



Joint Submission Summary Presentation
for the
Review of Pike Management
in
Designated Wild Brown Trout Fisheries

Focus of The Document: Deficiencies in Sampling, Calculation and Data Gathering Methodology relating to the Study of Pike Diet in Ireland, and it's influence on past pike management policy;

The lack of application, of modern scientific research relating to the native status of pike, and pike diet, into pike management policy;

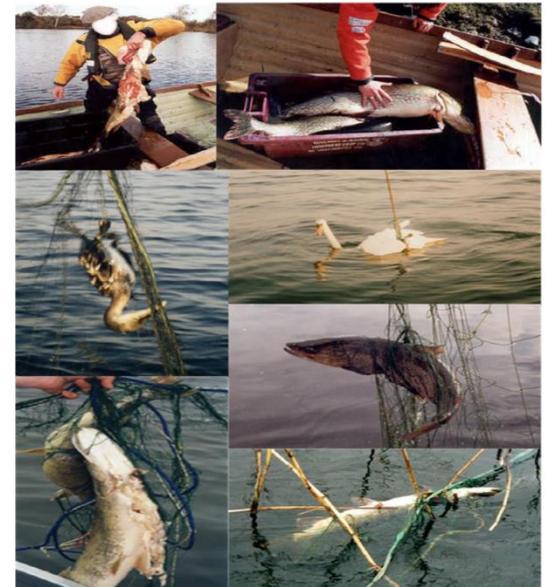
The questionable use of anecdotal evidence to classify pike as non-native;

The poor return on investment into pike management policies, and it's cost, to Irish and European tax payers;

The effect of pike management policy on our wild brown trout stocks;

Economic and Ecological Effects of Pike Management Operations Conducted by Inland Fisheries Ireland and Deficiencies in its Justification

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Past Research Relating to The Origins of Irish Pike: The use of language as a basis for the classification of Irish pike origins;

The use of anecdotal historical evidence as a basis for the classification of Irish pike origins e.g. - A.E.J. Went;

Roderick O'Flaherty stated that up to 1684 he never came across a pike in Connaught. This is quite possible given a species ability to remain undetected when not targeted by anglers or for the purpose of fisheries research. Consider the Lough Allen pollan, up until 2007 this species was deemed as non existent in the Lough. Pollan are endemic(native) to Ireland.

"There was never a pike or bream as yet engendered in all this country nor in the adjacent parts of Mayo or Galway counteys"
(ref. Roderic O'Flaherty , *The Territory West or H _ lar Connaugh, 1684*)

"This species (pollan) is endemic to Ireland and is found in five lakes throughout the country: Lough Neagh, Lower Lough Erne, Lough Allen, Lough Ree and Lough Derg" (ref. Harrison et al. 2010).

"The Lough Allen population has only been confirmed in 2007." (ref. <http://www.loughallenbasin.com/pollan.html>)

In respect of A.E.J. Went's own work background, Barbe, F. & Garrett, S. state that "Arthur E.J. Went worked for the Fisheries Branch of the Department of Agriculture and was a founding trustee of the Salmon Research Trust. They comment "that Went was regarded as a very dedicated game angler who had no great regards for the fish species called pike."



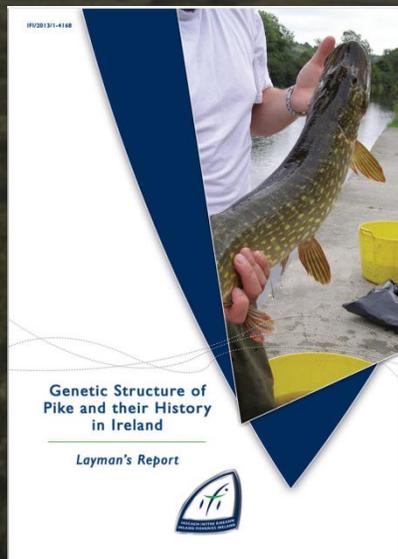
Current Research Relating to the Origins of Irish Pike:

New Study Reveals Pike are Native to Ireland, (*ref. IFI 15th October 2013 press release*);

Recent Challenges to the Classification of Irish Pike as a Native Species – ref: Ensing (2015);

Response to challenges reconfirms IFI's advice that pike are native to Ireland – ref: Pedreschi and Mariani (2015);

Classification Implications with Specific Reference to the EU Water Framework Directive;



“Pedreschi and her team took tissue samples from 752 pike, at 15 locations, and compared their DNA with that of fish from Britain and mainland Europe. A curious genetic picture emerged. It shows that pike reached Ireland and Britain soon after the end of the last ice age, about 8,000 years ago. Nor did all of our pike necessarily originate in Britain: their genetics suggest some may have come directly from mainland Europe.”

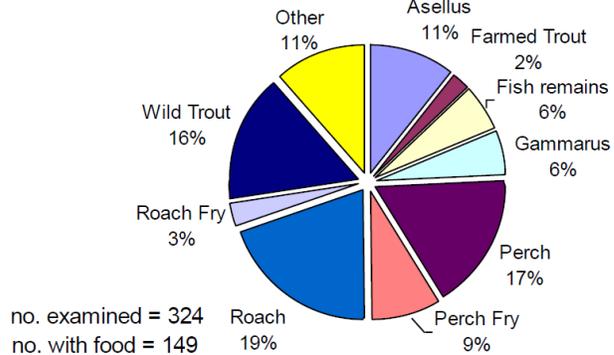
(ref. Irish Examiner, Dec 2nd 2013)



- Past Research Related to The Diet of Irish Pike:** The Ecology, Biology and Management of Pike in Irish Waters with Particular Reference to Wild Brown Trout Lake Fisheries - ref: O'Grady, M.F. & K. Delanty. (2008);
- Deficiencies in Sampling, Calculation and Data Gathering Methodology relating to the Study of Pike Diet in Ireland pre 2012;
- Stomach Content Analysis - a simple snap-shot, potentially uninformative;
- Peer Review, Data Presentation, Sample Timing, Questionable calculation, Sampling Anomalies, Sample Sizes;
- The dietary preference of pike, for trout - largely based on assumptions;

Figure 5a

Percentage frequency of occurrence of dietary items in pike >60 cm in length from L. Sheelin, 1978-2006

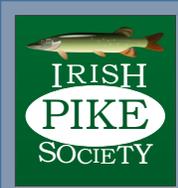


Stomach content analysis (SCA) is a useful tool that allows researchers to study species diets, enabling fine scale species identification that often is not possible from other methods. However, SCA results provide only a snapshot of what has been ingested directly before sampling, thus all prey types may not be observed. Investigating stomach contents can be problematic in piscivorous species, as it can be difficult to identify partially digested remains, and piscivorous species can often have empty stomachs which are uninformative.



Table 1. Total numbers of fish captured in survey nets and total number of trout and roach in pike stomachs, from the March gill netting surveys of L. Sheelin, 1980 – 2007

Table 1.	Survey date	1980	1981	1983	1986	2000	2001	2002	2003	2004	2005	2006	2007
Total No. of fish captured in survey nets	Wild Trout	162	220	90	67	4	4	11	10	7	22	28	4
	Roach	3	18	97	2361	735	611	824	1492	485	47	28	44
Total No. of fish in pike stomachs	Wild Trout	6	25	5	4	2	2	2	1	0	2	1	1
	Roach	0	0	2	9	11	14	7	5	7	4	5	6



Summary Overview of Supporting Documentation to Our Submission Diet of Irish Pike



Lough Corrib, Ref Toner (1959) :

Toner (1959) stated that his study of 1170 Lough Corrib pike showed that they ate 46 ton of trout in one year. Toner's work has never been examined by IFI. An analytical examination of Toner's calculation suggests the figure may be over-estimated by approx. 70%, Ref IFPAC / IPS (2016);

Lough Corrib, Ref O' Grady et. al (1996) :

The O' Grady et. al (1996) report used several key 'assumptions' to calculate that the pike population on Lough Corrib ate 118 tonne of trout in 1995. However, the report recommended further scientific validation studies in respect of additional pike stock density reports and seasonal dietary analysis. FOI enquiries indicate that no such validation ever took place. Requests in 2008 and 2016 by IFPAC and IPS respectively, seeking an explanation of the key 'assumptions' used, remain unanswered. The report also lacks international peer review;

Lough Sheelin Pike Stomach Content Analysis (1978 – 2006), Ref O' Grady & Delanty (2008) :

Comparison of data obtained using Freedom of Information (FOI) and that of IFI reports for the period 1978 – 2006 gives credible concern over the reliability of this respective 29 year data set as a foundation for pike management. E.g. FOI indicates that of 595 pike >60cm in length captured in the 29 year period, only 24 stomachs are recorded as containing a wild trout;

FOI responses demonstrate that the data sets do not substantiate past scientific reports

Current Research Related to the Diet of Irish Pike: The Diet of Pike in Irish Watercourses -
An example of IFI & UCD collaboration;

Current Research into Seasonal Pike Diet:

New Seasonal Dietary Study Commenced in 2016 -

Potentially, an unbiased analysis of pike diet for numerous fisheries. Information sought from IFI on methodology used, and chosen fisheries - not made available as yet;

Current Research into Population Dynamics:

New Population Modelling Study -

New study welcome. Concern that the published purpose of the study is too focused i.e. pike / trout interaction, without integrating all synergistic effects on trout populations. Awaiting information on test sites; the “archived IFI data on pike ecology” and, the “empirical research on pike feeding”. Would liked to have contributed from the outset;

Stable Isotope Analysis provides scientific evidence that pike are opportunist feeders:

SIA - An Important Contributor to Studies about Pike Diet -

Pedreschi et. al (2014b) – first to introduce SIA to the study of Irish pike diet. Previous studies relied on snap-shot stomach sampling, mainly using gill-net captured pike. That gill-net captures, compromise results, due to food regurgitation in snap-shot studies, is recognised by the scientific community, hence the importance of SIA.

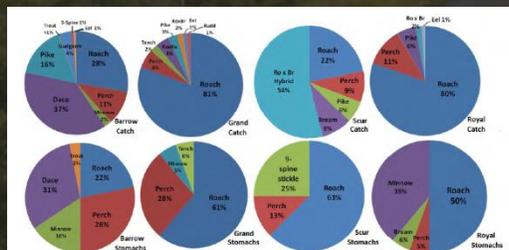
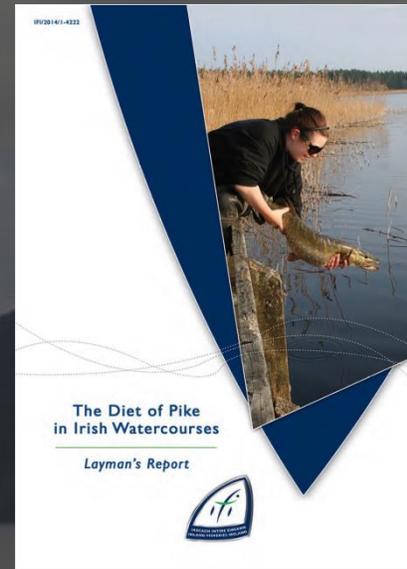


Figure 7. Ten species percent relative abundance from catch data (upper) and pike diet stomach content data (lower). Overall diet proportions follow the general trends found in the environment. Exceptions occur in relation to species such as sticklebacks and minnow that are generally under sampled due to their small size. Differences occur in Lough Scar in relation to Bream and Roach x Bream Hybrids, likely related to differences in morphology (see Discussion).

“SIA provides information on the ‘average’ diet, over a longer term period than SCA, along with what is actually assimilated, rather than just ingested”.
(ref. Pedreschi et al., 2014)

Reduction in Numbers of Wild Brown Trout on Designated Wild Brown Trout Fisheries:

Lough Corrib - Pike Management Operations 1996 to 2012 (Trout Stocks Fall) -

O’Grady, M. & K. Delanty. (2012) – Pike management recommenced in 1997. An analysis of the 2012 data indicates that the trout population did not benefit. In fact - the CPUE value for pike fell by 48.9% - the CPUE value for brown trout fell by over 21%. The CPUE values for competitor species to trout increased as follows - perch increased by 3,400% - roach increased by 15.9% and hybrids increased by 908%;

Lough Corrib – Pike Management Operations 1968 to 1979 (Trout Stocks Fall) –

126,703 pike removed – 103,929 trout captured on rod and line. However, despite pike removal taking place over this period, trout stocks fell by 82% as shown by the results of netting operations. Lack of improvement in wild brown trout stocks during periods of pike management is also reflected in other designated wild brown trout fisheries;

Lough Carra – An Example of Improvement by Addressing the Real Threats –

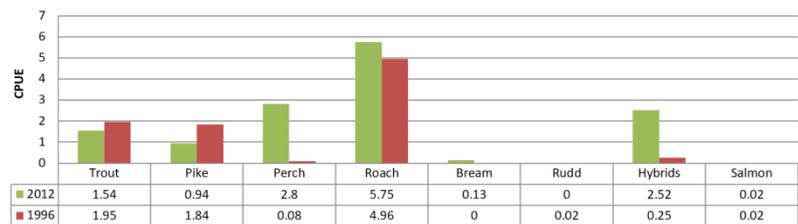
E.g. habitat restoration; pollution; catch and release;

“The wide fluctuations in trout C.P.U.E. values annually since 1978 are paralleled by the records of numbers or trout released during pike gillnetting operations. In 1980 and 1998 staff effort in the pike gillnetting programme were similar. Trout numbers released from pike gill nets in 1980 were almost 10 times greater (2,091) fish) than the number released in 1998 (273 fish). This is further clear evidence of the decline in adult trout stock levels in the lake“

Ref. O Grady, Delanty, 2000

We have Pike and Trout Policies – Where is the Consultation for an Environmental Protection Policy?

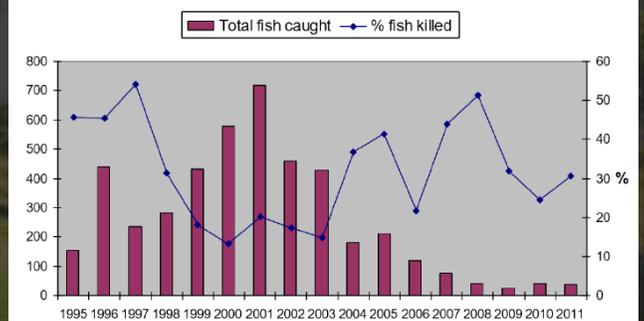
Changes in Fish Population Density between 1996 and 2012 for Lough Corrib



“The size and stock structure of the trout population, as measured in the 1996 survey, represents the ideal in fishery management terms - substantial numbers of young adult fish (< 40cm) many of whom will be large enough to be cropped by anglers in 1996 and 1997 angling seasons. The numbers of older larger fish (>40cms) will ensure a good spawning population in the following year. The angling catches in both 1996 and 1997 were considered to be good.“

Dr Martin O Grady, Inland Fisheries Ireland, Lough Corrib 1996 Survey Report

Total number of trout caught and the proportion killed



Reduction in Numbers of Wild Brown Trout due to over exploitation, pollution and habitat destruction:



The Impact of a Two-Year Break from Trout Angling -

During the period 1988-89 no angling was undertaken on the Western Loughs due to the rod licence dispute. Pike management operations had ceased since 1981. The CPUE for rod caught trout, when angling recommenced in 1990 was 3.3. This was the highest value recorded for Lough Corrib trout since 1965. Lough Mask illustrates a similar trend - see table below highlighted in red. - ref. CFB, O' Grady (1996);

Ireland's Failure to Address The Real Threats to Fisheries containing Wild Brown Trout -

Evidence suggests that the tide of environmental degradation and habitat damage to those fisheries capable of supporting our wild brown trout has swept through many decades. A wide range of factors has impacted on our fisheries. These have included agricultural water pollution, pig slurry water pollution, municipal and domestic sewage treatment systems, forestry, peat abstraction, overgrazing, arterial drainage schemes, river channel canalisation and food web diminution, fish disease and parasites;

Corrib						Mask					
Year	Total catch	Fld days	Total weight	av.wt (lb)	cpue	Year	Total catch	Fld days	Total weight	av.wt (lb)	cpue
1965	6825	2133	8190	1.24	3.2	1965	3847	1012		1.13	3.8
1966	6738	716	8890	1.32	2.8	1966	5410	1367	6442	1.19	3.8
1967	6906		9044	1.31		1967	3630	1310	4417	1.12	3
1968	5697				2.8	1968	6000	2069	5712	0.95	2.3
1969	11404	4386	12853	1.13	2.6	1969	4925	2074		2.4	2.4
1970	6764	2255	7610	1.13	3	1970	5901	1923	7201	1.44	2.6
1971	8110	2028	9651	1.19	4	1971	4643	1161	4522	1.08	4
1972	9453	1050	10655	-1.13	9	1972	5565	588	6981	1.25	9.5
1973	9128		10588	1.16		1973	6429	1710	8036	1.25	3.76
1974	13399		16749	1.25		1974	5894	2143	7426	1.26	2.8
1975	7835	3660	9872	1.26	2.1	1975	6107	2751	7905	1.29	2.2
1976	13043	4351	15521	1.19	3	1976	8516	3608	9982	1.17	2.4
1977	8155	3931	11444	1.25	2.3	1977	5438	3335	6570	1.21	1.63
1978	5324	3534	7368	1.26	1.8	1978	2484	2279	3192	1.30	1.1
1979	4217	3101	5482	1.3	1.4	1979	10459	3692	12352	1.18	2.6
1980	5626	2848	7515	1.34	2.0	1980	6874	2913			2.4
1981	8388	5387	11116	1.33	1.8	1981	6208	2835	7032	1.13	2.2
1982	4801	2296	6228	1.3w/s	2.1	1982	6487	2976			2.2
1983	3477	1776	4926	1.4w/s	2.0	1983	2763	1919	3073	1.11	1.4
1984	6912	2666	9090	1.3w/s	2.4	1984	2747	3122	3500	1.31	0.9
1985	4581	2988	5549	1.2w/s	1.5	1985	4399	2573	5738	1.30	1.7
1986	3741	1666	5712	1.5w/s	2.2	1986	2662	3998	3998	1.40	0.9
1987	6407					1987	1167	1599	1827	1.57	0.7
1988	4369	1323	5498	1.25	3.3	1988	1913	2865	2687	1.40	0.7
1989	1877	2226	2926	1.56	0.8	1989	2175	2862	3059	1.41	0.8
1990	3594	2482	5680	1.61	1.1	1990	2293	3333	3152	1.41	0.7
1991	5474	5087	7648	1.43	1.1						
1994	5565	5980	8426	1.51	0.9						

The 'Under-Stated' Potential Demise of Some Fisheries -

Lough's Sheelin, Conn & Cullin have each faced their demise as wild brown trout fisheries;

The 'Under-Stated' Extinction of the Pollution Sensitive Arctic Char -

Lough's Corrib & Conn – arctic char became extinct in the 1970's and 1990's respectively – Ireland's disgrace. The formation of the Corrib Fisheries Association in 1898, suggests an extended period of habitat degradation.

Lough's Mask, Arrow, and in 2016 - Lough Carra - Each Face Their Own Pollution Difficulties -

All angling disciplines must unite to see an end to pollution and habitat degradation – 'Road to Sustainability'



Ireland's termed 'Wild Brown Trout Fisheries' – including 'The Great Western Lakes' are Significant to Pike Anglers. Why?



Internationally Renowned :

Produced 61 of 198 Pike over 35lb caught in Ireland & UK between 1750 and 1978
Ref: Domesday Book of Mammoth Pike, F. Buller, (1979);

Natural Wild and Challenging Fisheries amongst some of the best Scenery in Ireland :

Attracts pike anglers from all over the world seeking mammoth pike. Managed correctly, can generate out of trout season tourism revenue. Tremendous potential to grow market. "Current pike management policies may impact negatively on Ireland's reputation as a prime pike angling destination" Ref: IFI. International anglers e.g. Dutch SNB members & UK anglers cancel holidays en masse. Sweden & Baltic states now benefitting – ref: P&P;

Authentic pike of 53lbs in weight

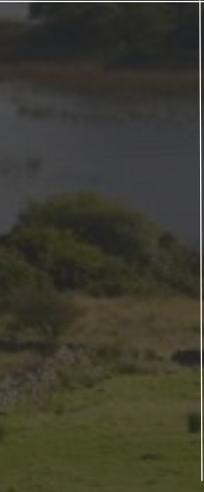
Lough Conn, John Garvin (1920) – At one time the Irish Record Pike, Ref: Domesday Book of Mammoth Pike, F. Buller, (1979);

The opportunity to catch a pike exceeding 30lb in weight:

Lough Corrib 37lb 4oz (J. Matthews, Wales, 1994) Ref: Ultimate Pike, D. Horton (2000); 35lb, 36lb, (2006) Ref: IFI Section 59 Exemption; 35lb 8oz (Maciej Dukacz, Poland, 2012) Ref: <http://fishinginireland.info>

The dream of having the opportunity to catch a pike exceeding 40lb in weight:

Lough Mask, 42lb (B. Rozemeijer, Holland, 1995); 42lb (1996); 40lb (2004) Ref: Mammoth Pike, N. Fickling (2004);



Past Experiences of Pike Policies and Management are not good What does the Future Hold?

- 1998 –** Gill-nets kill numbers of big pike on the Great Western Lakes – breaches agreement between WRFB and anglers as part of the 'Tourism Angling Measure 1994-1999' to return pike alive;
- 2003/04 –** WRFB & NWRFB reject pike policy 2003 recommendations of CFB proposing the return of 80cm pike – Why did CFB not dictate that the recommendations be implemented by all boards?
- 2006 –** Two big pike of 35lb and 36lb killed on Lough Corrib (WRFB Section 59 Exemption);
- 2008 –** Illegal sale of pike in Moore Street, Dublin (apparently Section 59 Exemption - Lough Corrib);
- 2013–** IFI advise IFPAC that gill nets for pike management are to be phased out over next 2/3 years – IFPAC notify wider pike angling community of this welcome news. Gill nets are not phased out to date;
- 2015 –** Pike anglers witness, record and publish evidence of dead pike captured in gill nets on Lough Conn – IFI are in breach of 2014 pike policy review recommendations;
- 2015 –** Pike anglers witness, record and publish poor handling of pike by IFI staff conducting pike management on Lough Conn - IFI senior management postpones all pike management nationwide;
- 2017 –** New pike policy to commence – What positive actions can pike anglers expect in the future?

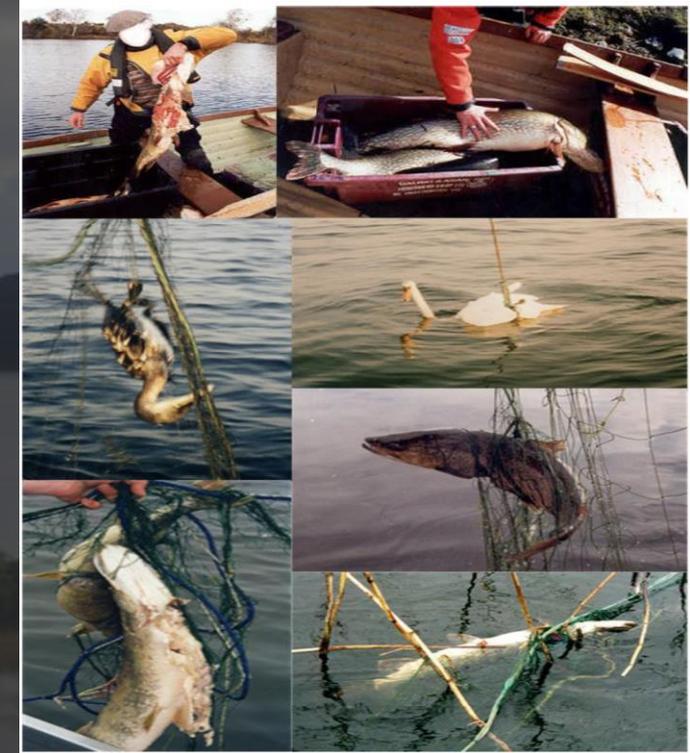


Immediate Actions

- 1 That pike are recognised as a naturally occurring species in Ireland, being present for at least 8000yrs, and are given their rightful 'native' status;
- 2 That Inland Fisheries Ireland cease all pike control, and the support of pike control measures, in all designated wild brown trout fisheries;
- 3 That Inland Fisheries Ireland cease issuing 'section 59' exemptions for the purpose of taking or killing pike, in all designated wild brown trout fisheries;
- 4 That rather than depict pike as an ecological negative in fisheries containing brown trout, that Inland Fisheries Ireland review their apparent biased portrayal of pike, and present a balanced view to educate the public of the importance of pike to maintain a healthy ecosystem;
- 5 That funding presently used by Inland Fisheries Ireland to remove pike, is instead used to improve the aquatic habitat for all species for the benefit of the fishery as a whole;
- 6 That pike fishing be developed, promoted and encouraged for the benefit of angling tourism, especially during the trout angling closed season, on all Inland Fisheries Ireland managed and publicly owned fisheries;
- 7 That there be no restrictions on the two rod limit - that the use of all current legal pike angling methods should be permitted on waters presently managed as wild brown trout fisheries – that the 50cm national conservation of pike bye-law (809) be maintained as it is;
- 8 That Inland Fisheries Ireland recognises its own market research (2015) in the national strategy for angling development that “current pike management policies may impact negatively on Ireland’s reputation as a prime pike angling destination”;
- 9 The IFI presentation “**The Necessity for Controlling Pike Stocks in Some Quality Irish Wild Brown Trout Managed Lake Fisheries**” states that pike control is not necessary on fisheries where pike production is limited due to the extent and availability of pike nursery areas and degree to which the trout population feeds pelagically in a lake. These parameters were applied to Loughs Derravaragh, Ennell and Owel and hence the need for pike management was no longer deemed required. It is our view that Lough Mask is an appropriate candidate for such an investigation;

How IFI's Attitude to Pike on "Designated Wild Brown Trout Fisheries" is Perceived by The Domestic and International Community

- 1 That the historically staunch anti-pike attitude apparent when IFT itself was formed "with the objective of developing brown trout *Salmo trutta* L. angling in Irish waters" remains prevalent within IFI;
- 2 That the substantially anecdotal and questionable scientific evidence related to pike diet and origins, continues to shape pike management policy;
- 3 That there is an unwillingness to embrace modern scientific research findings, in order to shape the utilisation of Irelands pike angling resource;
- 4 That there is an unwillingness, unless pressured, to undertake new scientifically based research to "fill in the gaps", related to pike ecology in Ireland;
- 5 That wild brown trout populations have not been appropriately protected from the real environmental threats that have persisted for over a century;
- 6 That there is no sufficient annual cost benefit analysis to support pike management;
- 7 That Irish and European taxpayers are funding the destruction of one of Irelands natural resources;
- 8 That the Irish taxpayer is not enjoying the potential extension of employment and economic opportunity in the rural areas affected by pike management policy (see next slide);



Economic Impact to the Irish Tax Payer

The negative economic impact of pike management operations are wide and varied but generally affect areas where alternative opportunities for revenue and employment are limited such as rural towns and communities. Such areas have typically not felt the effect of the general recovery in the Irish economy in recent years. Pike management operations further limit employment and revenue opportunities in these areas outside of the main tourist season as thousands of domestic and international pike anglers stay away in protest and the assumption that their target quarry is very limited.



As opposed to some other fish species pike do not require management in order to function in a fishery and reach an acceptable size and number to attract anglers. It is true that pike populations fare best when neglected. However IFI are investing year on year on management that has no beneficial effect to pike or any other species and in fact vastly reduces the attractiveness of Irelands pike angling product. Pike management policy endorses the widely held idea that Ireland’s fishery management policies are in fact anti-pike.

Angling as a whole contributes €836,000,000 to the Irish economy and supports over 11,000 jobs directly. There is a contribution from pike angling of 12.2% or €102,000,000. In terms of placement pike angling is the fourth largest contributor to overall angling revenues with brown trout third, sea angling second and salmon and sea trout angling the largest contributor. However, as detailed in the IFI commissioned report **“The Economic Contribution of Pike Angling in Ireland 2015”** pike angling is vastly underrepresented with significant potential for growth through a more focused management approach for the benefit of pike. In this independent report there is recognition that currently the potential of pike angling revenue is severely limited due to negative pike management policy. IFI states in its own market research (2015) in the national strategy for angling development that **“current pike management policies may impact negatively on Ireland’s reputation as a prime pike angling destination”** and additionally, the potential for pike as an asset for angling tourism with a status as **“the number one sport fish in Germany, France, the Netherlands and Italy”** and that pike fishing is **“also quite popular amongst anglers in the UK”**. A positive change in management policy would see pike angling revenue contribution increase greatly as large numbers of anglers return and hence elevate its contributory position. This is supported by data from both domestic and international anglers alike.



How IFIs Attitude to Pike on “Designated Wild Brown Trout Fisheries” should be



Perceived by The Domestic and International Community

- 1 That pike are treated as an important ecological species vital to the maintenance and balance of fisheries;
- 2 That the pike angling resource is recognised for its value and ability to bring economic opportunity and employment; e.g. Lough Ree, Derg, and Lough Erne pike angling festivals;
- 3 That IFI and all sections of the angling community work together harmoniously for the benefit of all to protect and improve our fisheries for all species;
- 4 That IFI and all sections of the angling community work together to extract the greatest return for Irish taxpayers, thus benefitting the state as a whole, and raising the profile of our angling resource, and it’s importance. A raised profile at government level will open additional funding streams;
- 5 That the prime wild waters of Ireland offer the best pike angling opportunities and hence win back international anglers from competitor destinations such as the UK, Holland and Sweden;



The World's TOP anglers are returning to Lanesborough for

The Lough Ree International Pike Classic 2017

Saturday June 24th & Sunday June 25th, 2017

On the renowned 2016 World Predator Boat Championship Fishery at Ballyleague, Lanesborough - Roscommon/Longford Border

A staggering prize & benefits fund of **€10,000**

Two days of world class fishing at a world class venue for top cash prizes, bonus prizes and much more to be announced...

This event is organised by the Comin & District Anglers Club for Lough Ree Angling Hub

