

ELECTRO- FISHING SURVEY 2002

OBJECTIVES

The main objectives of the 2002 survey were:

1. Survey areas which had not been electro-fished in previous surveys.
2. Monitor sites where habitat and access improvements have been implemented.
3. Continue surveys of the Upper Deveron to monitor the Spring component of the stock.

As much of the catchment has not been surveyed it was felt necessary to find out if the areas with suitable habitat that would be expected to hold good stocks of juvenile fish do maintain viable, healthy populations.

Many of the sites surveyed in 1991 and 2001 which were absent of juvenile salmon do not provide the in-stream habitat that would be expected to sustain salmon or were too high up the watercourse to expect redds to have been made. It is recognised however that perceived optimum habitat characteristics do not always reflect changes in the overall population of fish within a catchment and often the more marginal habitat types may provide an indication to the status of a stock' health as they tend to react first to population change.

Some of these absent sites were due to obstructions which have subsequently been removed or modified and therefore important to monitor their effectiveness. For example, the Irish fords on the Cairnie and Lag burns, the Kinnairdy Dam on the Burn of Auchentoul and the fish passes on the Monquihitter and Garrel burns.

Since much of the decline in catch statistics is the early running salmon component which are believed to spawn in the upper reaches of a river system it is important to monitor the same sites over an extended period of time.

DETAILS

In this survey we employed the SFCC quantitative sampling method which requires depletion sampling and stop nets up & down stream to prevent migration in or out of the survey site.

The 38 sites that covered the catchment (see map) are broken down thus:

<u>CATCHMENT</u>		<u>SALMON PRESENCE</u>	<u>ABSENCE</u>
Upper Deveron	6	6	0
Middle Deveron	11	7	4
Lower Deveron	4	4	4
Bogie	7	3	4
Isla	10	10	0

We also surveyed a site on the Arrachie which is a small burn that feeds the Cairnie, flowing under the A96 between Huntly & Keith. We were asked to assess fish population in this burn prior to works taking place on the main road which will include making an allowance for fish migration. Water levels at the time of survey were too low to be of significant use but we did

detect trout. Another site on the King Edward burn was briefly surveyed but the conditions and the width of the burn did not allow us to complete a satisfactory operation but a large quantity of parr were seen.

REMARKS/ CONCLUSIONS

UPPER DEVERON

- D5 on the Upper Deveron detected no trout which is strange as there appears to be no cause of this crash where the 1991 survey showed trout numbers of 0.91 /sq:m. A drop from 1991 from 1.37 salmon/sq:m to 0.27 in 2002 must be significant and related to the declining spring component which has been worrying for many years. This an area which should sustain high levels of trout and salmon because of the ideal habitat.
- However an increase in trout were seen in site A3 on the Allt Deveron from 0.1/sq: m in 1991 to 0.45/sq: m in 2002 but reductions on the two sites on the Blackwater.
- Analysis of the age classes highlights the absence of 3 year old parr is stark as is the relatively low numbers of 2 year old parr. This is also the case throughout the 2002 survey.

MIDDLE DEVERON

- The Miaggie site was so close to the main stem that it would be unsafe to make any conclusions. The site is heavily shaded by mature beach trees and the substrate consists mainly of bedrock with very little shingle for spawning. The burn was known for adult fish.
- The Cunning burn is good trout habitat and should hold a higher level of trout.
- The Tollo burn, although within migration distance of juvenile fish it appears to be in good shape. The burn is not impacted by agriculture in the bottom section and is holding good populations of trout.
- The Auchentoul burn (sites Au2 & 3) has been a revelation as the impact of removing Kinnairdy dam has resulted in a very quick response. We found 0+ and 1+ salmon within 18 months of the improved access. We hope that this is the result of spawning in the burn above Kinnairdy dam, but is more likely to be due to upstream migration of fry from an area of high population and competition below the dam in 2001. Au 1 is suitable salmon habitat and will, hopefully, be utilised in the fullness of time.
- The Glendronnach burn has recently suffered from obstruction by concrete lades and weirs that supply water to the distillery requiring maintenance which has now been addressed.
- Site F11 on the Forgue burn with only 0.05 salmon/sq:m was very disappointing in salmon numbers comparing F10 which had 0.83/sq:m and F5 which had 1.7/sq:m in 2001. Perhaps this is an indicator of how much each area can vary in its holding capacity when habitat and circumstances appear to be so similar and that there is no “norm”. Site F2 is too far up and featureless to expect to find salmon juveniles using this section.

- The Crombie burn has very few salmon juveniles but at least it is improving from 1991 when zero were found after years of agricultural pollution. However trout numbers are good.

LOWER DEVERON

- M15 on the Monquhitter has obviously suffered from the poor accessibility which we hope will be rectified in time by the fish pass at Cuminestown, although we would not expect this area to be well stocked by salmon parr.
- Ke 12 on the King Edward burn has ideal habitat and is only 200 metres from the Deveron but it showed good stocks of trout and salmon.
- ID10 on Idoch Water and T8 on Turriff burn both have good stock of 0+ and 1+ but have little habitat for 2+ salmon. Removal of their natural habitat in the form of cobble and boulders is a probable contributory factor.

BOGIE

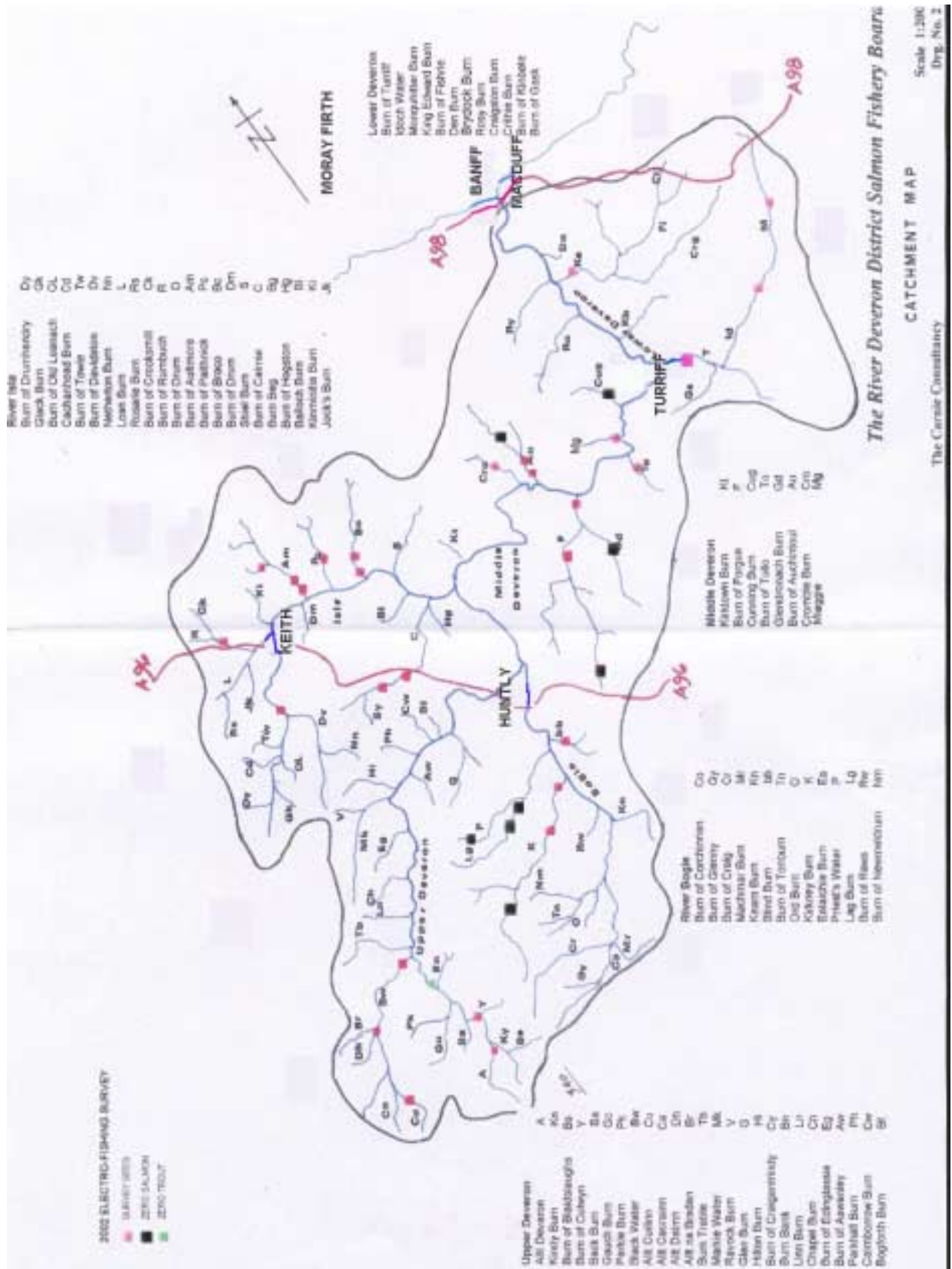
- P2 on Priest Water is unlikely to hold juvenile salmon.
- It is disappointing that the areas above the modified Irish fords on the Lag burn Lg10 & 13 had not been colonised by fry and parr yet, but we hope that they will discover these soon.
- K10 on the Kirkney is badly silted and offers very little for salmon. Although this area is in the centre of Clashindarroch Forest which may account for the silt, the sections upstream of the Clash, which are in open moorland of the Cabrach, are also heavily silted.
- The other sites on the Kirkney K28 & K39 seem to be in good shape. K39 being adjacent to our demonstration fencing will be monitored annually to see whether the added bankside vegetation provides the additional food source that should benefit juvenile fish.

ISLA

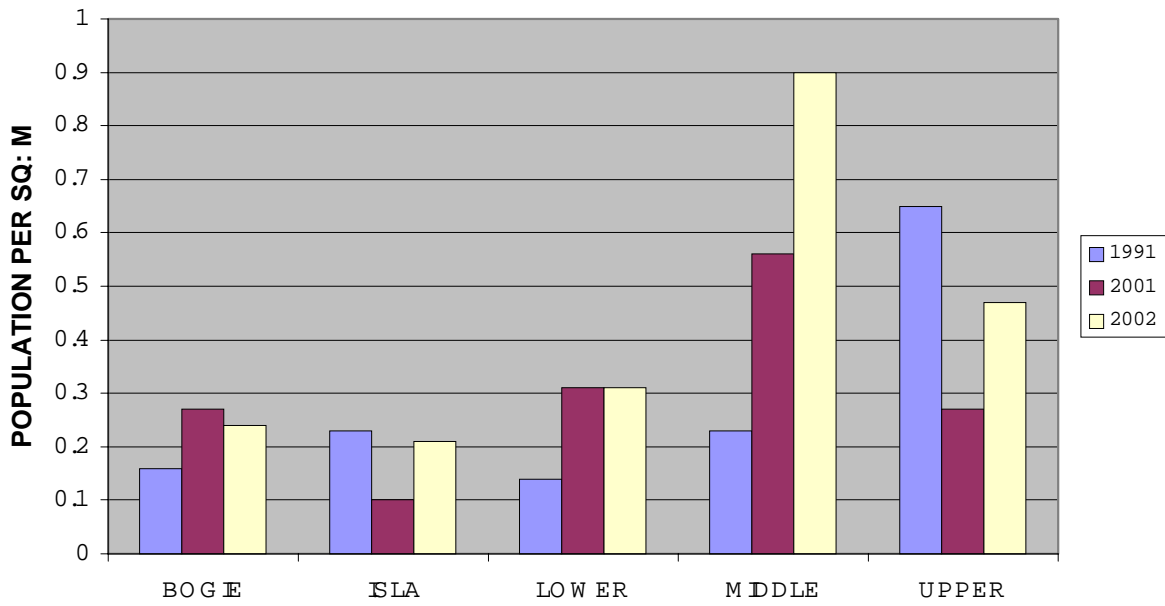
- CK7 is upstream of the recently built Crooksmill pond which has also degraded a section of the burn. Regular monitoring of this section will be undertaken to evaluate the potential damage to fish stocks.
- I 19 on the Isla is close to Mill of Towie, upstream of Keith. Trout and salmon parr found in this area and good spawning gravel. Good potential for improvement once obstructions in Keith are modified.
- The Braco sites showed reasonable numbers of both species but could hold more.
- The Aultmore sites have both been dredged in recent times with the result that boulders have been removed which may have had an adverse effect on older parr. Fry numbers show that the burn is still being used for spawning.
- The Garrel burn, which meets the Aultmore, gave a very surprising result with a high count of trout and even some salmon fry. This gives us some expectation that the new fish

pass will help the salmon to inhabit this once productive burn which has a lot of good gravel for spawning. The trout figure of 1.0/sq: m is one of the highest in the entire catchment.

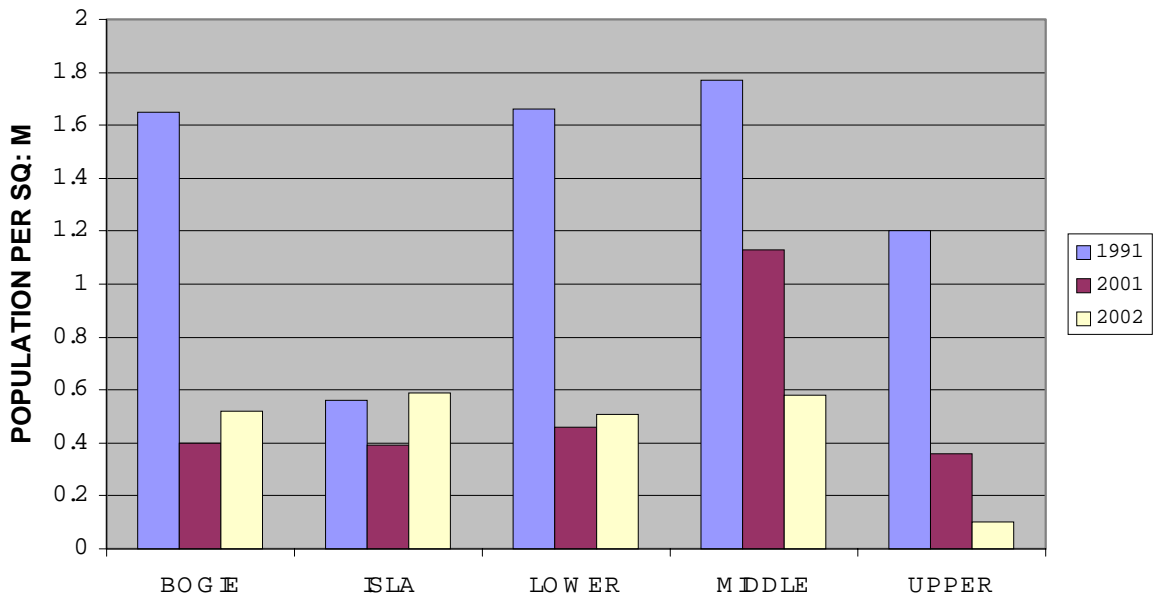
- Pc10 on the Paithnick burn has potential for a higher number of salmon but siltation maybe a cause of poor juveniles.
- Both Cairnie sites, above the Irish ford, held salmon. Some were 1+ parr which indicates that migration did occur even with the bridge as it was. We now hope that fish will find spawning gravels which are not in great quantity in this upper section of the burn.



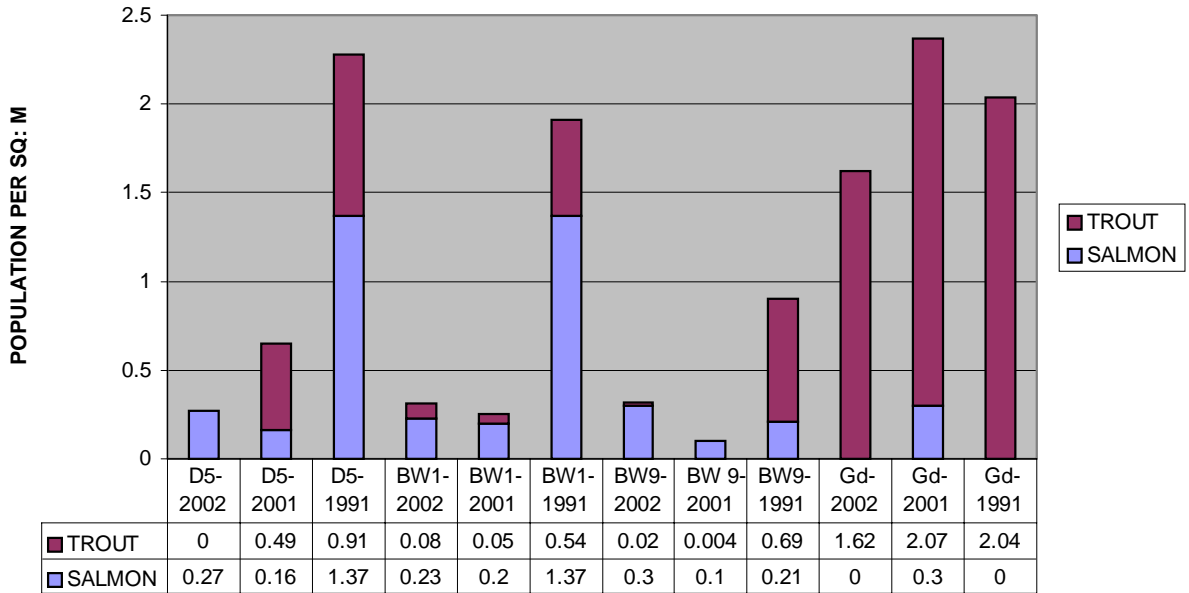
AVERAGE JUVENILE SALMON 1991,2001,2002



AVERAGE JUVENILE TROUT SURVEYS 1991,2001,2002



TROUT & SALMON COMPARISON OVER 3 SURVEYS 1991, 2001 & 2002



TROUT & SALMON COMPARISON OVER 3 SURVEYS 1991, 2001 & 2002

