War on the rhodies

Andrew Graham-Stewart reports on a Herculean habitat restoration programme well underway on one of the most important tributaries of Ross-shire's River Conon

***Andrew Graham-Stewart** has been responsible for T&S's North Highland fishing reports since 1998 and is author of* The Salmon Rivers of the North Highlands *and* the Outer Hebrides *(2005).*

I DARESAY THAT MOST of us are fascinated by the wild and unpredictable nature of Highland rivers. The taming of such rivers tends to offend us, but in several cases it became an unfortunate reality in the mid 20th century drive for hydro power. No river system in Scotland was so comprehensively harnessed as the Conon. Between 1946 and 1961 the catchment was transformed almost beyond recognition (the scale of works was mind-boggling) – in three separate stages/schemes, with seven main dams, 20 miles of tunnels, 15 miles of aqueducts and seven power stations.

However, this process did not mean that the interests of salmon were ignored; in fact the Hydro Board was obliged to carry out an extensive programme of work to mitigate for the loss of spawning access. The "compensation package" included fish-lifts within dams, fish-ladders, a massive hatchery and a large fish-trap for broodstock collection. The Conon stocks out eggs and fry annually in huge numbers in order to offset the fact that adult fish are no longer able to reach the majority of the headwaters. This is a laborious operation but regrettably there is no alternative.

That said, the Cromarty Firth Salmon Fishery Board (into which the Conon Board was subsumed a few years ago) is by no means fixated with stocking and it is consistently seeking innovative ways of enhancing and maximising natural spawning and juvenile habitat within the Conon catchment. Thus in 2004 it literally created a new spawning and nursery channel a kilometre long, adjacent to ➤

"The 'compensation package' included fish-lifts within dams, fish-ladders, a massive hatchery and a large fish-trap for broodstock collection"

The upper Orrin flowing through moorland just downstream of the hydro dam.

PHOTOGRAPHS: ANDREW GRAHAM-STEWART

The Orrin's Falls pool, where up to 1,000, mainly spring, salmon used to be netted annually.

Let there be light – labour-intensive rhododendron clearance.

A typically boulder-strewn section of the Orrin – almost devoid of spawning gravel.

A newly exposed side channel with ideal spawning gravel.

"The lower Orrin was always so overgrown that it was virtually unfishable and the upper Orrin was essentially treated as a sanctuary"

and linked to the lower river.

Over the past two years much attention has shifted to one of the main tributaries, the Orrin, which historically was never really a significant rod fishery; the lower Orrin was always so overgrown that it was virtually unfishable and the upper Orrin was essentially treated as a sanctuary. The river was, however, systematically exploited. By virtue of a separate royal charter the Orrin's Falls pool, at the top of the lower river, was netted and in some years it produced 1,000 salmon (mainly springers), with fish taken from opening day. Netting finally ceased in 1988 and in recent years there has hardly been a fish in the Orrin prior to July. One reason why the Orrin's rod fishery was never treated as a priority by Fairburn Estate was the fact that the estate always had reliable fishings in the Conon itself.

In late 2010 one of the most ambitious habitat restoration programmes ever undertaken in Scotland began on the Orrin with the aim of restoring the sort of habitat that used to produce multi-sea-winter salmon. This scheme encompasses the catchment-scale eradication of rhododendrons – a monumental undertaking given that these alien trees have over the years engulfed some nine kilometres of riparian zone. The density of rhododendrons, which are well over 100 years old, has essentially suffocated much of the river. They smother native vegetation and thus severely limit the amount of food available for fry and parr (rhododendrons do not support insects). Their wholesale removal lets light in, encouraging food-rich native species of trees and undergrowth, and prevents algal growth.

Already vast areas have been cleared and some pools on the Orrin are now visible for the first time in 80 years. Another major, indeed critical, benefit of the wholesale clearance is the exposing and opening up of the extensive network of side channels to the river; these had become swamped and choked to the point that they either no longer flowed or they were devoid of life. They are especially important in the Orrin catchment, which has steep sides and thus few accessible tributary burns. Since the upper river was dammed 60 years ago for hydro with a massive concrete curtain, no gravel suitable for spawning has come down from the headwaters and consequently most of the main riverbed downstream of the dam now consists of solid rock, boulders or stones the size of small footballs – all hopeless for egg deposition. In contrast, the side channels are not subject to the force of spates and so gravel remains in them (unlike the main river, which is frequently scoured out). In due course these channels should become valuable spawning and juvenile areas, thus replacing stocking with long-term natural production.

Peter Hingston, enlightened laird of Fairburn Estate.

The rhododendron eradication project is an enlightened collaboration between Fairburn Estate (owned by the progressive-thinking Peter Hingston), the Cromarty Firth Fishery Board and Trust with some funding from the SEPA Water Framework Directive Restoration Fund. The Board (both it and the Trust are involved, given the importance of the Orrin catchment habitat) is contributing 150 man days a year and it is estimated that the project will take three years to complete.

While some of these issues are specific to the Orrin, much of what is being done could provide a blueprint for river habitat restoration elsewhere, especially where alien species have been allowed to dominate and smother riparian zones. Limited funding is required so long as there is sufficient labour – voluntary or otherwise – available.

A HOLISTIC APPROACH

◎ THE RHODODENDRON eradication project is part of a holistic approach to restoring as much of the Orrin catchment as possible – given the constraints of the hydro dam – to maximise its potential for smolt output and also to enable it to support a viable fishery again. Fish-passes in the dam have not been working efficiently. Scottish and Southern Energy have recently altered flow and generating regimes to improve smolt descent from the top of the catchment. Adult salmon (150 total in 2009 and 2010), the results of experimental stocking of the headwaters, are now trapped below the dam and transported over it; the intention is that in due course natural spawning will replace stocking of the headwaters.

◎ THE WORK on the Orrin is part of a much wider programme of works driven by the Cromarty Firth Fishery Trust's Biosecurity Plan. Invasive non-native species such as Japanese knotweed, Himalayan balsam, giant hogweed and American mink are all being dealt with on a regional scale.

◎ THE RIVERS and Fisheries Trusts of Scotland (RAFTS) is working with 16 rivers and fisheries trusts throughout Scotland on the large-scale strategic control of invasive non-native riparian plants principally through the implementation of four major projects. With a total economic value of over £3 million, these projects will continue until 2015. They are funded by the SEPA Restoration Fund, a range of local funders including the trusts themselves and the EU Interreg IVA Programme.

To subscribe: www.greatmagazines.co.uk/troutandsalmon