

Justification for the Hungarian stretches of inland waterways with specific risks pursuant to Article 9 of Directive (EU) 2017/2397

The reasons for the classification as inland waterway section with special risks are:

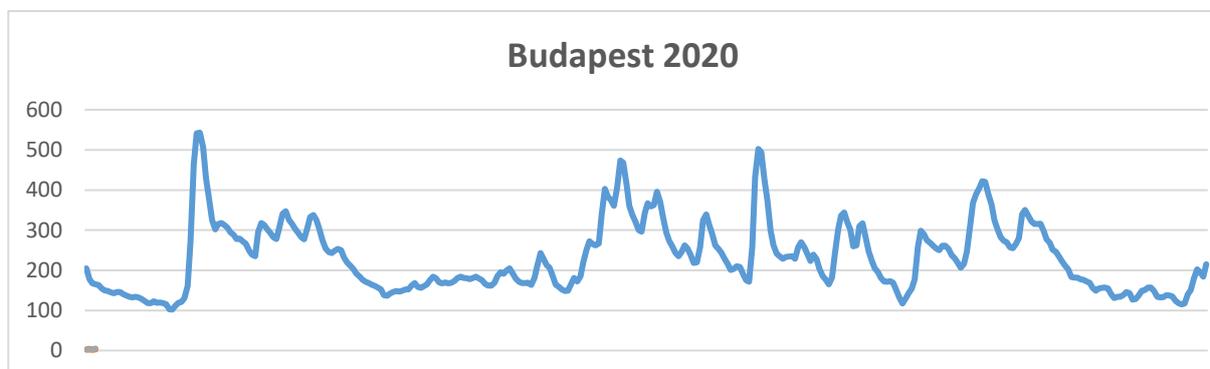
The Hungarian stretch of the Danube is a complex watercourse river - i.e. it has several high-water periods - with a difference between the lowest and highest water levels of 8-10 metres, with water level changes of 100 cm in 24 hours occurring throughout the stretch.

A Mouth of the River Ipoly to Hungarian-Serbian-Croatian border (river km 1708 to 1433)

It is a section with frequently changing stream patterns and speed according to Article 9 (1) (a) of the Directive the section in especially the river km 1702-1694, 1683-1679, 1668-1666, 1660-1651 1639-1637, 1624-1615, 1592-1590, 1570-1554, 1481-1479.

(1) In mouth of the River Ipoly to Budapest is a section with 10 registered bottleneck the Danube start with the „Danube knee” with a narrow called Dömös (river km 1699,3-1698,2). Dömös according to Article 9 (1) (d) of the Directive is a high frequency of accidents in a river bend with a non-constant radius, with variable cross currents depending on the water level and with a rocky ground.

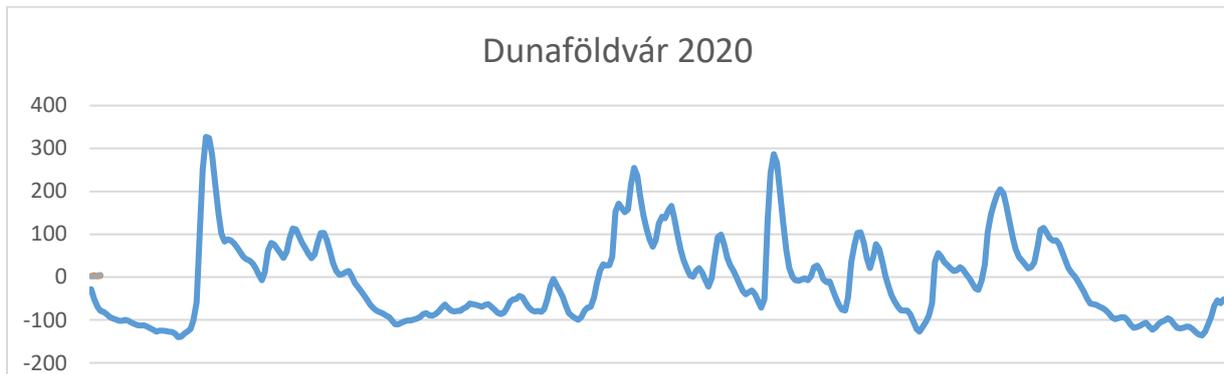
The Danube then flows around the island of Szentendre (river km 1695-1663). The international freight and passenger transport use the Vác arm (left), the Szentendre arm 32 km long (right), mainly use from Hungarian passenger excursion vessels and solo motorised vessels. The stream patterns and the speed are strongly dependent on the water levels, especially in the 5 bottleneck on the Vác arm. The entering in to the Szentendre arm at low water level because of the deposited sediment in the waterway with cross flow and higher water levels with high current speeds. The section is subject to permanent and several temporary local regulations. The Budapest gauge is relevant for this section the difference between the minimum (33 cm) and maximum (891 cm) water levels is 861 cm. The following graph shows the frequency of water level fluctuations and especially the very steep gradients. Not all of the wing dams, sand banks are marked requiring special navigation knowledge as described above.



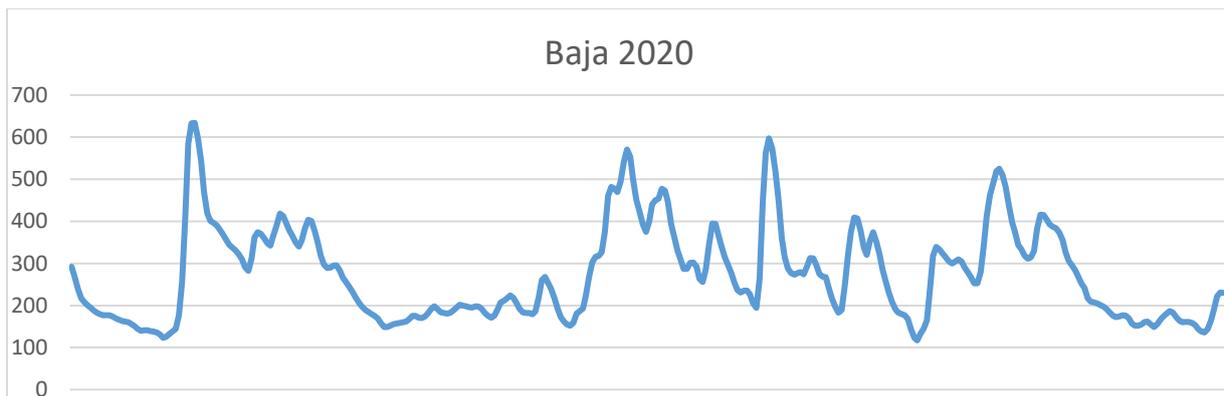
(2) Second part is Budapest to Dunaföldvár (with 12 registered bottleneck in the main arm) with island of Csepel. Ráckevei-Danube 60 km long (left arm) don't need additional knowledge, is a canalised river. According to Article 9 (1) (d) of the Directive in the main arm

(right arm) are bottlenecks Budafok (river km 1638,6-1637,1) and Dunaföldvár (river km 1560,8-1559,7 and 1558,5-1554,6) with high frequency of accidents with variable cross currents depending on the water level with hard river ground and by Dunaföldvár with an ancient Roman ruins under the water and a bridge with pillars in the bottleneck and Ercsi (river km 1616,7-1615,3) and Kulcs (river km 1591,8-1590,1) with variable cross currents depending on the water level with gravel river bottom. The section is subject to permanent and several temporary local regulations. Not all of the wing dams, sand banks are marked requiring special navigation knowledge as described above.

At the Dunaföldvár water gauges the difference between the minimum (-199 cm) and maximum (721 cm) water levels is 920 cm which is relevant for the section. The following graph shows the frequency of water level fluctuations and especially the very steep gradients.



(3) Third part is Dunaföldvár to Hungarian-Serbian-Croatian border (with 17 registered bottleneck) the water gauge in Baja is the reference gauge, in addition to the water gauge in Dunaföldvár. At the Baja gauges the difference between the minimum (27 cm) and maximum (989 cm) water levels is 962 cm. The following graph shows the frequency of water level fluctuations and especially the very steep gradients.



According to Article 9 (1) (d) of the Directive is Bölcske (river km 1551,5-1551,4) a high frequency of accidents with variable cross currents depending on the water level with gravel river bottom and the area of Bridge Baja (river km 1480,1-1479,1) too. The bridge stay in a in a bend with a non-constant radius, with variable cross currents depending on the water level.

Upstream direct over the bridge on the right side is a tributary the Danube, cross-current strength varies with water level and downstream direct under the bridge on the left side is the port Baja on the river. It is not the bridge itself that poses an accident risk, but the changing abnormal flow conditions and water speed. The section is subject to permanent and several temporary local regulations. Not all of the wing dams, sand banks are marked requiring special navigation knowledge as described above.

In general the accident hotspots mentioned above are not related to heavy traffic or an object in the water such as bridges, they are due to abnormal flow conditions and require knowledge of the specific characteristics of the area.

On the whole Hungarian stretch of the Danube, boatmasters need special knowledge of the hydromorphological characteristics of these sections but also of the special local traffic rules in order to navigate these sections safely. Therefore, point c) of Article 9 of the Directive is also applicable.

The proof of compliance with these additional requirements must be provided by 8 upstream and 8 downstream journeys on the waterway section concerned and a multiple choice test and an oral examination, in line with Article 20(1) of the Directive.

B. River Tisza Csongrád – Kisköre(river km 255-403,2) stretch

The Tisza is a complex watercourse river too, but mostly the flood peaks do not coincide with the Danube. The section of the Tisza between Csongrád and Kisköre is a free-flowing river with highly variable water flow. The effect of the törökbecsei dam on the Serbian section of the river ceases at Csongrád, and upstream from Kisköre it is again considered to be canalised. At the relevant gauges Szolnok the difference between the minimum (-279 cm) and maximum (1041 cm) water levels is 1320 cm.

This section of the Tisza meets the requirements of Article 9(1)(a), (b) and (c) of the Directive, as there is not only frequently changing stream patterns and speed, but there are no usable navigational charts available. Also specific local regulation is applicable on that section.

Consequently, boatmasters need special knowledge of the hydromorphological characteristics of these sections and of the special local traffic rules in order to navigate that section safely.

Given that the river Tisza has a steep bank, a sandy bed, no stone-built control structures, except for bank protection pavements, and practically no freight traffic, the proof of compliance with these additional requirements must be provided by 8 upstream and 8 downstream journeys on the waterway section concerned, in line with Article 20(1) of the Directive.

A and B:

For the assessment of the examination, objective, transparent, non-discriminatory and proportionate criteria will be applied.

The specific local rules have been published on the internet side of the shipping authority.

After a registration, the latest specific local rules will be sent free of charge to all registrants at the moment of publication. The specific local rules still in force are permanently available on the Shipping Authority's website.

The specific provisions for the Hungarian Danube section are laid down in the Ministerial Decree ((57/2011 (XI.22.) NFM rendelet a víziközlekedés rendjéről)) and available on the website of the Danube Commission in the three official languages in e-library in 2013:

<https://www.danubecommission.org/dc/en/extranet/e-library/>

The notice to skippers with temporary provisions can be found on the PannonRIS website:

https://pannonris.hu/en/szolgaltatasok/hszh-k?ftm_type=62978&ftm_number=&ftm_subject_code=62991&ftm_validity=&ftm_fairway_name=&title=

The notice to skippers temporary provisions concerning the above section of the Tisza is also available on the PannonRIS link above, while the specific regulations are contained in Ministerial Decree ((57/2011 (XI.22.) NFM rendelet a víziközlekedés rendjéről)) on the regulation of inland waterway transport.