

## **Advice from boaters about how to navigate through locks with strong by-weir currents**

*A message from the local Canal & River Trust team:*

*A new by-weir buffer has been fitted to Lock 5 at Tyrley over the summer months. This will make passage through this lock easier.*

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While boaters are free to use these locks as and when they want then there is little you can do to avoid the by-wash issue. The amount of water in the by-wash is a result of the upper pound being over full, the pound is full because too much water has come down. If my understanding is correct, the locks/ pounds were sized on the understanding that boaters going up stream would lower the level and that boaters going down stream would bring a lock full of water with them, using the lock above to fill the lock below, as in a staircase.

The volume of water in a by-wash can be reduced if boaters would operate the locks as intended and not waste water by over filling the pounds.

This would mean that crew should tend to two locks at a time, ensuring the lower lock is empty, before emptying the upper one. The only guys I have seen use this technique are the C&RT lock operators on the Leeds & Liverpool Canal.

The only other way is ask boaters to cooperate and go up and down together in small groups - no chance!

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My crew lift the top paddles of the lock we are entering until I am passed the by wash and then closes them. Redirects the flow.

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We travelled the Shroppie locks in both directions earlier this year in our 57 ft narrowboat. Locks were negotiated successfully by steering towards the side from which the bywash flow is coming, with one exception.

Tyrley bottom lock has an extremely fierce flow from the bywash. Observing boaters in front of us in the queue when ascending, it was apparent that the only way into the lock is by approaching much faster than is usual. Our bow thruster, whilst often useful, was ineffective against the strength of the flow in this case. In common with other boaters I observed, we made it into the lock with some banging on the wing walls.

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After many years boating this is how we tackle the torrential Tyrley bottom lock... (at around the 5 minute point). Not so torrential now after a super CRT job of fixing a new baffle plate 👍

<https://www.youtube.com/watch?v=2CRSEciz08A&app=desktop>

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Head in at a pretty reasonable pace, at an angle, so your front is going into the lock, but the straightening up is done as you go in, with the help of the side flow.

A lot of multiple lock sets were designed so the line the boat follows as it exits one lock lines you up beautifully at the correct angle to enter the next, taking into account side flows.

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Whether or not I have a bow thruster, and there is a side channel / overflow that will push the boat off course, I head toward the lock wall into the flow allowing the bow to be pushed by the flow one or two feet toward the other side of the lock entrance. In that way the bow enters the lock correctly, you then have to force the stern to line up while the bow is in the lock - before you jam in the entrance. It works, but I do have 60 odd years of experience. Bow thruster are not very effective to counteract flows at the entrance to locks, etc.

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Much the same on the Llangollen. It just takes a bit of thought and a bit of practice. So aim to the offside of the lock so the bow is pushed over to line up with the lock entrance. Then, push the tiller over so that the stern is pushed against the sidewash. I've been doing it for 25 years and still get it wrong sometimes, but it is very satisfying when you get it right!

One of the worst is under the road bridge in Audlem. This is near impossible to defy, so just go in slowly and accept that you are going to have to slide in against the wall!

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Look ahead, is someone emptying locks higher up the flight ? If so watch out for increased side flows.

Judge how much is across your path & how much in line. Going uphill into the lock slow down & steer into the flow. Your bow will be pushed away - allow for it. As your bow passes & the flow moves to your stern that will be pushed away. Be prepared for it & reverse the rudder quickly. Once passed the flow & the bow is in, go into neutral & then reverse to stop the boat very close to the top gate.

Going downhill is generally easier, but if there is a strong sideflow (e.g Tyrley bottom lock), watch you are not pushed over sideways & run aground. Use some revs if necessary.

Get your bow close to or in contact with the top gate if going up, or bottom gate if going down. The water flow will hold you there & the turbulence will be under the hull. This avoids the cill and the boat surging around.

At Tyrley, beware the pounds are shallow, try to hover in the middle or get the next lock ready & open before you leave the one you are in.

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Ascending Audlem Locks.

Most by-washes come from the right (starboard side).

After a few failures early on in my boating career I now judge the amount of side thrust from each by-wash and aim the bow to the right of the lock allowing the by-wash to push the boat to the left aiming straight at the lock, then when the boat is halfway past the by-wash thrust put the tiller hard over to the right to ensure the stern follows the bows straight into the lock. Obviously if the by-wash is from the left the procedure is reversed. This does not work with the lock immediately above the High Street at Audlem where there is no room for manoeuvre and the boat is always pushed to the left, so take it slowly (in both directions).

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Forget the bow thruster, use the tiller and engine - and accept that the odd bump is part of boating.

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It's not only Shroppie locks which have fierce by washes, which in all cases can be dealt with by steering the bow into the current to allow for the side swipe, and as the boat progresses hold the side of the boat into the area of the current in order to keep the boat in line with the lock entrance. Even so it's not an easy task to keep the boat straight, as the force of current can vary considerably, but keeping an eye on how the boat is being affected, and adjusting the tiller accordingly is the best approach.

Apart from by washes, dealing with the side force of a strong wind on the beam of the boat, particularly when hovering to come into a lock can also be tricky, so look out for trees or bushes which could shield the boat from being affected, and use them to shield you, until you are able to move forward into the lock.

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I try to aim from the opposite side to the bywash into it. At normal speed. The wash pushes the bow into the lock entrance and I then manoeuvre the tiller to bring the stern in. Whilst Tyrley 2 and Audlem 13 are bad, they don't compare to Willey Moor on the Welsh! Sometimes, by letting water down you can reduce the force of the flow, but this does waste water.

Other times, approach very slowly, hit the wall gently and slide in. I've yet to find a way to beat them all of the time, even after 13 years of continuous cruising.

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Safe approaches to any locks, particularly those having strong cross currents from by-washes, require a good, steady, controllable speed; not "slow and careful".

1. Drop the lock crew well back from the lock.
2. Wait there until the lock is ready and the path is clear, then
3. Approach at sufficient speed to maintain good steering through any cross currents.

The same principle applies to leaving a lock. Don't start until there is a continuous, clear run.

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The way to approach locks with strong cross-flows? My method is to steer towards the source of the crossflow at speed, as much as 2-3 feet off the centre line of the lock. Allow for the bow moving sideways like this, then make a correction as soon as its crossed the flow, and keeping the throttle well on, you can easily line up the back end with the tiller. You just have to be brave and go for it.

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Have come through all these locks in the last week. Going up you aim your boat in the general direction of the weir, not at the lock entrance, gradually increase engine speed. As the bow starts to move in the direction of the lock entrance speed up further and push the tiller in the opposite direction. The boat then glides straight into the lock with no banging on the walls. It takes courage, but works!!

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Approach the lock from further back than normal, before the stream or current and go in a bit faster than normal, steering a little bit into the current. Ease off the power as soon as stern is out of the current and you should go in perfectly. Ideally your lock opening partner will make you aware of the current beforehand.

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In around 35 years of pottering around the system, I have never, for even a nanosecond, had access to a bow thruster (the Devil's work, if you ask me..) I don't recall whacking the Shroppie locks especially hard. Anywhere you go on the system, there are crafty bywashes whose sole purpose is to make you look like a first time boater. The other participant in this process is God, who sets great wind upon boaters at inconvenient times, and creates microclimates in marinas.

So my advice on this, as on everything else, is to make a mental connection between what your arm is doing on the tiller, and where the bow of the boat is headed.

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Generally you need to be brave and travel quite quickly through the force of the by weir, this approach also applies to the Llangollen Canal. However, I don't believe there's anyway of getting through the one at Audlem immediately above the wharf with the Shroppie Fly pub. For that one, it seems better to travel more slowly, wait until the water forces you to a halt against the handy wooden fendering then creep into the lock. These comments apply to uphill.

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