

CORR NA MONA AND DISTRICT ANGLERS

SUBMISSION TO
INLAND FISHERIES IRELAND
REGARDING

THE MANAGEMENT OF PIKE ON
THE WILD BROWN TROUT
FISHERY OF LOUGH CORRIB



NOVEMBER 2016

The main points of our submission;

. Corr Na Mona and District Anglers fully support the ongoing management of pike on Lough Corrib.

. The management of pike on Lough Corrib is essential in the maintenance of sustainable wild brown trout stocks on Lough Corrib

. Lough Corrib is the No. 1 wild brown trout fishery in Europe and one of the top wild brown trout fisheries in the world.

. The attraction of top class wild trout angling draws anglers from all over the world to the shores of this wonderful natural jewel.

. There are countless pike fisheries in Ireland, the U.K. and all around mainland Europe but there are only a handful of Wild brown trout fisheries.

. We must protect what is unique, rare and vulnerable.

. Wild brown trout angling contributes in excess of 95% of the revenue from recreational angling on Lough Corrib.

. Lough Corrib is a Special Area of Conservation (SAC) as recognised under the protection of Natura 2000 protection act. Wild migrating Salmon are a

designated species under threat and the management of pike numbers is essential in protecting the wild salmon.

Local insight to the effects of Pike predation on wild Brown Trout and Salmon stocks on Lough Corrib

Corr Na Mona and District Anglers club was formed in 1958 and many of our members can recall the fortunes of Lough Corrib from that time and earlier. Our local anglers have fished for Brown trout, Salmon, Pike, Perch, along other course fish on this great lake thus giving us a huge volume of knowledge regarding the interaction of fish on this body of water. However, we do not base our main points on local knowledge alone but rather on hardened scientific extracts as per below. The situation regarding the relationship between pike and the salmonid species on Lough Corrib is that the Pike is the top predator. In our quotes and references below derived from international scientific reports and surveys we show that salmonids have unfortunately not evolved with defence mechanisms to remain as a sustainable game fish in co-existence with Pike. For certain species, in waters where there is the opportunity to remain deep away from predatory pike, it is possible for that species to remain sustainable. Unfortunately, as is the case at the Dooghty (Corr Na Mona) river, the Failmore river and the Maam River, all adult wild brown trout and Salmon have to pass through the shallow weed ridden river mouths at spawning time and make the same perilous journey back down through the same river mouths when returning to the Lake. At these times pike congregate at these specific locations and cause untold damage to the vulnerable salmonids. Before current byelaws and during sanctioned competitions our members have caught pike and most had young to adult salmonid contents in their stomachs.

Pike as Top Predator;

The voracity of pike has long been known; Walton (1653) notes that *“their life is maintained by the death of so many fish.”* The ability of the species to consume large quantities of prey is also remarked upon by most modern reviewers; Scott and Crossman (1973), for example, cite a report of **‘2,594 pike eating more than 112 tons of fish in a year’**. Regarding the actual mode of feeding used by pike, Casselman (1995) describes *‘a crepuscular, ambush style of predation that relies on camouflage within aquatic vegetation. While the abundance of prey affects growth rate, it is not usually critical to survival, because pike are opportunistic*

feeders, switching to invertebrates and even each other when fishes are scarce (Casselman 1995).



Below is an extract from an Article regarding '**Impacts of Northern Pike on Rainbow Trout**' that appeared in **the North American Journal of Fisheries Management** (Written by Natalie C. Scheibel and Jacob L. Davis)

'In contrast, larger Northern Pike (≥ 600 mm TL) consumed primarily Rainbow Trout, which accounted for 56% of their annual energy consumption. Over its lifespan, an age-10 Northern Pike was estimated to consume ~117 Rainbow Trout. Thus, Northern Pike predation substantially influences salmonid management initiatives and is likely a primary factor contributing to reduced Rainbow Trout abundance and return to anglers in Pactola Reservoir.

Protection of Atlantic Salmon under EU directive

Lough Corrib is a very important wild Salmon Fishery with the Salmon Weir fishery in Galway attracting top anglers and indeed countless celebrities to Galway to enjoy world class Salmon fishing. Unfortunately, the wild Atlantic salmon is under threat and pike on Lough Corrib remain a constant threat in the journey to the spawning streams to as far North as the Maam Valley.

Extract from **UK Report On Status Of Wild Atlantic Salmon**

'Status and distribution

European distribution; The Atlantic salmon (Salmo salar) is listed in annexes II and V of the European Union's Habitats Directive as a species of European importance. Historically, the species was widely distributed in all countries whose rivers enter the North Atlantic.

However, its current distribution has been restricted by anthropogenic effects, particularly man-made barriers to movement, and deterioration in water quality due to urban expansion and changes in agricultural practices. Consequently, the Atlantic salmon has declined or become locally extinct in many of the larger navigable rivers, such as the River Rhine (Mills 1991), and industrial rivers.'

Although there are arguments (Notably the Layman Report) in relation to the introduction of pike onto the Island it is very unlikely that Pike existed in the great Glacial lakes of the West of Ireland ie Loughs Corrib, Mask, Carra and Conn due to their isolation west of the Shannon system and drainage into the Atlantic Ocean. The Layman theories really only refers to migration possibilities regarding eastern waters and possibility of connection to UK in Irish sea. Trout and Salmon cannot sustain un-managed pike populations as is determined in the following report called the **Management Plan for Northern Pike In Alaska by the South Central Northern Pike Control Committee;**

'(Ecological) Introductions of northern pike to waters outside its native range can have significant ecological consequences. Pike are highly predatory and can reduce populations of native species including mammals and waterfowl (Solman 1945) In one extreme example, Lagler (1956) estimated that an average of 1.5 million waterfowl were consumed by northern pike in a wildlife refuge in Michigan even though fish had been their primary prey. Ratt (1988) summarized over 20 papers on the prey consumption efficiency of pike. In general, juvenile pike have a food conversion rate of 0.33, but this utilization rate declines with age. Conversion rates of adult pike have been reported at 0.18 in favorable environments, meaning that for every pound of weight gained, the pike must consume 5.5 pounds of prey. Food requirements vary with temperature, but there are significant increases in metabolism in late spring as fish recover from spawning activities (Johnson 1966). This is concurrent with the spring emergence of salmon fry from redds. Northern pike are known to consume large portions of stocked and migrating juvenile salmonids.

*Petrovzovskiy et al. (1988) showed that pike account for approximately 35% of stocked Atlantic salmon smolt mortality in the Keret River in Russia, and Larson (1985) documented a 50% loss of migrating Baltic salmon from pike predation. In southcentral Alaska, juvenile salmon and trout, particularly coho salmon (*Oncorhynchus kisutch*), sockeye salmon (*Oncorhynchus nerka*), and rainbow trout (*Oncorhynchus mykiss*), are preferred prey for pike (Rutz 1996, 1999). All five species of pacific salmon (*Oncorhynchus* sp.), along with Arctic grayling (*Thymallus arcticus*), Arctic char (*Salvelinus alpinus*), Dolly Varden (*Salvelinus malma*), burbot (*Lota lota*), whitefish (*Coregonus nelsonii*), blackfish (*Dallia pectoralis*) and threespine stickleback (*Gasterosteus aculeatus*) are potential prey. Excessive depredation on these species can lead to the loss of species diversity in southcentral Alaska fish communities. Salmon are keystone species in Alaska and play a vital role in ecosystem functioning (Wilsson and Halupka 1995). They provide food for terrestrial predators such as brown bears and eagles, and decaying salmon carcasses release marine-derived nutrients into the terrestrial environment. This ultimately increases productivity within the system. Fewer salmon from pike predation can lead to increased competition among native predators for prey, loss of nutrient inputs, and a reduction in overall ecosystem productivity.'*



*'In Southcentral Alaska, invasive pike are a substantial concern because they have spread to important spawning and rearing habitat for salmonids and are hypothesised to be responsible for recent salmonid declines. We described the relative importance of salmonids and other prey species to pike diets in the Deshka River and Alexander Creek in Southcentral Alaska. Salmonids were once abundant in both rivers, but they are now rare in Alexander Creek. In the Deshka River, we found that juvenile Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*O. kisutch*) dominated pike diets and that small pike consumed more of these salmonids than large pike. In Alexander Creek, pike diets reflected the distribution of spawning salmonids, which decrease with distance upstream. Although salmonids dominated pike diets in the lowest reach of the stream, Arctic lamprey (*Lampetra camtschatica*) and slimy sculpin (*Cottus cognatus*) dominated pike diets in the middle and upper reaches. In both rivers, pike density did not influence diet and pike consumed smaller prey items than predicted by their gape-width. Our data suggest that (1) juvenile salmonids are a dominant prey item for pike, (2) small pike are the primary consumers of juvenile salmonids and (3) pike consume other native fish species when juvenile salmonids are less abundant. Implications of this trophic adaptability are that invasive pike can continue to increase while driving multiple species to low abundance.'*

As we stated earlier in this submission wild brown trout and salmon are at their most vulnerable when migrating to our rivers and streams.

Below is an extract from *Fisheries Ecology* by Paul J. B. Hart showing how this problem is not just confined to our native lakes;

'Every year, eight metric tons of fish don't make it through the gauntlet of northern pike that inhabit the slow-moving waters of Montana's Flathead River.

That translates to about 342,000 fish, including 13,000 westslope cutthroat trout and 3,500 bull trout, according to a newly published study that was largely funded by the Bonneville Power Administration's mitigation program for Hungry Horse Dam.

"Our results suggest that predation by pike is probably contributing to lower abundance of salmonids in the Flathead system," said Clint Muhlfeld, the study's lead researcher.

"They are a top-end predator. They are really opportunistic and they will basically eat any available food source that's out there."

The numbers in the study, published in the North American Journal of Fisheries Management, were generated by software modeling called Bioenergetics, with the input of 367 pike that were trapped in 2002 and 189 trapped in 2003, along with an analysis of the contents in 284 pike stomachs provided by anglers over the same period.'

Other factors

Lead study author Adam Sepulveda of the USGS in Bozeman, Mont., said salmon were found to be the preferred prey for pike.

'Salmon hatch and spend about a year in fresh water before migrating to the ocean. Juveniles in fresh water have no natural defence against toothy, voracious pike, which ambush fingerlings in slow-moving water'.

'We sampled 274 pike in a stream where salmon are still abundant, and we found over 600 salmon in the stomachs of these pike," he said in the announcement of the study. "Several of the pike had greater than 20 juvenile salmon in their stomachs."

The researchers found salmonids, including grayling, trout and whitefish, in 140 of the 274 pike stomachs sampled in the Deshka.

They found that *'Small pike ate more juvenile salmon than larger pike.'*

Conclusion;

Given all the local knowledge regarding Lough Corrib in relation to the many comprehensive scientific reports compiled by Inland fisheries Ireland combined with extensive international scientific data it must be concluded that Lough Corrib must go forward as a managed fishery. Unless the pike population is continually controlled, Wild Brown Trout stocks will deteriorate along with Wild Atlantic Salmon, with the knock-on effect that the angling tourism industry of Galway will be devastated.

The Corr Na Mona and District Anglers