Davidston Burn Report #TFR13-01330

Funded by Patagonia World Trout Initiative

Identifying, protecting and restoring sea trout freshwater habitat has become an increasingly part of the MFSTP and now MFTI. Through the project a combination of Electrofishing surveys and anecdotal evidence have highlighted the importance of small burns and waterways to sea trout populations. Although many of these rivers are often less than 3m wide, relatively short and drain straight into their sea they cumulatively constitute a very significant part of sea trout spawning habitat. The larger rivers are typically dominated by salmon and as result trout rely on the smaller peripheral areas for spawning. Often disregarded as being too small to support fish populations these waterways are the most vulnerable to changes in land use and poor management. Typically draining through agricultural land they are frequently dredged and straightened for drainage and to reduce flood risk leaving straight featureless channels with minimal trout habitat. Furthermore these smaller channels are also particularly vulnerable to the installation of culverts and bridges which often inhibit the movements of migratory fish.

The Davidson Burn is a small stream in the River Deveron catchment in the NE of Scotland on the south coast of the Moray Firth. The stream has an excellent population of trout and salmon in the lower half but access upstream has been impeded by a Scottish Water Weir (Figure 1) and a poorly designed concrete culvert apron (Figure 2) that could only be passed by migratory fish (salmon, trout & eel) in very high flow levels. Electrofishing surveys in 2012 showed a lack of salmon fry above the barriers. Work completed in September 2013 has now improved access for migratory fish over the Scottish Water Weir. Salmon were immediately seen spawning upstream in the Autumn of 2013 and confirmed with good fry numbers upstream during electrofishing surveys in 2014.

Figure 1 Scottish Water before (L) and after works (R) completed in September 2013.

However the culvert upstream of the Scottish Water Weir was still limiting access for migratory fish to a further 27km of habitat upstream. To improve access through the culvert the Patagonia funding has been used to design, trial and install a simple modification to the culvert (Figure 2). The main problems with existing culvert were the long shallow laminar flow over the concrete culvert bed and the shallow flow over the lower concrete lip of the

structure. The original plan had been to create downstream pool using boulders but a trial using sandbags found the best option to be two wooden beams bolted onto the lower edge of the structure. This achieved 2 things; firstly increase the depth over the base of the culvert and secondly narrowing the flow over the lip of the structure and ensuring adequate depth for fish access even during low flows.

Figure 2 Culvert barrier modifications; (clockwise from top left); The original proposed modifications using boulders, The sandbags used in the trial, The finished beam installation on, and finally brackets holding beam in place. This work was funded by Patagonia.

Further electrofishing surveys will be conducted upstream in 2015 to confirm that the modifications are helping salmon and sea trout migrate through this structure.

The project was managed on the ground by the Deveron Bogie and Isla Rivers Trust and coordinated by the Moray Firth Trout Initiative and funded by the Patagonia World Trout Initiative.

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Budget

MFTI Davidston Burn Budget Based on eXchange rate of £1 = $0.64132

Activity	**Breakdown**	**Cost ($)**	**Cost (£)**
Contractor Labour		$283.79	£182.00
Contractor Material		$291.59	£187.00
DBIRT Project Managment	2.5 days @ £200 =$311.86	$779.64	£500.00
DBIRT Mileage	250 mls @ 45p = $0.7	$175.42	£112.50
MFTI Coordination	2 days @ $300 = $467.78	$935.57	£600.00
	Total Cost	$2,466.00	£1,581.50
Funded by			
Project coordination write up	2 days @ $300 (50 % in kind)	$467.78	£300.00
Patagonia Grant	$2000	$2,000.00	£1,282.64
	Total Funds	**$2,467.78**	£1,582.64
	Balance	$1.78	£1.14

The MFTI is supported by local Fisheries Trusts, Boards and Angling Associations and funded by:

heritage lottery fund LOTTERY FUNDED

Scottish and Southern Energy

The Highland Council

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