

## Lough Carra angling records from Peter Roberts 1995 to 2011

For nearly twenty years, Peter Roberts has kept a detailed log of the angling carried out from his Guest House at Kilkeeran on the western shore of the lough. Each day of angling is recorded in the log, with details of hours fished, number (and names) of anglers, number of trout caught, number of trout killed (and their weight). These data have been generously made available by Peter and an analysis prepared for the years 1995 to 2011 (inclusive). Although there are some records from earlier years, they are not in the same format/detail and have, therefore, been excluded from this summary.

### Angling effort

Over the years, the angling effort has varied considerably, from a high of 1,749 hours in 2001 to a low of just 152 hours in 2011. Assuming an average day's fishing of six hours per person (a reasonable assumption according to Peter Roberts), this translates into a maximum of 291.5 rod days and a minimum of 25.3 rod days. From this, it is clear that angling effort peaked in 2001, since when there has been a steady decline. This has happened for two reasons: firstly, Peter and Pat Roberts have gradually withdrawn from the business of running an angling guest house and, secondly, as catches have declined, anglers have been less enthusiastic about fishing on Lough Carra. The number of anglers fishing in the competitions organised by the Lough Carra Trout Anglers' Association have shown a similar trend.

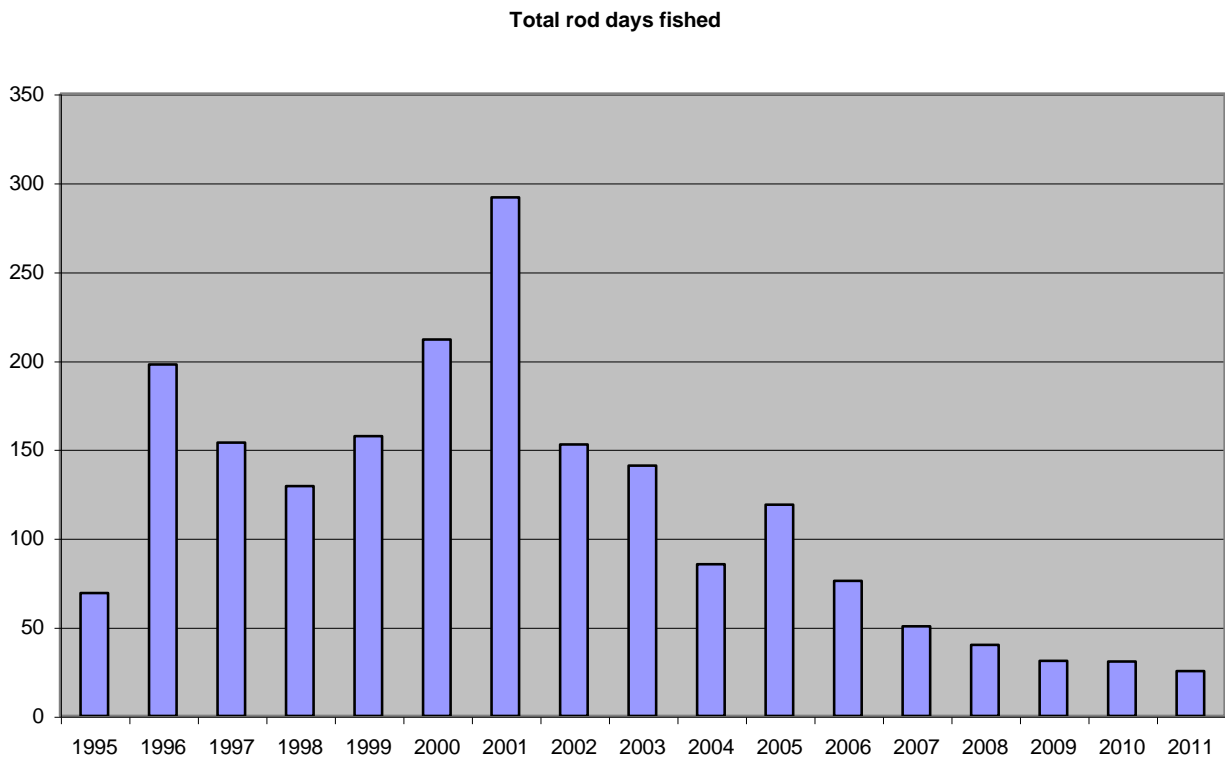


Fig. 1. Angling effort: number of rod days fished each year.

### Angling success

The Roberts data includes records of the total number of trout caught, the number killed (and, thus, the number released), the total weight of trout killed and the weight of the heaviest trout killed. The total number of trout caught has varied from a minimum of 25 in 2009 to a maximum of 717 in

2001 and, as expected, the overall pattern of catches follows that of angling effort, at least superficially (Fig. 2).

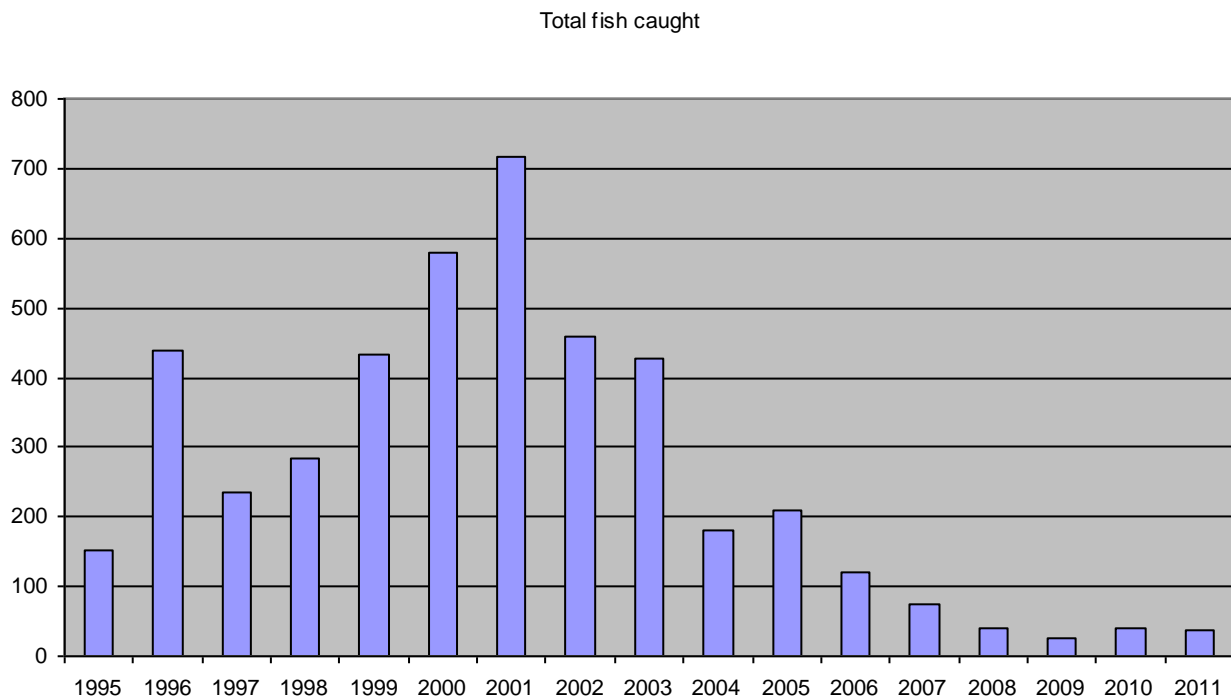


Fig. 2. Total number of trout caught each year.

However, these figures of the number of trout caught will be enormously affected by many different factors, including the seasonal variation in effort, the variation in skills of anglers, the weather and other environmental factors, the behaviour of the fish, etc., etc. In addition, the data do not include details of the size of those trout released, only those killed. Despite all this, it is possible to glean some idea of trends by using the measure of “catch per unit effort” (CPUE). As mentioned above, for the purposes of this report, it is assumed that an average “rod day” lasts for six hours (this allows rough comparison with catch data from some competitions). Fig. 3. shows the annual CPUE calculated from all of the trout caught and suggests, very strongly, that catch rates peaked in 2002 and 2003 and have declined substantially since then. With the exception of 1997, the CPUE was over two trout per day up to and including 2004 but dropped to less than one trout per day in 2009, since when there has been a slight increase.

Interestingly, the CPUE data from some angling competitions provide similar evidence (see [http://www.loughcarra.org/subject\\_content/angling/trout\\_stats/trout\\_angling\\_stats.pdf](http://www.loughcarra.org/subject_content/angling/trout_stats/trout_angling_stats.pdf)) that catch rates peaked around 2004 and have declined since then. However, direct comparison between the CPUE of the competitions and that from the Roberts data is not possible since factors such as competition size limits and release of “undersized” trout confound the issue. Nonetheless, the Roberts data add further evidence to the belief that trout stocks have declined significantly in recent years. All the available evidence, including the Roberts data, the angling competition data, the pike culling data and the Fisheries Board (now Inland Fisheries Ireland) stock assessments points in the same direction, i.e. that there has been a substantial decline in the overall population of trout in Lough Carra since the early 2000s.

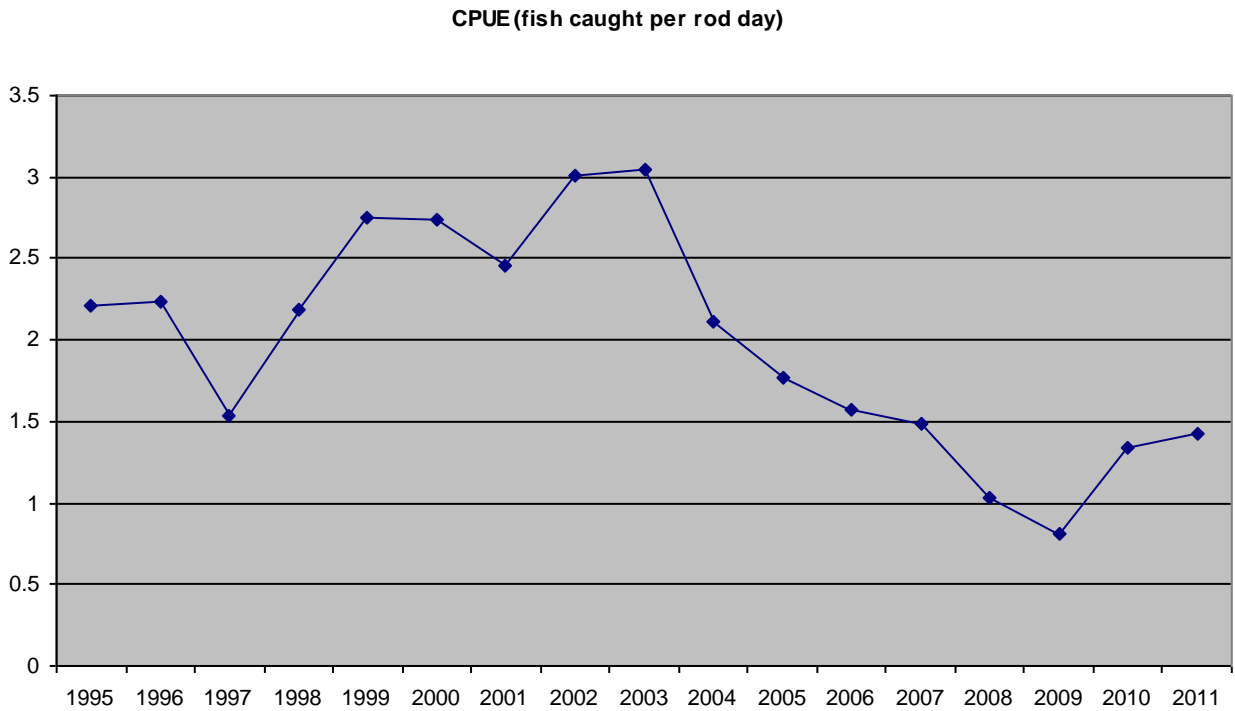


Fig. 3. Catch per unit effort: number of trout caught per 6 hour rod day.

It might be argued that using the total number of trout caught presents an overoptimistic picture since these data include an unknown proportion of trout that are returned either because they are under the size limit or because some anglers operate on a catch and release basis. To investigate this aspect, it is possible to compare total number of trout caught with the proportion of trout killed after capture.

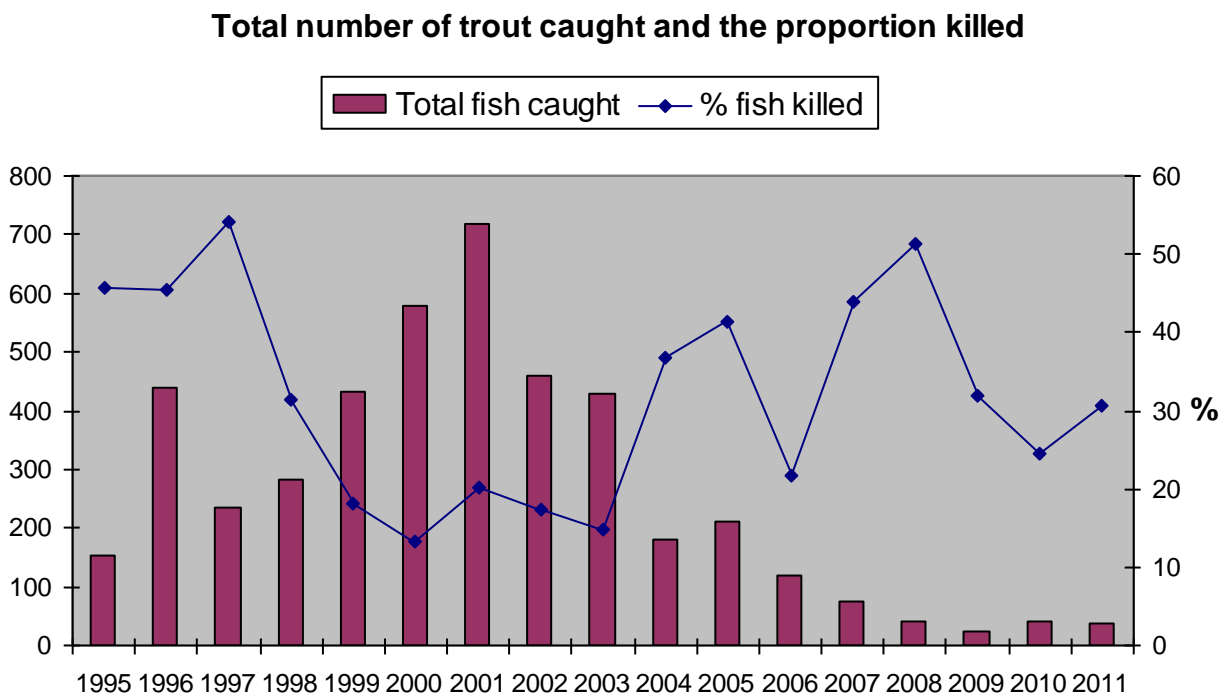


Fig. 5. The relationship between total trout caught and the proportion killed.

There appears to be a trend towards an inverse relationship between the total number of trout caught and the proportion that were killed, suggesting that when large numbers were caught there was a greater proportion of small fish in the catch. However, this is certainly not a definite conclusion since there has been an increase in the number of anglers practising catch and release (i.e. returning all, or most fish, regardless of size), and it is also possible that when catch rates are higher anglers are less inclined to kill all takeable fish. The data, although extremely valuable, are just not detailed enough to draw firm conclusions on this point.

## **Conclusions**

The data collected by Peter and Pat Roberts over the seventeen year period from 1995 to 2011 provide a unique and invaluable insight into the trout angling on Lough Carra. While angling effort has tailed off in the last few years, there is still strong evidence that the substantial decline in the trout population documented elsewhere (particularly through the Fisheries Board [now Inland Fisheries Ireland] stock assessments and pike culling operations) has been reflected in the success of anglers.

With the angling at its best, anglers were catching more than three trout per day, whereas in recent years that declined to less than one fish per day. Some of this can undoubtedly be put down to the changing behaviour of the trout. Many anglers have reported this significant change and it is widely felt that the catastrophic failure of the mayfly population (almost certainly as a result of the pollution of the lough through excessive inputs of nutrients), as well as declines in other aquatic insects (notably olives and murroughs) with a corresponding explosion of the chironomid population, has brought about this unfortunate tendency for the trout to adopt different feeding behaviour.

Now that roach have become apparently well-established in the lough, it remains to be seen how the changing ecology will affect the trout population and feeding behaviour and, thus, the success of anglers.

On a more optimistic note, there has been a slight improvement in the trout angling over the last two years, and this was also reflected in the angling competitions and in anecdotal accounts from other anglers. It will be interesting to see what 2012 brings and, perhaps, the trout angling is back on the way up?