National Strategy for Angling Development

The Economic Contribution of Bass and Sea Angling in Ireland

2015

1 The Economic Contribution of Bass and Sea Angling in Ireland

Inland Fisheries Ireland (IFI) is the state agency responsible for the protection, management and conservation of the Republic of Ireland's inland fisheries and recreational sea angling resources. The Republic of Ireland has over 70,000 kilometres of rivers and streams, 144,000 hectares of loughs and over 5,600 kilometres of coastline, all of which fall under the remit of IFI.

In Ireland, bass stocks have been managed with a view to long-term sustainability of the natural resource since the 1980s when it was first recognised that bass could be an economically important recreational angling species and that, as a slow growing species, they could be vulnerable to stock depletion if ongoing commercial fishing practises were continued. On July 1st 1990, the Statutory Instrument 128/1990 - Bass (Conservation of Stocks) Order was created. The effect of this order was to prohibit commercial fishing for bass by Irish sea-fishing boats, to prohibit the use of nets and to set a minimum size limit of 40 cm for bass anglers. Another bye-law, Bass Fishing Conservation Bye-Law No. 791/2003, was introduced in 2003 and imposed a bag limit on anglers of two bass in any one period of 24 hours and also provided for a ban on angling for bass during the annual spawning season (15th May - 15 June).

In sea angling terms, Ireland has traditionally had a wealth of resources; however, in more recent times there has been anecdotal evidence to suggest that fish stocks around our shores and also the sizes of these fish are in decline. The reduction in the size of some species is to some extent corroborated by the Irish Specimen Fish Committee who, between the years 1980 and 2012, reduced the specimen weight for 19 of the 53 species that appear in their annual report. During this time the specimen weight was increased for 2 Irish species and 3 species were suspended from the list. There is also some documented evidence from Irish sea and bass angling guides which suggests that catch per unit effort has declined considerably in the last decade and this has had a negative effect on their livelihoods.

Until recently very little had been done to estimate the contribution of the Irish angling resource to the Irish economy. In 2012 Tourism Development International (TDI) on behalf of IFI conducted their 'Socio-Economic Study of Recreational Angling in Ireland' to try and gather information relating to domestic anglers and the level of angling tourism from overseas markets. Anglers were surveyed at given angling locations and asked to give information detailing their expenditure patterns as well as their motivations and angling preferences corresponding to their 'current angling trip'. The report, which was published in 2013, estimated the total economic contribution of recreational angling in Ireland to be approximately €755 million with an estimated 406,000 individuals having participated in angling over the course of 2012. This figure included 252,000 domestic Irish anglers, 41,000 trips from Northern Irish anglers and 113,000 from overseas markets. The estimated 252,000 Irish anglers represented some 7% of the adult population aged 15 years or more.

More recently, in 2015 IFI commissioned an omnibus survey in conjunction with Millward Brown which suggested that some 7.6% of the population aged 15 years or older considered themselves to be recreational anglers; this gives an increased total of 273,600[1] domestic anglers aged 15 or over based on April 2014 population data (CSO). The margin of error for the omnibus survey is +/- 1.53% with 95% confidence (at 50% reporting incidence) based on 4044 face to face interviews.

In the following sections, the key markets for bass and sea angling in Ireland will be examined and expenditure estimates will be made for each based on the most current data available. The key markets which will be focused upon are those of Irish domestic anglers, Northern Irish anglers and overseas anglers. Where expenditure ranges are estimated in respect of these markets a mid-point value is assumed for each; this mid-point will be presumed to be close to being accurate.

In estimating the total annual expenditures for domestic Irish anglers three different data sources will be used: Source A uses annual expenditure figures as reported by domestic bass and sea anglers surveyed for the 2013 TDI report along with current angler participation estimates based on the 2015 omnibus survey; Source B uses average annual expenditure figures as reported by all angler types in the TDI report along with 2015 omnibus participation estimates and, finally, Source C uses participation figures based on bass and sea angler participation estimates and mean daily expenditure and overnight expenditure figures as reported across all angling types in the 2013 TDI report.

Following this analysis, the total contribution of bass and sea angling to the Irish economy will be estimated taking into account such factors as economic multipliers (i.e. the knock on effect of initial rounds of expenditure) and leakages (i.e. the economic loss associated with imported goods). Comparisons will then be drawn between the economic contribution of bass and sea angling to the Irish economy and the economic contribution of bass and sea angling in other countries with comparable angling cultures and sea angling resources to those of Ireland.

[1] 3,600,000 population over the age of 15 x 7.6% = 273,600

2 Domestic Anglers

2.1 Source A: Domestic Sea & Bass Angler Expenditure

(based on domestic angler participation rates estimated using 2015 omnibus survey figures and annual expenditure figures as indicated by Irish bass and sea anglers in 2012)

Irish anglers have a high tendency to fish for multiple species and, as such, it is difficult to categorise them by species sought. However, the most recent survey work carried out by IFI (Millward Brown, 2015) indicated that when anglers were asked to choose only *one* angling type above all others, sea angling was one of the most popular, being chosen by approximately 24% of the Irish anglers surveyed (giving an estimated total of 65,664[2] Irish sea anglers); a further 4% considered themselves to be bass anglers (10,944[3]). Results of the 2013 TDI report indicated that domestic Irish anglers across all angling types spend an estimated €1,974 annually on their fishing, with sea anglers spending an average of €1,331 and bass anglers spending €2,685.

Table 1: Source A - Domestic Bass & Sea Angler Expenditure on Recreational Angling

	Bass Anglers	Sea Anglers
Number of Recreational Anglers in 2015	10,944	65,664
Annual Expenditure on Angling	€2,685	€1,331
Total Expenditure	€29,384,640	€87,398,784
Combined Bass & Sea Angler Expenditure (Rounded)	**€116,800,000**	

If it is presumed that annual angler expenditure figures remain the same in 2015 as were reported in 2012, with total expenditure then calculated by angling category, a gross expenditure figure of €29,384,640 for bass anglers and €87,398,784 for other sea anglers can be determined, this is shown in Table 1. However, this gives a simplistic view of the total spend as it does not account for other categories of anglers who also fish for bass or other sea fish.

[2] 273,600 x 24% = 65,664
[3] 273,600 x 4% = 10,944

2.2 Source B: Domestic Bass & Sea Angler Expenditure

(based on domestic angler participation rates estimated using 2015 omnibus survey figures and annual expenditure figures as recorded across all angling types in 2012)

The TDI report indicated that the average per person expenditure for Republic of Ireland anglers for their 'current angling trip' was €178. Taking into account the average number of trips taken during the past 12 months by Republic of Ireland anglers (8.28), average annual expenditure using this source can be estimated at €1,473. This figure does not include fixed or overhead expenses such as boats, engines and capital expenditure on fishing tackle; when the figure is adjusted to include these items, the estimated annual expenditure rises to €1,974. In order to arrive at an estimate of total domestic expenditure on recreational bass and sea angling, a mid-point is assumed in the expenditure ranges indicated (Table 2); for domestic bass anglers this mid-point is €18,861,984 and for domestic sea anglers this mid-point is €113,171,904. Using this method the estimated annual expenditure on bass and sea angling by domestic anglers is €132 million.

Table 2: Source B - Domestic Bass & Sea Angler Expenditure on Recreational Angling

	Bass Anglers		Sea Anglers	
Number of Recreational Anglers in 2015	10,944		65,664	
Annual Expenditure on Angling	€1,473	€1,974	€1,473	€1,974
Total Expenditure Range	€16,120,512	€21,603,456	€96,723,072	€129,620,736
Total Expenditure – Mid-Point Value	€18,861,984		€113,171,904	
Combined Domestic Bass & Sea Angler Expenditure (Rounded)	**€132,000,000**			

This method of evaluation, where the average annual expenditure across all angling types is used to estimate expenditure for bass and sea anglers is presumably less accurate; this is because it is likely to give a much higher expenditure figure for sea anglers and a much lower expenditure figure for bass anglers than that reported by the bass and sea anglers themselves.

2.3 Source C: Domestic Bass & Sea Angler Expenditure

(based on domestic angler participation rates estimated during the 2013 TDI report and mean daily expenditure figures as recorded across all angling types in 2012)

Results from the 2013 TDI report indicated that of the estimated 252,000 domestic Irish anglers, some 42% had been on a day trip to participate in either sea fishing (71,000) or bass fishing (33,000) in 2012 (Table 3). As previously stated, this makes sea angling the most popular category of angling for domestic anglers. Of the Irish anglers who stayed on an overnight angling trip, 42% (22,000) of them had done so at least in part to fish for sea fish other than bass and 21% (11,000) had done so to fish for bass.

It should also be noted that, due to the high number of Irish anglers who target multiple species, not all of these trips can be attributed solely to the pursuit of bass/other sea species as indicated and this creates an anomaly between the reported figures for anglers who went on an angling day trip (223,000) and the sum of day trips by species sought (366,000) as seen in Table 3. In order to mitigate the bias caused as a consequence of this multiple species approach and in the absence of more complete data, calculations will be multiplied by 0.61 to reflect the ratio of actual day trips taken by domestic anglers (223,000) versus day trips as categorised by species targeted (366,000).

Table 3: Species Targeted on Day Fishing Trips in 2012 – Domestic Anglers

	Participation	Estimated Number of Anglers
Salmon Only	9%	20,000
Salmon and Sea Trout Combined	22%	49,000
Sea Trout Only	10%	22,000
Brown Trout	30%	67,000
Pike	28%	62,000
Coarse (Excl Pike)	19%	42,000
Bass	10%	33,000
Sea Angling (Excl Bass)	32%	71,000
Total		**366,000**

Source: TDI/Millward Brown Lansdowne/Household Survey. Total percentage figure is overestimated as a result of anglers targeting multiple species on their trips

As shown in Table 4, it is possible to estimate a range using these figures for the volume of both domestic bass anglers and other sea anglers; however, this range is likely to be more accurate towards its lower bound estimate as it is subject to a level of duplication between anglers making day fishing trips and those taking overnight trips.

Table 4: Domestic Bass & Sea Anglers – Volume Estimates by Category				
	Anglers on Day Fishing Trips	Anglers on Overnight Fishing Trips	Range	
			Minimum	Maximum
Bass	33,000	11,000	33,000	44,000
Sea Fish (Ex. Bass)	71,000	22,000	71,000	93,000

The overall average number of day trips taken by all domestic anglers was 13.61. Average expenditure per trip was €82 for domestic local anglers and €120 for non-local day trip visitors. By using these figures in conjunction with the participation numbers given above, an estimate of the gross expenditure of day visit Irish bass and sea anglers can be made. Again, a mid-point value of €101 will be used to estimate the expenditure of local and day trip anglers as shown in Table 5.

Following on from this, an estimate of the maximum combined expenditure of day trip sea anglers and day trip bass anglers is found to be in the region of €170 million and a minimum expenditure in the region of €116 million with the true figure likely to be somewhere in the middle of these two estimates so approximately €143 million. When this figure is adjusted to allow for multiple species bias the combined expenditure figure for day trip anglers targeting bass and other sea species is €87 million.

Table 5: Source C - Expenditure Estimates for Domestic Day Trip Anglers		
	Bass Anglers	Sea Anglers
Angling Days	449,130[4]	966,310[5]
Mean Expenditure per day	€101	€101
Total Expenditure	€45,362,130	€97,597,310
Expenditure adjusted to allow for multiple species approach (@ 0.61)	€27,700,000	€59,500,000
Combined Bass & Sea Angler Expenditure (Rounded)	**€87,000,000**	

[4] 33,000 bass angling participants x 13.61 average day trips = 449,130 angler days
[5] 71,000 sea angling participants x 13.61 day trips = 966,310 angler days

According to the TDI report, some 11,000 domestic bass anglers and 22,000 domestic sea anglers went on overnight angling trips during 2012 (Table 6). The overall average number of trips taken was 5.25 with an average of 2.08 nights per trip resulting in 360,360 domestic fishing nights. Bass anglers indicated an expenditure of €575 on the 'current trip' and sea anglers indicated an expenditure of €437. This gives an overall combined gross expenditure figure for domestic overnight bass and sea anglers of €83.7 million (Table 7).

Table 6: Species targeted on Overnight Fishing Trips in the Past 12 Months – Domestic Anglers (TDI, 2013)

	Participation	Estimated Number of Anglers
Salmon Only	12%	6,000
Salmon and Sea Trout Combined	30%	16,000
Sea Trout Only	18%	10,000
Brown Trout	26%	14,000
Pike	28%	15,000
Coarse (Excl Pike)	31%	17,000
Bass	20%	11,000
Sea Fish (Excl Bass)	42%	22,000
Total		**111,000**

Source: Millward Brown Lansdowne/Household Survey Total Domestic Overnight Trips. Total percentage figure is overestimated as a result of anglers targeting multiple species on their trips

Again, an allowance must be made to reflect the high incidence of multiple species being targeted by Irish anglers. In order to do this it is presumed that of the 11,000 anglers who reported having overnight trips to target bass and the 22,000 who targeted other sea species, not all of their trips were taken specifically to target these species. In the absence of more complete data, the figures given for overnight trips will be multiplied by 0.49[6] to reflect the ratio of actual trips taken (54,000) versus trips as categorised by species targeted (111,000) in the TDI report (Table 6).

[6] 0.49 = 54,000/111,000

Table 7: Domestic Anglers on Overnight Trips		
	Bass Anglers	**Sea Anglers**
Number of Anglers on Overnight Trips	11,000	22,000
Average Number of Overnight Trips	5.25	5.25
Average Expenditure per Trip	€575	€437
Total Expenditure	€33,200,000	€50,500,000
Adjusted for multiple species bias (@ 0.49)	€16,250,000	€24,750,000
Combined Bass & Sea Angler Expenditure (Rounded)	**€41,000,000**	

This approach provides an estimation of €41 million worth of expenditures contributed by domestic overnight anglers (Table 7). When this figure is added to the expenditure estimation for domestic day trip anglers a combined annual total of €128 million is calculated for domestic bass and sea anglers (Table 8).

Table 8: Source C - Combined Domestic Day Trip & Overnight Trips		
	Bass Anglers	**Sea Anglers**
Annual Day Trip Expenditures	€27,700,000	€59,500,000
Annual Overnight Expenditures	€16,250,000	€24,750,000
Combined Day Trip & Overnight Expenditures	€43,950,000	€84,250,000
Combined Annual Bass & Sea Angler Expenditure (Rounded)	**€128,000,000**	

The estimated expenditure figures from sources A, B and C are averaged in Table 9 to give a combined annual domestic bass and sea angler expenditure figure of €125.7 million.

Table 9: Annual Expenditure Figures for Domestic Anglers		
	Bass Anglers	**Sea Anglers**
Source A	€29,384,640	€87,398,784
Source B	€18,861,984	€113,171,904
Source C	€43,950,000	€84,250,000
Average of Sources A, B & C	**€30,732,000**	**€94,940,000**
Combined Domestic Bass & Sea Angler Expenditure (Rounded)	**€125,700,000**	

3 Northern Ireland Angler Expenditure

In 2012, an estimated 41,000 trips were made by Northern Irish individuals to participate in recreational angling in the Republic of Ireland; some 22% of these trips had involved sea angling and a further 9% had involved bass angling (TDI, 2013). The individuals on these trips spent an average of €360 per trip and total expenditure on recreational angling in the Republic of Ireland by Northern Irish anglers in 2012 was estimated to be in the order of €14.6 million. A range of between 22% and 31% of this expenditure can be estimated to be at least partly attributable to bass and sea angling (with the lower bound estimate presuming that all bass anglers also participated in sea angling and the higher bound estimate presuming that no bass anglers participated in sea angling). These figures provide an estimate for the expenditure of Northern Irish bass and sea anglers to be in the range of between €3,240,000 and €4,680,000; again a mid-point value is used to estimate the true expenditure figure, in this case approximately €4 million. However, an allowance must be made for the targeting of multiple species by Northern Irish anglers on their trips to fish in the Republic of Ireland. A discount ratio of 0.48 is applied to reflect the discrepancy between the number of trips reported by anglers (41,000) and the trips as recorded by species sought (86,000).

Table 10: Northern Ireland Angler Expenditure on Recreational Bass and Sea Angling

	Bass Anglers	Sea Anglers
Number of Recreational Bass & Sea Angling Trips in the Republic of Ireland in 2012.	4,000[7]	9,000[8]
Average Expenditure (per person per trip)	€360	€360
Expenditure Range in Republic of Ireland in 2012	€997,000 - €1,440,000	€2,243,000 - €3,240,000
Total Expenditure in Republic of Ireland in 2012 – Midpoint values	€1,230,000	€2,769,000
Adjusted for Multiple Species Bias (@ 0.48)	€590,400	€1,329,120
Combined Mean Bass & Sea Angler Expenditure (Rounded)	**€1,920,000**	

[7] Northern Ireland Bass anglers who visited ROI in 2012 (TDI, 2013) – 9% of 41,000
[8] Northern Ireland Sea anglers who visited ROI in 2012 (TDI, 2013) – 22% of 41,000

In the absence of more accurate figures it will be presumed that bass and sea anglers have similar expenditure patterns; however, it is more likely that their expenditures reflect those of their Irish counterparts where bass anglers spend a relatively high amount each year compared to that of other sea anglers.

In 2009, the *Watersports and Leisure Participation* survey estimated that there were 81,000 anglers (both sea and freshwater) in Northern Ireland, an approximate 5.6% of the total adult population (British Marine Federation *et al.* 2011). If it is presumed that 2% of the Northern Irish adult population participate in sea angling (similar markets include England 2%, Scotland 2.4%, Ireland 2%) then an estimate can be made in the region of 28,800 sea anglers in Northern Ireland. This figure of 28,800 represents 35% of the Northern Irish angling population. Some 46% of the Northern Irish anglers surveyed[9] in 2014 said that they had participated in sea angling in the Republic of Ireland in the previous 12 months; however, a low sample size means that this figure cannot be relied upon for accuracy.

[9] Report on the Survey of Recreational Sea Angling in Northern Ireland, DARD 2014.

4 Overseas Anglers

In 1999, an estimated 173,000 overseas visitors to Ireland participated in angling (Fáilte Ireland); by 2003 this figure had dropped to approximately 88,000 and since then the numbers of overseas anglers travelling to Ireland each year have never fully recovered.

The TDI report uses overseas tourism figures for Ireland taken from Fáilte Ireland's 2011 *Tourism Facts* publication to help in estimating figures for 2012. Of the presumed 113,000 angling trips made by overseas visitors to Ireland in 2012, an estimated 25% (28,000) involved bass angling and a further 24% (27,000) involved angling for sea fish other than bass (TDI, 2013). With the benefit of hindsight it can be seen that overseas angler numbers were in fact higher in 2012 than presumed, with 118,000 angling visitors during the year; this figure increased further to 128,000 in 2013. By taking the average *Overseas Anglers* figure as a percentage of *Total Overseas Visitors* based on figures taken from Fáilte Ireland's 2009-2013 Tourism Facts publications (Table 11) and cross referencing with Fáilte Ireland's total tourism figures for 2014, it can then be estimated that over 144,000 overseas anglers visited Ireland in 2014.

Table 11: Fáilte Ireland Overseas Visitor Numbers 2000 – 2014

Year	Number of Overseas Visitors to Ireland	Number of Overseas Anglers	Overseas Anglers as a Percentage of Total Overseas Visitors
2000	6,181,000	-	-
2001	5,840,000	-	-
2002	5,919,000	-	-
2003	6,178,000	88,000	0.0142
2004	6,384,000	93,000	0.0146
2005	6,763,000	84,000	0.0124
2006	7,417,000	106,000	0.0143
2007	7,739,000	128,000	0.0165
2008	7,436,000	142,000	0.0190
2009	6,555,000	132,000	0.0201
2010	6,037,000	127,000	0.0210
2011	6,505,000	113,000	0.0174
2012	6,518,000	118,000	0.0181
2013	6,986,000	128,000	0.0183
2014	7,604,000[10]	144,400[11]/132,000[12]	0.0190[13]/0.0174[14]

Source: Fáilte Ireland Tourism Facts

[10] Central Statistics Office, January 2015.
[11] Estimate based on anglers as a percentage of total overseas tourists 2009-2013
[12] Based on lowest previous figure available (anglers as a percentage of total tourist numbers, 2011). Actual figure 132,310.
[13] Average based on 2009-2013 figures
[14] Based on lowest previous figure available (2011)

However, for the purposes of this study the more conservative lower bound estimate of 132,000 overseas tourist anglers will be used, this is based on the lowest figure for anglers *as a percentage of total overseas visitors* (0.0174) which was reported in Fáilte Ireland's tourism figures for 2011. Again it will be presumed that the percentage estimates given for overseas bass and sea anglers remain constant at 25% and 24% respectively. On the basis of this, it is estimated that 33,075 overseas bass anglers came to Ireland in 2014 as did 31,750 sea anglers.

There are two recent estimated average expenditure figures for overseas anglers; firstly, Fáilte Ireland's 2011 *Survey of Travellers* (Source D) estimated that overseas anglers spent an average of €858 during their stay in Ireland in 2011 and, secondly, the 2013 TDI study (Source E) which measured the average expenditure by overseas anglers as €1,027 per person per trip during 2012. This gives an annual expenditure range by overseas bass and sea anglers of between €55.6 and €66.5 million; again a mid-point value will be used, in this instance €61 million. Once again there is a discrepancy between the figure given for numbers of overseas anglers who visited Ireland in 2012 (113,000) and the number as reported by angling category (168,000) and an allowance must be made to mitigate this. In this instance, the figure of €61 million is multiplied by 0.67 to reflect the ration of actual trips versus trips reported by angling category and a final figure of €41 million is arrived at (Table 12).

Table 12: Overseas Anglers 2014				
	Bass Anglers		**Sea Anglers**	
Number of Anglers on Overnight Trips	33,075		31,750	
Average Expenditure per Trip – Sources D & E	€858	€1,027	€858	€1,027
Total Expenditure Range	€28,378,350	€33,968,025	€27,241,500	€32,607,250
Total Expenditure Mid-Point Value	€31,173,188		€29,924,375	
Combined Bass & Sea Angler Expenditure	**€61,000,000**			
Total Expenditure Mid-Point Value (allowing for multiple species bias @ 0.67)	€21,000,000		€20,000,000	
Combined Bass & Sea Angler Expenditure (allowing for multiple species bias @ 0.67)	**€41,000,000**			

5 Total Expenditure on Recreational Bass and Sea Angling – All Anglers

As previously stated, in order to arrive at an estimate of total expenditure on recreational bass and sea angling, a mid-point in the expenditure ranges indicated in respect of domestic, Northern Ireland and overseas anglers will be used. If it is presumed that the average figures for domestic anglers across Source A, B and C are close to being accurate for domestic anglers, then a calculation can be made estimating the total direct expenditure of anglers from all markets on Irish bass and sea angling to be in the region of €52 million and €116 million respectively (Table 13).

Table 13: Sum of Expenditures

Annual Expenditure	Bass Anglers	Sea Anglers
Domestic Anglers (Average of Sources A, B & C)	€30,732,000	€94,940,000
Northern Ireland Anglers	€590,400	€1,329,120
Overseas Anglers	€ 21,000,000	€ 20,000,000
Total Estimated Expenditure	**€ 52,300,000**	**€ 116,270,000**
Total Combined Expenditure	**€ 168,570,000**	

Therefore, the total direct expenditure on recreational bass and sea angling in Ireland by anglers from all markets is estimated to be of the order of €168.6 million (Table 13); this figure corresponds with the estimated 42% of domestic anglers who participate in bass or sea angling annually (TDI, 2013), overall increased overseas visitor numbers in 2014 compared with 2012 and also an estimated increase in overall domestic angler numbers from 252,000 to 273,600 based on the most recent estimates provided through the Millward Brown omnibus survey in 2015.

Table 14: Total Net Expenditure		
Gross Expenditure	**Bass Anglers**	**Sea Anglers**
Total Domestic Expenditure (including N.I.)	€ 31,320,000	€96,270,000
Total Overseas Angler Expenditure	€21,000,000	€20,000,000
Total Gross Expenditure for All Anglers (Rounded)	€ 52,320,000	€ 116,270,000
Net Expenditure		
Leakages	20%	20%
Expenditure (less leakages)	€41,856,000	€93,016,000
Indirect and Induced Multiplier	1.7	1.7
Indirect Expenditure	€29,299,000	€65,111,000
Net Contribution	**€71,155,000**	**€158,127,000**
Bass & Sea Anglers Combined Economic Contribution (Rounded)	**€229,300,000**	

This combined expenditure figure is also comparable with expenditure figures from similar markets in both England and Scotland when adjusted for differences in population size. Based on estimates from the Central Statistics Office Input-Output figures for Ireland, TDI estimated the composite multiplier for recreational angling expenditure to be 1.70. This figure in part reflects the high indirect impact multiplier of the hotel and catering industry which comprises a large element of the direct expenditure of the anglers in the 2013 Study of Recreational Angling. The combined net expenditure for bass and sea angling in Ireland, following adjustments to allow for leakages and multipliers, is thought to be in the region of €229 million (Table 14). This figure is proportionately similar to those reported by recent surveys of English and Scottish sea anglers[15]. Valuation figures for the main categories of angling in Ireland can be seen in Table 15.

[15] Economic Impact of Recreational Sea Angling in Scotland, The Scottish Government, Edinburgh 2009 & Sea Angling 2012 – survey of recreational sea angling activity and economic value in England. Centre for Environment, Fisheries and Aquaculture Science, (CEFAS) Lowestoft, U.K.

5.1 Expenditure patterns

Bass anglers surveyed for the TDI report recorded the second highest average expenditure (for their 'current trip') compared to other angling types. These anglers allocated almost 50% of their total expenditure to accommodation (€268) and food and drink (€181). Boat hire was also a significant expenditure item accounting for 10% of total expenditure (€90). Where other sea anglers were concerned, food and beverages accounted for a high proportion of total expenditure at €147 (22% of total expenditure, or 45% when combined with spend on accommodation). Sea anglers allocated one euro in ten (10%) to boat hire, which was well above the average for all anglers. Of the bass anglers surveyed in the TDI report 37% were from Ireland, 6% from Northern Ireland, 39% were from Britain and 17% were from other European countries. For sea anglers 59% were Irish, 9% from Northern Ireland, 21% were from Britain and 10% were from other European countries.

Table 15: Estimated Contribution of Angling in Ireland by Angling Type – 2014/2015

Angling Type	Domestic Participation Estimate				Northern Irish[16] Participation Estimate				Overseas Participation[17] Estimate				Total Participation			€ Millions	
	%	Number of Anglers Total	€ Total	€ per person	%	Number of Anglers Total	€ Total	€ per person	%	Number of Anglers Total	€ Total	€ per person	Number of Anglers	Gross Expenditure Per Angler	Net Expenditure Per Angler	Gross Expenditure	Total (Inc. Multipliers)
Sea	24	65,664	€94,940,000	€1,446	11	4,510	€1,623,600	€360	16	21,120	€20,000,000	€943	91,294	€1,273	€1,731	**€116**	**€158**
Bass	4	10,944	€30,732,000	€2,808	5	2,050	€738,000	€360	17	22,440	€21,000,000	€943	35,434	€1,473	€2,004	**€52**	**€71**
Salmon & Sea Trout	23	62,928	€102,187,000	€1,623	42	17,220	€6,199,200	€360	37	48,840	€45,845,000	€943	128,988	€1,197	€1,628	**€154**	**€210**
Pike	12	32,832	€68,430,000	€2,084	5	2,050	€738,000	€360	5	6,600	€5,800,000	€943	41,482	€1,808	€2,459	**€75**	**€102**
Coarse	7	19,152	€51,300,000	€2,678	12	4,920	€1,771,200	€360	14	18,480	€17,500,000	€943	42,552	€1,659	€2,256	**€71**	**€96**
Brown Trout	22	60,192	€90,770,000	€1,508	25	10,250	€3,690,000	€360	11	14,520	€14,200,000	€943	84,962	€1,281	€1,742	**€109**	**€148**
Stocked Fisheries[18]	2	5,472	€9,521,300	€1,740	-	-	-	-	-	-	-	-	5,472	€1,740	€2,366	**€9.5**	**€13**
Other Angling Type[19]	6	16,416	€28,564,000	€1,740	-	-	-	-	-	-	-	-	16,416	€1,740	€2,366	**€28.5**	**€39**
Totals	**100%**	**273,600**	**€476,000,000**	**€1,740**	**100%**	**41,000**	**€14,700,000**	**€360**	**100%**	**132,000**	**€124,345,000**	**€943**	**446,600**	**€1,378**	**€1,875**	**€615m**	**€836m**

16 Reported Northern Irish angler figures by angling category have been adjusted using a ratio of 0.48 to allow for the targeting of multiple species

17 Reported overseas angler figures by angling category have been adjusted using a ratio of 0.67 to allow for the targeting of multiple species

18 When asked to choose one type of angling in the 2015 omnibus survey some 2% of Irish anglers categorised themselves as preferring‘ Stocked Fisheries’; expenditure estimates based on average expenditure figures reported across all angling types

19 When asked to choose one type of angling in the 2015 omnibus survey some 6% of Irish anglers categorised themselves as ‘Other Angling Type’; expenditure estimates based on average expenditure figures reported across all angling types

6 Employment

According to Fáilte Ireland, €1 million of tourist spending supports 36 jobs. In arriving at an indicative assessment of employment supported by recreational angling in Ireland, the expenditure estimates presented in Table 14 in respect of overseas anglers (€124 million) and Northern Ireland anglers (€14.7 million) can legitimately be classified as tourist spending.

Not all of the estimated €476 million in domestic recreational angling expenditure can be classified as 'tourist' spending however. To arrive at an estimate of domestic tourist angling expenditure, the volume of overnight trips needs to be taken into account and in the TDI report this is estimated to be 37% of total domestic angling expenditure. Taking into account overseas and Northern Ireland expenditure, total tourist angling expenditure can be estimated at approximately €315 million.

Table 16: Total Tourist Angling Expenditure

	Total Expenditure
Domestic Angler Expenditure	€176,300,000
Northern Ireland Expenditure	€14,700,000
Overseas Angler Expenditure	€124,345,000
Total Tourist Expenditure	**€315,500,000**

Source: TDI / Fáilte Ireland / Household survey

Therefore, applying the Fáilte Ireland formula of 36 jobs supported for every €1 million in tourist expenditure, recreational angling can be estimated to support approximately 11,350 jobs (based on 36 jobs per million in tourist expenditure). Approximately 3,235 of these jobs are supported by bass and sea angling as shown in Table 17.

Table 17: Number of Jobs Supported by Angling Tourism Expenditures (categorised by angling type)

	Domestic Anglers			Northern Ireland Anglers		Overseas Anglers		Expenditure / Jobs	
Angling Type	Number of Anglers Total	€ Total Domestic Expenditure	€ Domestic Tourism Expenditure	Number of N.I. Anglers Total	€ Total N.I. Expenditure	Number of Overseas Anglers Total	€ Total Overseas Expenditure	Total Tourism Expenditure	Number of Jobs Supported
Sea	65,664	€ 94,940,000	€ 35,127,800	4,510	€ 1,623,600	21,120	€ 20,000,000	€ 56,751,400	2,043
Bass	10,944	€ 30,732,000	€ 11,370,840	2,050	€ 738,000	22,440	€ 21,000,000	€ 33,108,840	1,192
Salmon & Sea Trout	62,928	€ 102,187,000	€ 37,809,190	17,220	€ 6,199,200	48,840	€ 45,845,000	€ 89,853,390	3,235
Pike	32,832	€ 68,430,000	€ 25,319,100	2,050	€ 738,000	6,600	€ 5,800,000	€ 31,857,100	1,147
Coarse	19,152	€ 51,300,000	€ 18,981,000	4,920	€ 1,771,200	18,480	€ 17,500,000	€ 38,252,200	1,377
Brown Trout	60,192	€ 90,770,000	€ 33,584,900	10,250	€ 3,690,000	14,520	€ 14,200,000	€ 51,474,900	1,853
Stocked Fisheries	5,472	€ 9,521,300	€ 3,522,880	-	€ -	-	€ -	€ 3,522,880	127
Other Angling Type	16,416	€ 28,564,000	€ 10,568,680	-	€ -	-	€ -	€ 10,568,680	380
Totals	273,600	€ 476,000,000	€ 176,284,391	41,000	€ 14,700,000	132,000	€ 124,345,000	**€ 315,329,391**	**11,354**

7 Similar Markets

There are many similarities which can be drawn between the Irish bass and sea angling market and that of the U.K. The target species and methods used to target them are the same as are other key factors such as climate, angler demographics and the angling heritages of both nations.

Table 18: Bass & Sea Angler Expenditure Comparisons across Similar Markets				
	Number of Adult Bass & Sea Anglers	Gross Expenditure	Estimated Gross Annual Expenditure per Angler	Estimated Net Expenditure Inc. Multipliers & Imports
Ireland	126,250[20]	€168,000,000	€1,330	€229,000,000
England[21]	884,000[22]	£1,230,000,000 (€1,653,000,000)[23]	£1,391 (€1870)	£ 2,100,000,000 (€2,800,000,000)
Scotland[24]	125,188[25]	£140,868,000 (€190,000,000)	£1,516 (€2,038)	£240,000,000[26] (€322,000,000)

Figures are rounded for ease of interpretation

The U.K. market is of course many times larger than that of Ireland with the U.K. Centre for Environment, Fisheries and Aquaculture Science, (CEFAS), estimating there to be an approximate 884,000 active bass & sea anglers[27] in England which equates to an approximate 2% of all adults participating in sea angling; a further 76,000 sea anglers are resident in Wales and 125,000 adults participate in sea angling in Scotland (Table 18). These sea anglers make a significant contribution to the U.K. economy with CEFAS estimating that, in 2012, sea anglers resident in England spent £1.23 billion on the sport; equivalent to £831 million direct spend once imports and taxes had been excluded. This supported 10,400 full-time equivalent jobs and almost £360 million of gross value added

[20] 76,500 Irish domestic bass & sea anglers, 43,500 overseas anglers & 6,250 Northern Ireland anglers following adjustments for anglers targeting multiple species
[21] Sea Angling 2012 – Survey of Recreational Sea Angling Activity & Economic Value in England. Centre for Environment, Fisheries and Aquaculture Science, (CEFAS) Lowestoft, U.K.
[22] Predominantly English domestic anglers
[23] Currency conversions based on February 2015 exchange rates
[24] Economic Impact of Recreational Sea Angling in Scotland (EIRSAS, 2009)
[25] 75,188 Scottish anglers and 50,000 overseas anglers (EIRSAS)
[26] Estimation based on similar leakage & multiplier for English Sea Angling (CEFAS)
[27] In U.K. studies there is no differentiation between bass and other sea angling and they are both referred to as 'sea angling' in the text and this description will be used here

(GVA). Taking indirect and induced effects into account, sea angling supported £2.1 billion of total spending, a total of over 23,600 jobs, and almost £980 million of GVA. Previous to this study, in 2004 the Drew report estimated total expenditure of sea anglers in England and Wales to be worth £538 million annually with angling expenditure supporting over 18,500 jobs and providing £71 million in income to suppliers. This figure of £538 million would be worth approximately £743 million today when allowances are made for inflation. In 2006, a study conducted by Nautilus Consultants estimated the annual expenditure per angling household at £1028. In 2005, Simpson and Mawle assessed the levels of participation in sea angling and estimated that 3 million people in the U.K. over the age of 12 were active sea anglers.

The Scottish Government's 2009 report titled 'Economic Impact of Recreational Sea Angling in Scotland' estimated that 125,188 adults went sea angling in Scotland that year (plus some 23,445 juveniles). Total expenditure on sea angling across the whole of Scotland was estimated to be £141 million supporting 3,148 Full Time Job Equivalents (FTEs) and £70 million annually of Scottish household income in the form of wages, self-employment income, rents and profits. If sea angling in Scotland ceased, the report estimated a net loss of at least 1,675 FTEs and annual income loss of £37 million. The cost of a day's adult sea angling, including allowance for capital spend on items times like rods and boats was estimated at £110 per day. The mean annual expenditure in Scotland by adult sea anglers was £1,516.

In 2009, the *Watersports and Leisure Participation* survey estimated that there were over 1.33 million anglers (boat and shore) in the whole of the United Kingdom with 81,000 anglers in Northern Ireland. The 2014 Survey of Recreational Sea Angling in Northern Ireland estimated that the annual expenditure of Northern Irish shore anglers is £921 and for boat anglers the average annual expenditure is £2,351.

8 The Perceived Status of British & Irish Sea Fisheries

Across all of these markets there were recurring themes relating to declining fish stocks and poor angling returns in comparison with previous years. In an Irish context, 45% of all categories of anglers surveyed in 2012 were dissatisfied with the levels of fish stocks in their fisheries. In 2013, a study of Irish angling events revealed that most of the participant anglers (66%) believed that poaching or illegal fishing had had a negative effect on their angling returns and 55% had seen a negative impact from overfishing or commercial fishing.

In Northern Ireland, sea anglers believed that catches of their target species had declined in the last decade, with a decrease in both the numbers and size of fish being caught. Many believed that this was due to commercial fishing pressures and the removal of juvenile fish by irresponsible anglers. Northern Irish anglers also believed that bass and sea angling participation numbers would increase significantly if fish stocks in Northern Ireland were returned to productive levels and that this would in turn encourage more visitors to come to the country. When Northern Irish anglers were asked if there was anything which would increase the amount of time spent sea angling, the most common answer was if there was more fish, the next most common answer was an improvement in weather followed by restrictions to commercial fishing.

In England and Wales, anglers felt that sea fish numbers and size had declined over the past five years, and to a greater extent over the last twenty to thirty years. These anglers also felt that improving fish stocks were the most important factor that would increase participation in sea angling.

The Scottish Government's 2009 report proposed that the key to unlocking the potential of sea angling is to ensure the availability of fish stocks for anglers to catch. Their study found that underlying uncertainty about fish stock abundance deters new entrants, reduces the willingness of anglers to invest in capital equipment (e.g. boats, engines, caravans) and undermines the confidence of those who might otherwise invest in sea angling services (e.g. charter vessels, tackle shops, accommodation services).

9 Case Study: The Dingle Daiwa Pairs

Where fish stocks remain healthy there is significant potential for peripheral coastal areas to host large scale angling festivals and events. These events can draw tourist anglers from both domestic and overseas markets and hold them in a rural area for an extended period, providing a considerable economic boost to the host locality. There are several of these events held in Ireland each year, examples of which include; the Rosslare Small Boats Festival, the Cork Small Boats Festival, the Absolute Fishing Irish Bass Festival and the Dingle Daiwa Pairs Sea Angling Festival. In 2013, under a partnership project with the Irish Research Council and NUI Galway, IFI coordinated an economic study of Irish angling events. The findings of this study have shown that anglers who participate in these events are likely to spend more than the average recreational angler and are also more likely to have multiple overnight trips each year. These anglers also had a much higher willingness to pay for the type of angling they had participated in; with a consumer surplus[28] in this case of €252 per angler per day.

One such event that will be examined in more detail here is the Daiwa Pairs sea angling competition held in Dingle, Co. Kerry, which was held between the 20th and 26th of September in 2013 and was attended by 124 anglers. This event can be considered as one where both bass and other sea fish are the target species; points are awarded to anglers for different types of fish as well as for the numbers and size of individual fish species caught. It should be mentioned that the vast majority of fish caught were returned to the sea as the sustainable approach of 'catch and release' angling is promoted throughout the event. The breakdown of angler nationalities provided by the event organisers was approximately 75% U.K. anglers and 25% Irish anglers. Of the Irish & Northern Irish anglers involved approximately 60% travelled and stayed in the region of the event and 40% were within travelling distance from their homes. Table 17 shows a breakdown of the expenditure figures provided by the participant anglers from different markets. Total direct expenditure from the participant anglers amounted to €145,104 and following adjustments to allow for leakages and economic multipliers the combined expenditure figure amounts to over €197,000. The addition of consumer surplus estimates gives the event an economic valuation of over €335,000 each year depending on participation rates (Table 19).

[28] In economics, consumer surplus is the difference between the price a consumer actually pays for an item and the price they would be willing to pay rather than do without.

Table 19: Contribution of the Dingle Daiwa Pairs to the Economy						
	Overseas Anglers (Non-GB)	**British Anglers**	**Irish Who Travelled and Stayed in the Region**	**Irish Locals**	**Totals**	**Total Value (Inc. Consumer Surplus[29])**
Number of Anglers	0	93	18	13	124	€156,240
Average Expenditure	€3,000	€1,265	€642	€177	-	-
Total Expenditure	0	€117,671	€11,563	€2,308	€145,104	-
Less Leakages (20%)	0	€94,136	€9,250.70	€1,846	€116,083	-
Plus Multiplier 1.70	0	€160,032	€15,726	€3,138	**€197,342**	**€335,137**

[29] (No. of anglers x no. of angling days x consumer surplus per day)

10 Conclusion

In summation, recreational angling in Ireland can provide significant economic benefits to rural and peripheral regions whose natural angling resources can attract both domestic and overseas angling participants. In many cases these rural areas may be devoid of any alternative tourist attractions and angling can provide an important and sustainable source of income for both the catering and accommodation service providers in these marginalised communities. Recreational angling also has the ability to attract anglers at times outside of the main tourist seasons; the shoulder periods of March through May and again from mid-August through to October provide some of the best angling in Ireland and, as a consequence of this, they are the most popular angling months. These shoulder periods can help to extend the traditional tourist season for both accommodation and service providers with the potential to also provide increased employment and entrepreneurial opportunities within these communities.