noted that because not all hatchery-released fish were tagged a proportion of other, unmarked, fish in the collected broodstock will also have been of hatchery origin. Whilst in the initial years 1978/82 this would not have been significant, thereafter it most certainly will have been a real factor.

It is correct to look at salmon juvenile introductions, over the years, in terms of restoration or stock mitidation. The former resulting in minimal numbers being stocked, is typical, and in many cases follows a major pollution event. In the latter case the basic aim is usually to return the numbers of hen fish spawning to what once was normality, together with compensation for loss of habitat due to reservoirs [as is the case in the Wye], hydro electric schemes, or a complex multitude of damaging events such as over abstraction or toxic agricultural drainage runoff, in all its forms! Obviously in the first case imported stock are likely to be required but in the second local adult broodstock are usually employed.

Long ago, recorded in detail by W. Carter Platts, perhaps the most remarkable example of from zero fish to great plenty via stocking was the Yorkshire Esk, which enters the sea at Whitby. It is only 29 miles long, but thanks to its limestone base offers excellent juvenile habitats into which in 1867 the first salmon ova were introduced, obtained from the nearby Tees, using primitive Kashmir boxes, and five years later in 1872 four returning salmon were caught.

The Boyne in Ireland, wiped out by mining pollution, restored with local Blackwater fish plus indeed Rhine stock. Equally the Tamar, twice suffering similar mine disasters, used Exe, Tay, and again irish Black-water ova and juveniles.

These examples of restoration have mostly involved restarting from scratch, or close to it, & worked well. Success, is not always the case, the best British example the Thames, due to a variety of factors, inadequate access and fish passes in weirs , continued toxicity in the estuary damaging smolts, or, too limited in the size of the juvenile release. However there seems no reason to blame faulty genetics as the reason for failure. There remains however, plenty of cases, today in particularly where, given the 80% fall in total Atlantic salmon numbers since the 1970's, despite nets ceasing, catch and release, & much improved fresh water habitat, an increase in juvenile output is urgently required. it is only too clear that with just a fifth of our rivers in an acceptable state and despite an excellent 2010, the trend remains downward! As an example, while 2010 was hugely better than 2009 across the board, compared with the last exceptional year, 2004, the total rod catch for England arid Wales was well down the figures 16,018 and 18,623 respectively.

If urgent action is not taken to reverse this trend, as the WWF warned in their massive 2001 report, there is a real risk that in 50 years, i.e, 2051, wild salmon as a species will no longer exist. What, above all these valuable and detailed reports show is that those rivers with healthy , in fact massive, smolt output are exactly those that are flourishing! Equally, where good management and natural facilities exist that make prolific wild smolt output normal, the Tweed and Moy classic examples, it is their abundance that counts. All of which seems as common sense as it is to use local parent strains for hatcheries!

While the historic recovery of the Wye in the mid 20th Century owed most to net removal predator control and access improvement, many other prewar enhancement efforts involved imported stock. Typical of this was the Exe, which thanks to imported juveniles between 1923 & 1932, early running salmon were released in numbers. The fact that many healthy rivers continue to operate hatcheries, not just those damaged by hydro etc. schemes, the Helmsdale & Spey good examples, suggests that to keep the system topped up pays dividends. It also, marginally, contributes to the global position, the huge loss of smolts from so many now dead European rivers led by the Rhine, Seine, Erne, Thames etc., damaging greatly the oceanic predator ratio as an inevitable mathematical fact. Help may however be at hand thanks to the northerly movement of mackerel shoals Who can share the predator take. Combined with Arctic ice melt this may be an explanation for the extraordinary numbers of fish entering Scotland's north coast rivers in 2010!

The balance between predators and their food supply, the predated, is in fact a simple mathematical ratio, governed by the numbers of either group extant at any one time. Thus a shortage of smolts migrating is just as critical as is a rise in predator numbers, be they birds, seals or nets. Given the commonality of oceanic feeding grounds the massive reduction in smolt output due to many major rivers collapse the Rhine, Elbe, Seine, Loire, Thames, Shannon, Erne included - means de facto the ratio is hugely damaged.

Of course there are all sorts of limitations when it comes to smolt rearing, success seems to be dominated by basic common sense. Smolts reared in concrete tanks fed regularly are four times less likely to survive post migration than their streetwise wild cousins. Similarly, as the icelandic Ranga's huge ranching success proves, if prior to migration hatchery smolts are hardened in pre-release ponds the survival rate improves. At the same time experiments in Canada, with semi natural pond rearing of partly fed parr also showed a four times improvement for adult return against hatchery smolts And on the Fowey in Cornwall, entirely unfed fry planted in lakes showed roughly a 20% level of survival to smolt against in the wild just 1 %, a major contribution to the rivers current position, average counter returns now about doubled in 10 years.

How to increase juvenile output to either restore or enhance salmon numbers seems fully understood, their natural ability to adapt to varying environments a massive benefit. which in turn means, as the Tyne has proved the current claims on genetic integrity are wide of the mark. As the Delphi also has proved foreign types quickly adapt, in their case grilse ranching strains from Burrishoole introduced in 1990, increasingly returning as MSW salmon, exactly in line with the indigenous stock!

A major factor is the importance of abundance, the basic rule of safety in numbers, a law of nature the ratio of predator numbers to smolt output critical. What is more with the latter output so reduced by the loss of many major salmon rivers that oceanic predator ratio is today hugely damaging, albeit the move by mackerel shoals northwards may allow for some sharing of predation loss. The rivers that thrive all have massive smolt capacity, Tweed, Helmsdale, and Moy typical natural examples. But where man has helped create abundant smolt migrations, in Canada, the Irish and Ranga ranching projects, or the Tyne Test and Fowey in Cornwall, similar results follow, while thanks to adaptability loss of local genetic integrity is not damaging. In all cases it is abundance, the volume of juveniles that counts, which in turn leads to increasing marine nutrient transfer and improved predator ratio, with more hen fish spawning! The policy of minimal stocking, with genetic integrity fully maintained, not only ties our hands, but as the figures for England and Wales show makes achievement of that vital abundance extremely difficult.

The solution maybe, send huge numbers of pond reared semi-natural smelts to sea from the Wye and monitor closely what happens. Why not make it a school programme sponsored by Tesco and the water companies? Abundance breeds abundance!

With great thanks to Bill Rawlings. Compiled with large extracts from his original The Salmon Crisis [2011].

HOW THE RIVER PERFORMED? *25 OCTOBER 2011*

	2008	2009	2010	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Upper River	355	130	130	1	0	3	14	17	10	28	42	115
Middle River	177	108	57	13	3	7	11	8	4	14	9	77
Lower River	518	376	264	21	28	159	156	63	59	79	99	664
Total	1050	614	451	35	31	169	181	88	73	121	150	856