

NABO CRUISING NOTES

RIVER DEE & SHROPSHIRE UNION CANAL (DEE BRANCH)

Introduction

The River Dee (Afon Dyfrdwy in Welsh) is navigable by suitable craft from the sea up to its tidal limit at Chester. The tidal section can be hazardous and is industrial and unappealing.

The Shropshire Union Canal (Dee Branch) connects the main line of the canal to the tidal river 2 miles downstream from Chester Weir, via three locks. The locks only operate by prior arrangement with British Waterways.

Above Chester Weir the river Dee is suitable for all craft that can reach it. Passage over the weir is possible at High Water spring tides for craft drawing up to 3' (0.91m) and there is also a weir gate controlled by United Utilities (formerly North West Water) on spring tides and for which advance booking is required. The restricted width and depth of the gate limits the size of craft that can use the gate.

There is a footpath running along the east bank of the river from Farndon, crossing to the west bank at Iron Bridge and back across on the footbridge at Chester.

The countryside is open and attractive in the vicinity of Eaton Hall.

The river can be shallow around the confluence with the river Alyn and upstream to the ancient bridge at Farndon during the summer months.

It is possible for small craft and canoes to reach Bangor-on-Dee at times and there are records of Dee flats (trading barges) having been built there in the past.

The river also feeds the Shropshire Union (Welsh) Canal via the semicircular weir at the man-made Horseshoe Falls at Llangollen.

History

The river is an old navigation with the original Acts dated 1734, 1744 and 1791. Silting of the river led to the construction of the Chester Canal in 1771 as a barge canal to link the city with the Trent & Mersey Canal at Middlewich. Originally the Chester Canal joined the river Dee below Northgate Locks. The

canal was later extended to Ellesmere Port, and the bottom two locks of the Northgate staircase were removed. A two-lock branch (the Dee Branch) was built to link between Tower Wharf and the original river lock at the river Dee (Crane's Wharf).

SHROPSHIRE UNION CANAL (DEE BRANCH)

Navigation authority

British Waterways, Tower Wharf, Raymond Street, Chester CH1 4EZ
Tel 01244 390372 Fax 01244 390351

A BW licence is required. Passage through the Dee Locks (Mon – Fri only) is by prior arrangement with BW at Tower Wharf. Contact Mr Neville Preece 01244 390372. 48 hours notice is required and passage is now free to all licence holders. It is not possible to use the locks at weekends.

Passage between the bottom lock and the tidal river at Crane's Wharf is only possible with safety 1 hour either side of High Water.

A low concrete road bridge crosses over the river lock. British Waterways will explain the procedure for passing under this bridge.

BW 24-hour emergency No 0800 47 999 47

Dimensions (Dee Branch)

Maximum dimensions of craft: -

Length - 74'0" (22.55m)
Beam - 14'6" (4.42m)
Draught – 3'3" (1.00m)
Headroom – 8'8" (2.64m)

RIVER DEE

Tides

High water at Chester is normally reckoned to be about one hour later than Liverpool (Alfred). Obtain local tide tables and seek local advice for precise details.

At Crane's Wharf, Chester spring tides rise 9' (2.75m)

Navigation Authorities

Chester Weir to Farndon

Chester City Council is the navigation authority for the river between Chester Weir at the Old Dee Bridge and Farndon Bridge.

Address for enquiries:

Chester City Council, Parks & Open Spaces, Grosvenor Park, Chester CH1 1QQ

Tel 01244 325681 Fax 01244 348405

Web address www.chestercc.gov.uk

Email d.gorrell@chestercc.gov.uk

All craft must be registered by Chester City Council to navigate on the waterway. Annual, weekly and daily certificates of registration are available by application to Grosvenor Park Lodge situated on the northern edge of the park.

All craft must have Third Party insurance cover.

The Boat Safety Scheme does NOT apply on the river.

A River Patrol operates.

Chester Weir gate

Passage through the Chester Weir gate is by prior arrangement with United Utilities (formerly North West Water) Tel "Customer Services" on 0845 7462200 and ask for Mr Norman Jones, Unit Controller, Wirral; alternatively contact United Utilities Tel 01925 234000 Contact: Ms Pat Nelder or Mr Jim Burkill.

The weir gate is kept locked at all times and requests for passage through the

weir are infrequent and are not welcomed by United Utilities who have to specially organise a safety boat and manpower. The company have to pay their personnel for overtime working, etc. for which they will charge the "going rate". Please give as much notice as possible and try to organise passage for a number of boats together in order to share the cost.

Wilcox Point (Downstream of Chester Weir) to Point of Air

The tidal river comes under the jurisdiction of the Environment Agency Wales, Llwyn Brain, Ffordd Penlan, Parc Menai, Bangor, Gwynedd LL57 4DE
Tel 01248 670770 Fax 01248 670561

The Agency is the conservancy authority and is responsible for the navigation aids and training walls.

Harbourmaster: Capt CHJ Allister, Dee Conservancy, c/o Strategic Marine Services Limited, Marine House, Station Road, Hoylake, Wirral CH47 4AA
Tel 0151 632 3733 Fax 0151 632 3399

The Dee Conservancy will be publishing a guidance booklet for users during the course of 2002.

The Port of Mostyn is responsible for pilotage in the estuary and is the harbour authority for Mostyn.

Dimensions (River Dee)

Maximum dimensions of craft using the river are as follows: -

Length and beam – all craft that can navigate the Dee Branch can travel to above Farndon Bridge.

Draught – below Chester 8' (2.44m) at HSWT; above Chester 3'6" (1.07m) (N.B. craft exceeding 2'6" (0.76m) draft may experience problems above Iron Bridge during summer dry periods.

Headroom - below Chester 12.5' (3.80m); above Chester 9'6" (2.8m)

- at Farndon Bridge - is dependent on river levels. It is not passable when the river is in flood.

Launching and moorings

A public slipway can be found at Sandy Lane, Boughton upstream from the city centre. Car parking and trailer parking is available at this location. Moorings are provided by boat companies, private residents and at the riverside hotels. Local enquiries to boat operators or Chester Motor Boat Club are necessary. The council does not provide any moorings.

Opening Times

There are no locks on the river and navigation is possible at all times.

By-laws

By-laws dated August 1983 are enforced by Chester City Council on the river between Chester Weir and Farndon. A speed limit of 6 MPH applies and is enforced by the Council which operates river patrols.

Navigation notes

i) Chester Weir

The passage through Chester Weir can be achieved only at High Spring Tides. Suitable tides normally occur over 3 successive days during the months of February, March, April, August, September and October when spring tides are at their maximum height.

Craft drawing up to 3' (0.91m) can pass right over the weir on some tides. Deeper draughted vessels can use a unique water-gate or boat-pass located at the western end of the weir. The gate is situated immediately upstream of Dee Bridge near the water pumping station. The gate is about 10' (3.05m) wide and can be opened by prior arrangement with United Utilities when the incoming tide makes a level with the river above. However, passage of boats using the gate is hampered by the riverbank which is parallel to the gate. The gate can be used by craft up to 70 ft (21.3m) and 9 ft (2.74m) beam with

care.

A tide height of at least 31ft (9.4m) at Liverpool (Alfred) is required to safely operate the gate. Usually, craft wait for a tide of 33 feet (10.0m) at Liverpool (Alfred) and pass directly over the weir without needing to use the gate. Local advice should be sought because the amount of fresh water coming down the river affects the depth of water over the weir.

Passage through the gate or over the weir must be timed to coincide with High Water at the weir. Tidal flows make the passage difficult and dangerous when the tide is still running in or out. High Water at Chester Weir is 1 Hr later than Liverpool.

Various factors can reduce the tide below the predicted height at Chester Weir. These include offshore winds (which will hold the tide back), high barometric pressure or a combination of these factors. Always seek local advice before your voyage.

	Available draught	
Height of tide at Liverpool (Alfred)	Using the weir gate * (at 7 ft beam)	Over the weir
30 ft (9.1m)	1'6" (0.46m)	0
31 ft (9.4m)	2'6" (0.76m)	1'3" (0.38m)
32ft (9.7m)	3'6" (1.07m)	2'3" (0.69m)
33 ft (10m)	4'6" (1.37m)	3'3" (1m)

*** Notes**

- i. The opening of the weir gate is carried out by United Utilities
- ii. The gate cill is curved: It is deeper in the centre than at each end. Figures quoted give the draught available for 7 ft wide boats. For 9 ft beam deduct 0.20m from the available draught figures.

ii) Navigation above Chester Weir

The river Dee is a river navigation and like all such rivers it can become difficult or impassable at times of heavy flow.

Above Chester Weir depths are usually satisfactory except in the Dee Fords area where the shallows require deeper-draughted craft to navigate nearer to The Meadows, keeping away from the Sandy Lane bank.

The Crook of Dee is a sharp horse-shoe bend in the river; and upstream of Iron Bridge there are several more sharp bends. All the sharp bends require care, especially when navigating at times of higher river flows, and by longer craft.

The river becomes shallower near the mouth of the river Alyn and the deepest water can be found near the left bank going upstream towards Farndon (the tidal limit on spring tides).

Navigation through and above Farndon Bridge can be difficult during periods of low summer flows, or at times of flood.

Farndon Bridge is the official end of the navigation administered by Chester City Council. Navigation above Farndon Bridge is possible, but the river becomes progressively more narrow, shallow and difficult to navigate. Above the sharp bend at Crewe Hall 70 ft craft will have difficulty in finding sufficient width of river in which to turn.

It is possible for small craft and canoes to reach Bangor-on-Dee at times of sufficient river levels.

NABO Cruising Notes
River Dee

Distance above Chester Weir	Location	Navigation notes	Additional information
12_ miles	Holt Castle		
12 miles	Farndon Bridge		Car park, public toilets, riverside pub / restaurant (The Boat House)
	Denamere Bungalow		Townfield Lane
			Beware of tight bends
10 miles	Almere Ferry		Confluence with River Alyn. Shallow water at river mouth – keep to left hand bank when heading upstream
	Aldford Hall		
			Beware of tight bends
8_ miles	Pulford Brook		
6_ miles	Iron Bridge		Eaton Park estate
5 miles	Crook of Dee	Sound horn on approach (by-law requirement)	Horse-shoe bend – restricted visibility
	Eccleston Lodge	Sound horn on approach (by-law requirement)	Sharp bend – restricted visibility
4 miles	Eccleston Ferry		

NABO Cruising Notes
River Dee

	Heronbridge	Sound horn on approach (by-law requirement)	Sharp bend – restricted visibility
	Dee Fords		Shallows – keep to The Meadows side away from Sandy Lane bank
1 mile	Sandy Lane		Local authority slipway
	The Groves		
	Queens Bridge		Suspension footbridge & public toilets
0	Chester Weir		Passage through weir gate by prior arrangement with United Utilities
			River is fully tidal below the weir
	Old Dee Bridge		Dates from 1282 Remains of old Roman bridge
Distance below Chester Weir			
_ mile	Grosvenor Bridge	Single navigation arch	A.483 Grosvenor Road
	Chester Race Course		The Roodee – formerly the course of the old river

NABO Cruising Notes
River Dee

	Railway bridge	Navigable channel through bridge piers	Wilcox Point. Headroom 4m+
2_ miles	Dee Lock, Crane Wharf		Entrance to Dee Branch of Shropshire Union Canal on north bank River lock available -1 hr to + 1 hr HW Dee Branch - _ mile long with 3 locks (incl river lock) 48 hours notice required. No charge for use of locks
2_ miles	Saltney		
	Higher Ferry		Footbridge. Headroom 4m+
5_ miles	Broughton/Sandycroft		Airbus load-out and lay-by at Broughton on south bank. Keep clear of piled submerged supporting structure marked by 2 fixed green vertical lights with green cone-shaped topmarks and illuminated warning notices at each end.
6 miles		Buried pipeline	Marked by notice board on north bank
		2 Disused jetties on south bank 750m upstream from bridge	Keep clear
		Concrete bridge pier north side	Navigation light FI R 5s each end
7 miles	Queensferry road bridges		A.494 road bridge 3.8m (12.5') headroom Blue Bridge B.5441 double bascule bridge

NABO Cruising Notes
River Dee

		Concrete bridge pier south side	Navigation light FI G 5s each end
		North bridge pier timber structure	Navigation light FI R 5s each end
7_ miles	Hawarden Railway bridge		Seacombe (Birkenhead) to Wrexham railway line. Swingbridge now fixed span 4.5m (14.7') headroom Bridge has navigation lights white flashing morse letter "A" (-.) on main span in centre of channel
		South bridge pier timber structure	Navigation light FI G 5s each end
		2 Disused jetties on north bank downstream from bridge	Keep clear
		4 Groynes on north bank	Lighted perch FI R 3s on downstream groyne Pole perches with red topmarks on other 3 groynes
8_ miles	Connah's Quay		Start of open estuary and training walls Slipway south bank
		East groyne	North bank Extends 130m into river 2 pole perches with red topmarks and lighted perch FI R 4s with red topmark at outer end
	Corus jetty		North bank Ends marked by lights 2 FR vertical
		Timber structure	South bank Intake for former

	A.548 road bridge		New suspension bridge with single inverted Y-shaped support tower 18m (59') headroom
	Flint		Slipway south bank
	Bagillt		Slipway and moorings south bank
	Holywell		Slipway and moorings south bank
	Greenfield		Slipway and moorings south bank
	Mostyn		Commercial docks and ferry port
23 miles	Point of Air		

iii) Passage from Chester to the sea

Recent local knowledge is essential for the tidal section of river together with British Admiralty charts numbers 1953 (larger scale) and 1978. A Leisure edition of the latter chart is available.

The Environment Agency publishes an excellent guidebook entitled Marine Safety in the Dee Conservancy – A guide to safe navigation. Boat owners

intending to make the passage into the river should obtain a copy and read it thoroughly.

The outer estuary dries to extensive sandbanks and a cockle fishery exists. The channel into Mostyn Docks is used by large ships and the Dee River Craft "Afon Dyfrdwy" transporting aircraft wings and components between Broughton and Mostyn.

The tidal river is open and exposed with the landscape dominated by industry and electricity pylons.

The spring tidal rise is about 8.0 metres (26.2') near the entrance to the estuary and this corresponds to a rise of about 3.0 metres (9.8') at Chester. The incoming (flood) tidal stream runs for about 5.5 hours and the outgoing (ebb) for about 6.5 hours in the outer estuary. In the canalised section of river the incoming stream runs for about 2 hours followed by the outgoing ebb for 10 hours.

On high spring tides the incoming tide creates a tidal bore or wall of water up to 0.5 metres (1.6') high and tidal streams can be strong. Floating debris can be a particular hazard in the confined canalised section of river and passage at night is best avoided for reasons of safety.

Always keep a sharp look-out for commercial shipping movements, particularly the Dee River Craft "Afon Dyfrdwy" transporting aircraft wings and components between Broughton and Mostyn. This large vessel navigates the estuary and river at night according to tide times and may enter or leave its berth at Broughton around high water and may be encountered lying on its supporting structure with its bows projecting up to 15 metres (49 feet) into the river. At night this vessel displays a red warning light from its bow when protruding into the channel.

The following navigation marks are believed to exist but up-to-date charts must be obtained to confirm their existence, markings and light characteristics.

The approach from seaward from the west is via a buoyed channel between the North Wales coastline and the outlying banks leading to the Dee south cardinal light buoy. From the north entry is via Hilbre Swash buoyed channel past HE1 cardinal buoy, turning south to leave Hilbre Island beacon to port.

Hilbre Swash to River Dee

HE2 light buoy Q R R can with radar reflector

HE1 light buoy Q (3) 10s BYB east cardinal pillar with radar reflector

HE3 light buoy FI G 2.5s G conical

SE Hoyle R can buoy in Welshman's Gut

Welshman light buoy Q (3) 10s BYB east cardinal pillar

The channels frequently shift and the buoys are moved to suit.

Approaches to River Dee – Inner Passage and Welsh Channel

W Constable light buoy VQ (9) 15s YBY west cardinal pillar

N Rhyl light buoy Q north cardinal pillar

Middle Patch Spit light buoy FI R 5s can buoy

Chester Flat light buoy FI (2) R 5s red can buoy

S Hoyle light buoy FI (3) R 10s red can buoy

Earwig light buoy FI (2) G 5s green conical buoy with bell in Welsh Channel

East Hoyle light buoy FI (4) R 15s red can in Welsh Channel

Talacre buoy G conical with radar reflector

Air buoy G conical with radar reflector

Dee light buoy Q (6) + L FI 15s YB south cardinal pillar

River Dee

W Bar red can buoy

NE Mostyn light buoy FI (3) G 10s green conical

Mostyn light buoy FI (4) G 15s green conical with radar reflector

Bank light buoy FI R 5s red can

S Salisbury red can buoy

Barron Hill mast on wreck

Hilbre Island, north end FI R 3s W frame tower

Mostyn Dock & River Dee

High water at Connah's Quay is at approximately the same time as HW Liverpool.

Harbourmaster Tel 01745 560335 Fax 01745 560324 VHF Ch 16, 14

Pilotage: for River Dee, Shotton & Connah's Quay arrive HW Liverpool -2/2_ hrs at Dee Buoy. Vessels up to 5.6m draft can reach Mostyn at HW Springs. Gutway to Mostyn marked by 4 F RW diamond marks in inner harbour forming leading line. Buoyed channel into Mostyn Dock.

Signals: Large square red flag by day or F R light by night = No vessel can enter. Pleasure craft are not welcomed.

Anchorage: In 9m LWST at Dee Bay, SE Air buoy, NE Mostyn buoy

Mostyn Training Wall FI R 1.3s B mast

Outer F W W Pile. Also 3 F R shown from piles in channel.

Leading lights 215⁰ (Front) F R B mast white diamond topmark, (Rear) F R B mast W diamond topmark.

Dee Nos 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 lighted buoys mark the high water channel from the outer estuary into the canalised section of river.

N Training Wall FI R 10s on light tower at seaward end.

12 pole perches each with red (port hand) topmarks.

Upstream end of training wall marked by lighted perch FI R 5s with red topmark

Outfall FI G 10s

S Training Wall marked by 9 pole perches with green (starboard hand) topmarks.

Light structure near seaward end marks position of intake for Kelsterton gas-fired power station. FI G 5s with green conical daymark.

Summersby Wharf F R

Connah's Quay 2 F R vertical lights

Dee No 1 buoy RWVS spherical buoy

Dee No 2, 3, 4, 5, 6, 7, 8, 9, and 10 buoys RWVS spherical mark the channel from Mostyn towards Flint.

Sources of information

Laver's Liverpool & Irish Sea Tide Table published by Laver Publishing Tel 0151 475 7949 website: www.laverpublishing.com

"Byelaws with respect to pleasure boats and vessels on the River Dee at Chester" published August 1983 by the Council of the City of Chester

Private launches – general information sheet, Chester City Council

River Dee Emergency Plan, Cheshire County Council

Marine safety in the Dee Conservancy – a guide to safe navigation published by Environment Agency November 2005.

Thanks and gratitude are extended to the following persons who have provided invaluable information to help in the compilation of these notes:

Ms Dianne Gorrell, Chester City Council, Parks & Open Spaces
Mr Neville Preece, British Waterways, Tower Wharf, Chester
Capt CHJ Allister, Harbourmaster, Dee Conservancy
Members of NABO with local knowledge.

Further information

Further information and guidance is available from the River Users' Co-ordinator exclusively to NABO members.

Legal Note

Although the greatest care and diligence has been taken in the compilation of these pilotage notes the National Association of Boat Owners accepts no responsibility for any errors, omissions, or alterations in this publication, or for any consequences ensuing upon the use of, or reliance upon, any information given. It must be emphasised that these pilotage notes give only general advice and that the master of the vessel is at all times responsible for the safety of his craft and all aboard.

NABO welcomes any corrections or new information from users of these notes.

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