

**Section 11 - CARRON RIVER;
ENTRANCE TO FORTH & CLYDE CANAL
(TC Leith + 30mins variable; nominal maximum tidal range 6.1m)**

Chart No 737

Vessels intending to enter the canal should obtain beforehand, the detailed and excellent information pack, Licence fee scale, Conditions and Skippers' Guide from the operator and statutory authority, British Waterways Scotland, at:- Lowland Canals Office, Rosebank House, Main Street, Camelon, Falkirk FK1 4DS, tel 01324 671217, or webpage - www.scottishcanals.co.uk .

Approach:

From the East, pass Grangemouth Refinery (conspic), commercial dock entrance and the old entrance jetty all well offshore, holding to the North side of the main Forth channel, to avoid all shipping using these busy docks. Opposite the Longannet Power Station chimney (conspic) and immediately West of the docks peninsula, the River Carron entrance opens close to the oil tank farm on the West side of the docks. The entrance is marked by a red, port hand, lit buoy on the East side of the channel and a green, starboard hand, lit marker on the first stone beacon on the mile-long, partially covering, stone, training dyke to its West, beyond which lie wide tidal mud flats which should be avoided. A yellow beacon some 2 cables West of the entrance marks the end of a pipe outfall. It is not a mid-channel marker.

Enter the Carron between the stone beacon on the breakwater and the red buoy. The channel is generally nearer the breakwater on the Northwest side, except between stone beacons 3 and 6, when the Southeastern side should be used, but always allowing for the sloping underwater profile of the mud banks. The estuary shoals very quickly from the 4.0m dredged shipping channel into about 1.0m CD inside the entrance. Use of echosounder and close attention to navigation are essential. British Waterways (BWS) maintain port or starboard, channel marker buoys to define the inside of the bends, all of which should be taken close on the appropriate hand.

In addition, white markers are set up on piles, showing the water depth (on black) and air clearance (on white) at the Glensburgh (or Kerse) Bridge, the lowest and therefore most critical bridge before the canal sealock. Upstream of the Grangemouth Yacht Club, these boards can be used as leading markers for the deep channel.

Before entering the estuary, call the "Canal Sea-lock" on channel **74**, or telephone **07810 794468** or **01324 671217** to request canal entry and obtain critical information on tidal state, river current and time of lock opening. The sea-lock does not operate during darkness.

There are four fixed bridges across the Carron River between the Forth and the sea-lock. The lowest is the concrete arched Glensburgh (or Kerse) bridge on the A905, which has an underheight of 7.45m above chart datum. Both down- and up-stream of the bridge, the river bed is about 2.6m above Chart Datum. BWS dredge this section which is subject to shifting gravel. Yachts must keep central through the marked navigation spans and return to the deep (East side) channel promptly beyond the bridge.

The first bridge is 2.3n miles and the sea-lock is 2.75n miles upstream from the river entrance from the Forth; the sealock is immediately upstream of the M9 steel girder bridge. BWS maintain pontoons outside the sealock in a pool which almost dries at LW.

The Carron may flow at over 5 kts on springs ebb, particularly if heavy rain has recently fallen or if tidal range is large. However the estuary enjoys the benefit of the “lecky tide”(a characteristic of some elongated tideways) in which the high slack is extended by reflected surge. The effect in the Carron is that the tide runs more swiftly on the early part of the flood, then holds near high water for almost three hours, before falling very quickly. Passage should be made during this high slack, from about four hours after low water to two hours after high water, dependant upon the vessel’s water and air drafts. A late start on an ebb passage should be avoided. Particular care in navigation is essential, as is firm knowledge of ones own vessel’s air height and draft in fresh water.

The Carron estuary dries at low water; the banks are soft mud, steep enough to cause a stranded vessel to founder. The flat river bed is hard gravel on which yachts have dried out in emergency, but occasionally foul with debris.

Return transit to the open Forth requires similar caution.

The canal entry should only be commenced with the agreement of BWS and will require good engine power.

Fixed **dimensions** of the locks and bridges on the Forth & Clyde Canal are:- length, **20.8m**; width, **6.0m**; depth, **1.8m**; air clearance above water surface, **3.0m**.

Masts must be lowered before reaching the first bridge.

BWS have installed two refuge (mooring) piles downstream of the Yacht Club where small yachts may moor while lowering their own mast. The local boat yard (Steve Kelvin 07833953288 or 01324 471535) offers a rigging service at his adjacent crane pontoon in the Carron estuary.

The Grangemouth Yacht Club is located at the original entrance basin to the canal, downstream of all the bridges. The soft bottom is deeply gouged but temporary berthing and the use of their slipway may be available by arrangement with the Club.

Anchoring is not recommended anywhere in the Carron River.

Mooring: is available in the canal.

Interest: The gateway to the West! Also via the 35m lift of the Falkirk Wheel and Union Canal to Edinburgh (length, 21.3m; width, 3.8m; depth in Wheel, 1.5m reducing near Edinburgh to 1.0m; air height, 2.7m) at an elevation 82m above CD; and via the Glasgow Branch (length, 20.8m; width, 5.0m; depth, 1.4m; air height, 2.7m) to the center of Scotland’s greatest city. Promoted in 1750, the Forth & Clyde is the oldest sea-to-sea navigation in the modern world. Climbing by 20 locks to 48m above CD, it passes through Scotland’s industrial and historical heartland yet retains sections of rural tranquility with views over Forth and Kelvin valleys to the Highland hills. The Canal Guidebook published by the Forth & Clyde Canal Society www.forthandclyde.org.uk provides an excellent introduction to the surrounding landscape and bibliography to the canal.

This sea-going inland passage can provide a fascinating episode in any serious cruise of Scotland.

Footnote: For the inland passage, four can be regarded as sufficient crew to work the 39 locks and 5 opening bridges if rapid two-day transit is intended. Seagoing yachts are advised also to carry the following equipment:- a foot-mat to control grit from the tow-path, a four-metre punting pole, 5 big fenders and a board, a camera with flash, mobile phone, map and guidebook as well as the more obvious things like stout mooring cleats and lines, mast supports giving both access and headroom, and of course a reliable engine with accessible cooling water filters (for weed removal).