

IFI/2012/11-4101



**The Current Status of
Fish Stocks in Lough Sheelin**
March 2012



Iascach Intíre Éireann
Inland Fisheries Ireland

The Current Status of Fish stocks in Lough Sheelin, March 2012.

The following is a management briefing document on the current (March, 2012) status of fish stocks in L. Sheelin with comment on the current dynamic of fish populations in March, 2012 compared to March, 2011.

A comparison of the annual fish stock surveys on L. Sheelin in March, 2011 with March, 2012 illustrates change across a range of fish stocks as follows; -

Year	Wild Trout	Roach	Pike	Perch
2011	1.23	2.3	1.8	9.1
2012	0.97	27.8	3.5	36.8

Table 1. Catch per unit of effort values (CPUE) for the dominant fish species in the 2011 and 2012 surveys of L. Sheelin.

In terms of C.P.U.E. values wild trout stocks have been relatively stable over this period while there has been change in relation to the numbers of roach, pike and perch present (Table 1).

Detail is provided in relation to these changes in the following comment.

Brown Trout

Brown trout stocks in the lake in 2011 and 2012 are similar in terms of both their CPUE values and stock structure (Table 1 and Figs. 1a and b).

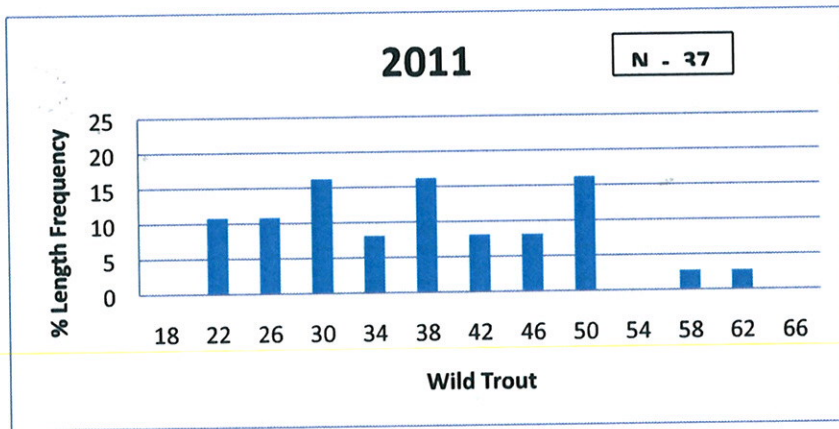


Figure 1a. Percentage length frequency distribution for wild trout in the L. Sheelin survey of 2011.

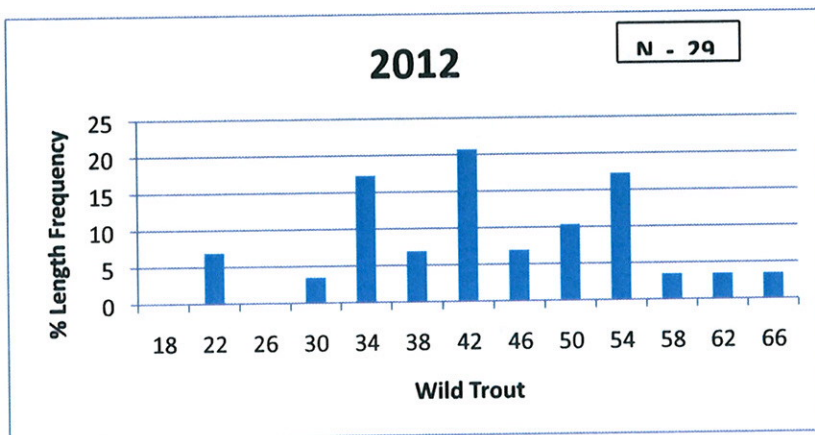


Figure 1b. Percentage length frequency distribution for wild trout in the L. Sheelin survey of 2012.

C.P.U.E. values for wild trout are similar in both years (1.23 in 2011 and 0.97 in 2012)(Table 1.).The current C.P.U.E. value, in combination with the stock structure, should be adequate to provide quality angling this year – quality angling has already been experienced by anglers on the lake this year (D. Broughan, pers com).

The Roach Stock

There has been a very significant increase in the adult roach stock in the lake in 2012 compared to the status of this population a year ago. This change is due entirely to the successful recruitment of one very strong year class of young adult roach (currently 3-year old fish). This change in the roach stock is very evident when one compares the 2011 and 2012 data sets (Table 1 and Figures 2a and 2b).

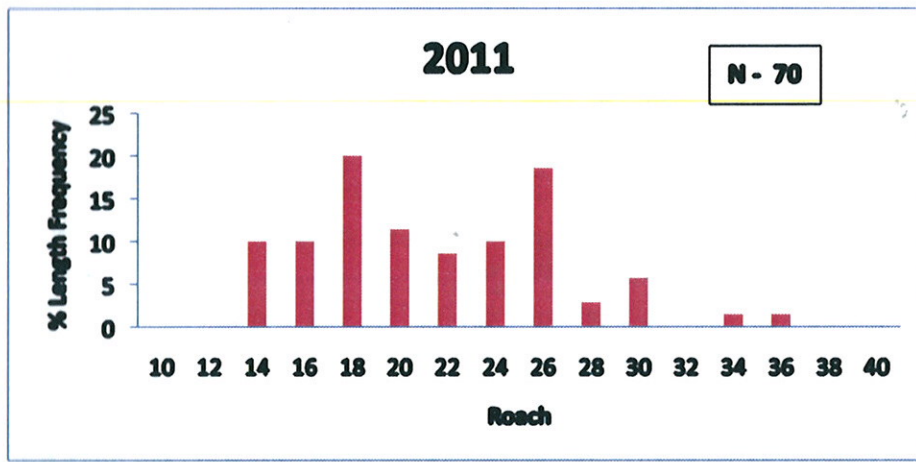


Figure 2a. The percentage length frequency distribution of Roach in the L. Sheelin fish stock survey of 2011.

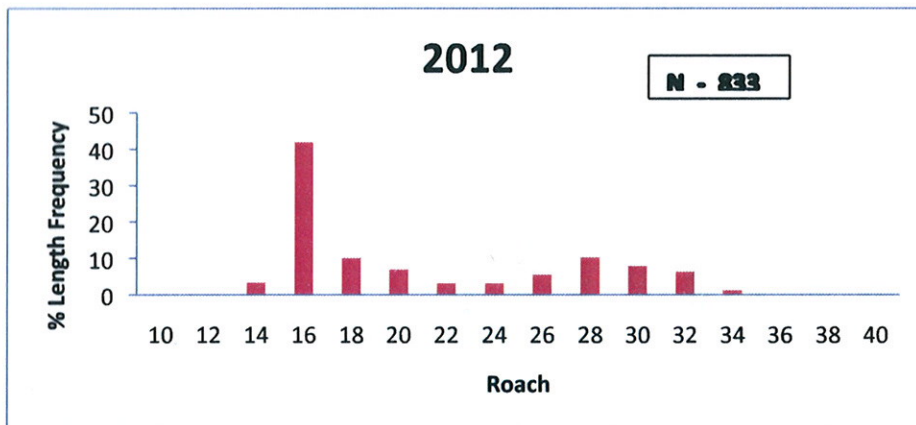


Figure 2b. The percentage length frequency distribution of Roach in the L. Sheelin fish stock survey of 2012.

This is the first time since 2008 that there has been a very significant increase in the recruitment rate of young adult roach.

Perch Stocks

A very substantial change is evident in the perch stock in L. Sheelin over the last year with a very significant increase in perch numbers in 2012 (Table 1 and Figures 3a and 3b). This change is due to a very substantial increase in the recruitment of young adult fish and a good survival of the adult year classes present in 2011. The CPUE value for perch recorded in 2012 (36.8) is, by far, the highest value recorded for this species in L. Sheelin since fish stock surveys began in 1978.

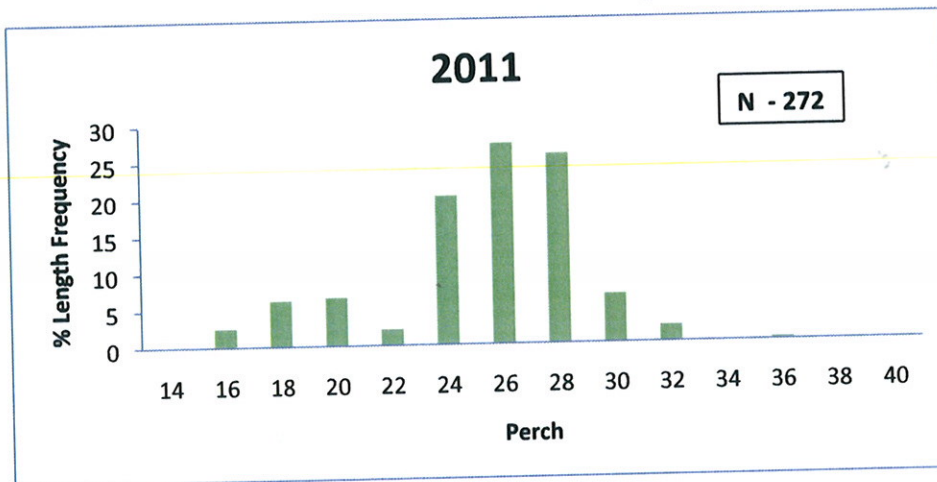


Figure 3a. The percentage length frequency distribution of the perch sample in the 2011 fish stock survey of L. Sheelin.

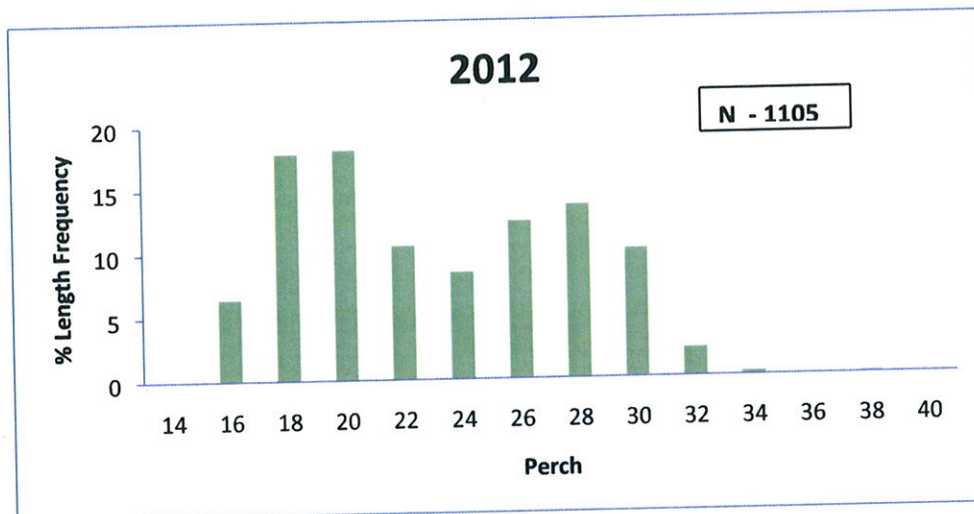


Figure 3b. The percentage length frequency distribution of the perch sample in the 2012 fish stock survey of L. Sheelin.

The Pike Population

Survey data indicate a virtual doubling of the numbers of pike in the lake over the period 2011 to 2012 (Table1 and Figures 3a and 3b). Like the roach stock the increase in the pike population is clearly related to an increase in the recruitment of young adult fish into the population (Figures 3a and 3b).

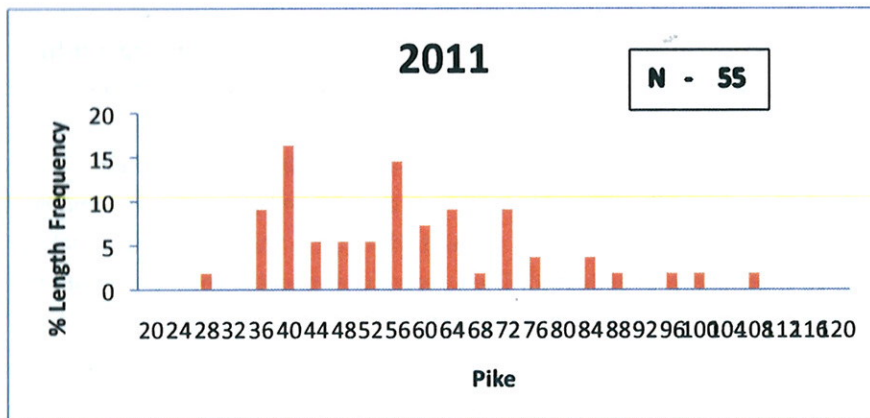


Figure 4a. The percentage length frequency distribution of the pike sample in the 2011 L. Sheelin survey.

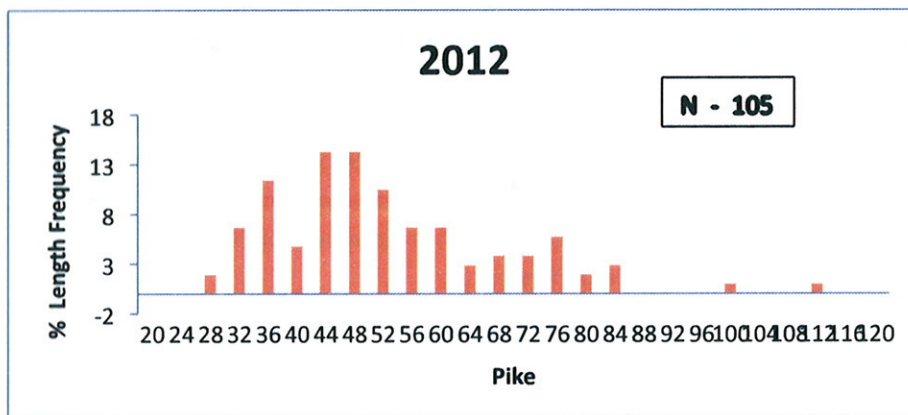


Figure 4b. The percentage length frequency distribution of the pike sample in the 2012 L. Sheelin survey.

In numerical terms the current pike stock is dominated by young fish in the 40cm. to 50cm. length range. This increase in the recruitment rate of young adult pike is most likely related to the substantial increases in young adult roach and perch numbers and the continuing presence of a significant trout stock all of whom are a source of fodder for young adult pike.

Management Implications of the Survey Findings and Related Programmes.

1. The current (March, 2012) stock of adult trout is sufficiently large and well balanced to provide good angling returns in the current season and to propagate the next generation of fish.
2. The on-going pike management programme involves controlling larger adult pike numbers in the interest of reducing predation by these fish on trout. Data indicate that this programme is working (Figures 4a and b) – note the relatively small numbers of pike $\geq 50\text{cm}$ in the stock presently.

The reader should note that a significantly greater pike management effort (for larger fish) will be required in 2013 to prevent the current stock of younger fish becoming a major predator problem for the trout population .

A recent (2012) fish stock survey of L. Corrib suggests that an on- going electro-fishing programme, designed to manage pike at the 0+ to 1+ age class stage in this lake, is proving effective. The author would suggest that the use of this technique in the midland trout lakes, including L. Sheelin, be thoroughly investigated. The successful application of this technique in the latter waters would represent a very considerable costing saving in terms of pike management programmes in the future.

3. The very large year class of three year old roach in the lake presently is of concern. An on-going survey programme is required to establish whether this is “a one off event” or the start of a major roach recolonisation programme.

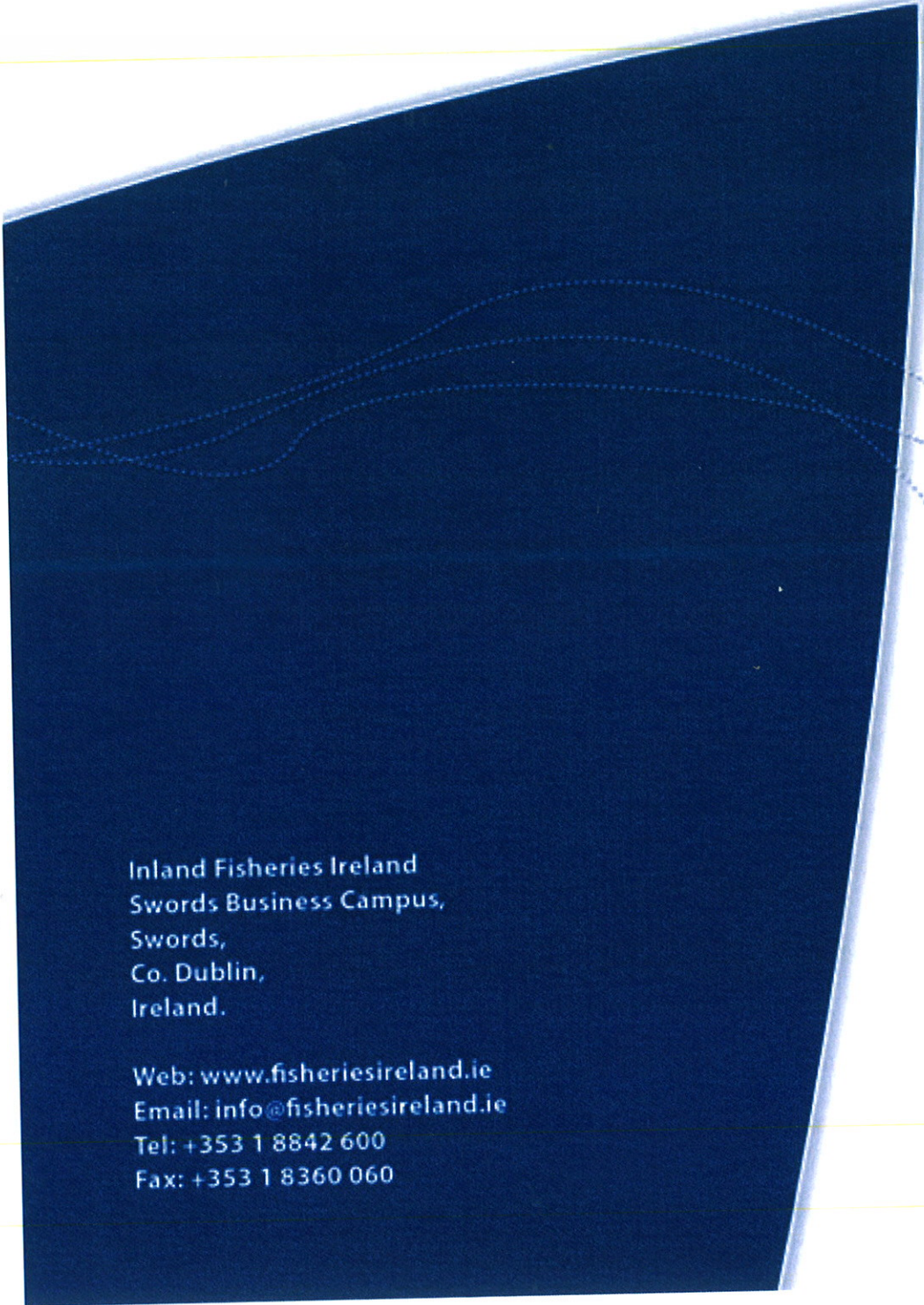
Additional on-going programmes in the L Sheelin Catchment

A review of the stream enhancement works, carried out in the upper Inny system under the terms of the EREP programme in 2011, was undertaken in the Spring of 2012. Observations indicate that these works were very successful. Further stream enhancement capital works for another tributary of L. Sheelin (Mountnugent River) are planned for 2012. It is intended that this programme continue for a period of years.

A genetic study of the L. Sheelin trout stock is also planned over the next year. One of the objectives of this exercise will be to establish the contribution of individual sub-catchments to the adult lake trout stock. This study will also include an analysis of fish from the Glone River system, downstream of L. Sheelin, where historically there is evidence of Sheelin fish spawning in the past. The genetic study will help target future stream enhancement programmes more effectively.

Acknowledgements

The author (M. O’Grady) is most grateful to all of his colleagues’ from the I.F.I. bases in L. Sheelin, Mullingar and Swords who assisted in the various aspects of this survey.



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