



“NETWORK OF DANUBE WATERWAY ADMINISTRATIONS”
South-East European Transnational Cooperation Programme

**STATUS QUO REPORT ON WATERWAY MAINTENANCE
HUNGARY**

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1 LIST OF ABBREVIATIONS

ABBR.	Abbreviation
KvVM	Ministry of Environment and Water
KEHM	Ministry of Transport, Energy and Telecommunication
VKKI	Central Directorate for Water and Environment
KÖVIZIGs	Environmental and Water Directorates
VITUKI Nonprofit Kft	Institute of Environmental Protection and Water Management
RSOE	National Association of Radio Distress-Signalling and Infocommunications

2 INTRODUCTION

2.1. *Responsibility for waterway administration, Institutions – manage the navigations conditions*

In Hungary Danube (Hungarian: Duna) is the main river with total length of 2850 km from Black sea to Germany. The Hungarian section is between from rkm 1850 to rkm 1433 (417 kms), The first 142 kms long stretch (from rkm 1850 – to rkm 1708) is shared with Slovakia on the left bank. Within this upper river characteristic sector the navigable stretch (waterway) is 378 kms long: from rkm 1433 – to rkm 1811.

The classification of the Hungarian waterways is contained in the enclosure of the Governmental degree already referred to, according to which the relating parameters for the section of the Danube between rkm 1811 and 1641 (Szap-Budapest) is VI/B, while for the section between rkm 1641 and 1433 (Budapest-Southern state border) is VI/C waterway. With that classification the Hungarian section of the Danube – together with the parameters belonging to it – totally fits into the DRM (Danube – Main - Rhine) waterway system.

In Hungary there is a shared responsibility for manage of waterway maintenance and navigation. Of course, the participants of this administrative structure have a lot of other tasks but this description above includes only ones, which are connected to the waterway administration

Ministry of Environment and Water (KvVM) is responsible for environmental, nature conversation and water management policies, national strategic planning and management as well as international co-operation in its area of interest. It also prepares the legislation (collaborated with some interested ministries) and plans its own budget. It directs funds - including the support of EU, when possible - to the planning and implementation of river restoration projects. The Ministry directs and supervises all activities both of Central Directorate for Water and Environment (VKKI) and Environmental and Water Directorates. The Ministry does it connecting the Directorates in some parts of its activity directly, and in some other parts through the VKKI.

Ministry of Transport, Energy and Telecommunication (KEHM) is responsible for – as one of its numerous obligations - the navigation and transport as well as for the classification of waterways. It does these tasks partly directly and partly through its background organizations like RSOE (National Association of Radio Distress-Signalling and Infocommunications). KEHM collaborates with other ministries – e.g. KvVM - in the field of legislation's preparation connecting the waterway maintenance.

Central Directorate for Water and Environment (VKKI) - sharing of the work among the organisations in the field of the water management - is a central operational body: it co-ordinates, supervises, controls the professional activity of Environmental and Water Directorates; co-ordinates the co-operation among of the 12 directorates. VKKI is the medium grade of the network of the water management. This organization is the basis of the protection against flood, ice jamming, access water and accidental water pollution as well as on the phases of prevention and operation. Organizes and co-ordinates the work of the directorates also on the area of river restoration and the waterway maintenance – including the related ones to the waterways - of regional directorates all around the country.

Environmental and Water Directorates (KÖVIZIGs) operate and maintain the state owned water bodies, including numerous major and minor rivers and lakes all around the country. They also attend to harmful effects caused by the maintenance and repair of older waterways and hydraulic engineering structures. Directorates take part as professional participants in the process of permission made by territorial authorities. They are in close connection in the field of environmental and water management tasks with municipalities, which are situated on their operated area. There are 12 directorates - within three of them along the Danube River - covered the whole territory of Hungary. The Directorates - within their numerous daily tasks - are directly responsible for the good condition of the rivers including the different categories of waterways considering the international regulations.

Their continuous activities are: river engineering, river bed regulation, checking of pipeline crossing, shoreline regulation, water-level regulation, maintenance and operate of the fairways, making of the marking plans, floating and coastal marking, river mapping/waterways charting, cooperation with the relevant local navigational authorities. They carry out the survey, collection, store, forwarding of data of river bed, shoreline and waterways.

Especially among Danube River are three responsible water directorates, as follows:

- North Trans-danubian Environmental and Water Directorate (ÉDU KÖVIZIG - headquarters: Győr) rkm 1850 and 1708 (142 kms) From western state border to estuary of Ipoly River. Fairway stretch is between rkm 1811 and 1708.
- Middle Danube Valley Environmental and Water Directorate (KDV KÖVIZIG - headquarters: Budapest) rkm 1708 and 1560 (148 kms) From estuary of Ipoly River to (bridge of) Dunaföldvár.
- Lower Danube Valley Environmental and Water Directorate (ADU KÖVIZIG - headquarters: Baja) rkm 1560 and 1433 (127 kms). From (bridge of) Dunaföldvár to southern state border.

Institute of Environmental Protection and Water Management (VITUKI Nonprofit Kft.) as the one of the state-owned ltd-s, works in close connection with different grades of the governmental establishment. Its main profession is the research, but in addition VITUKI as well as takes part in the planning, preparation works, monitoring and supervisor activities. It functions as a national information centre, which collects, processes and provides environmental data for the use of various interest groups. In addition to this, VITUKI takes care of some duties of authorities. There are some other non – state-owned, governmental organizations participated in research, improvement and innovation of the field of environmental, nature conversation and water management.

National Association of Radio Distress-Signalling and Infocommunications (RSOE) is committed to give rise to the information society therefore it does its best to make the technological innovations widespread public. It safeguards and fears for the natural and built environment, and in order to protect it. RSOE uses the most modern technologies, the help of the global navigation satellite system (GNSS) and the geographic information system (GIS), especially in the field of inland navigation and disaster management.

Currently, as a prominently public benefit organization, RSOE in cooperation particularly with governmental administrations, or rather with organizations which the latter have control, over do those activities, with that according to the relating regulations and agreements it constantly supports the work of the governmental sphere.

One of some professional areas of RSOE's activity is the operation and development of river information services in Hungary ("www.pannonris.hu"). By virtue of the contract made with the National Transport Authority RIS in Hungary is provided by the RSOE. About the available river information services in Hungary more information can be found on the above mentioned website.

3 CHARACTERISTIC OF WATERWAY

3.1. *River stretch characterisation*

The 417 kms long **Hungarian stretch of Danube is found in the Middle Basin**, which is the largest of the three sub-regions of the river - extending from Bratislava to the dams of the Iron Gate Gorge on the border between Serbia and Romania.

Downstream of the fault gap through the Alps-Carpathians at Bratislava the Danube flows through the Kisalföld - the Little Danube Plain. The Hungarian Mid-Mountains are flanked on both sides by highlands and alluvial forests, into which the Danube enters downstream of Komarno (~rkm 1770). Between the Börzsöny and Pilis Mountain a

second breach follows through the secondary transverse connection between the Alps and Carpathians in a deeply cut valley - the Visegrád Gate (rkm 1718 - rkm 1695).

At Vác (rkm 1680) the Danube is forced into a sharp bend towards the south. In the region of Budapest these highlands fade on the other side of the Hungarian Mid-Mountains. All rivers flowing into the Pannonian Basin develop an alluvial cone on their margin, where the majority of sediments is deposited. The Danube has formed with the Váh river a common spindle-shaped alluvial cone, stretching from Bratislava to Komárno. The sediments, carried from the Carpathians, have pushed it somewhat southwards.

On the alluvial cone the Danube is separated into three branches. The Little Danube branches north, and after about 100 km joins the main river again at Komárno. The Mosoni Danube, branching south and then, after about 60 km joins the main course again at Gönyü (rkm 1791). The islands, embraced by the three Danube branches, are called the Large Danube Island — Zitny ostrov (in the north) and the Little Danube Island - Szigetköz (in the south). The Little Danube Island is covered with extensive alluvial plains and forests and the remnants of cut-off river branches, since the original main branch was strongly ramified.

The morphological changes in this part of the Danube are evident in the longitudinal profile. The large alluvial track downstream of Bratislava shows a trend to form a convex (i. e. an upward curved shaped), as is usual in case of alluvial cones. The morphological transition from an Alpine to a lowland river can be seen here, though the Alpine runoff character is still preserved further downstream. Again considerable sediment volumes are deposited, causing ramification of the stream and evolution of large islands: Szentendre and Csepel. The average river width increases from Gönyü (about 300 m) to about 400 m downstream.

South of Budapest the Danube enters the Alföld - the Large Hungarian Plain, and follows a 600 km long arc on its western, and then southern margin. The longer spur of this wide plain projects onto the right bank of the river in the area between Mohács and the mouth of the Drava. There the river bed is again braided.

The morphological character of the now flatland river increases after it enters the Main Pannonian Basin. The slope decreases from Budapest to the mouth of the Drava from 0.07 ‰ to 0.05‰ and continues to decrease down to the Danube fault gap to 0.04‰. The mean width increases from 400 m to 800 m -1.000 m according to the runoff rate and lower slope before the cataract reach.

On the 378 kms long navigable Hungarian section of Danube (Szap-Southern state border), which is a dominant part of the DMR trans-continental waterway, no any locks except in the largest (57 kms long) branch, named RSD Ráckevei (Soroksári) Dunaág. The upper lock was built on the territory of the capital, Budapest and the under lock near the Tass.

The Danube River runs through the country on 417 km from which the first 142 km are common with Slovakia on its left bank. As the transport route No. VII in the EU, the Danube represents a major waterway. Within the whole Hungarian stretch a 378 kms long section is a very important international waterway.

Based on the Belgrade Convention (1948), a well-founded parameter-system corresponding to unified principles was worked out and actualized from time-to-time for the waterway (the so-called “DC-recommendations”), which were accepted by every concerned country, and they committed themselves to take the given parameters as basis for developing the Danube waterway. At present the Governmental Decree 151/2000 (IX.14.), as well as the KöViM Decree 17/2002. (III.7.) on proclaiming the EU convention on the Hungarian section of the Danube and on the international waterways regulate this commitment.

The essence of the DC recommendation is that the dimensions of the waterway must be ensured compared to a low-water navigation, the so-called “DC low-water level”. This low-water level is calculated from the ice-free water discharges of the preceding 30 years, and it corresponds to the water level of water discharges with 94% durability.

The classification of the Hungarian waterways is contained in the enclosure of the Governmental decree already referred to, according to which the relating parameters for the section of the Danube between rkm 1811 and 1641 (Szap-Budapest) is VI/B, while for the section between rkm 1641 and 1433 (Budapest-Southern state border) is VI/C waterway. With that classification the Hungarian section of the Danube – together with the parameters belonging to it – totally fits into the DMR waterway system.

The **waterway class VI/B** (concerning vessel sizes) means, that the continuous, two-way, day and night traffic of convoys consisting of four coupled Europe III barges (total capacity 4 000 – 4 500 tons) should be ensured. That four-barges convoy is 185 m long and 23 m wide.

The **waterway class VI/C** should ensure the traffic of six-barge (2x3 or 3x2 barges; total capacity 4 000 – 6 200 tons) convoys (275 m long, max. width 34 m). The two-way 24 hours traffic (eliminating the limitation “passing and overtaking prohibited”) requires a fairway width of 120-180 m, a minimal bend radius of 1000 m and the defined air-draught.

It derives from the above that the waterways of the Danube must meet both criteria. In its present status the Hungarian section of the Danube does not meet the criteria outlined before, there are limitations in depth and/or width at over 50 locations, and they represent a significant limitation of the utilization of the waterway. The primary aim is to eliminate these shallow fords and bottlenecks, so that they do not cause any obstacles to navigation. The supporting study demonstrates these development

recommendations. This target is in full conformity with the already mentioned transport policy of EU (White Paper), with the EU development targets, according to which the Danube should serve as European transport corridor VII as a part of TEN (Trans-European Transport Network), for the regulation and development questions of which the decisions of the Community will govern.

4 WATERWAY MAINTENANCE

4.1. Main activities for waterway maintenance – hydrology, survey, signalization, bottlenecks, dredging

4.1.1. General information about Hydrology

Along the Danube River the water level data collection happens two times every day on 15 hydro-meteorological stations which are operated by the three above mentioned Directorates. After a checking data are sent from Directorates to VKKI and VITUKI. VKKI has a central data warehouse/base. The data are absolutely public, they are found within the website "www.vituki.hu" on the "Hydroinfo" link, which is freshened day by day in the morning till 9 o'clock. Data are available as well as numerical and graphical form there. A new VKKI website – "www.vkki.hu" - is under construction: in the near future will be a possibility to find these daily data also there. (This is an ongoing test period - no English version at the moment yet.)

4.1.2. General information about river bed measurements

There is no beforehand decided timetable for surveying the obstruction of navigation (shallow fords and bottlenecks as well). This survey is implemented depending on the water level. Directly the three above mentioned Directorates responsible for this activity but sometimes they are implementing this activity through VITUKI.

The survey of the river bed happens in every year in the upper sector Szap - Szob (from rkm 1811 to rkm 1708 and every five years in the sector Szob - Southern state border (from rkm 1708 to rkm 1433), because in this sector of the Danube is less sensitive for the changing of river bed. These cycles sometimes are a little bit longer depending on the financial sources.

During the marking service activity the actual water depths are surveyed from the marking vessel. The surveys happen on the water surface with one or more ray type

system and the determination of the surveyed points and profiles of the river bed with help a survey station standing on the river bank.

The collected data are published by VITUKI (supervised by VKKI) on the permanent „Report of ford” which are made day by day if it necessary. They are found within the website "www.vituki.hu" on the "Hydroinfo" link.

GPS based survey because of the inaccuracy (not enough accuracy) of the system is used only on the lakes and reservoirs not on rivers.

4.1.3. Bottlenecks

Proposal for the elimination of shallow fords and bottlenecks hindering the navigation, in accordance with the DC recommendation and the UN-ECE regulations, that is to secure waterway VI/B on the section of the Danube between rkm 1811 and 1641, and VI/C between rkm 1641 and 1433. In its present status the Hungarian section of the Danube does not meet the criteria outlined before, there are limitations in depth and/or width at over 50 locations, and they represent a significant limitation of the utilization of the waterway. The primary aim is to eliminate these shallow fords and bottlenecks, so that they do not cause any obstacles to navigation.

The determination of the obstacles to navigation (as well as the shallow fords and bottlenecks) has made in a frame of a comprehensive feasibility study, between 2005 – 2007. (“Deliverable of the project improvement of the navigability of the Danube”) In the sector of Szap - Southern state border (from rkm 1811 to rkm 1433) 51 obstacles to navigation (shallow fords and bottlenecks) has been identified. Improvement of these places (points, sectors) is planned until 2013. Nowadays there is an ongoing planning work for the necessary permissions.

The actual data of the obstacles to navigation are published by VITUKI (supervised by VKKI) on the permanent „Report of ford” which are made day by day if it necessary. They are found within the website "www.vituki.hu" on the "Hydroinfo" link.

4.1.4. Signalization

The Danube is an international waterway; therefore the marking activity here is of primary importance. The appointed organisational divisions of the environmental protection and water management directorates carry out the marking activities. Marking vessels especially devoted to this job carry out the marking activity itself. For them it is essential to have an exact knowledge of the actual riverbed status. The method of doing both activities parallel is elaborated in the study, because reasonable interventions, as well as modern fairway marking – that follows the changing of the riverbed status – can be made only on the basis of continuous surveys.

The marking of the fairway is an essential activity concerning navigation safety and accident prevention, that determines the navigability conditions of the given river section. The existing and planned harbour constructions also need the development of a modern fairway marking, as well as the international trade and the increased ship- and water tourism traffic.

Therefore some developments were also elaborated in the study, by that the future operation costs can be decreased. These are the following:

- Modernisation of signs that provide safe navigation on the waterway,
- Purchase of reliable light signals of low energy consumption, creating the possibility of the power supply on the riverbank,
- Operation of faster marking vessels with lower fuel consumption.

This job is executed by the marking service of the Environmental and Water Directorates in Szap – Szob (from rkm 1811 to rkm 1708), Szob – Dunaföldvár (from rkm 1708 to rkm 1560), Dunaföldvár – southern border (from rkm 1560 to rkm 1433) sections. During the continuously marking activity happens the supplement of the missing floating marks (beacons, buoys etc.)

For this activity there are only three marking vessels for three above mentioned sectors. Material of the buoys is steel with chain anchorage. During the improvement of the facilities some modern version will be planned (plastic material, application of solar cell, resistant form and anchorage procedure etc. There is an existing planning of a fast marking vessel for the supplement of the missing floating marks almost immediately.

5 REPORT FOR RIVER ENGINEERING CONSTRUCTIONS AND EXECUTION

In Hungary there are numerous of sectors of the Danube where it is not possible to permanently maintain the navigable depth due to morphological conditions. Since desirable conditions for navigation can be achieved by means of the construction of impounding reservoirs, river transport is also one of the main reasons for the construction of river power project.

Within the terms of reference of this commission all common problems concerning navigation water management, water resources development and water engineering works are dealt with. Thus, for example, recommendations for measurements performed on the waterway (navigable depth, width, curvature, slope, measurement of lock gates, discharge capacity, etc.) for the whole navigation route from Regensburg to the Black Sea (including the Hungarian Danube stretch) have been worked out.

The study for the improvement of the navigability of the Danube (was made 2005 – 2007) contains only conventional river training solutions (regulation works and riverbed

dredging). The results of the current study will be utilized in the next project – also funded in the TEN-T programme – including the planning activities necessary to start the physical development of the fairway.

When applying for Danube Commission financial aid for the project the Hungarian Ministry of Economy and Transport had the main objective to professionally elaborate the proposal how to ensure the reliable 2,5 metres depths on the Hungarian section of the Danube alongside with the goal to carry out studies on transports, hydraulic and regulatory aspects.

Project goals were in compliance with the provisions of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (i.e. economically, socially and environmentally sustainable water policy in the European Union).

To fulfil these objectives the successful bidder in the public procurement procedure carried out in 2005 was commissioned to elaborate the relevant studies according to eight predefined issues:

- Analysis of waterbed status, waterway signalling.
- Improvement of the waterbed status, complex river regulation – potential alternatives for the implementation without damming.
- Alignment of regulation to other demands and utilization – identifying measures for the frame of the complex river management.
- Drinking water resource, shore filtrated fountains – protection of water bases.
- Ice reduction.
- Waterway signalling, dissemination.
- Protection of environmental elements on the shore, ecological rehabilitation, recreation and tourism related to the waterway.

6 COMMON SECTOR, WATERWAY MAINTENANCE

In Hungary the Szap – Szob (rkm 1811 and 1708) is the common navigable Danube sector shared with Slovakia. The cases/problems connecting with this common sector are handled generally through the Hungarian - Slovak Water Management Committee within the activity of Danube Subcommittee. The implementation of the waterway maintenance happens in close connection between the ÉDU KÖVIZIG (North Transdanubian Environmental and Water Directorate - headquarters: Győr, Hungary) and SVP OZ Povodie Dunaja závod Dunaj (headquarters: Bratislava, Slovakia).

This 103 kms long Danube stretch is divided into two sections from point of view the waterway marking and maintenance. These are

- Szap - Gönyű from rkm 1811 - 1791 and
- Gönyű – Szob from rkm 1791 – 1708.

The handling of the coastal navigation marks happen by itself in both of the sides: on the right bank of the Danube by the Hungarian side and on the left bank by the Slovak side.

The handling - maintenance, improvement, change - of the floating marks happens by a rotation method. Both of the two sides are responsible for the handling of the floating navigation mark in one of the above mentioned section for two years. After that two years long period the sides change the sections.

There is a direct, intensive, daily communication and change of information and collected data between the two sides.

7 WATERWAY MAINTENANCE IN THE ICE PERIOD

The ice conditions are determined mostly by the climatic conditions of the region, by geologic facts, as well as the specific hydro-meteorological and morphological parameters.

In the past several times occurred, that the flood wave could not break up the jammed ice cover, but it pushed the ice blocks over one another, generating thereby accumulated ice and ice jams that caused an ice flood. On the section downstream of Budapest there were catastrophic (in 1956) i.e. extreme (1984-85) ice floods.

The situation of ice passage on the whole stretch of the Danube Szap – Southern state border (rkm 1811 and 1433) has been demonstrated by splitting it into separate sections. The sectioning is reasonable partly because of the characteristics of the stretch, partly because of the shared maintenance of the river sections.

- Section between Szap-Szob (rkm 1811 and 1708),
- Section between Szob-Dunaföldvár (rkm 1708 and 1560),
- Section between Dunaföldvár - Southern border (rkm 1560 and 1433).

On the basis of the examinations and evaluation detailed in the study it can be assumed that in case of a smaller ice-drift navigation can be secured at present better than 30 years ago. For the further improvement it is suggested

- to decrease the number of sites disposed to formation of ice, by way of conventional riverbed training works, maintenance of the riverbed, and improvement of the bend- and stream conditions,
- to maintain the ice breaker fleet in a ready-for-operation condition, to prepare it for operation and to operate it periodically during the year.

In the ice period we do not use especial winter buoys and other signals. However, there is an ongoing testing process with an own made type of winter buoy. Every ice period (especially from December to March) there is a continuously daily report about the current ice covering status on the two main Hungarian rivers including Danube. The report is public and it is available for the skippers within the website "www.vituki.hu" on the "Hydroinfo" link and through the NAVINFO service.

8 WATERWAY MAINTENANCE IN THE LOWEST LEVEL PERIOD

There is no difference from the above mentioned process during the average situation in the field of the waterway maintenance.

In the lowest level period - in cases of lack of the necessary water depth for the navigation defined by DC - a daily "Report of ford" is made (if it necessary - due to the low water level)– about the situation alongside the whole river section.

The actual data of the obstacles (places of fords/bottlenecks from fkm – to fkm, length, width, depth) to navigation are published by VITUKI (supervised by VKKI) on the permanent „Report of ford” which are made day by day if it necessary. They are found within the website "www.vituki.hu" on the "Hydroinfo" link.

9 WATERWAY MAINTENANCE IN THE HIGHEST LEVEL PERIOD

There is no difference between the above mentioned process during the average situation and in the highest level period.

The actual data for the navigation are published by VITUKI (supervised by VKKI) within the website "www.vituki.hu" on the "Hydroinfo" link.

10 REPORT ABOUT THE PREVENTION AND RESTORATION OF FLOOD DAMAGES

In Hungary from the total main river flood control length of 4183 km, 1350 km occur in the Danube basin. They are maintained together with the important secondary line of 260 km and 18 km in the capital Budapest directly by the Environment and Water Directorates. (Directorates operate in 12 headquarters in all around the country.)

Typical downstream condition is that 96% of surface water resources, as well as floods, are generated outside the country. The significant flood duration in Danube valley (in Hungarian stretch of the river) is 5-20 days.

Frequency of floods in Hungary:

- smaller scale - in every 2-3 years
- significant - in every 5-6 years
- devastating - in every 10-12 years

As one of the prevention's method the process of river regulation involves artificial control of the natural flow of a stream to reduce the flood peaks causing damage, and to achieve the discharge at specific points serving specific purposes. Control measures include: fortification and building of embankments along the course of the river to confine flood waters; dredging to deepen the channel and increase its cross-section, to concentrate the scouring effects of the current; increasing the gradient of the river by cutting across loops, thus shortening its course; removal of shoals and storing or diverting the flood water. From the description presented above it is evident in which sections of its long course the natural conditions are so unfavourable that it is necessary to perform flood control measures and engineering works so as to achieve the given objectives exploitation and settlement of the river basin, navigations.

In the flood period the information for skippers are managed by the flood defence duty. The way of the information step by step is the following:

- Territorial flood-defence core (Directorates)
- Central flood defence core on the basis of VKKI
- NAVINFO (24/365 duty - operated by RSOE)
- Skippers

In Hungary there are four different level of flood-defence depending of the water level for every flood defence section.

During the flood period the collection of data about water level, water flow and some other information happen by the following method:

- "Low" flood defence level - in every 24 hours
- "Medium" flood defence level - in every 6 hours
- "High" flood defence level - in every 2 hours
- "Extreme" flood defence level - in every 2 hours

The actual data are published by VITUKI (supervised by VKKI) within its website "www.vituki.hu" on the "Hydroinfo" link.

11 PLANNING FOR LOCK MAINTENANCE AND REPAIRING

On the 378 kms long navigable Hungarian section of Danube (Szap-Southern state border) no any locks, except in the largest (57 kms long) branch named RSD Ráckevei (Soroksári) Dunaág. The upper lock (named “Kvassay” – lock) was built on the territory of the capital, Budapest and the under lock is situated near the Tass. These locks are both managed and maintained also by the Middle Danube Valley Environmental and Water Directorate (KDV KÖVIZIG - headquarters: Budapest). There is an ongoing project for the improvement of the water quality of RSD – including the reconstruction these two locks. The execution of this project will be finalised till end of 2012. The information about the locks is available via “Note for skippers”.

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