

Why is the Little Grey Weir so dangerous?

There is a serious incident at the Little Grey Weir (just below the club on the other side of the river) about every ten years. After each incident people are very cautious but as the memory of each incident recedes the chance of a new incident increase. All weirs are potentially dangerous but there are specific reasons why this one causes more accidents than the other weirs on our reach.

All weirs are dangerous!

Even the very simplest of weirs, without any sluice gates, causes turbulent water on the downstream side. There is a copy of this picture on the safety notice-board in the club.

The addition of sluice gates, which control the flow of water over the weir, increases the danger since a) they can be opened at any time (even in summer the EA needs to keep some flow in all channels) and b) the flow-rate varies greatly across the width of the weir. All the weirs on the Walton reach are fitted with sluice gates.

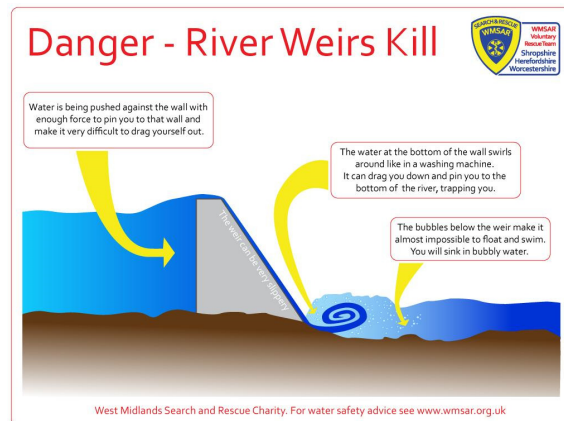


Figure 1 - All weirs are dangerous

The Little Grey Weir is by far the most dangerous of the three for three main reasons:

1. It pulls water off to the side

Most weirs are set in the main river flow, at an angle, like Tumbling Bay weir (see Fig 2). The sideways pull appears gradually, but by steering slightly away from the weir a crew can continue on its normal course.

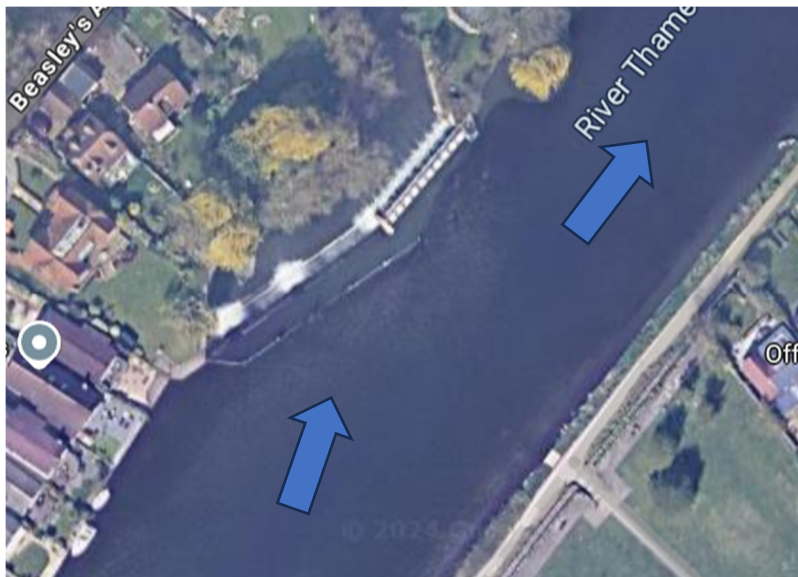


Figure 2 - Tumbling Bay Weir (Source: Google Maps)

The Little Grey Weir, though, is set off to the side (see Fig 3). So its sideways pull appears rather suddenly, as you pass the weir, and if you get into this sideways pull it is very difficult to get away from it (racing boats don't have sideways propulsion!)

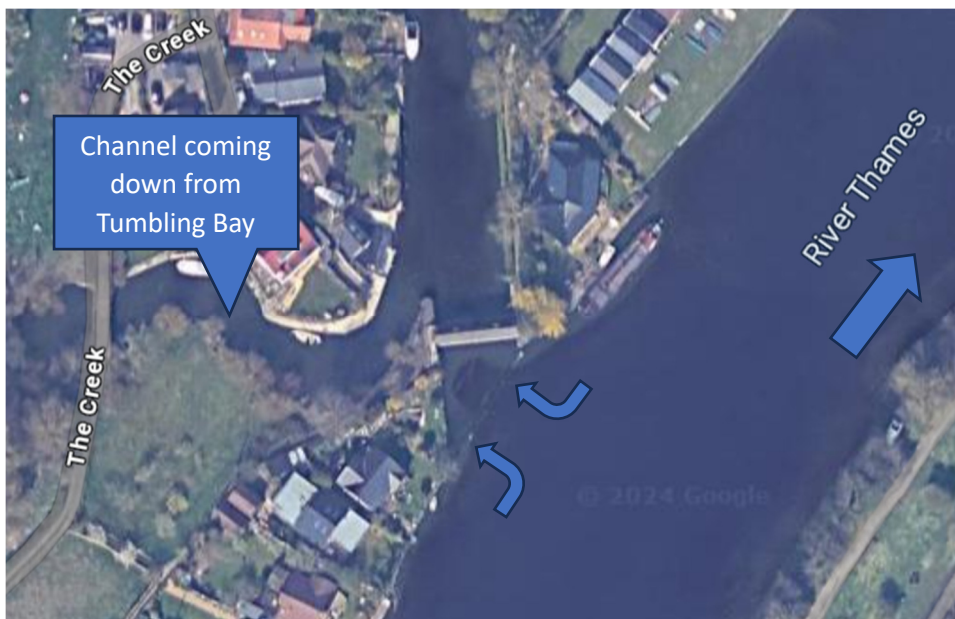


Figure 3 - Little Grey Weir (Source: Google Maps)

2. It feeds a narrow channel

If you look again at Figure 3, the main channel at this point is about five times as wide as the channel below the weir; so if any significant part of the main flow is taken over this weir the water accelerates strongly as it goes through the weir. You will also see that it almost immediately joins the channel coming down from Tumbling Bay, so the turbulence here is quite extreme even at moderate flowrates.

3. It draws the water downwards

The Little Grey Weir only has two large sluice-gates, which are often only partially raised. When the gates are raised the water flows UNDER the gates not OVER them, so water is sucked downwards. So if you catch a blade under water (for example when trying to back the boat down), it will be drawn down and a capsize is almost inevitable. A rower in the water is much more vulnerable than one in a boat!



Figure 4 - gates closed (photo Mike Hendry)



Figure 5 - gates open (photo Béatrice Philpott)

So this weir needs to be treated with the utmost caution. You can see when the sluice-gates are open: when you look from the club, if you can see through the weir under the gantry (Fig 4) then the gates are closed and water flows OVER the weir. But if the gates are raised (Fig 5) then they are open; water is flowing UNDER the gates and it is really important to give this weir a wide berth.