

The Resistance Movement

By Damian Wood (The Burglar)

For many years I have been playing with the concept that if eels can be instantly hooked via fixed rigs, or other concepts, would this eliminate some of the major problems we eel anglers come across. First of all we will have to identify the aims and objectives of this task and really ask myself a few questions, firstly of all the reasons why? Secondly can these objective be met, or how would I go about it and finally if this could be done with every experiment costing me a missed fish, this is a big risk to take with a low run to hours ratio water?

The reason for devising these method and tactics, is to hopefully cut down many different aspect we eel anglers come across and have been for many years through various people in the club trying different concepts and theories. All I'm going do is go through the thought process and the reason I have started using a different concept of fishing for eels. This was for a personal basis originally, but other aspects came to light afterwards.

The main problems we are always having are missed strikes, deep hooking, aborted takes and aborted runs. I'm not going into all the reasons just refer to the article me and Jimmy wrote called "Pressurising Eels" (Instead of me going over it all again just read it again, as this follows on from there to a tangent).

How this came about:

For many years now both Jimmy and myself have been fishing basically the same water for eels, from past articles you should be well aware of the eels that have been extracted from this particular water (I use the term water loosely). And for this reason alone I could honestly say that I know quite a lot about the behaviour and habits of these eels in this particular stretch / stretches of the canal.

So I'm going to list some of the problems that me and Jimmy have come across over the 7 seasons fishing the same stretches, and how we have gone about trying to solve the problems that have appeared about this certain eel population, but the approach and reasons are viable to most eel in the country.

- They have very small heads for their size.
- They have become wary of certain baits and presentations for a duration of time.
- Lack of runs due to a low population to water area volume.
- Immeasurable size of their territorial area.
- Run to hooking ratio using running rigs and single hooks.
- Large average catch size of eel population.

In these high-lighted areas there are more in-depth scenarios to consider alone with out the involvement of moon phases, water temperature, air and barometric pressure and the weather, I could go on. All I'm going to do is come up with possible solutions to problems that we have had to come over to try and put more eels on the bank, once every thing is "right" and they are on the feed and they have got the bait!

So where do we start? Mainly at the eel it's self, especially the most important bit the head. As you can see from the diagram on the next page, the eels I fish for have very small heads compared to the rest of their bodies.

Only recently have I actually sat down and took a hard long look at the eels head and the differences between these eels and their fish eating brethren. Also we will guide you through the progression via our rigs and our ideals that both me and my fishing buddy Jimmy used as we developed a more understanding and knowledge about the eels we were targeting.

Where did it all start?

As you can see from the diagrams the eels head are small, but is slightly long in the mouth, combined with a small set of eyes and a large protective shield over the eyes (My own view on this is that their eyes may see in infra-red or more accurately low light density, these shield may intensify the absorbent levels, as they are larger than the actual eye itself.

What they do see may be shapes or silhouettes who know for sure?).

Even though in the past Jimmy and I have had a good run rate a few seasons ago using live baits on the Uni-rig, we had a higher ratio of missed strikes and contact to the runs we had, in fact we could say that a possible 90% of the runs we had were not connected.

The baits we used were between about 3-4 inches long, as runs on smaller fish were very low due to the boom in population of fish from 2-3 inches (Casting a blade of grass in a field full of cows), and the fact that a bigger bait sends out more vibration and stress chemical signals, seems more productive (As the idea is to get the run first and worry about contact later).

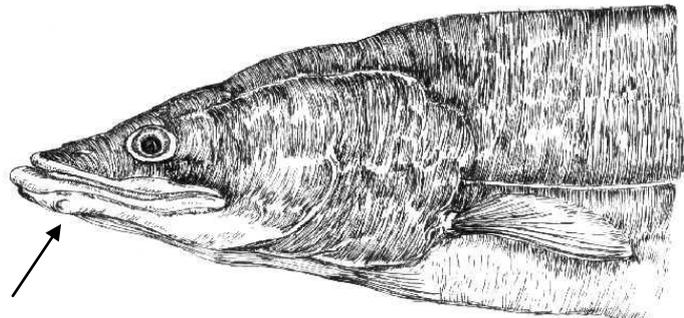
One thing I decided to do this year and for the future was to measure the width of the eel's heads and the length of the mouths when captured. This is to find out the area that I had to strike at and secondly how not to deep-hook an eel at the same time.

To give you an idea on the sizes of an eel from where I fish, I will give you some measurements.

An eel I had this year (October 5th 2002)

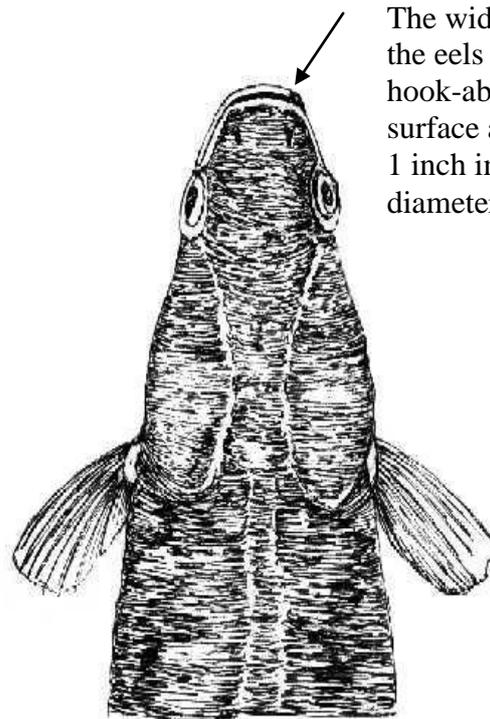
weighed 5lb 01oz, it's measurements were 40 inches long, with a girth of 9 inches, an inch wide head and a 1.2 inch mouth in length (Get the tape measure to get a full picture). This is a very small area to hit to say the least for the size of the eel, so it is no wonder the contact to run ratio was very low using a single hook presentation and fish baits. The reason for this was because worms had out stayed their welcome; they were not taken or touched using the same presentation from the last successful season for a full 6 months.

A Typical Small-headed eel side view



Length of the mouths averages about 1.2 inches long

Top view of a canal eel head



The width of the eels head or hook-able surface area is 1 inch in diameter.

Due to the low population and lack of fishing time, it was very frustrating for the both of us to miss run after run. So I started to think of instant hooking rigs to cut the ratio down of hook-ups to run ratio, at the same time Jimmy was experimenting with the same concept but in a different approach, but there was a lot of thinking on both parts still, to how this could be achieved or if it was possible to attain or retain consistently!

The next season the both us decided to use a two hook system (I know what you are thinking about the thought of having two hooks stuck in an eel, but due to the size of the heads and the position of the hooks and the size of the baits used, the probabilities were very low but not out ruled. This two hook system wasn't thought of lightly (Bearing in mind we are using thirty pound braid, dragging Christmas trees in, the chances of a break are very minimal but not impossible).

As any rig I design personally has to have the first question answered "how can the eel escape safely if the worst happened mainly a break-off", as the eels safety comes first. Another consideration was in the process of the fight itself. What would the hook be doing? And how to force the flying hook out the way so the eel doesn't snag itself on the flying hook depending on which hook was connected first. This was still using a running rig system, either the dyson rig, or the uni- rig which was also free running at this point in time.

Where to put the hooks was down to baits we got back as the signs where there to see, bearing in mind we are still taking off-bottom rigs, due to canal snags and past experience which our past results speaks for itself using these methods.

Size 8 Stiff-rigger, with T-Bar, extended with stiff silicone rig tubing.

Sliding hook, kept in position with soft silicone tubing and T-Bar.

Small eyed match hook, to hook into the bait

Loop to attach to link swivel and Bait -stopper to keep second hook in position so it doesn't twist into bait

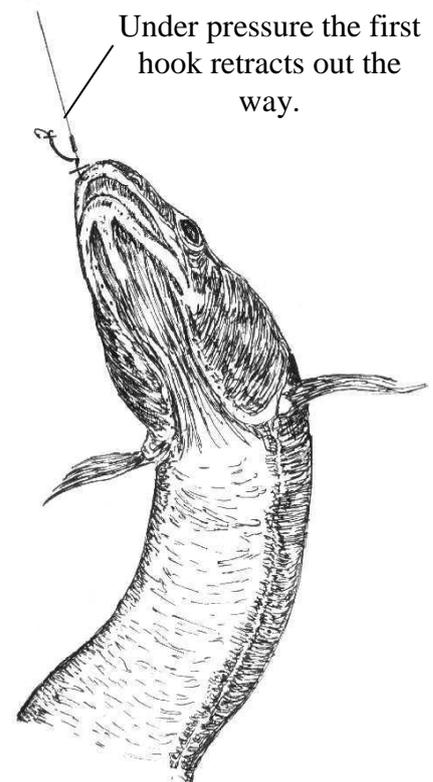
The Raptor Hook-link:

As you can see from the diagram there are two hooks to the rig the first hook has an extended stiff silicone rig tube, while the other hook has soft silicone over it. The second hook is sliding, so it will fit any size section or live bait used, secondly if the eel is hooked on the second hook the pressure of the eel in fight mode will pull the hook onto the first hook.

This causes the first hook to bend out of the way, like a retractable claw as shown in the second diagram. This will reduce the eel getting hooked twice and also snagging the net when landing the eel.

At first it wasn't that successful in hook-up to run ratio, but when I decided to down scale the hooks to a size 8 ESP Stiff-rigger.

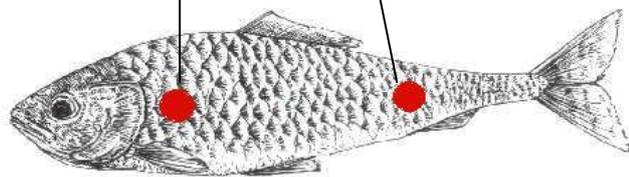
The baits we were using are roughly 3-4 inch live baits, but still we weren't connecting with the fish, when we did get the bait back it seemed as if the eels knew where the hooks were. I now this isn't possible (All this was prior to thinking about the



hook-able area diameter of the eels head I was targeting.)

It was also happening with sections which I started to use from then on because of the poor hook-up rate to run ratio on live-baits. The head where crushed and it seemed they were hitting the bait between the hooks no matter how they were positioned.

These red dots are where I positioned the hooks.

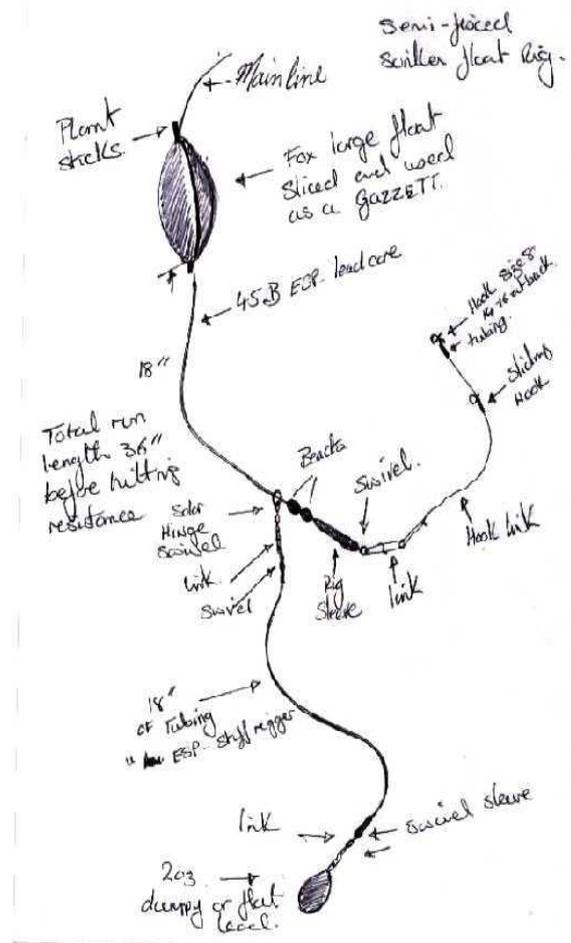


The first result was an eel of 2lb 08oz, which was lipped hooked. This was presented on a semi-fixed sunken paternoster rig. Due to fishing this rig I found a few more things about how much resistance we could get away with, and further more I was becoming more familiar with how the eel was actually taking the bait and what was happening after the take.

Many times the baits were crushed, but re-arranging the hooks made no difference, due to the diameter of the eels heads (Hook-able surface area).

Semi-Fixed sunken float rig.

I started to visualise a good understanding of the rig and the method that was being used, also what the eel was doing once it had taken the bait, which brought me to the conclusion that I could introduce fully fixed rigs, but there was still a lot of thought yet ahead.



I will explain the type of takes I got on this method so you can understand the next progression I made to how I fish today. My rigs and fishing concept went through a dramatic change from then on. The reason for this was the runs I received when fishing this method, no longer did I get screaming runs anymore.

The only indication I got was a drop-back on the indicators and a slack line. It seemed the eel was grabbing the bait from underneath and running side ways picking up a 2.5 oz lead on the way, the weight of the lead didn't seem to bother them one bit on the initial run, then the run would abruptly stop.

Due to the indication I now received, I started to enhance the drop-back registration by adding two 5 gram weights to the "Solar indicator heads, plus changing the clips to the "Solar stainless heavy "Ball clips", putting about 20 grams extra on the indicators in total, I could tighten them up better than plastics heads. The most important part of the methods is the clip which I'll explain later, also using braid does help to sensitise the whole set-up.

This is a habit I can't get out of, but on picking the rod up next and pulling back on the line you can feel the eel jaggging on the end where upon I would wind down and the eel was on. This is nothing to do with my confidence

Foot-note: Normally you would see a nice drawing of the rig in the magazine, but this how most of my rigs start before I make them up in a physical form, by sketches and designs with notes. There could be as many as ten of these drawings per rig, were upon the rig is fished and the final modifications are made to the finished product. I have about two folders full of ideas and modifications on different presentations.

or the effectiveness of the rig just making sure?

Even though I know the eel is already on now I still do it? Old habits die hard I guess, but will dissipate in time.

The next year (Last season 2002), both Jimmy and I were still using live-baits and sections for most of the season, that's when we did eventually go out, as for me personally I had started a new job and was also studying for a Further Education Teaching Qualification two nights a week, plus mountains of course-ware and successfully passed the first year, so I only got out after the end of June this year (Another 2 year to do yet before I can teach full time at 26 hrs per week). And Jimmy has been out very little this year also and we haven't been going as a team that much this year due to over-lapping personal issues.

So when I eventually got out, and a run did occur, I wanted to connect with the culprit as it may be up to a month before I could get out again. At this point an integration of a fixed rig presentation hopefully would increase the catch rate for the limited time that could spend on the banking.

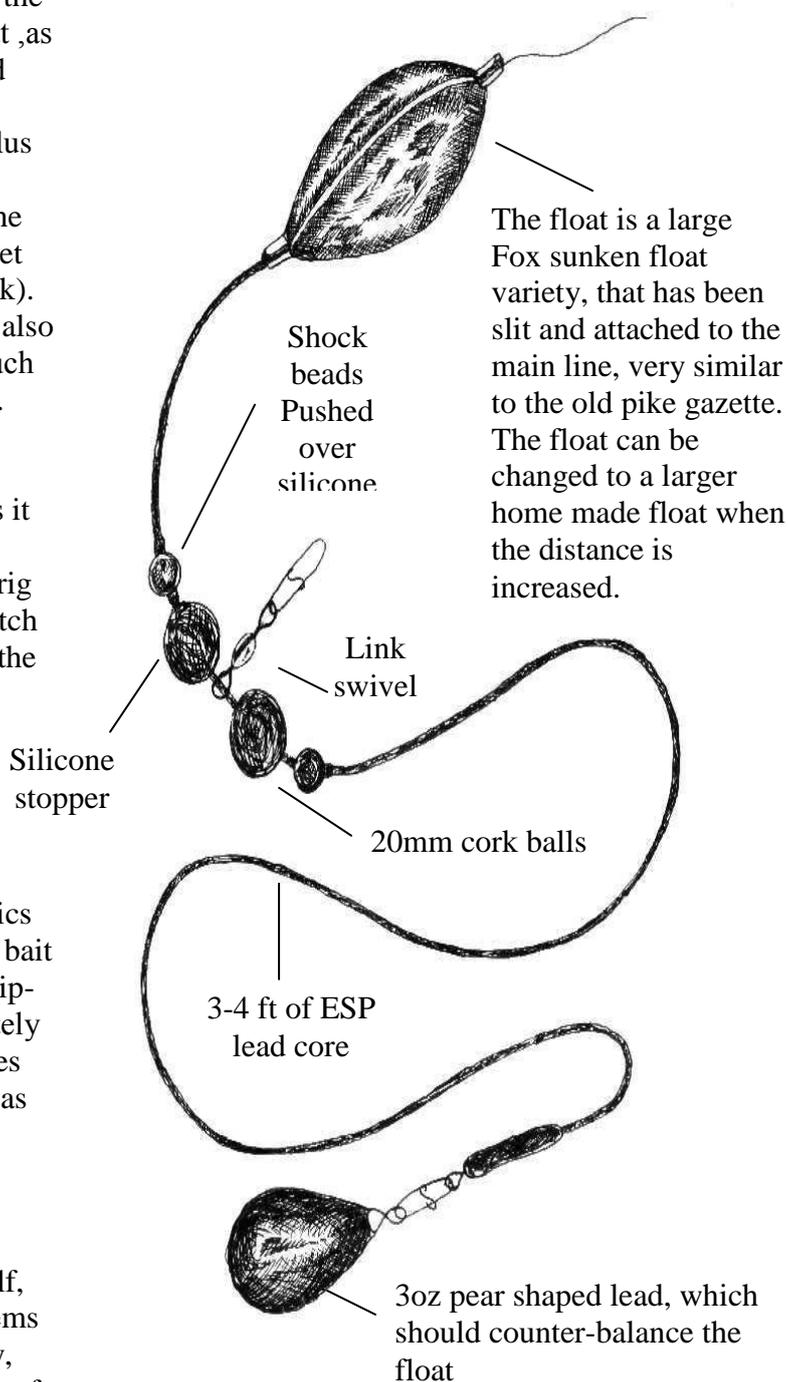
But it still had to be presented off the bottom for obvious reasons. So this is what I came up with, but it isn't just the rig it self, it's the way I fish it that makes it work, plus a good understanding of the physics behind the method and how the eel takes the bait and moves off to make a very effect instant lip-hooking "Bolt-rig" or probably more accurately a complete shock to the eel rig! Other changes and modifications were made along the way as the rig was used.

The rig:

In its make-up the rig is very simple in its self, it's the method and concept that makes it seems complicated. The diagram is self explanatory, but I will mention a few things about it. The soft shock beads are pushed over 0.75 mm soft silicone tubing to keep them in position and the hook-link can be adjusted anywhere on the lead-core to the required height off the bottom you want to fish, but these beads can be easily enough pushed off the tubing if either the worst happens, or when contact is made.

That's why the cork balls have a wider bore so it passes over the silicone tub and everything slide down towards the lead when the fish is on, an advantage over the conventional "Dyson" as you are not trailing any line behind. If there is a break then the eel can slide the hook-link off the rig and it won't be tethered in any way shape or form.

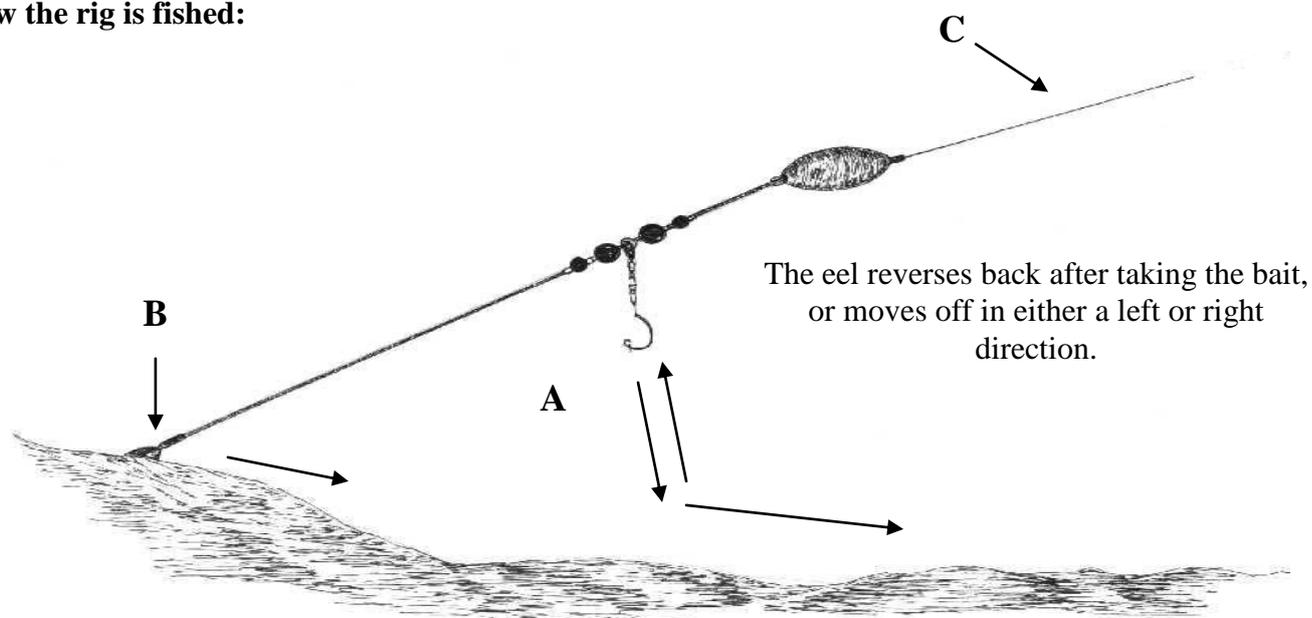
Sunken Fixed Rig (SFR rig)



To explain about how the rig works it may read as if I'm going too and fro at times, but we have to look at what happens on the initial take in a whole, also why certain things happen, for example what happens after it puts it's mouth around the bait and moves away, this is quite important on the whole effectiveness of the method.

Like I mentioned before we have to look at the eel itself (I know what you are probably thinking he can't know that happens) I'm not saying its fact or an assumption, I don't know exactly what it is maybe insight who knows? But first I'll have to explain a few things about what happens on the initial take for it all to make some kind of sense.

How the rig is fished:



So what may possibly happens when a run occur:

Due to fishing with very tight clips and using a fixed off-bottom method combined with a heavy lead, and bending the rods around to the rig itself, there is an immeasurable amount of pressure on the rig including a taking eel.

A: Due to the eel having to raise it's eel head off the bottom in order to take the bait, then move off in reverse again the eel has to lower itself, another alternative is the eel moving off straight away, either way more than one action is made by the eel.

C: Due to the clips being super-tight and very hard to pull by even for my self, which violently rattles the rod tip round to the rig as the eel pulls the float and link down, the only thing that will move lastly of all is "B" the lead, at this point the hook has nicked the lip of the eel.



The business end of the method super tight clips, combined with heavy indicators, it takes some considerable force on the eels behalf to pull the line from out of the clip, and this is what make the rig effective, either fixed or free running.

B: Due to the clip being tight as the eels tries to move away the only thing left to move is a 3oz lead at this point the eel is already hooked and when the lead moves this is what gives me the drop-back and a slack line, with the eel not moving far at all, a few feet if that!

I still fish with an open bail arm just in case as you never know, only the 5lber ran a very short distance which was probably in a reverse mode from the rig, it took about 3 feet of line then stopped.

All the runs I have had fishing this method has resulted in the eel being perfectly lipped hooked, only afterwards certain other aspects started to emerge that would be beneficial to the eel's welfare.

One of the changes Jimmy and I discussed about was transferring back to the usage of worms again after it had been about two to three seasons ago we used them last, on many occasions after the first successful year we didn't get a tap on them for a long time, **giving time for the eels to forget should we say, or doesn't this happen with eels!**

I don't know what made me use the type of hook-link I do, it seems to have a great anti-ejection rate for carp and that's the "Withy-Pool Rig". Why use it for eels?

They're a few aspects of the make-up of the hook-link that intrigued me and could be useful to counter act deep hooking eels in general. One of the interesting attributes was the usage of curved shrink-heat tubing on the hook, which extends 3 inches past the hook. This is because once the eel has taken the bait and is lip-hooked the curve prevents the hook from going any further in the conjunction of using running rigs i.e. Dyson rigs or other baits (This is another article in progress).

Another different aspect I looked at was how to hook the worms on. I started to thread the worms on the shrink wrap and hooking the loose parts on the hook, so it became a tighter ball of worms, this also stopped the worms from flying off the hook-link. If the tubing wasn't used, I couldn't honestly say if it may reduce the effectiveness? Something to think about in the future and develop, as it may be the key to anti-deep-hooking eels.

The texture of the worms is also important as they should be quite tough and not sloppy, making them easy to pull off with very little effort, the eel may on occasions possibly just sit their and pluck at them, so eliminate those loose ends the best you can.

The worms are threaded on with a baiting needle, not an easy task and side hooking the tail and head parts finishing off with a piece of silicone shoved over the top to show the point of the hook and removing the access, leaving the minimal of dangles.

With the shrink-wrap being quite stiff when the eel engulfs the worms and moves down or away the link will straighten, but reacts like a coiled spring when all the tension is released the hook-link retracts back and cups the out side of the eel's mouth as shown the next set of diagrams.



My first successfully "Bolt-rigged" eel of 4lb 08oz taken on worms. Peter Waterfield accompanied me on this session and saw the effectiveness of the different concept at first hand. This eel was photographed in heavy rain and was very hard to keep a hold of, ask Peter who was in the comfort of my Titan when he took it despite the minor leak NOT!

This is the first thing to be seen when the eel is on the banking which is a refreshing change as they say, is a perfectly lipped hooked eel and witness by Peter.

So what conclusions have I come up with from all the research and observation I have made about these specific eels and other areas of eel fishing as far as eliminating or reducing deep hooking, missed strikes, aborted takes and runs, also eels in general fishing the same water, bearing in my this only my own personal perspective backed up with results and collective data from over the years.

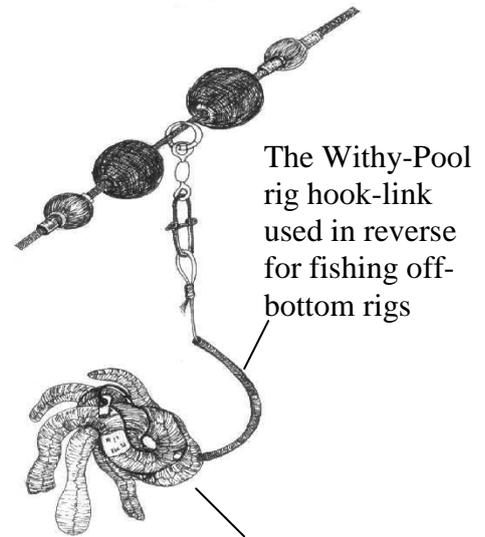
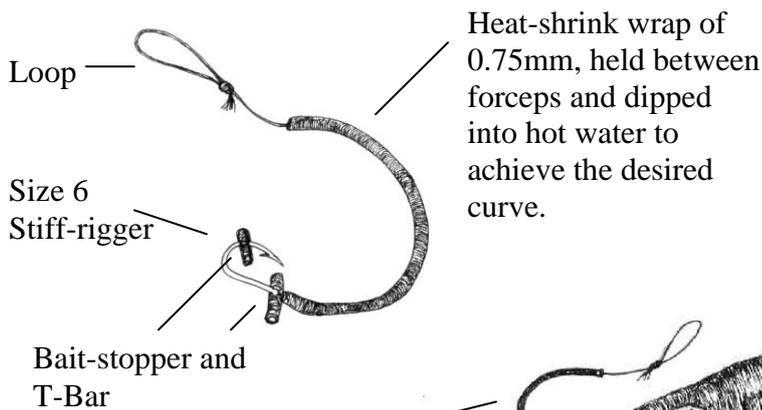
To create the right combination for an efficient “Bolt-rig” certain actions and reactions on both parties have to amalgamate together for it to work at its best performance:

- A. First of all the bait has to be either completely off the bottom or even popped –up off the bottom, utilising the natural movement of the eel to make the rig effective. Using braid and bending the rods to the rig, combined with the usage of tight clips and heavy leads will sensitise the whole set-up and intensify the resistance and pressure put on a taking eel. This can be achieved with fixed, semi-fixed or free-running rigs.

When the bait is popped-up of the bottom using a standard running ledger tactic, this will cause other problems that have to be analysed, processed and developed in the future to come, but not impossible.

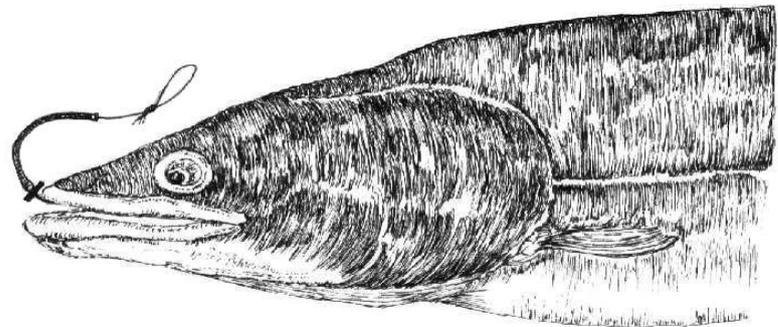
- B. You have to take into consideration the hook-able surface area of the specific eels you are targeting, and adjust your hooks and baits to suit the width of the heads of that waters inhabitants, unfortunately this can only be achieved in either seeing photographs of eels from the said water, or having a few eels grace the banking to get any kind of idea.

The Withy-Pool hook-link:



This is to shows how I mount the worms on the hook-link, keeping it in a tight bundle.

The hook-link curves around the eels mouth, reducing deep-hooking when using running rigs.



If your eels have large hook-able surface areas for example when using lives and section dead bait a single hook may be sufficient, if not a two system may be needed, meaning that you have to make alterations from water to water and depending on the eel population in that particular water.

C. Another factor to consider is the bait in it self, how it is presented, how to hook it, how many hooks to use, what size to use and if the in case of using worms how many to use all this aspect can be a make or break on the effectiveness of the whole concept, once you have a generalisations of the hook-able surface area of your intended quarry the right intuition on what to do will make the choice for you.

D. The average size of the eels from your water. In my case (I'm extremely fortunate in this aspect as the average size of eels is quite high (The average eel weight is 4lb 06oz). Your waters may differ in most cases.

Before I was using worms and still on the sections, some times the bait would come back with the sides of the baits crushed, due to the width of the eels head compared to the width of the bait used. Next time the worms die off again, and I have to change baits again cutting the bait down to reducing the width of the area, hopefully this slight change may increase the hook to run ratio? As shown in the diagrams below.

Further additions and future developments and ideas:



This is why the run ratio to hook up rate wasn't that successful, there was still too much for the eel to grab hold of without a hook in its mouth. Removing the access, in theory may increase the potential of the effectiveness of a better hook up ratio.



Something else I have been trying recently is using a hi-flavoured dosage paste, which Jimmy made for me, but as yet this has come to the end of this season and will be utilised and developed next year. Other ideas have also been thought of and some investments will have to be made next year for some conversion kits for my pit reels when using running rigs but the concept and method stays the same.



One thing that has to be sorted out is how long it will stay on the hook, or alternatively fish a boilie on an off-bottom rig, the good thing is that there has been no carp either. Something to work on and may be develop a selective eel bait in the forthcoming future?

Hi-level flavoured protein paste, and boilies, using amino acid compounds and additives could be another alternative, when the runs die down or when winter is on the. Or to tackle those carp waters that produce massive eels to carpers?



The first thing to do is it to look at the past 4 seasons that was productive in a statistical approach.

Year	Eels caught	Hrs fished per year by three rod	Method	Bait	Hooks used	Runs per year	Aborted runs	Missed strikes	Deep hooked eels	Lip-hooked eels	Hook-ups to run ratio in total seasonally	Average run to capture ratio	Average duration hrs between eel captures
1	16	929	Dyson Running rig	worms	1	22	2	6	4	12	0.7	2-1	59
1	3	929	Dyson Running rig	Fish sections	1	10	0	5	2	1	0.3	4-1	310
2	2	853	Uni-rig Running	Live bait	1	35	12	21	0	2	0.06	17-1	426
2	0	853	Dyson Running	worms	1	0	0	0	0	0	0	0-0	0
3	1	322	Semi fixed float rig	Live bait	1	8	0	6	0	1	0.13	8-1	322
3	2	322 foot+ mouth	Semi fixed float rig	Fish section	2	6	0	4	0	2	0.33	3-1	161
3	0	322	Semi fixed float rig	Live bait	2	9	0	9	0	0	0	0-0	0
4	1	90	SFR rig	worm	1	1	0	0	0	1	1	1-1	90
5	1	39	SFR rig	worms	1	1	0	0	0	1	1	1-1	39

I could probably pick a section of these readings and write an article on it alone. I had to round the figures to the nearest decimal as the were recurring numbers for most, but this is just a generalised result table to explain the initial reason I started to use bolt- rigs, only afterwards I saw a “between the line factor”, this you have to ask your selves the questions and work out for your self from your own thoughts. And I’ll have to save mine for another article once more eels are caught to get an even better understanding.

Footnote: Remember what some members believe, or have written about in the past about run depletion after you have a few eels out from a heavily targeted water and look at the changes in, rigs, baits and methods and the run rate compared to hours fished and the changes in runs on certain baits and methods year to year they move in cycles is there something in it!

Once I studied my quarry in depth and started to devise a better hook-up method to cut down the hook-up to run ratio factor for those particular eels. Even though it is still early days it looks promising with worm baits (More eels need to put on the banking for a generalised reading) and it won’t be long to develop methods and tactics for other baits used, may be the live-bait syndrome which I personally think there are too many variable to master a perfect lip –hook one to one hooking ratio, thus methods and rigs will have to change solely for this style of fishing, or to just live with it?

As for eel conservation it is looking good with elimination or a mass reduction of deep-hooking, missed strikes and aborted runs and takes on certain baits and method development. With the survival rate of the eel after capture increasing ten fold and hopefully together we can put those nostalgic myths and concepts that it seems some N.A.C members still like to grasp hold of, or can’t get their heads around any thing new and totally different after Sidley, and gather facts to prove it for once and for all with concerning ideas about association with baits and methods or if eels leave waters after capture or die or what ever. The only reason eels are difficult to catch is because of the lack of change in our ideals or rigs, methods and knowledge, on all our parts!

My own personal thoughts:

The original reason I joined the N.A.C in the first place, was to gather information and better my own personal catch rate and later share the developments I have made over the years in particular specialist fishing for big eels. As I've matured with knowledge about my targeted quarry and eel fishing, I have given this information back to you "the members" to either take notice of, or to ignore it at your own choice. But for the past several years any development in the fishing area has been slow and it seems to be by a small circle of active members past and present.

The British Carp Study Group was the fore-front for the innovations in all aspects to make the modern carp angler of today, if we like them or not! To carp fishing the B.C.S.G was a prestigious movement in the "Carp Scene" and was the "Carp Scene" in its prime in the late Seventies to early Eighties.

Let's make ourselves heard for development and movement and not just the controversy. And hopefully put some of those old concepts about eels to bed so we can move on and bring eel fishing into the 21st century. Let us show other anglers in the specimen circuit that yes the N.A.C has progressed in eel angling developments and let's strengthen our knowledge and understanding of the fresh water eel "Anguilla Anguilla" more clearly and defined.



My biggest eel to date on a "Bolt-rig", a superb 5lb 01oz canal queen successfully lipped hooked and swam away unharmed. I have walked the length and breadth of the canal to see if it would be found floating dead, no sign of it yet, or it would be found dead in the sack the next morning?

With respects Damian Wood "The Burglar"