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THE DEVERON FLYER

The Deveron, Bogie and Isla Rivers Charitable Trust

Newsletter 28, Autumn 2014

Welcome to the 28th newsletter of the Deveron, Bogie & Isla Rivers Charitable Trust.

The Trust's objectives are to 'conserve, protect and rehabilitate salmon, sea trout and trout and other indigenous species of animal, bird, insect and plant life and more generally to promote the ecological cycle for the benefit of the inhabitants of the Deveron'.



New light on livestock watering

Around 60 farmers and landowners attended a DBIT open day in March at Knock farm (courtesy of Roger Polson) to demonstrate alternative livestock watering using solar energy. Unrestricted access to water courses for livestock can degrade spawning habitat and reduce water quality. Scottish Water promoted their Sustainable Land Management (SLM) Incentive Grant Scheme

(www.scottishwater.co.uk/about-us/corporate-responsibility/sustainable-land-management). Land managers can apply to the Incentive Scheme for financial assistance aimed at contributing to the improvement and protection of water sources in the catchment, over and above the expected regulatory compliance. Please contact the DBIT on 01466 711388 if you require further information.

SNH grant to continue

The DBIT is delighted to announce further funding of £40,000 from Scottish Natural Heritage to extend the Deveron Invasive Non-Native Species (INNS) Control Project allowing the project to continue and develop over the next 12 months and beyond.

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RDevDSFB & DBIT Meetings

The RDevDSFB Statutory Annual Meeting of Qualified Proprietors and Statutory Annual Public Open Meeting will take place at 5 p.m. on Thursday 4th September 2014 at The Castle Hotel, Huntly. The Open AGM of The DBIT will follow thereafter. Guest Speaker: Dr Ronald Campbell, Biologist, Tweed Foundation

Taking stock

Since 2003 the Deveron, Bogie and Isla Rivers Charitable Trust (DBIT) has operated a hatchery programme on behalf of the River Deveron District Salmon Fishery Board (RDevDSFB). The main aim of the hatchery programme was to stock habitat that was sterile of fish stocks – above completely impassable man-made obstructions and where obstructions had recently been removed. Due to the successful removal and easement of many obstructions to fish passage, areas of habitat without wild fish present have been successfully reduced.

At the July meeting of the RDevDSFB the decision was taken not to grant a licence to the DBIT to stock salmon/sea trout into the Deveron from 2015 onwards. Latest recommendations and research on the success and effects of restocking from RAFTS/ASFB, The Spey Fishery Board and Dr Kyle Young (Aberystwyth University) were all taken into consideration as well as data from catchment wide juvenile (electrofishing) fish surveys from throughout the Deveron. It was concluded that Board resources from the

Salmon Restocking 2013/14

During autumn 2013 a total of 212,000 salmon ova were laid down. All fish have now been successfully released. Release sites were determined by the Review of Deveron DSFB Salmon & Sea trout Stocking Policy (2013), and a full list can be found within this document, under the resources section of www.deveron.org. Release sites included the Auchebaddie, Miaggie and Monquhitter burns.

restocking programme should now be redirected to support existing long-term fish access, habitat restoration and diffuse pollution reduction projects, to assist in protecting and enhancing a healthy wild population of fish.

The RDevDSFB would like to take this opportunity to thank Mr Robert Shields (Avochie Fishing's), Drummur Estate, DBIT and all involved with the hatchery programme, as without your support, it would not have been possible.

The science and sociology of stocking by Dr Kyle A Young

We have been stocking salmon since the time of Darwin. When industrial-scale dam building arrived in the mid-20th century, hatcheries offered a mitigation solution. We could destroy habitat and have our hydropower, build an industrial-scale hatchery, and eat our salmon too. Or so we thought. From the 1970s evidence began to mount that not only did mitigation hatcheries rarely mitigate in terms of adult salmon numbers, but hatchery fish threatened those wild populations that remained.

Never a quitter, the fisheries community accommodated these realities by turning to 'wild broodstock' programmes in hope of increasing the number of adult salmon available to anglers. We toast ourselves, assured that our efforts will produce more adults than had we let the fish be. We sleep easy knowing that because we are not creating a 'hatchery population', we are not damaging wild populations. Or so we thought.

There is indeed some evidence that taking a wild fish,

spawning it in a hatchery and stocking out its offspring can yield more adults. It can work, though not always, and not often by much. There is also compelling evidence that the hatchery-born offspring of wild broodstock that return as adults have lower 'fitness' than wild-born fish. That is, they produce fewer adults in the next generation. There is even evidence that this effect has a genetic basis; fish can evolve away from the 'wild type' after a single generation of exposure to the hatchery environment.

Worse yet, wild broodstock schemes may be just as damaging to wild populations as traditional hatchery schemes. A study of 96 populations from three Pacific salmon species showed stocking decreased population productivity to the degree that doubling the number of adults through stocking halved population productivity. In other words, the increase in adult numbers due to stocking is cancelled out by a decrease in the next generation. Importantly, the data revealed that traditional and wild

BEFORE WORKS



DURING WORKS



AFTER WORKS



Baffling the Davidston burn

Previous juvenile fish surveys in the upper Davidston burn (above the Scottish water weir and B9115 Road Culvert) have shown that spawning success is reduced during low water levels in the autumn. During July, the DBIT modified the road culvert with baffles, which increases the depth of water and directs the flow into one single



channel. This work complemented the fish pass installation on the Scottish Water weir downstream. This final barrier removal will improve access to 5kms of quality spawning gravels and juvenile habitat. Thanks to Marcus Walters of the Moray Firth Trout Initiative and the Patagonia Clothing Company, World Trout Initiative.

- The Glenkeith Weir (50m upstream of the Linn Pot Falls) was modified this year to facilitate fish access. Last autumn the DBIT rescued 24 salmon and sea trout that became stranded during very low water. The work involved lowering the secondary dam wall by half a metre and the addition of a beam to increase pool depth. On the primary dam the parapet has been repaired to assist running fish to the optimum area. The fish counter at Strathisla Distillery upstream and CCTV cameras will assess the new access. Thanks to Pernod Ricard for sponsoring the project.

broodstock schemes led to similar decreases in population productivity.

This is the Catch-22 of stocking. If it increases the number of adults, it damages the wild population by reducing its productivity. If it doesn't increase the number of adults, it's a waste of time and money. So why do we stock? First, there is habit; we've been stocking a long time and old habits are hard to break. Then there is pride; many have staked their reputations and resources on stocking and are consequently stubbornly blind to the science. Finally, there is hope; we hope that our hatchery is different, that our stocking is cleverer, that our river is different, that all the scientific evidence might not apply here, that we just might produce more fish to catch.

I recently tested the 'hope hypothesis' using 15 years of stocking effort and angler catch data from 62 rivers in England and Wales. I controlled for the amount and quality of habitat, and the effects of marine survival and

estuary nets, then asked the data if stocking increased angler catches. The data answered with a resounding no. If anything, stocking was associated with reduced catches. Hope vanquished.

We are left with pride and habit: strong foes in battle against evidence and logic. Luckily, in the UK most wild broodstock schemes are small enough that they are probably more wasteful than damaging, but they are one or the other. Over a century after his ideas changed the world, Darwin would be dismayed to find his nation's fishery managers unwilling to act on the science he inspired. He would ask us to swallow our pride and break our bad habit. If they could, salmon and sea trout would ask us for the same.

Kyle A Young is a lecturer at Aberystwyth University whose research focuses on the ecology and management of salmon and trout. To learn about his work visit kyleayoung.com.

Controlling the future

**SCOTTISH
NATURAL
HERITAGE**



The Deveron, Bogie & Isla Rivers Charitable Trust (DBIT) is delighted to announce that an extension to the Deveron Invasive Non-Native Species (INNS) Control Project has been grant aided by Scottish Natural Heritage (SNH). The DBIT has been awarded funding of £40,000 by SNH to allow the project to continue and develop over the next 12 months and beyond. The main objectives are to continue the control of invasive non-native species with the ultimate goal of creating a more self-sustainable control programme.

Phase 1 & 2 successes included the co-ordination of river catchment wide (1266Km) control of Giant Hogweed, using techniques such as grazing control, the removal of over 255 American Mink and the control of 28 sites of Japanese Knotweed.

The 12-month funding package will allow DBIT's Biosecurity Officer Robin Vasey to co-ordinate the project. One of his main responsibilities will be to co-opt and manage current volunteers (River Champions) and work with local landowners. Under the Wildlife and Natural Environment (Scotland) Act 2011, competent authorities like SNH can issue special control orders where tackling invasives is vital to a strategic control project. However, the DBIT's emphasis is on working with landowners voluntarily to control invasive species such as the Giant Hogweed.

DBIT Senior Biologist, Richie Miller said "This funding is of huge importance for the long-term protection of local biodiversity and tourism. Over the last 10 years the DBIT and local landowners have made great progress in reducing non-native species and these successes must be built upon".

Since the Phase 2 extension was granted in May, Giant Hogweed control has been the primary focus on the Bogie and Isla tributaries. Several minor burns which tend to be 'out of sight' – and 'out of mind' have also had hogweed infestations controlled. We are again very grateful to Colin Grant of Huntly Fishing's who does a fantastic job and to Kevin Barron who assisted in controlling the Isla catchment.

Himalayan Balsam was removed from a section of the Upper Isla in July and all known Japanese Knotweed sites will be re-visited in September to determine the effects of the stem injection last year. Two new infestations on the King Edward burn were discovered this year.

The hogweed grazing project, using Black Face sheep has been an outstanding success. As part of the project, Aberdeen University is undertaking a study to determine



the ecological changes to grazed sites and what species are required to help suppress hogweed growth.

Mink numbers appear to have declined significantly with only 2 caught this year, both in the upper Deveron at Glass. Previous "hotspots" such as the Fergie and Ness Bogie burns and Deveron beats have not produced captures this year. The Trust is also managing mink control on the Water of Philorth and the Water of Troup (coastal burns) and the RSPB reserve at the Loch of Strathbeg near Fraserburgh under the Scottish Mink Initiative where no animals have been trapped for over 12 months.

If anyone would like to participate by becoming a "river champion" or if landowners require advice on invasive species control and potential grants available, please contact the DBIT on **01466 711388**

The DBIT would like to take this opportunity to thank all River Champions, Farmers, Landowners, Angling Associations and Gillies for their continued hard work and support on invasive control.

**For further information please contact The Senior Biologist at
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