

Value of recreational angling in the Isle of Man

Report for DEFA Environment Directorate

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1. Summary

- The adult angling population of the Isle of Man is estimated to be 1,429 or 1.7% of the Island's population.
- 11.3% of the angling population are estimated to have responded to the survey.
- The value of angling expenditure to the Isle of Man economy is estimated to be between £2M-£2.4M.
- Anglers are almost exclusively male (97.5%) and the most common age of anglers responding to the survey were in the 51-60 category.
- Sea (shore) angling is the most popular type of angling (40%) with reservoir angling the next most popular (34%).
- Most anglers engage in more than one type of angling, devoting on average 80% of the angling effort on their primary angling interest.
- 57% of the angling population hold at least one type of reservoir permit in a normal season.
- The average expenditure per angler is estimated to be between £1,400 and £1,680.
- Angling expenditure varied significantly between angling disciplines. Boat anglers spend the most, and reservoir anglers spent the least per capita.
- Type of annual angling expenditure was highly variable between angling disciplines. Tackle expenditure was highest amongst river and coarse anglers. Permit expenditure for coarse and reservoir anglers.
- Off-island expenditure reduced the value of recreational angling to the Isle of Man economy, with off-island expenditure averaging 47% (on eligible categories). This is comparable to average household off-island spend. Coarse anglers spent the highest proportion off-island. Estimated off-island expenditure totals £490,000 per annum
- All angling disciplines, with the exception of coarse angling had an average number of on-island trips greater than 50 (over once a week) with an average angling session lasting around 4 hours. River angling sessions were the shortest (3.7 hours) and coarse the longest (5.6 hours).
- Angling expenditure per trip was predominantly fuel to travel to angling destinations (boat anglers had additional boat fuel) and food/drink.
- The expenditure of anglers on-island is estimated to support the equivalent of 30-38 jobs, with off-island expenditure costing around 8 jobs/employment potential in the Isle of Man.
- 39% of surveyed anglers travelled off-island to engage in angling, spending an estimated £1.4M per annum on trip costs.
- Surveyed anglers confirmed that angling is important for well-being citing mental health, physical health and access to nature as the principal benefits.
- All angling disciplines scored well-being as equally important. River and reservoir anglers placed the most importance on access to nature and green space.



2. Background

Aesculus Consulting Ltd was commissioned by DEFA in January 2021 to assess the overall value of angling (game, coarse and sea) to the Isle of Man economy. Additionally, an assessment of the contribution of angling to health and well-being has been requested to understand the wider value to the population.

2.1 Interim report

An interim report was used based on a range of primary and secondary data to provide a rapid estimate of the value of reservoir angling. This report has been published separately and used a range of UK data sources to provide estimates of missing Isle of Man data. This full report has captured primary data for the Isle of Man and extended the estimated value of angling beyond reservoir angling to include other disciplines.

The main variations between the estimate in the interim report based on assumptions and UK figures, and the figures collected from Isle of Man anglers in this report are:

- a) a lower number of anglers classed as primarily 'reservoir' anglers - the numbers in the interim report also included anglers who regard reservoir angling as their secondary or tertiary angling interest.
- b) a higher spend per capita in most categories of expenditure (slightly offset by a higher % off-island spend than identified in the Isle of Man Household Expenditure Survey (IOMG Economic Affairs 2018).



3. Methodology

1. A literature review of equivalent angling studies was carried out to assist with the design of the Isle of Man survey and to find comparable figures to identify similarities and differences with Isle of Man angling behaviour.
2. A formula to estimate the value of reservoir angling, derived principally from studies by the Environment Agency (2018) and PriceWaterhouseCooper (2007), was created and tested with a mix of primary and secondary data. The results of which were issued as an interim report to DEFA.
3. An electronic survey form was designed to capture a range of metrics relating to angler demographics, angling activity, expenditure and wellbeing. A summary of the survey questions can be found in Appendix X. Most response categories were categorical or multiple choice, or the respondent was requested to enter a defined value. However, free text options were available for those wishing to supply additional or alternative information.
4. The survey was launched on the 3rd of February using DEFA social media and targeted at angling clubs and social media groups relating to Isle of Man angling. All disciplines were successfully targeted. Regular pushes of the survey online yielded ever decreasing responses and the survey was closed on the 16th of February when daily responses declined to near zero. A total of 161 responses were received.
5. All response data was checked and cleaned before analysis, with data analysis being completed separately for anglers who identified as primarily partaking in 'reservoir, river, coarse, sea (shore) and sea (boat) angling.
6. Angling numbers for reservoir anglers were calculated from DEFA licence figures. This figure (adjusted to remove duplicate licences) was used to assess the proportion of the reservoir angling community who had responded to the survey. All other angling types were assumed to have a similar response rate and thus an overall angling population estimate could be derived.
7. Expenditure per angler was estimated based on direct questioning e.g. expenditure on tackle and indirect questioning e.g. miles travelled to angling destinations and number of trips where a fuel cost per mile could be derived.
8. An adjustment for loss of Isle of Man income due to off-island/online expenditure was made for four categories of expenditure using estimates provided by respondents and cross-referenced with appropriate category data from the Isle of Man Income and Expenditure Survey (IOM Economic Affairs, 2018).
9. A displacement adjustment of 10% was applied based on methodology used in a study on the Eden catchment (Brown, 2014).
10. A multiplier effect of between 1.2 and 1.4 was applied to various categories based on the methodology used in a study of the Eden catchment (Brown, 2014).
11. A number of well-being questions were asked of respondents in the survey. These were based on categories and number scales to allow comparison and statistical analysis.



3.1 Limitations to the study

- There are no accurate measures of sea angling population as there is no licencing regime. The data in this report is based on using the same multiplier applied to reservoir angling where an estimate of population can be assumed from the subsample of permit holders from the angler survey. The estimate of sea angling population is accurate if there was an equivalent sub-sample of sea anglers responding to the survey
- Angling categories - most anglers partake in more than one angling discipline. This is not always reflected in other survey methodologies and interpretation of results. Acknowledging this behavior leads to some complications in assessing the value of each discipline. In this study a % contribution has been deducted from primary angling discipline and added to secondary angling preference to account for multi disciplinary activity.
- No assessment of junior anglers has been factored into the expenditure analysis.
- Despite best efforts, not all categories of expenditure will have been measured.
- Much of the primary data collection is based on angler estimates - which may be prone to over or under-estimation. Where significant variation exists, a range of values may be quoted in the report.
- The total number of individuals taking part in angling in a year may be significantly higher than the quoted figure as it will underestimate very casual/occasional anglers. However their inclusion would not significantly alter the valuation of the sector due to low expenditure.
- No provision has been made for visiting anglers. The survey had the required fields to capture this data, but insufficient responses were received. For 2020 and 2021 there are very limited visiting anglers due to covid travel restrictions so data can be assumed to be accurate for this period.
- 'Mean' vs 'median' - angling data is not normally distributed - usually as a result of a small number of very active anglers dragging up the mean activity and expenditure figures. Therefore a 'typical' angler will be better represented by median values, whereas the mean represents the average activity of the angling population. When interpreting angling activity, there are merits to considering one or both measures depending on the context. Where there is merit in considering both measures, the report may quote a range of values.



4. Summary Table of Results

The following sections of the report provide the detailed analysis of the survey data and the calculations that were applied to estimate total expenditure in addition to other information, including demographics and well-being data. The summary table below provides a summary of the expenditure. Note: the figures refer to expenditure per angler categorised by their primary angling interest. Over 800 anglers (57% of the population) are known to hold reservoir licences and would class reservoir angling as either their primary or secondary angling interest. Therefore the calculation to estimate the value of any particular angling discipline requires the addition of a contribution from other angling sectors. For example, all contributions to reservoir angling would add up to £565k-£723k of expenditure.

Table 1: summary of angling population and expenditure estimates

Angling preference	estimated angling popn (adult)	annual spend per angler	total spend
sea (shore)	577	£1296 - £1571	£748k-£907k
reservoir	488	£931 - £1221	£455k-£596k
sea (boat)	151	£3160 - £4026	£477k-£608k
coarse	124	£1509 - £1540	£187k-£191k
river	89	£1608 - £1924	£143k-£171k
TOTAL	1429	£1400-£1680	£2M-£2.4M



Part 1: Angling Demographics

1.1 Age

The most common age category of respondents to the survey was in the 51-60 age category. The second most common category was in the 31-40 age category.

The under 16 category is not an accurate reflection of the angling population as the survey was targeted at over 16's. A large cohort of junior anglers exists in the Isle of Man which can be evidenced from the licence data. As these licences are generally free or heavily subsidised it encourages junior angling activity which in turn will promote adult angling in later life.

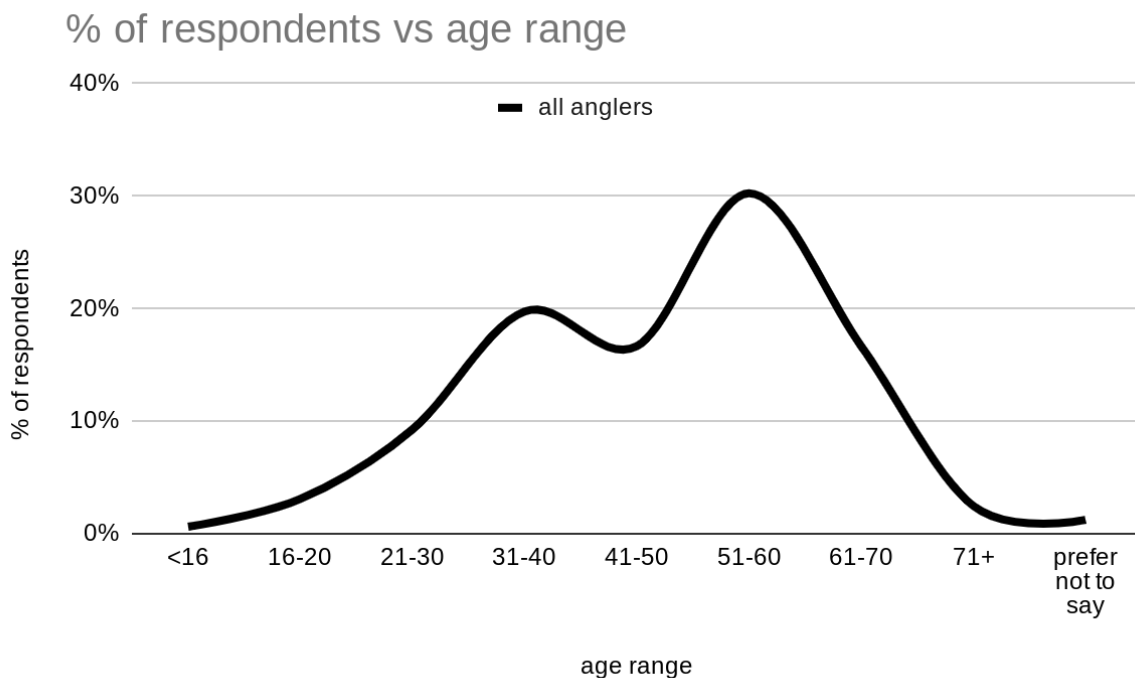


Figure 1.1a - angling population by age category

There is variation in the age demographic of respondents. Analysis of the two most popular types of angling (sea-shore and reservoir) show reservoir anglers to follow the population trend with 2 peaks at 51-60 and 31-40. However sea (shore) anglers have a clear modal age range of 41-50. Due to the predominant use of social media and electronic data collection, there may be a negative bias towards the older age categories who have lower engagement with electronic communications.

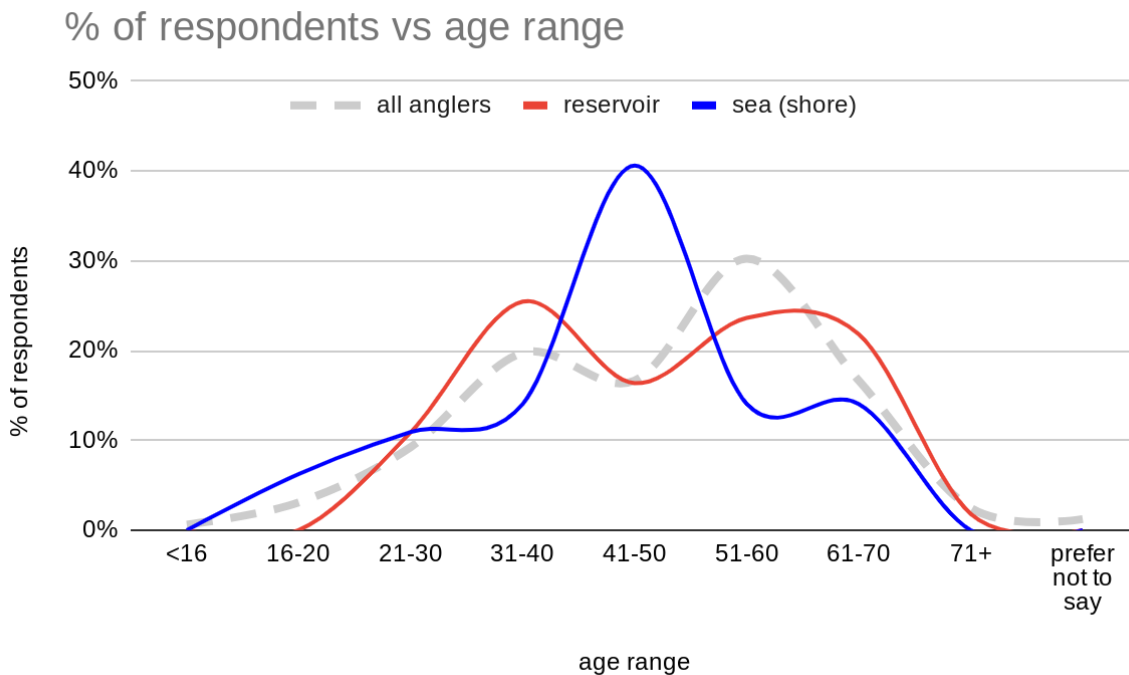


Figure 1.1b - angling population by age category for sea (shore) and reservoir anglers

The survey results do not allow for any conclusions to be drawn on these differences. The survey does show that most anglers engage in more than one type of angling and there may be an age-related change to angling behavior. The peaks may also represent a cohort that got engaged in their preferred angling type due to it being fashionable or there being an incentive in their younger years. If this is the case the peaks would be expected to move with the cohort in any future surveys.

Comparison with other surveys

The only survey with comparable data is that of the Environment Agency (2018) report. This too showed increased activity in the older age categories, but did not show any decline in the 61-70 age category. The EA survey was phone and paper based and may have had better penetration of the older demographic. However, the survey identified that coarse angling was by the far the most common activity in England which is more sedentary than reservoir angling (wading and fly fishing) and sea (shore) angling which can involve rocky shore, beach and other access that requires a relatively high level of physical ability that can decline with age.



1.2 Gender

Angling respondents were predominantly male (97.5%). There were insufficient female responses to identify any trends in age categories or preferred angling methods of female anglers.

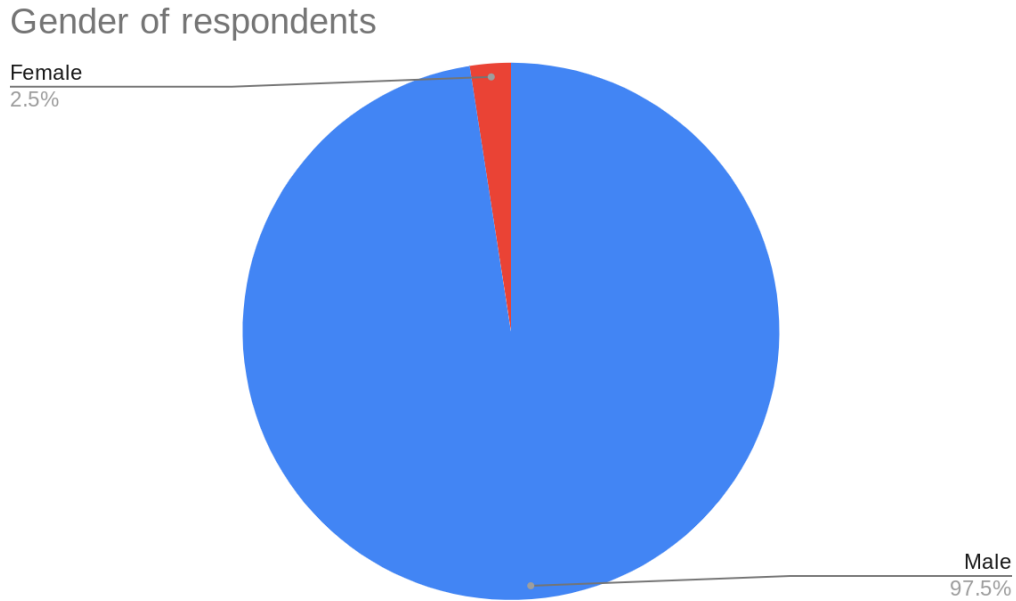


Figure 1.2 - gender of survey respondents

Comparison with other surveys

All angling surveys show similar findings, with all angling methods continuing to be made dominated activities. In common with the Isle of Man, surveys recognise the potential to encourage more female anglers, particularly at junior level to increase future female participation.



1.3 Location

Isle of Man angler responses were received from all postcode areas, with proportions broadly reflecting population. Only one off-island response was received. This meant that no meaningful analysis of visiting anglers could be carried out in this survey. For 2020 (and probably 2021), analysis of recreational angling without visiting anglers will yield an accurate result. However, data relating to off-island anglers, or suitable forums to promote the survey were not identified. The Department for Enterprise produces an annual passenger report from surveys conducted at the Island's air and sea port. The categories for visitors to the Isle of Man do not include angling. It would be beneficial to future analysis to capture this category.

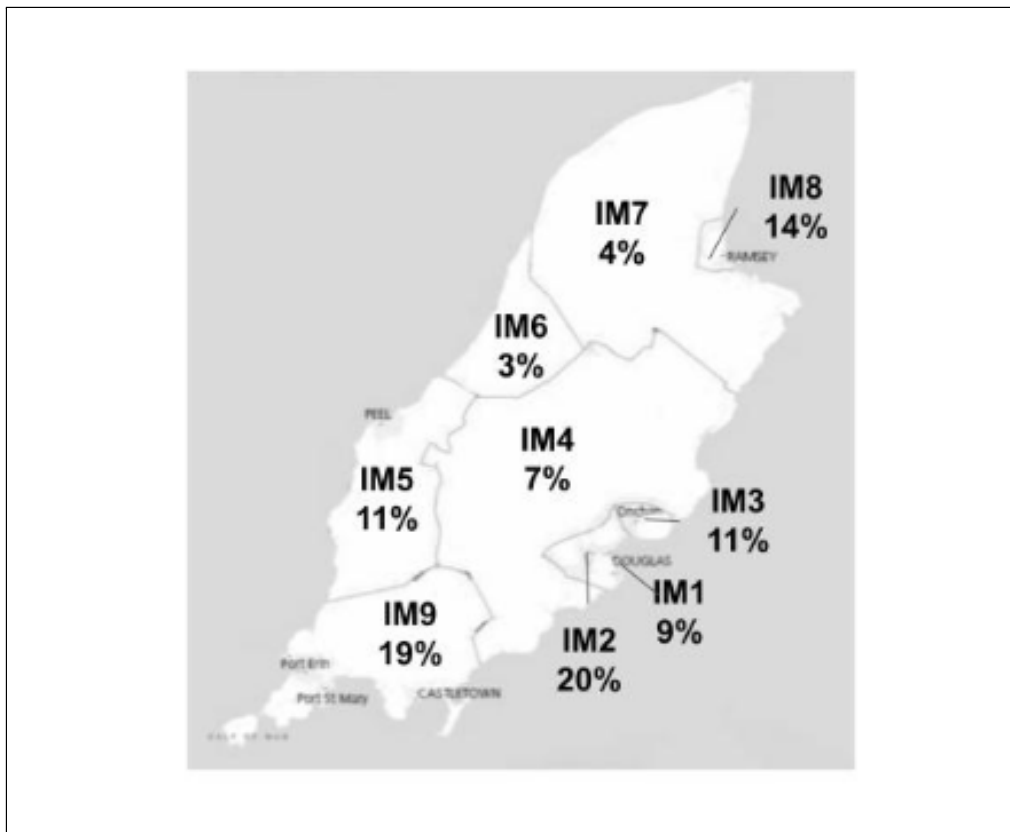


Figure 1.3 - postcode map and % of respondents



1.4 Angling disciplines in the Isle of Man

Anglers were classified into five disciplines from the survey data, reservoir, river, coarse, sea (shore) and sea (boat). These categories can be reclassified in a number of other larger groups for analytical purposes e.g. freshwater and saltwater, game and coarse etc.

The survey asked for respondents primary and secondary/tertiary angling interest, acknowledging that many anglers will partake in more than one discipline, but will likely have a preferred method of angling. Many other surveys have classified anglers to one angling category, either due to the specific focus of the survey, through an oversimplification of angling behaviour or a more binary approach to angling in other regions e.g. parts of England where coarse angling is by far the predominant angling pursuit.

Sea (shore angling) was the most common method of angling stated as a primary preference (40%), with reservoir angling (34%) the next most popular. Sea (boat) (10.5%), coarse (9%) and river (6%) made up the rest of the responses. The split between saltwater (51%) and freshwater (49%) was almost equal.

Other responses e.g. kayak angling were classified in the appropriate category. One respondent stated they would like to fish, but could not due to inadequate disabled access.

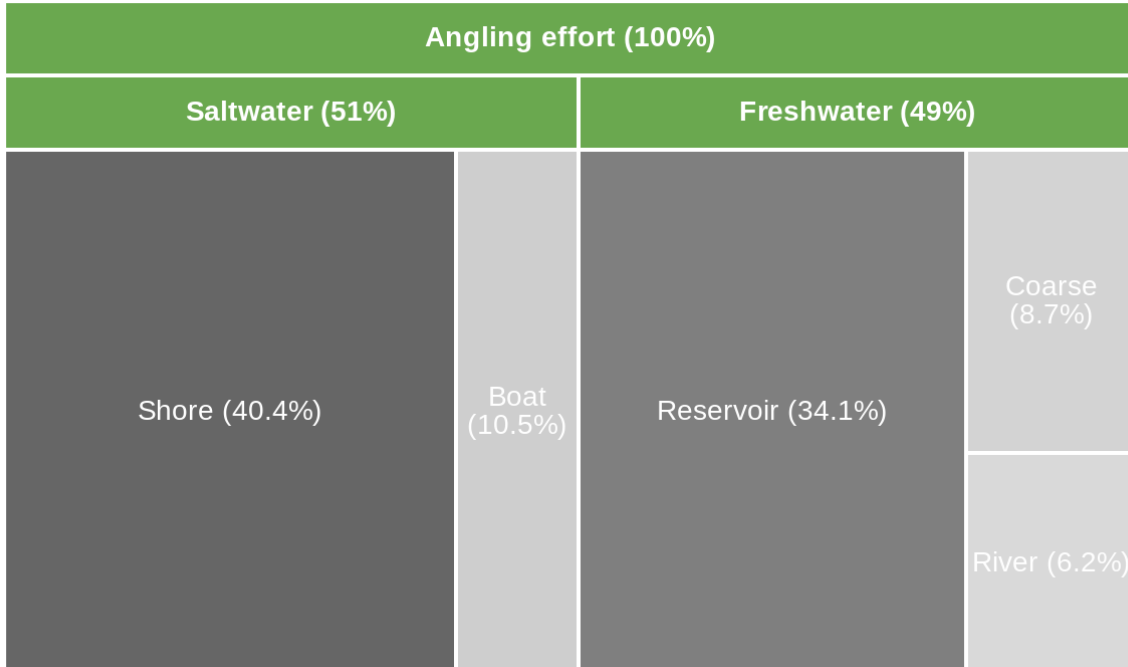


Figure 1.4 - Tree chart showing proportion of primary angling effort stated by survey respondents



Comparison with other surveys

It is difficult to compare these results with any accuracy due to differences in the focus of other surveys, or how the numbers were estimated. A freshwater survey of anglers in England showed coarse angling to be by far the predominant angling type (measured in days effort rather than per angler) (Environment Agency, 2018). A Northern Ireland survey showed that almost 70% of angling effort was on game (trout and salmon), with coarse angling representing 14.6%, sea (boat) 9.8% and sea (shore) 7.2% (PriceWaterhouseCoopers, 2007). The estimate of sea and shore angling in the Northern Ireland report discounted household survey data and opted for a conservative estimate. Nevertheless, our survey data shows that the Isle of Man has a unique make up of angling preference that is most likely correlated with availability/accessibility.

1.4.1 Secondary/tertiary angling preference

The majority of anglers stated they had a secondary (and some tertiary) angling interests. The graph below ranks the % of respondents and their declared secondary and tertiary interests from each of their stated primary disciplines. Eighty percent of river anglers also took part in reservoir angling. Reservoir, sea (boat) and coarse anglers all had over 50% of respondents partake in shore angling. Half of coarse anglers also took part in some form of reservoir angling.

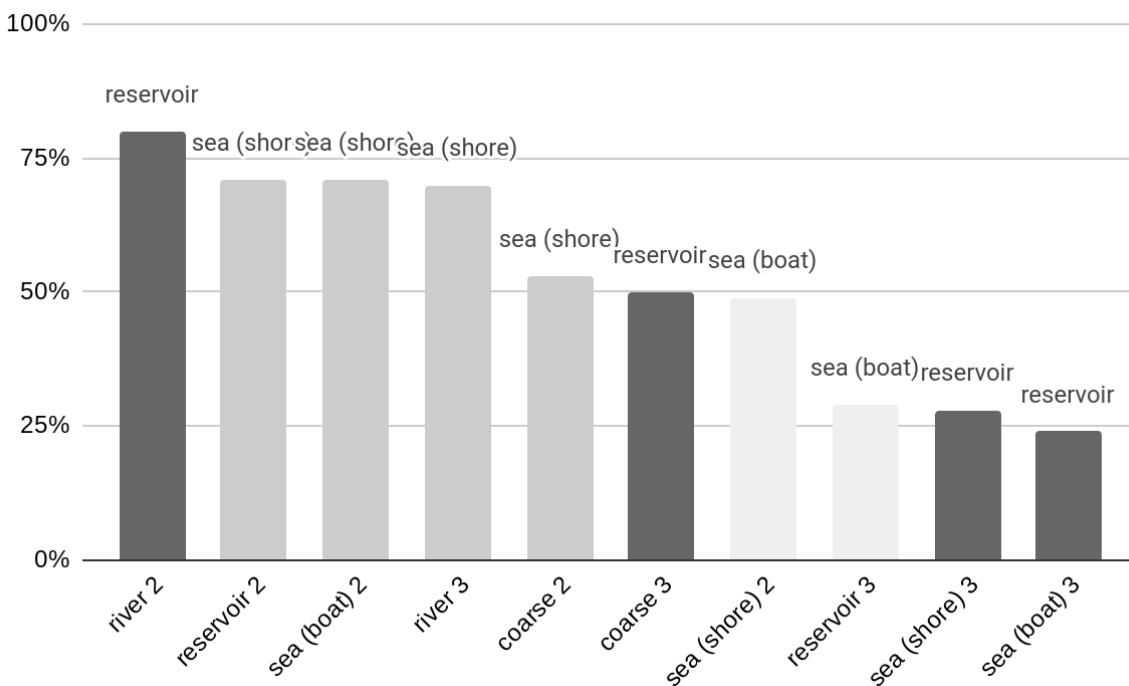


Figure 1.4.1 - secondary and tertiary angling activity e.g. 80% of river anglers also partake in reservoir angling as a secondary angling activity.



1.4.2 Percentage of angling effort on primary discipline

Respondents were asked to estimate the proportion of their angling effort on their primary activity. With the exception of river anglings, the results were consistent and around 80% of effort. River angling respondents estimated around 68% of their effort was focused on river angling. This may relate to the seasonal nature of migratory species, and variation in water conditions. It is clear from the results on secondary/tertiary angling efforts that the majority of river anglers offset the reduced effort on their preferred angling method with reservoir angling.

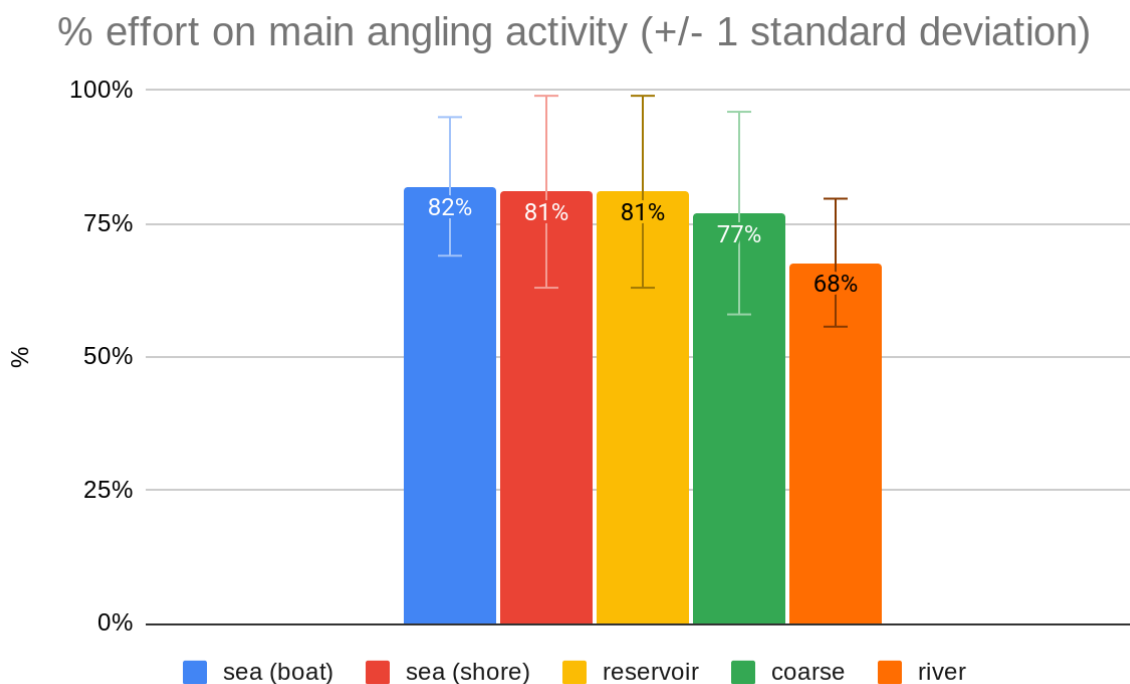


Figure 1.4.2 - proportion of angling effort spent on primary angling activity



1.5 Estimate of angling population

An estimate of angling population is one of the most important figures required to estimate the value of recreational angling as it will form the multiplier for any estimated expenditure figure per angler. It is also the figure that is hardest to measure and as a result subject to variation in a wide margin of error.

The Isle of Man Social Attitudes Survey (Isle of Man Economic Affairs, 2019a) provides an estimate of around 5% of the population engaging in angling in the last year. Such estimates have been proven to be too high in other angling studies and have therefore been discounted from this study.

The methodology of this study allowed a reasonable population estimate to be derived. The assumptions and limitations are identified in the introduction of the report.

As freshwater anglers in the Isle of Man are required to purchase a permit or licence, in theory the freshwater angling population should be easy to assess. Additionally, different types of angling generally require a different permit allowing categorisation of angling effort to be assessed. However, a common problem encountered in all angling surveys attempting to estimate angling effort relates to sea and shore angling, where permits are not required and thus no formal data collection of angler numbers.

A minor challenge in estimating the freshwater angling population in the Isle of Man compared to UK studies is the lack of a separate licence and permit system.

In the UK, freshwater anglers are generally required to purchase a licence to hold a rod (regardless of waters fished or level of activity) and to purchase permits for particular waters by day, week or season. Therefore the licence data provides data about individual anglers and the permit data provides an estimate of type and effort of angling.

Relying solely on the Isle of Man permit data presents a risk of overestimating the freshwater angling population as each permit is related to a fishing activity and not an individual. For example a reservoir season ticket holder could also purchase a number of angling day tickets over the season (e.g. 2), a weeks 'other waters' to fish for sea trout and be an occasional sea angler. In that particular scenario, DEFA would have recorded 4 permit purchases. Any sea angling effort would not be recorded. Table 1.5a details the removal of non-adult and duplicate permits.

Table 1.5b details the step-by-step calculation using reservoir permit figures to estimate the proportion of the angling population that responded to the survey.

Table 1.5c multiplies the survey responses up to provide population estimates. In total, the adult angling population is estimated to be 1429 and the survey is estimated to have captured 11.3% of the angling population.



Table 1.5a - Calculation of 2020 reservoir angling figures

calculation	Reservoir only
total reservoir permits	1753
deduct child permits	(377)
deduct duplicate day permits (ave. 1.9 per person)	(560)
sum of non-child permit holders	816

Table 1.5b - How total angling population was estimated

Step	measure	n	% of survey respondents	% of 'reservoir population'
1	total estimated reservoir permits (methodology in interim report)	816		100.00%
2	no. respondents in angling survey	161	100.00%	
3	no. respondents primary angling =reservoir (citing reservoir permit)	55	34.16%	6.74%
4	no. respondents non-reservoir = primary interest (citing reservoir permit)	37	22.98%	4.53%
5	all respondents with reservoir permit	92	57.14%	11.27%
6	% of survey responses with reservoir permits (92) vs total permits (816)	11.27%		
7	survey sample	161	11.27%	
8	Estimate of total angling population (161 =11.27%)	1428.57	100%	

Table 1.5c - summary of angling numbers and percentages in survey and multiplied to give angling population estimates

Angling preference	survey numbers	survey percentage	estimated angling popn (adult)
sea (shore)	65	40.37%	577
reservoir	55	34.16%	488
sea (boat)	17	10.56%	151
coarse	14	8.70%	124
river	10	6.21%	89
TOTAL	161	100.00%	1429



Part 2: Angling expenditure

2.1 Annual expenditure

In common with other UK angling surveys, a number of questions about annual expenditure were asked in the survey. The six categories in the Isle of Man survey related to a) licences and permits, b) competition fees, c) clothing and footwear, d) tackle and equipment, e) bait and f) media, books and magazines. Values range from £640 to £1250 per year between disciplines (Table 2.1). Large variation between mean and median values highlights a skewed distribution of values in the responses, with fewer, bigger spenders pulling up the average value. Whilst the mean value multiplied by the number of anglers is likely to provide a true estimate of expenditure, the median value is likely to better represent the expenditure of a typical angler.

Table 2.1 - summary of mean and median annual expenditure in six categories for each angling preference

	reservoir			sea (shore)			coarse			river			sea (boat)		
	mean (£)	median (£)	% local	mean (£)	median (£)	% local	mean (£)	median (£)	% local	mean (£)	median (£)	% local	mean (£)	median (£)	% local
Approx. how much per year (£) do you spend on angling permits (all licences and day tickets) in the Isle of Man?	£215	£216	100	£70	£0	100	£264	£300	100	£238	£150	100	£84	£0	100
Approx. how much per year (£) do you spend on competition fees in the Isle of Man?	£19	£0	100	£53	£0	100	£37	£0	100	£20	£0	100	£29	£0	100
Approx. how much per year (£) do you spend on angling clothing, footwear and other items (not tackle)?	£112	£100	44	£148	£100	45	£200	£100	22	£188	£150	29	£152	£100	65
Approx. how much per year (£) do you spend on angling equipment and tackle?	£254	£200	65	£395	£200	52	£586	£450	36	£575	£500	52	£527	£250	68
Approx. how much per year (£) do you spend on bait?	£25	£0	77	£57	£30	90	£136	£100	68	£17	£0	100	£40	£0	83
Approx. how much per year (£) do you spend on angling books and magazines, DVD's or other media related to angling?	£15	£0	73	£24	£0	62	£27	£10	63	£32	£0	0	£29	£0	83
Total	£640	£516		£747	£330		£1,250	£960		£1,069	£800		£860	£350	



2.2 Percentage off-island expenditure

As the remit of this report is to find the value of angling to the Isle of Man economy an estimate of 'leakage' through off-island expenditure has been calculated. Any expenditure survey in the Isle of Man is interested in the split between expenditure on and off the Island, as local spend has a more positive influence on the local economy through the 'multiplier effect'.

Published data is available from the Isle of Man Household Expenditure Survey (IOMG Economic Affairs 2018) which through survey of households categorised on and off island spending in some detail. Categories thought to best relate to angling were extracted from the report and the percentage off-island spend for each category, weighted by level of spend in each category was calculated. For categories where off-island spend is considered likely, 47% (increased from 32% in the 2013 household expenditure survey) of that expenditure was estimated to be off-island.

In the angling survey, respondents were asked about the percentage of their expenditure that was carried out on-line or from non-Isle of Man retailers. The categories of expenditure where this question applied were angling clothing, tackle, bait and non-angling items such as books, magazines and other media. Detail of the variance in expenditure between categories and between angling types can be viewed in the tables in Appendix 2.

The estimated value of this off-island expenditure (adjusted for multiplier and displacement) is around £490k.

A significant part of the variance in expenditure between angling disciplines related to the proportion of off-island spend. The graph below shows the average off-island expenditure by angling type. Off-island expenditure ranged from 32% for sea (boat) anglers to 64% for coarse anglers. In an interim report to estimate some values prior to a survey of anglers, data from the Isle of Man Expenditure Survey (2018) was used (the full methodology can be viewed in the interim report). The average off-island expenditure for the measurable categories of expenditure was 47% which is comparable with sea (shore) and river angling.

As the average is aligned closely with the Isle of Man Household Expenditure Survey which has shown a trend of increased off-island/on-line expenditure it could be inferred that the on-island value of recreational angling is decreasing in some categories as the trend for on-line purchases increases.

The variation across disciplines may be explained by the availability of specialist equipment and tackle in the Isle of Man for those less popular angling types. These anglers also travel off-island to partake in angling activity and may use these trips to purchase from specialist angling retailers.



% off island spend vs angling type

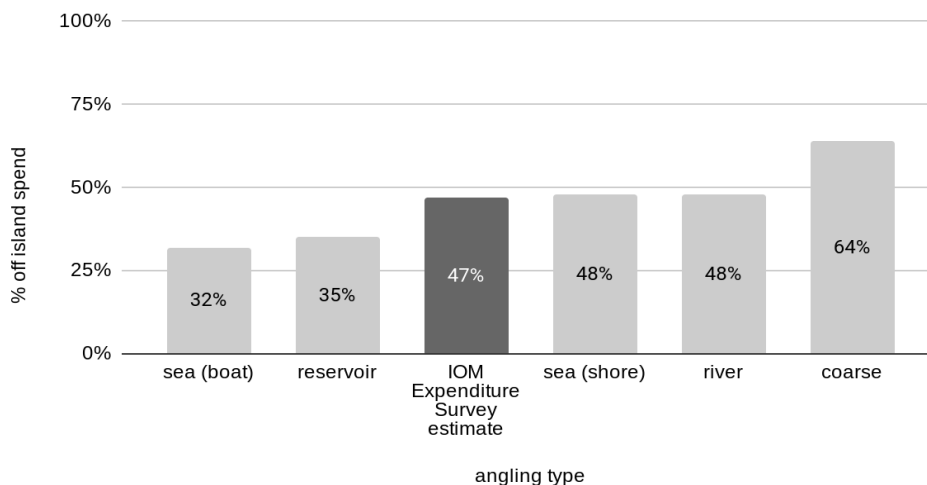


Figure 2.2 - proportion of off-island spend per angling category (and average for relevant expenditure categories derived from the Isle of Man Household Expenditure Survey 2018)

2.3 Trip expenditure

There were categories of expenditure that did not require adjustments for off-island spend, such as fuel and food which almost exclusively consist of on-island spend and are measured on a 'per trip' basis rather than an annual basis. These categories are prone to more variation in expenditure between anglers as it is linked to angling effort. Values by angling discipline are summarised in Table 2.3.

Large variation between mean and median values highlights a skewed distribution of values in the responses, with fewer, bigger spenders pulling up the average value. Whilst the mean value multiplied by the number of anglers is likely to provide a true estimate of expenditure, the median value is likely to better represent the expenditure of a typical angler. The additional variation between median and mean number of trips increases the potential variance in estimated values. To simplify the calculator and remove a level of variance, the mean and median number of trips were assessed against the mean expenditure only and the median not used in the calculation.



Table 2.3 - Angling expenditure (mean and median) estimated by number of trips (primary and secondary angling) per annum (mean and median)

	reservoir	reservoir	shore	shore	coarse	coarse	river	river	boat	boat
	mean	median	mean	median	mean	median	mean	median	mean	median
mean no days of primary angling activity	52	30	59	50	33.42	35	58.9	40	77.4	50
'other' angling activity	23	10	24	10	19.2	20	31.3	25	33.8	5
estimated % of trips related to primary angling	81	90	81	90	77	80	67	70	82	80
angling duration (hours)	4.2	-	4.5	-	5.6	-	3.7	-	4.9	-
spend per trip (£)	£5.31	£5.00	£7.66	£5.00	£8.96	£10.00	£8.80	£7.50	£11.18	£10.00
return distance per trip (miles)	15.3	-	22.3	-	18.9	-	18.4	-	20	-
food total	£398.25	£212.40	£635.78	£459.60	£471.48	£492.80	£793.76	£572.00	£1,243.22	£614.90
fuel total	£172.13	£91.80	£277.64	£200.70	£149.18	£155.93	£248.95	£179.40	£333.60	£165.00
inc. boat fuel @£56.50 per trip/2 persons (5 gallons * 5 hour trip @50ppl)									£2,186.55	£1,412.50

2.4 Multipliers and adjustments

Multipliers are a measure of the direct and wider (indirect) effects of expenditure in the local economy. There are two types of multipliers recognised in economic assessment. Type 1, or supply chain and Type 2, which includes supply chain and consumer spending impacts. For this study only Type 1 impacts are considered. In an equivalent study in the River Eden catchment, Brown (2014) uses multiplier figures ranging from 1.2 to 1.4 depending on the expenditure category to better quantify the positive impact of local expenditure. These values correspond with figures used in the UK tourism industry (Deloitte, 2013). This report uses these figures as a model and assumes they apply similarly to the Isle of Man.

In addition, a displacement adjustment of 10% is applied. This means that were the angling activity to not have happened it is probable that a proportion of the cost of that trip would be spent on another activity or item. The Economic Affairs team in the Cabinet Office has confirmed that this methodology is appropriate in the absence of any published IOM equivalents.

Table 2.4 - summary of multiplier and displacement values applied to angler expenditure

	Multiplier	Displacement
Fishing tackle/equipment	1.4	-10%
Non-angling items	1.24	-10%
Permits/licences/day tickets	1.4	-10%
Competition fees	1.4	-10%
Transport	1.2	-10%
Food and beverages	1.21	-10%



2. 5 Expenditure estimates

The model that applies off-island expenditure deduction, multipliers and displacement deductions for each angling discipline is detailed in Appendix 2. Table 2.5 summaries the average value of expenditure in the local economy per angler. Using the population values in Part 1 of the report allows an overall expenditure value for the angling population to be estimated.

Table 2.5 - summary of angling population and expenditure estimates

Angling preference	estimated angling popn (adult)	annual spend per angler	total spend
sea (shore)	577	£1296 - £1571	£748k-£907k
reservoir	488	£931 - £1221	£455k-£596k
sea (boat)	151	£3160 - £4026	£477k-£608k
coarse	124	£1509 - £1540	£187k-£191k
river	89	£1608 - £1924	£143k-£171k
TOTAL	1429	£1400-£1680	£2M-£2.4M

2.5.1 Proportion of expenditure between disciplines

The tree chart below displays values for the contribution of primary angling in each discipline. These figures cannot be used in isolation to calculate the true value of a sector of angling to local expenditure as it does not include the contribution of secondary angling activity.

For example, 37% of anglers classify themselves as primarily reservoir anglers, but 57% of the angling population is known to hold a reservoir licence of some category and would class reservoir angling as either their primary or secondary angling interest. Therefore the calculation to estimate the value of any particular angling discipline requires the addition of a contribution from other angling sectors. For example, all contributions to reservoir angling would add up to £565k-£723k of expenditure (£562 in the tree chart below as it is based on the lower estimates of expenditure).

It is useful to compare this figure to Figure 1.4 which shows 51% of angling activity as saltwater and 49% freshwater, whereas the ratio of angling spend is approximately 60% on saltwater and 40% on freshwater. The additional expenditure by boat anglers on fuel and other trip expenditure plays a significant role in increasing the expenditure for saltwater angling.

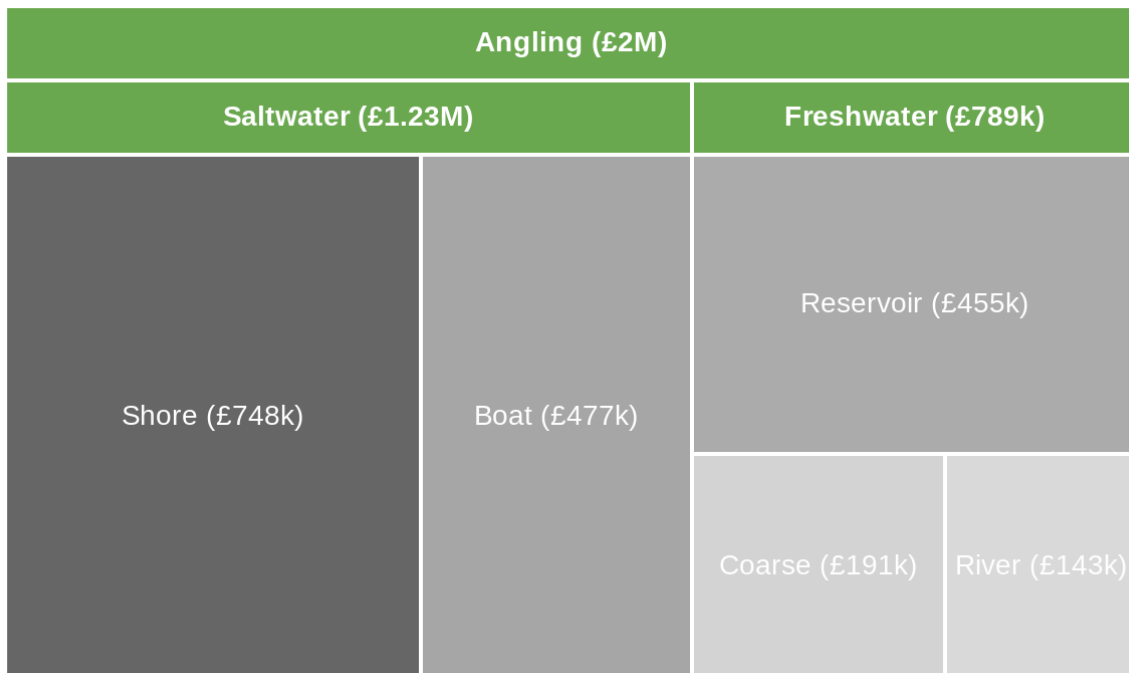


Figure 2.5.1 - tree chart summary of estimated angling expenditure (using lower end of estimated expenditure range).



2.6 Jobs supported by angling expenditure

Deloitte (2013) states that the marginal revenue required to create a job in UK tourism was around £54,000. Adjusting UK median salary between 2013 and present increases the value by 14%. Isle of Man median salaries are 1.4% higher than the UK (Isle of Man Earnings Survey 2019) which increases this estimate to £62,421. Based on those figures, the expenditure of anglers on-island supports 30-38 jobs. This conceivably includes direct employment such as fish hatchery and bailiffs, tackle shop employees, private fishery staff, boat charters and fishing guides/instructors as well as a contribution to service, food/drink and hospitality in respect of expenditure on food, fuel and other ancillary items.

As the survey has not been able to quantify the visiting angler contribution it is likely that the contribution to jobs would be higher as additional expenditure in the accommodation and hospitality sectors would also be counted.

In section 2.2 the level of off-island expenditure was estimated. This is valued at around £490k. Applying the same principles as above, this would represent the potential of almost 8 jobs in the local economy that are lost through 'leakage' of expenditure.

2.7 Off-island expenditure on angling trips

Whilst the report is focused on the value of recreational angling to the Isle of Man economy, insight into anglers activity and spending off-island was also investigated.

Almost 40% of respondents indicated that they travelled off island on angling trips. Of those respondents, the average number of trips per annum was 2.4 (median number of trips was 1) and the mean spend per trip was £1,088 (median £600).

Basing mean off-island expenditure on 2.4 trips for 39.4% of an estimated angling population of 1,429 could result in up to £1.5m per annum being spent off-island. The median value per year (i.e. the most common behaviour) equates to a spend of £600 for a single off-island trip per annum.



Proportion of anglers taking off-island trips

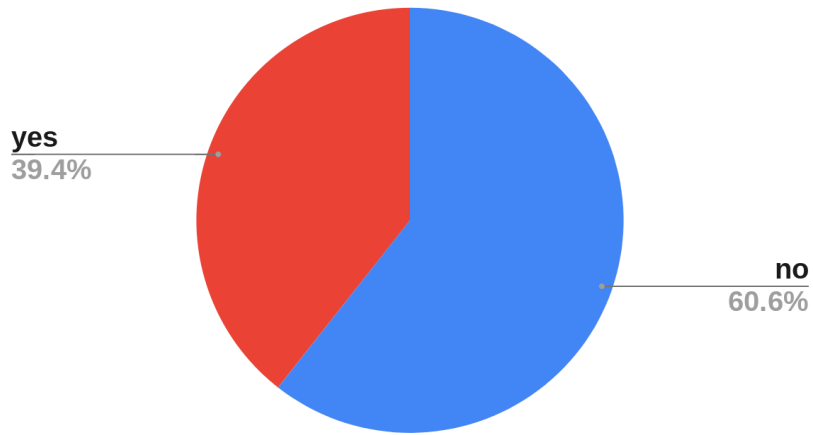


Figure 2.7 - Proportion of respondents who take off-island angling trips

Table 2.7 - estimated mean and median trip expenditure of off-island angling trips

	trip expenditure	trips	est angling popn	% off island	annual off-island expenditure	
<i>mean</i>	£1,088	2.4	1429	39.4%	£1,470,173	upper-range
<i>median</i>	£600	1			£337,816	lower-range

Further questions were asked about the angling discipline, target species and reasons for off-island angling trips. All angling types were listed, but game (salmon and sea trout) and coarse were the most popular responses. Reasons for travelling were mixed, but generally referred to 'change of scenery' and 'more variety of angling'.



Part 3: Well-being

3.1 Well-being - headline questions

All survey respondents were asked three headline questions relating to the impact of angling on their mental and physical well-being and the importance of angling in maintaining social contacts. The wording of the questions was as follows:

1.	The ability to undertake recreational angling has a positive effect on my mental well-being
2.	The ability to undertake recreational angling has a positive effect on my physical well-being
3.	Recreational angling is an integral part of my social life for meeting friends and family

For display purposes, these questions are simplified in the figure below.

Wellbeing headline questions - angling has a positive impact on my...

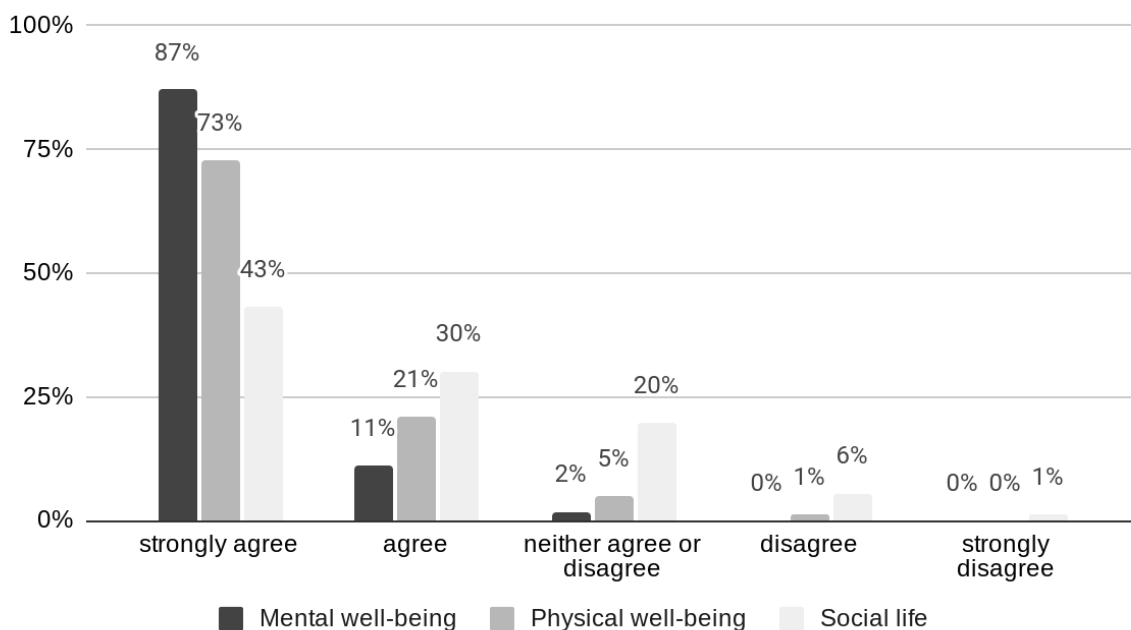


Figure 3.1 - Percentage of responses by category from all anglers for three questions relating to well-being and angling

The results show a firm belief from respondents that angling is important for their mental health, with 98% agreeing or strongly agreeing with this statement. Engaging in meaningful



activity, spending time outdoors in green space and close to nature are known to have positive effects on mental health.

Respondents also believed that engaging in angling was important for their physical well-being, with 94% agreeing or strongly agreeing with this statement. However, the proportion 'strongly agreeing' with this statement was lower than the same statement on mental health. All types of angling involve at least a moderate degree of exercise, but can range from hard physical activity to a relatively sedentary few hours seated by a lake. From Part 1 of the survey we know that the age demographic of recreational anglers tends towards the male over 50's and the generally low impact physical activity associated with angling may have an important role in maintaining the health of this particular demographic.

Compared to the previous two questions, responses were less categorical about the importance of angling for socialising and meeting friends and family, however 73% of respondents still agreed that this is the case. It is unsurprising to find a lower positive response rate for this statement when angling is typically regarded as a quiet and solitary activity. However opportunities do exist for socialising through membership of angling clubs, organised events and competitions. Just under 30% of respondents were members of one of the Island's angling clubs and it is likely that there are a range of attitudes of anglers on whether angling is a gregarious or individual pursuit, with both ends of the spectrum fulfilling well-being requirements depending on need.



3.2 Wellbeing - further analysis

In order to avoid 'survey fatigue' respondents were given the option to complete a further set of detailed well-being questions. 55% of respondents agreed to the further questions and were asked to score their response to each question on a scale of 0-10 from 'not important' to 'extremely important'.

The questions covered similar topics to the headline questions in more detail expanding the areas of interest to cover 'happiness', thinking clearly' and 'life satisfaction' in line with other detailed well-being surveys. Additional questions relating to 'green space' and 'wildlife' were added.

Table 3.2 - Matrix of scores for nine questions relating to aspects of well-being and health categorised by angling discipline. Colour coding applied to highlight results above (green) and below (red) average (8.2).

	Overall, how satisfied are you with your life nowadays?	Overall, to what extent do you feel that the things you do in your life are worthwhile?	How important to your enjoyment of angling are access to green space?	How important to your enjoyment of angling is seeing wildlife?	How important is angling for making you feel relaxed?	How important is angling for making you feel happy?	How important is angling for helping you think more clearly?	How important is angling for keeping you physically active?	How important is angling for maintaining positive social interactions with friends and family	overall average score
all anglers	6.9	7.3	8.6	8.9	9.3	9.1	8.6	7.8	7.2	8.2
reservoir	7.1	7.4	9.4	9.1	9.3	9.4	9.0	7.9	7.4	8.5
sea (shore)	6.5	6.9	8.1	8.7	9.4	9.0	8.0	7.8	6.7	7.9
coarse	7.2	7.5	8.5	8.8	9.5	9.5	9.4	7.8	7.5	8.4
river	7.0	8.1	9.3	9.3	9.1	9.4	9.1	8.6	8.0	8.7
sea (boat)	7.2	7.1	7.9	8.6	8.7	8.1	7.7	6.9	7.2	7.7
average	7.0	7.4	8.6	8.9	9.2	9.1	8.6	7.8	7.4	8.2

Due to the complex nature of the results, a table using a colour coded matrix of response scores has been created to facilitate interpretation of the results. In addition to results being split into each angling discipline, results for 'all anglers' and average scores for each question have been calculated. Overall, the mean score for all questions was 8.2. The matrix has been colour-coded with values above the mean coloured in increasing shades of green as the score approaches the maximum possible score of 10. Scores below the average have been colour coded in increasing shades of red to a minimum of the lowest score recorded (6.5).

Analysis by question

All respondents and angling types scored 'life satisfaction' and 'worthwhile activities' lower than other questions - these two questions were a snapshot of general mood, rather than being directly associated with angling. It is possible that these scores have been negatively influenced by the lockdown measures imposed in the Isle of Man in January. The importance of angling for keeping physically active and for maintaining social interactions had the lowest scores of the questions relating specifically to angling.

Angling was considered most important for helping respondents feel 'relaxed' and 'happy'. Enjoyment of wildlife was also considered very important. Greenspace appeared to be important to freshwater anglers, but less so to sea anglers.



Analysis by angling preference

Freshwater anglers had higher average scores than their sea angling counterparts. Access to wildlife and greenspace were of most importance to river and reservoir anglers. River anglers also scored physical activity higher than other angling disciplines, perhaps due to further distances walked along river banks and wading in deep and fast-flowing water.



3.3 Addendum: Angling well being scores compared by age group

A further analysis of the responses to the three main well being statements from the data collected in a survey of Isle of Man anglers in February 2021 was carried out at the request of DEFA.

The initial report compared responses relating to well being between angling disciplines (river, reservoir, boat, shore and coarse angling). This further analysis compares responses between age groups, with no subdivision for angling preference.

The 3 statements respondents were asked to score were:

1. The ability to undertake recreational angling has a positive effect on my mental well-being
2. The ability to undertake recreational angling has a positive effect on my physical well-being
3. Recreational angling is an integral part of my social life for meeting friends and family

Multiple choice responses offered to respondents were (and the score these responses were converted to) Strongly agree (+2), Agree (+1), Neither agree nor disagree (0), Disagree (-1) and Strongly disagree (-2).

Respondent age groups collected in the survey were 16-20, 21-30, 31-40, 41-50, 51-60, 61-70 and 71+

For the analysis, the respondents were grouped into three age categories corresponding to the following: 16-40, 41-60 and 61-71+

A one-way ANOVA was conducted to compare the responses of each question between the age groups.

The ability to undertake recreational angling has a positive effect on my mental well-being

There was a significant difference in the responses between age groups at the $p < .01$ level for the three age categories [$F = 4.94$, $p = 0.004$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 61+ age group was significantly lower than the 41-60 age group ($p < 0.05$) and significantly lower than the 16-40 age group ($p < 0.01$). There was no significant difference in the scores recorded between the 16-40 and 41-60 age groups. This indicates that whilst important to all anglers, the positive effect of angling on mental well being of anglers over the age of 60 was less important.

The ability to undertake recreational angling has a positive effect on my physical well-being



There was no significant difference in the responses between age groups at the $p > .05$ level for the three age categories [$F = 2.36$, $p = 0.098$]. This indicates that whilst important to all anglers there was no observable difference in the physical benefits of angling between age groups.

Recreational angling is an integral part of my social life for meeting friends and family

There was a significant difference in the responses between age groups at the $p < .001$ level for the three age categories [$F = 7.54$, $p = 0.00073$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 61+ age group was significantly lower than the 41-60 age group ($p < 0.01$) and significantly lower than the 16-40 age group ($p < 0.01$). There was no significant difference in the scores recorded between the 16-40 and 41-60 age groups. Meeting friends and family was the least important aspect of angling in the well being question asked for all age categories. However, it was very significantly less important for anglers over the age of 60.

Summary

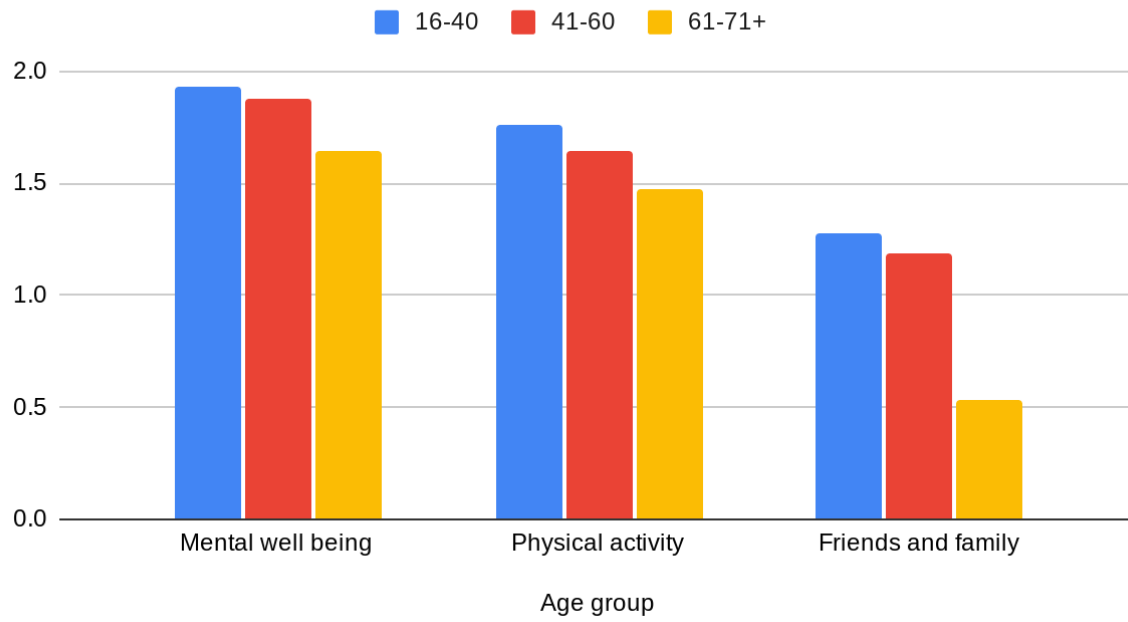
Mental wellbeing was the most important aspect of well being for anglers, with an average score of 1.81 (out of a maximum score of 2). Anglers over 60 years of age placed less significance on angling for their mental well being. The greater importance placed on angling for well being for younger anglers may reflect the greater work and family stresses of anglers in the other age categories, with 60+ anglers including retirees who enjoy more free time and/or less stress.

Physical activity was also an important aspect of well being for anglers, with an average score of 1.63 (out of a maximum score of 2). There was no significant difference measured in the importance placed on physical activity between age ranges. However, a similar trend with the other 2 questions, with the oldest age group recording the lowest average score was observed.

Spending time with friends and family was the least important aspect of well being for anglers, with an average score of 1.0 (out of a maximum score of 2) and therefore not assessed as a particularly important aspect of angling. Whilst it is not of great importance, analysis shows that anglers over 60 years of age placed even less importance on angling for meeting friends and family. This may also refer to the additional free time enjoyed by anglers of retirement age who have more opportunity for socialising.



Well being scores by age group





4. Conclusion

The information captured in the survey and analysed and presented in this report represents the most accurate data gathered on recreational angling in the Isle of Man to date.

The estimate of angling population can be assumed to have a high degree of accuracy for anglers who regularly partake in their sport. However, it will appear low when compared to general household surveys that ask questions about recreational angling which can yield figures of 5% of the population who state they have engaged in angling in the last year. Other surveys have also concluded that such household surveys are inaccurate, or capture very casual angling activity, including junior anglers.

An estimated 1.4% of the Isle of Man population engages in angling. Given the relatively narrow demographic (male and over 50) this represents a significant proportion of that particular cohort.

Expenditure values are also assessed as being reasonably accurate. Accuracy decreases for less popular disciplines e.g. coarse, river and sea (boat) angling due to the potential for individual responses to skew the results. The survey assumes accurate assessment by anglers on their expenditure. Crossley and Winter (2013) suggest that there are risks of respondents recalling memorable, large expenditure items outside the defined time period leading to over estimates of spending. This survey did not set defined dates, but asked for a typical year. It is not clear from the results if figures were overestimated, but there were many 'free text' comments that said 'don't tell my wife!' in relation to expenditure amounts.

The most significant variance in data relates to the difference in mean and median values across all of the expenditure data collected. In almost all cases the mean is greater than the median, highlighting that the data is skewed, and not following a normal distribution. Other angling surveys have identified the same trend, with a small number of very dedicated anglers taking part in a high level of activity and spending a large amount on their pursuit. These anglers contribute greatly to the overall expenditure of the angling population. The median values provide a better estimate of a typical casual angler who spends less time and less money on their pursuit. Any behavioural analysis of a typical angler would be better served using median values. However, using the mean to quote the expenditure of the total population is a true reflection of overall expenditure. In this report the most significant difference in these figures can be illustrated in the expenditure on off-island trips of resident anglers.



5. References

[Brown, A. \(2014\). Realising the Eden's angling potential. Stage two: angler survey. Final report. Penrith: Eden Rivers Trust.](#)

[Crossley, T.F. and Winter, J.K. \(2013\), Asking Households About Expenditures: What Have We Learned? NBER Working Paper No. 19543 October 2013 JEL No. C81.D12](#)

[Deloitte \(2013\) Tourism: jobs and growth. The economic contribution of the tourism economy in the UK](#)

[Environment Agency \(2018\). A survey of freshwater angling in England Phase 1: angling activity, expenditure and economic impact. ISBN: 978-1-84911-416-5](#)

[Isle of Man Government - Economic Affairs \(2013\). Household Income and Expenditure Survey 2012/13 Further Release re On and Off Island Expenditure.](#)

Isle of Man Government - Economic Affairs (2018). Household Income and Expenditure Survey - not published

[Isle of Man Government - Economic Affairs \(2019a\). Isle of Man Social Attitudes Survey 2019 GD 2019/0100](#)

[Isle of Man Government - Economic Affairs \(2019b\). Isle of Man Earnings Survey Report 2019](#)

[PriceWaterhouseCoopers \(2007\) "The social and economic impact to Northern Ireland, and areas within the Loughs Agency, of recreational fisheries, angling and angling resources." Department of Culture, Arts and Leisure, The Loughs Agency of the Foyle, Carlingford and Irish Lights Commission and the Northern Ireland Tourist Board.](#)





Appendix 1 - survey design and questions

Section	Question	Critical questions for navigating sections
	Timestamp - anonymous responses identified by unique date and timestamp	
1	Consent and data agreement	
	I understand that this survey is carried out by a third party on behalf of DEFA. No personal data is being collected. DEFA is not responsible for data collection or retention. Summarised data will be analysed and submitted to DEFA	*
	I consent to Aesculus consulting collecting and analysing non-personal data in relation to angling activity and expenditure for the sole purpose of providing an estimate of the value of the sector to DEFA	*
2	Demographics	
	Age	
	Gender	
	Please enter the first half of your postcode (e.g. IM1)	
	Are you an Isle of Man resident?	*
3	Angling activity - type	
	Please select the one type angling activity you have taken part in most often in the last year	
	Please select any other angling activities you have participated in the last year	
	What percentage of your angling effort is on your primary activity?	
4	Angling expenditure (IOM resident anglers only)	
	Approx. how much per year (£) do you spend on angling permits (all licences and day tickets) in the Isle of Man?	
	What permits do you usually hold?	
	please tick any of the categories that apply to you (note: these do not apply to sea/shore angling)	
	if you purchase day tickets, how many per year do you purchase on average (all on-island waters/fisheries)?	
	Approx. how much per year (£) do you spend on competition fees in the Isle of Man?	
	Approx. how much per year (£) do you spend on angling clothing, footwear and other items (not tackle)?	
	Approx. what percentage of your annual spend on clothing, footwear etc (not tackle) is with off-island or internet retailers?	
	Approx. how much per year (£) do you spend on angling equipment and tackle?	
	What percentage of your annual spend on equipment and tackle is with off-island or internet retailers?	
	Approx. how much per year (£) do you spend on bait?	
	What percentage of your annual spend on bait is with off-island or internet retailers?	
	Approx. how much per year (£) do you spend on angling books and magazines, DVD's or other media related to angling?	
	What percentage of your annual spend on books and magazines/media is with off-island or internet retailers?	
	Please tick any clubs or societies of which you are usually a member	
	Approx. how many days per year do you partake in your preferred/main angling activity in the Isle of Man?	
	Approx. how many days per year do you partake in other angling activity in the Isle of Man?	
	How far is your journey (in miles) from home to your preferred angling location (not return mileage) in the Isle of Man?	
	What is your usual mode of transport to your preferred angling location?	
	On a typical fishing trip, what would be your average expenditure (£) on food and drink per day (e.g. drinks, snacks or eating out away from home)?	
	How many hours would you spend angling on an average trip?	
5	Off-island angling trips (conditional section)	
	Do you take trips off-island with angling as a the primary purpose?	*
	How many angling trips to the Isle of Man do you make in an average year (2020 can be excluded due to covid travel restrictions)?	
	Approximately how many off-island angling trips per year do you take?	
	What type(s) of angling do you do when off-island?	
	Please select the reasons you make off-island angling trips	
	What is the average cost (£) of a trip (inc. travel, angling permits, accommodation, food and drink)?	
6	Angling trips to the Isle of Man (answered by non-residents only)	
	What is your usual mode of transport to the Isle of Man?	
	Is angling the primary reason for your visit(s) to the Isle of Man? - (the next question requests more information on your motivation to visit.	
	Please select all the reasons you make angling trips to the Isle of Man	
	What type(s) of angling do you do when visiting the Isle of Man?	
	What is your average length of stay on the Island?	
	How many people are usually in your travelling party?	
	How many of your travelling party are usually anglers?	
	How do you travel to angling locations whilst on island?	
	Approx how much (£) do you spend on angling permits (per person) on you visit?	
	Approx how much (£) do you spend on food and drink (per person) on your trip?	
	Approx how much (£) do you spend on accommodation (per person) on your trip?	
	Approx how much (£) do you spend (per person) on fishing tackle (inc. hire), boat hire, bait and angling supplies on your trip?	
	Approx how much (£) do you spend (per person) on competition fees	
	How much (£) do you spend on a fishing guide on your trip?	
7	Wellbeing	
	How many times have you been angling in the last 14 days?	
	The ability to undertake recreational angling has a positive effect on my mental well-being	
	The ability to undertake recreational angling has a positive effect on my physical well-being	
	Recreational angling is an integral part of my social life for meeting friends and family	
7a	Wellbeing part 2 (conditional section)	
	We are keen to ask further wellbeing questions if respondents wish to go into more detail	*
	Overall, how satisfied are you with your life nowadays?	
	Overall, to what extent do you feel that the things you do in your life are worthwhile?	
	How important to your enjoyment of angling are access to green space?	
	How important to your enjoyment of angling is seeing wildlife?	
	How important is angling for making you feel relaxed?	
	How important is angling for making you feel happy?	
	How important is angling for helping you think more clearly?	
	How important is angling for keeping you physically active?	
	How important is angling for maintaining positive social interactions with friends and family	



Appendix 2 - expenditure data

Median trips and trip expenditure

FOOD AND FUEL - MEDIAN TRIPS/MEAN SPEND								
reservoir								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£254.00	65%	£165.10	£148.59	1.4	£208.03
annual	Fishing tackle/equip	specialist clothing	£112.00	44%	£49.28	£44.35	1.4	£62.09
annual	Fishing tackle/equip	bait	£25.00	77%	£19.25	£17.33	1.4	£24.26
annual	Non-angling items	Books/magazines	£15.00	73%	£10.95	£9.86	1.24	£12.22
annual/trip	Permits/licences/day tickets	permits	£215.00	100%	£215.00	£193.50	1.4	£270.90
trip	Competition fees		£19.00	100%	£19.00	£17.10	1.4	£23.94
trip (median)	Transport	Petrol/diesel	£91.80	100%	£91.80	£82.62	1.2	£99.14
trip (median)	Food and beverages	Food and drink shop	£212.40	100%	£212.40	£191.16	1.21	£231.30
			£944.20		£782.78	£704.50		£931.88
sea (shore)								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£395.00	52%	£205.40	£184.86	1.4	£258.80
annual	Fishing tackle/equip	specialist clothing	£148.00	45%	£66.60	£59.94	1.4	£83.92
annual	Fishing tackle/equip	bait	£57.00	90%	£51.30	£46.17	1.4	£64.64
annual	Non-angling items	Books/magazines	£24.00	62%	£14.88	£13.39	1.24	£16.61
annual/trip	Permits/licences/day tickets	permits	£70.00	100%	£70.00	£63.00	1.4	£88.20
annual	Competition fees		£53.00	100%	£53.00	£47.70	1.4	£66.78
trip (median)	Transport	Petrol/diesel	£200.70	100%	£200.70	£180.63	1.2	£216.76
trip (median)	Food and beverages	Food and drink shop	£459.60	100%	£459.60	£413.64	1.21	£500.50
			£1,407.30		£1,121.48	£1,009.33		£1,296.20
coarse								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£586.00	36%	£210.96	£189.86	1.4	£265.81
annual	Fishing tackle/equip	specialist clothing	£200.00	22%	£44.00	£39.60	1.4	£55.44
annual	Fishing tackle/equip	bait	£136.00	68%	£92.48	£83.23	1.4	£116.52
annual	Non-angling items	Books/magazines	£27.00	63%	£17.01	£15.31	1.24	£18.98
annual/trip	Permits/licences/day tickets	permits	£264.00	100%	£264.00	£237.60	1.4	£332.64
annual	Competition fees		£36.50	100%	£36.50	£32.85	1.4	£45.99
trip (median)	Transport	Petrol/diesel	£155.93	100%	£155.93	£140.34	1.2	£168.40
trip (median)	Food and beverages	Food and drink shop	£492.80	100%	£492.80	£443.52	1.21	£536.66
			£1,898.23		£1,313.68	£1,182.31		£1,540.45
river								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£575.00	52%	£299.00	£269.10	1.4	£376.74
annual	Fishing tackle/equip	specialist clothing	£187.50	29%	£54.38	£48.94	1.4	£68.51
annual	Fishing tackle/equip	bait	£17.00	100%	£17.00	£15.30	1.4	£21.42
annual	Non-angling items	Books/magazines	£32.00	0%	£0.00	£0.00	1.24	£0.00
annual/trip	Permits/licences/day tickets	permits	£237.50	100%	£237.50	£213.75	1.4	£299.25
trip	Competition fees		£20.00	100%	£20.00	£18.00	1.4	£25.20
trip (median)	Transport	Petrol/diesel	£179.40	100%	£179.40	£161.46	1.2	£193.75
trip (median)	Food and beverages	Food and drink shop	£572.00	100%	£572.00	£514.80	1.21	£622.91
			£1,820.40		£1,379.28	£1,241.35		£1,607.78
sea (boat)								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£526.50	68%	£358.02	£322.22	1.4	£451.11
annual	Fishing tackle/equip	specialist clothing	£152.35	65%	£99.03	£89.12	1.4	£124.77
annual	Fishing tackle/equip	bait	£40.29	83%	£33.44	£30.10	1.4	£42.14
annual	Non-angling items	Books/magazines	£28.82	83%	£23.92	£21.53	1.24	£26.70
annual/trip	Permits/licences/day tickets	permits	£83.52	100%	£83.52	£75.17	1.4	£105.24
annual	Competition fees		£28.82	100%	£28.82	£25.94	1.4	£36.31
trip	Transport	Petrol/diesel	£165.00	100%	£165.00	£148.50	1.2	£178.20
trip (median)	Transport	Boat fuel	£1,412.50	100%	£1,412.50	£1,271.25	1.2	£1,525.50
trip (median)	Food and beverages	Food and drink shop	£614.90	100%	£614.90	£553.41	1.21	£669.63
			£3,052.70		£2,819.15	£2,537.23		£3,159.59



Mean trips and trip expenditure

FOOD AND FUEL MEAN TRIP/MEAN SPEND								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
reservoir								
annual	Fishing tackle/equip	tackle and equip	£254.00	65%	£165.10	£148.59	1.4	£208.03
annual	Fishing tackle/equip	specialist clothing	£112.00	44%	£49.28	£44.35	1.4	£62.09
annual	Fishing tackle/equip	bait	£25.00	77%	£19.25	£17.33	1.4	£24.26
annual	Non-angling items	Books/magazines	£15.00	73%	£10.95	£9.86	1.24	£12.22
annual/trip	Permits/licences/day tickets	permits	£215.00	100%	£215.00	£193.50	1.4	£270.90
trip	Competition fees		£19.00	100%	£19.00	£17.10	1.4	£23.94
trip (median)	Transport	Petrol/diesel	£172.13	100%	£172.13	£154.92	1.2	£185.90
trip (median)	Food and beverages	Food and drink shop	£398.25	100%	£398.25	£358.43	1.21	£433.69
			£1,210.38		£1,048.96	£944.06		£1,221.03
sea (shore)								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£395.00	52%	£205.40	£184.86	1.4	£258.80
annual	Fishing tackle/equip	specialist clothing	£148.00	45%	£66.60	£59.94	1.4	£83.92
annual	Fishing tackle/equip	bait	£57.00	90%	£51.30	£46.17	1.4	£64.64
annual	Non-angling items	Books/magazines	£24.00	62%	£14.88	£13.39	1.24	£16.61
annual/trip	Permits/licences/day tickets	permits	£70.00	100%	£70.00	£63.00	1.4	£88.20
annual	Competition fees		£53.00	100%	£53.00	£47.70	1.4	£66.78
trip (median)	Transport	Petrol/diesel	£277.64	100%	£277.64	£249.88	1.2	£299.85
trip (median)	Food and beverages	Food and drink shop	£635.78	100%	£635.78	£572.20	1.21	£692.36
			£1,660.42		£1,374.60	£1,237.14		£1,571.16
coarse								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£586.00	36%	£210.96	£189.86	1.4	£265.81
annual	Fishing tackle/equip	specialist clothing	£200.00	22%	£44.00	£39.60	1.4	£55.44
annual	Fishing tackle/equip	bait	£136.00	68%	£92.48	£83.23	1.4	£116.52
annual	Non-angling items	Books/magazines	£27.00	63%	£17.01	£15.31	1.24	£18.98
annual/trip	Permits/licences/day tickets	permits	£264.00	100%	£264.00	£237.60	1.4	£332.64
annual	Competition fees		£36.50	100%	£36.50	£32.85	1.4	£45.99
trip (median)	Transport	Petrol/diesel	£149.18	100%	£149.18	£134.26	1.2	£161.11
trip (median)	Food and beverages	Food and drink shop	£471.48	100%	£471.48	£424.33	1.21	£513.44
			£1,870.16		£1,285.61	£1,157.05		£1,509.94
river								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£575.00	52%	£299.00	£269.10	1.4	£376.74
annual	Fishing tackle/equip	specialist clothing	£187.50	29%	£54.38	£48.94	1.4	£68.51
annual	Fishing tackle/equip	bait	£17.00	100%	£17.00	£15.30	1.4	£21.42
annual	Non-angling items	Books/magazines	£32.00	0%	£0.00	£0.00	1.24	£0.00
annual/trip	Permits/licences/day tickets	permits	£237.50	100%	£237.50	£213.75	1.4	£299.25
trip	Competition fees		£20.00	100%	£20.00	£18.00	1.4	£25.20
trip (median)	Transport	Petrol/diesel	£248.95	100%	£248.95	£224.06	1.2	£268.87
trip (median)	Food and beverages	Food and drink shop	£793.76	100%	£793.76	£714.38	1.21	£864.40
			£2,111.71		£1,670.59	£1,503.53		£1,924.39
sea (boat)								
frequency	category	sub category	unadjusted	on-island spend	adjusted	-10% displacement	Multiplier	Economic value
annual	Fishing tackle/equip	tackle and equip	£526.50	68%	£358.02	£322.22	1.4	£451.11
annual	Fishing tackle/equip	specialist clothing	£152.35	65%	£99.03	£89.12	1.4	£124.77
annual	Fishing tackle/equip	bait	£40.29	83%	£33.44	£30.10	1.4	£42.14
annual	Non-angling items	Books/magazines	£28.82	83%	£23.92	£21.53	1.24	£26.70
annual/trip	Permits/licences/day tickets	permits	£83.52	100%	£83.52	£75.17	1.4	£105.24
annual	Competition fees		£28.82	100%	£28.82	£25.94	1.4	£36.31
trip	Transport	Petrol/diesel	£333.60	100%	£333.60	£300.24	1.2	£360.29
trip (median)	Transport	Boat fuel	£1,412.50	100%	£1,412.50	£1,271.25	1.2	£1,525.50
trip (median)	Food and beverages	Food and drink shop	£1,243.22	100%	£1,243.22	£1,118.90	1.21	£1,353.87
			£3,849.62		£3,616.07	£3,254.46		£4,025.91