

HUNTLEY FISHING ASSOCIATION

The River Bogie – Huntley – Aberdeenshire

Advisory Visit Report Undertaken on behalf of **The Wild Trout Trust**
By Ron Holloway MIFM

17th May 2002-05-21



The River Bogie – Huntley Fishing Association

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Huntley Fishing Association – The River Bogie

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This Advisory Visit was undertaken by Ron Holloway (R H Associates) on behalf of the Wild Trout Trust (WTT) in the company of Norman Wilson (Chairman Huntley Fishing Association) and Robert Shields (Deveron,Bogie and Islay Rivers Charitable Trust).

Objective of Visit:

The objective of this advisory visit was to look at the River Bogie, a major tributary of the River Deveron and to suggest methods which the Fishing Association could implement to improve the salmonid habitat and to address the problems already identified by the previous studies carried out by the Carnie Consultancy and/or other problems that this visit may identify.

Background:

History teaches us that the salmonid harvest from the Deveron catchment which includes the Bogie, has fluctuated but mainly declined over the past 100 years, an unfortunate trait which has affected many rivers throughout Great Britain. Full background information is already at hand in the Carnie Reports so there is little need to repeat here. However, it is important to note that the River Bogie has a fairly shallow gradient and the substrates consist of fine gravel, sand, fines and silt with bedrock visible at some locations. Historically there were excellent populations of resident brown trout and annual visits of considerable numbers of sea trout and Atlantic salmon.

Site One – Demonstration Site.

The coppicing and pollarding of this overshaded stretch demonstrates the benefits of such action which will allow more light into the stream. This alone will aid insect life. A suggested light/shade ratio of 40% shade and 60% light is the most effective. The substrates at this site are very compacted with sand, silt and other fines. The viability of natural spawning at this site would be extremely low.



Demonstration Site

Erosion along this stretch is minimal and is of little concern here as the river has a dynamic character and is, therefore, quite naturally endeavouring to realign itself along and through the natural flood plain. The river will, in the normal course of events, take material from one place and store it downstream in another place.

Site Two – Spawning Gravels:

It was at this site just below the road bridge that held any reasonable quantity of viable, clean spawning gravel within all the areas inspected.

Although the gravel here contained a quantity of silt, it was not compacted and, in its present condition would, in my opinion, certainly attract spawning trout to utilise it.

Whether any eggs laid in this area would hatch and survive to swim up fry stage, is difficult to say but the indications are that this would also be an ideal site to introduce incubator boxes, the success of which could be a measure to ascertain the viability of such a scheme to enhance the fry stocks throughout the entire Bogie system.



Potential Spawning Gravels.

Site Three – Increasing Habitat Diversity:

The reach illustrated in the photograph below offers little or no adult fish habitat or cover. It is suggested that one pair, or possibly two pairs, of flow deflectors be installed – these to be placed roughly as illustrated in the photograph and should be constructed from good size rocks set firmly to withstand high winter flows.

These substantial rocks to be set so that they are 4” to 6” out of water at mean base flow. The shape of these deflectors is critical and an approximate equilateral triangle shape is the ideal. The triangular shape will deflect the flows at low water towards the middle of the stream and, most importantly, will continue to do so when submerged in higher flows as flowing water will always flow off a surface at 90 degrees, so at all times the flows will be directed towards the middle of the river. Due to the constriction of the construction the action of the water will create a scour hole in the river bed directly below which, in time, will become an excellent fish holding area, particularly for adult fish. Furthermore, the gravel moved from the scour hole will create a wide gravel apron of washed gravel, suitable for spawning fish to utilise. To further enhance this site, a selection of randomly placed rocks

could be placed upstream of the construction to further improve the diversity of holding habitat and further energise the natural flow which will keep the river bed cleaner and help to keep silt on the move.

In other stretches of featureless water along the river, these triangular constructions can be used in an alternating series of singles, thus creating a meandering effect. The use of opposing pairs as illustrated, creates scour holes and singles in series create meanders.



Habitat Enhancements

It cannot be emphasised too strongly that the placement of the substantial rocks to create these structures is critical as they must be able to withstand the high flows of winter without moving and also that they are submerged at all times, except at mean base heights and lower. If constructed as described these will not back up any winter flows or compound overtopping of the river banks during flood events so this will keep the land drainage people happy!

General Comments:

Although there were one or two major erosion points observed during the inspection, the structure of the river channel and river banks are generally excellent. It is, in my opinion, that the erosion points observed are not an immediate worry although they should be kept in mind. The major input of sediment is derived from the many minor ditches and streams that have not been protected from overgrazing and the trampling feet of cattle and sheep. Several small side streams and drainage ditches were observed, all needing protection. It is suggested that the excessive sediment input from the various aspects of the intensive agricultural activities throughout the whole Bogie catchment is the main controlling factor limiting salmonid production. The ongoing fencing of all these minor tributaries and drainage ditches will pay off in the long term. Although there is no one major input of sediment into the river, it is “death by a thousand cuts” with the combined impact of the output of silt from these many small sidestreams which has to be addressed.

To improve adult holding capacity and to create cleaner areas of spawning gravel, the constructions of the rock deflectors should help to achieve these objectives. Logs and willow weaving is a soft bio engineering option to use in the place of naturally occurring rock but the long term viability of such constructions in such a dynamic river system as the Bogie is very questionable and is not recommended. Logs and willow will eventually rot or succumb to high winter flows. Rock is a natural material to the river system and is not known to rot!

To kick start the rejuvenation of the population of brown trout and sea trout it is suggested that a programme of planting egg boxes loaded with green or eyed eggs from sea trout is initiated which will, in turn, ascertain the spawning potential of the gravels within various areas of the Bogie.

The opening up of the historical spawning burns in the forested areas is essential and will provide excellent spawning areas that have not been available to wild spawning salmonids for many years. This, together with the regular monitoring of Ph levels within the tributaries will assist in the rehabilitation of the self sustaining stocks of brown trout and sea trout, and Atlantic salmon, all of which once abounded in the River Bogie.

Although brown trout, sea trout and salmon require similar quality habitat to survive, each life stage of each species has certain habitat criteria requirements which control their survival. In my opinion, the limiting factor controlling survival of these three

species within the Bogie system is at the incubation and alevin stage. I am confident that there are sufficient numbers of mature hen and cock fish arriving into the river at spawning time and there is no doubt that they all go through the spawning process. However, the problem that appears to be taking the greatest toll on the hatchability of the incubating eggs is the silt and sediment loading of the river flows which deposits silt and fines into the gravel which is holding the eggs, so smothering them and depriving them of life maintaining oxygen.

A continued programme of fencing and opening up of unused spawning burns, assisted by an incubation box trial and with the onstream and instream habitat enhancements suggested should help to remedy these problems. Improvements take time to show their rewards but I am confident that with the continued progress along these recommended lines there will be great benefit in the rehabilitation of the fish populations in the River Bogie.