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Tactical pike fishing related to pike behaviour and ecology

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INTRODUCTION

The pike is a teleost fish, and therefore, in evolutionary terms less advanced than amphibians, reptiles, birds and mammals. Despite this, having evolved over 200 million years ago it is without doubt a highly successful species. It has survived longer than the dinosaurs. That success has been based on instinct and a limited ability to learn. We as anglers do not fully understand the extent of that ability to learn, but a pike certainly knows where it is, knows by instinct and its physiology when to breed and the endocrine and nervous system dictates whether or not a pike is hungry or not. If a pike is hungry its instinctive behaviour and form enables it to satiate that hunger. A complex biological machine, yes, but one we as anglers should have little difficulty in understanding. Unfortunately we live in air while a pike lives in water. We are more or less excluded from the watery world without the benefit of complex diving equipment and I doubt if a pike is at all bothered what is going on in our environment.

In order to catch pike using rod and line angling we have to try and understand pike behaviour. As I've already implied direct observation of pike is rare. Why is this? Young juvenile pike of 5 to 10cm can frequently be found in weed cover and can be watched quite easily. As soon as pike get to a certain size most move out to open water habitats where they remain invisible to us. Even 3 metres of otherwise clear looking water is not clear enough to see the bottom. So we are fishing blind. Adding to our problems pike are not evenly distributed throughout a watercourse. There will be a few areas where there are lots of pike and a lot of areas where there are no pike.

Before I explain how pike anglers approach the problem of finding the pike themselves I need to demonstrate one fact. Some of the very best pike anglers in the UK do not have University degrees, are not nuclear physicist and certainly did not have any part in the discovery of the structure of DNA. They have a basic understanding of pike behaviour, do not try to over complicate things and for all intents and purposes do the obvious things when they fish.

WHERE TO FIND PIKE?

So firstly where to find pike? Well because pike live in so many varied environments it is not an easy question to answer. Pike can live in glacial lakes of 100m average depth or lowland lakes of only 2 metres. Pike can live in most types of river only being excluded from the trout and grayling zones. They can exist in saline water such as that found in parts of the Baltic. Generally in glacial lakes you can say that beyond 20 metres you are unlikely to find pike. Between 2 and 20 metres pike can be found. In some waters 12 metres is about the limit. The more structure there is in a lake usually the easier it is to find pike. Structure can range from natural features such as submerged islands to extensive weed beds growing out of 4 metres of water. There are also man made structures on many lakes and reservoirs. These include reservoir draw down towers, aerators, bridges harbours and so on.

Smaller and shallower waters can have interesting structures such as marinas on canals and on some rivers areas have been constructed as nature reserves. Shallow waters can have extensive areas of water weed. A canal with extensive reeds can be more attractive to pike than those parts without. In the UK winter food fish shoals take up residence in built up areas. The presence of humans deters predators such as cormorants and there is one thing that fish are terrified of and that is the cormorant.

Fast flowing rivers with pools and riffles have a considerable amount of structure. Ambush points are numerous and features such as overhanging trees are used by pike frequently. There are many more features which attract pike and the tactical approach requires us to find the features which attract them.

SEASONAL BEHAVIOUR

Pike do display seasonal movements. If we are unaware of these movements we may frequently end up fishing where there are no pike! The most obvious movement by pike is to their spawning grounds. The need for submerged grass or aquatic weed in shallow water means that pike have in some waters to move considerable distances to find these areas. On Loch Lomond for example at the northern end (Ardlui) there is only one suitable spawning area in about 10 km of Loch. Needless to say the same fish return to these areas each year. On Lough Corrib where intensive efforts have been carried out to remove pike using gill nets set in shallow bays, some pike more perhaps by luck end up spawning in and around sunken bushes where nets are not set. We might presume that those pike which evade gill nets instinctively return to the same areas thus avoiding the nets in later years. There is no scientific proof for this, but it seems logical.

We as anglers while not seeking to catch spawning pike can time our efforts so that we intercept the pike before and after they have spawned in a closely defined area. Movement to spawning areas by pike from pre spawning feeding areas can occur very quickly. Konobeeva and Voludin (1989) found that pike of 33 to 66 cm could maintain station in a flume at up to 20cm per second. This would be unsustainable for any length of time, but even half this speed could see a pike move at 2.78 km per

hour In other words a steady walking pace for a human and indicative of how pike can be in one place one day and a long way away the next.

Pike can also move long distances to exploit food resources. As anglers we need to be aware of this or once again we will be fishing for non existent pike. On Lough Mask in Ireland until the pike removal took serious effect, pike would regularly move from the main Lough 10,000 ha to a small Lough (2 ha) a journey of 5 km. The small lough is a transit area through which brown trout run to reach their spawning grounds. Obviously, they also use the same route to return post spawn. The pike instinctively (probably reinforced over thousands of years) intercepted the trout in the confines of this small water. Once again exploiting this situation can lead to some good catches of pike. My best week included 7 fish, each over 9 kg.

Food availability is so often the key with pike location. On large glacial lakes food fish gravitate towards deeper water during the winter. These deeper areas will frequently be relatively sheltered, a large deep bay of 50 ha for example. When food fish such as roach and bream gather in over wintering areas pike eventually find them and can take up residence adjacent to them. The presence of food fish is most easily spotted on a calm day when roach and bream carry out their dawn display by rolling or jumping on the surface. Incidentally no-one seems to know why they do this. Interestingly despite all the fish that will be in a bay they are hard to pick up on sonar until they retreat to more than 10 metres deep.

There are quite a few other seasonal movements of pike to be found throughout the world and these include interceptions of whitefish runs on waters such as Great Slave Lake in Canada. On UK rivers, lamprey runs are intercepted in the winter in weirpools where the upstream movement of the lamprey are held up. In fact anything which moves from A to B including eels, salmon and sea trout smolts will be susceptible to interception.

ARE THERE ANY BIG PIKE IN THERE?

Though there are plenty of pike anglers who consider a 5 kg fish a big one, most serious pike anglers aspire to catching a 10 or even 15kg fish. To catch such a fish you first have to find a water where they are present. Most fisheries will produce pike of 10 kg, a very few are capable of producing pike of 15kg. Let's look at what is required to produce what we call a specimen pike.

1. An ample supply of food fish.
2. A high standard of angling so catch and release is practised without mortality.
3. No commercial fishing.
4. No pike removal in the name of protecting other species.
5. Last but not least and probably as important as the other four, good water quality.

Chew Valley Lake

In the UK the very best pike fishery is Chew Valley Lake. This 600 ha reservoir is stocked heavily with rainbow and brown trout. Initial attempts to remove the pike (in the UK the fact that pike eat trout wasn't very popular) eventually gave way to an acceptance that a large amount of money could be made from selling tickets to fish for the pike. It is estimated that the pike fishing at Chew generates around £100,000 per year which should be more than enough to compensate for the trout the pike eat. How big then are the pike? Well the biggest so far has been 19.5 kg. Over 60 pike over 15.9 kg have been captured and the number of 14kg pike caught is too many to remember! This is exceptional pike fishing and pike fishing dates are always all taken up in two days!

The standard of pike handling is quite good and because of this there are repeat captures of big pike. On other waters there have been examples of pike which have been captured over ten times which shows that with correct handling pike will survive being caught several times.

USING SCIENCE TO HELP US FIND BIG PIKE

Very little in the way of age determinations have been carried out on the larger pike caught in the UK. Craig (1996) makes it clear that age determinations of pike become difficult using scales when the subject is slow growing. The opercular bone has long been a preferred method of age determination, Svetovidov (1929), but more recently the cleithrum has been found to be easier to read, Casselman and Harvey (1975). Unfortunately both the opercular bone and cleithrum require the sacrifice of the pike and this would be intolerable in the UK.

Generally from my own experience of scale reading it has been possible give or take a year to say that a fast growing pike of 96cm weighing 10kg can be 6 years of age. A 14kg pike of 106 cm would be 8 years old. These are very fast growing pike from fisheries that are artificially stocked with trout. Examples of slow growing pike I have examined may be 4 or 5 years older and the degree of error from the scale reading may be even higher.

I do have conclusive proof from the identification of pike via their markings Fickling (1982) of the growth in weight of a number of fish and 1.8 kg per year once the fish have reached 4.5kg is quite normal in heavily stocked (with food fish) waters. In natural waters there is one good example of a fish I caught in 1994 at 17.5kg which was recaptured in 1996 at 19kg an annual increase of 0.9kg. I would suggest this is a more typical growth in weight. I appreciate that true growth is a function of length, but the non scientific pike fishing community of the UK are much more interested in weight than length.

So in answer to the question "Are there in any big pike in there" I suggest that we all try and find waters where the pike grow at 4lb per year and live for 12 years!

CATCHING THE PIKE

Deadbaits

It is essential to adapt fishing methods to suit the seasonal movements of pike. There is a belief amongst many pike anglers that you should "match the hatch" i.e. present the pike with a bait which the pike are feeding on. My own experience is that because pike are opportunist feeders they may well take any bait presented to them. For example, brown trout should be good baits for pike which are feeding on brown trout. Yes, you will catch on brown trout, but I've caught much better on mackerel!

Where lamprey are running up a river there definitely is a positive correlation between lamprey being a superior bait and lamprey being numerous in the river. Interestingly many other species also exploit the lamprey and these include zander, chub and barbel. When the lamprey are not in the river it is not as good a bait.

The use of static deadbaits to catch pike is a relatively modern development. (1950s). Prior to then pike anglers were to some extent brainwashed into thinking that a live fish or a lure representing a live fish was the only way to catch pike. We now know better and dead baits fished static on the bottom catch as many pike in the UK as any other method. Though plenty of our large mammalian and bird predators are scavengers it has taken a long time for pike anglers to accept that pike are highly effective scavengers. Shoals of roach and bream often contain unfit members and if one of them should happen to die as must happen every day then the pike instinctively knows that it should pick the prey item up. I doubt if pike understand the concept of gaining the maximum return in energetic terms from an easy meal, but as an evolutionary tactic it has obviously done the pike no harm at all.

How pike locate a non-descript dead fish sitting on the bottom of a lake is the subject of some conjecture amongst pike anglers. My view is that smell has to be the key sense used to locate a dead fish. Once a fish is dead the integrity of the cell membranes starts to break down and this must mean that various water soluble amino acids and proteins leak from the bait. Many fish species are sensitive to small amounts of such substances in water and I've no doubt pike can locate a dead fish by smell alone even in coloured water. Sight will presumably play a part as well where the dead fish is clearly visible. In weedy waters sight is probably unimportant and smell must be the only sense involved.

Live baits

So far I've referred to dead baits. Where allowed live baits can be highly effective and rainbow trout are very useful on waters stocked with rainbow trout. This is mainly because these are the only baits allowed. (We have strict movement restrictions for freshwater fish in the UK). Livebaits provide a heightened level of stimulus and for those that have kept pike in aquaria will know that they react very quickly to live fish. A dead fish may be ignored and this is probably because in captivity some predators require additional stimuli to provoke a feeding reaction. Armstrong (1986) found that dead minnows frequently had to be twitched to elicit a feeding response in laboratory conditions. This behaviour may exist in the wild because there are waters particularly

those with a high density of prey fish that where the pike are rarely caught on deadbaits.

Lures

Lures present the biggest challenge because many do not remotely resemble any particular food fish. Lures are often mistaken by pike as a food source, but often pike are not really interested in them. A skillful angler can induce a feeding response from an otherwise apathetic pike by using a variety of lures and imparting different actions to them. The advantage of lures is that you can present them to more pike in the course of a day. Though a high percentage of pike might choose to ignore them, the fact that you present to more pike compensates.

Best choice?

Where pike are spread out lures are the best option. Where pike are concentrated the efficiency of live and deadbaits means that this is the best approach. I cannot be sure because I cannot see underwater but I suspect that on a good day I catch most of the pike in a limited area using live or deadbaits. An indication of the fact that this might be happening is that if I return to the same area next day I invariably catch very little!

This is of course the beauty of pike fishing. You cannot easily see where the pike are, much of what we do is deduction and using experience from previous trips. There may come a day when underwater cameras enable us to see the pike or advances in sonar technology will leap forward and again you will be able to see the pike. I'm not altogether sure this is a direction I wish to take in my pike fishing.

Seasonal nature of pike feeding

Whichever method you use to catch pike it is essential to take into account the seasonal nature of pike feeding. Diana (1979) noted that the daily ration was high between May and August peaking in June with a spawning fast mid April and very low in the winter. As keen pike anglers we notice similar trends wherever we fish. In addition there are also periods of near fasting in high summer in the UK when pike disappear and presumably are not feeding very much. The ovaries of a pike start to develop in October in the UK and it is a theory of mine that the additional energy requirement requires additional feeding and that is why on some waters October can be much better for catching pike despite the lowering of the temperature.

Pike are generally said to be coldwater fish and the concept of a cold blooded animal that feeds more when it gets colder is difficult to accept, yet on some waters this appears to be what happens. Where temperatures exceed 21C Casselman, (1978) noted a reduced rate of food consumption in shallow lakes. At temperatures of 25C Headrick and Carline (1993) found that pike actually lost weight. Therefore at higher temperatures we should know not to bother fishing for pike in shallow waters. Glacial lakes are different where pike may be able to find cooler water. Conversely we pike

anglers know that pike are quite catchable in water temperatures of 4C and presumably lower than that where wind agitation prevents freezing.

We do know that pike can respond favourably to temperature increases (from very low ones) which is what you would expect from a cold blooded animal. What is hard to understand is how they sometimes feed more when there is a sharp drop in temperature. In large bodies of water a reduction in air temperature is probably not felt for several days. On very shallow waters a sharp drop in temperature can actually deter pike from feeding, yet later in the day towards sunset when temperatures may have risen pike will feed actively. Obviously in the case of shallow waters the quick drop in temperatures does reduce feeding, but in large bodies of water the effect of temperature drops in mitigated by the volume of water. Pike anglers believe that a temperature drop can encourage pike to feed, the assumption being that they sense hard times are on the way.

The importance of water clarity

Finally, one other factor that has a big influence on the catch ability of pike. This is water clarity. Craig and Babaluk (1989) showed the condition of pike was related to water transparency. What we think is clear water might not be so for a pike. We do know that a change from clear water to heavily coloured water puts pike off the feed. Well I say that, but interestingly after a river has been in flood for a month and eventually returns to its normal level, the pike are never thin! They must feed in these conditions, but we cannot catch them! As it is we pike anglers make sure that we are ready to fish as soon as the water changes from brown to a milky green or grey. The pike fishing is usually first class. Which sense pike use to detect food in coloured water is unclear, but from the poor results we have it is clearly not one that helps us to catch them. The senses that I know a pike have are sight, sound and smell. Some fish are sensitive to electrical fields though again with limited access to academic journals it is difficult to find out it pike have this ability.

SUMMARY

We pike anglers have to understand pike to be able to catch them. We need to know where they are at certain times of the year. It is essential to know when they feed most be that time of day, month or year. Finally we need to make the best choice of the methods we have available to us. That then is why pike fishing is such an absorbing obsession. There are many different facets of pike fishing and trying to master them all is probably impossible, but it’s nice to try.

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