

THE VÁH RIVER AND LIPTOV IN THE PAST

The Váh River has become known over the centuries as the largest and wildest Slovak river. It brought profit to both woodworkers and raftsmen, as well as sheepmen and tanners who transported their goods across the Váh. At one time, there were plenty of fish and crayfish in its waters. Of the species, burbot, trout, grayling, mugil and salmon predominated, carp and pike were less common. The relatively large length of the river, water content, exuberance and destructiveness of the floods elevated the Váh River to a river sung in songs, closely associated with national existence.

The Váh River was a communication route as well. Rafting on waterways is historically documented in our country since the early Middle Ages, but it was certainly used already in prehistoric times. Rafting was a convenient way of transporting wood, but also other goods such as copper, iron, lard, butter, bryndza, salt, and fruit as well.



Raft on the Váh River near Vrbica in the first quarter of the 20th century

However, the Váh was also a river causing life-threatening floods. The lament song about the flooding of the Váh River is a testimony to the catastrophic flood that affected the Liptov county in 1662. At that time, the waters of the Váh River washed away wooden farm buildings and bridges. They caused damage to the fields, which they landed up with gravel and sludge, and destroyed the harvest.

"The woman in her house is met with a nasty surprise by a wild downpour and a storm, she calls her friends and asks for the help of the saints and heaven, soon she promises the Saviour property and land and home, likewise certainly promises both life and service. Promises fall in vain! No one can ease her suffering, locked in the house, dragged by the flood for miles, then released on the shore, healthy and unharmed."

The Váh River immediately threatened structures on streams such as bridges and mills. Human dwellings, on the other hand, were easy prey to flood waves in the event of overflowing. Floods were the cause of impoverishment of the residents and interfered with their everyday life.

The historically largest flood on the Váh River, which is referred to as 500 or up to 1000-year flood, occurred in the summer of 1813. The turbulent element uprooted large lonely trees with their roots. Many bridges, houses, even yeoman mansions built of stone, fell victim to the turbulent element. The valleys with fertile fields remained destroyed, landed up with sand and stones. Based on the flood damage report, we know that 7 people, almost 300 livestock, were killed in the Liptov county. The total damage was more than half a million zlotys.

Attention should be paid to the flood on the Váh River from the recent past, which came in 1958, when no one believed in any more water, at a time when some waterworks were already completed and put into operation, and some were under construction. In the Upper Váh, this flood had the character of centuries-old water. In the district of Liptovský Mikuláš, 21 villages were flooded, while 20 bridges and several wooden houses were destroyed (washed away).



The area of the glue production plant in Palúdzka during the flood in 1958



The Váh riverbed between Palúdzka and Liptovský Mikuláš in the first half of the 20th century

In order to prevent or at least slightly mitigate the effects of floods, the inhabitants of Liptov implemented various flood protection measures in the distant past, or regulated the flow of the river. The improvement of the banks of the Váh River was an important part of the serf duties and works that the serfs had to perform for their landlords. It consisted of building embankments, walls or so-called wooden huts filled with stone and earth. Regulation and adjustment of the banks of the Váh River was also set for the serfs in the urban planters – i.e. lists of serf duties.

"...shores, huts and roads, both with draft animals and manual toil, indeed the whole township, by the command of the lord's officer, is bound to repair all, to bring rocks, sand, and lime for necessary walls, and if need be, even to construct the township from wood."



Flooded streets of Vrbica during the 1958 flood

The archives of the Liptov county reveal several information regarding the regulation of the Váh River in the past. These were mostly modifications of the riverbeds of mountain streams clogged with uprooted trees and rocks. The ancient existence of these activities is evidenced by the decision of the Liptov county from 1521, when it ordered modifications to be made on the banks of the Váh and Belá rivers. Of course, the modifications only stabilised the banks, but did not provide flood protection.

The county tried to regulate the flow of the river along its entire length. The work was carried out by serfs supervised by county hajduk. Wooden structures – huts, intended for strengthening and raising the banks – were built as well. Embankments running directly into the river were built using stakes, which were first hammered into the bottom and then fixed with stones. Wood for these constructions was in many cases provided free of charge by local yeomen. In addition to strengthening the banks, barriers were also built on the Váh River, which we have documented from the beginning of the 17th century.



The 1809 plan for the regulation of the Váh riverbed between Palúdzka and Ráztoky

However, in many cases, repairs were not even completed properly, and another influx of water created a completely new situation on the river. Regulatory work carried out in the Middle Ages and Modern Times did not have a long-term impact on the safety of villages against floods. However, even a year before the most destructive flood in the Liptov region of 1813, strengthening of the banks of the Váh River was carried out in many places in the county.

The Váh River in the Liptovský Mikuláš land area was regulated mainly in the first half of the 20th century, but these works were still not enough to protect the Mikuláš residents from the consequences of floods. During the Great Depression, these jobs could also be a good opportunity to earn for the unemployed. For example, they participated in the regulation of the river in 1931. Further regulation took place after 1947, when the banks of the Váh River were raised and reinforced in some places to prevent its overflowing.



Liptov raftsmen before 1918

VILLAGES OF THE FLOODPLAIN

During the construction of the Liptovská Mara waterwork, 13 separate villages were completely flooded. However, many others were partially flooded or affected by other projects related to the construction of the waterwork (relocation of a railway line or first-class road, construction of a motorway and new electricity networks, etc.). These include, for example, the villages of Liptovský Trnovec, Liptovská Ondrašová, Fiačice, Bobrovník and many others.

VILLAGES THAT WERE COMPLETELY FLOODED DURING THE CONSTRUCTION OF THE LIPTOVSKÁ MARA WATERWORKS:

Čemice

The village probably originated at the end of the 13th century. The name is derived from the name of the yeoman Čem. Initially, only the yeoman population lived here, which derived its surname from the name of the village – Čemický. In the 17th century, yeomen also brought several serf families here, so Čemice became a village with a mixed yeoman-serf population.

Dechtáre

The village was probably established between the 11th and 12th centuries. Its name suggests that the local residents originally made a living producing tar. In the past, it was divided into two parts – Vyšné Dechtáre or Vidafölde and Nižné Dechtáre, also called Bartalanfalva. Both yeomen and serfs lived here, who, in addition to traditional agriculture, also devoted themselves to rafting.

Demčiny

Demčiny was a small village located near Vlachy. It developed as a settlement with an exclusively yeoman population. Besides residential and farm buildings, there was also a mill. At the end of the 18th century, there were only six houses here in which seven families lived, a total of twenty-eight inhabitants.



Demčiny on the 1810 plan

Liptovská Mara

The village was most likely built around the church dedicated to the Virgin Mary. It was the centre of ecclesiastical administration of Liptov in the Middle Ages. The oldest mention of the church dates back to 1288, but its origin is certainly older. It is believed that it was the oldest church in Liptov. From the 14th to the end of the 16th century, the village also served as a regular meeting place for the Liptov nobility.



Catholic Church in Liptovská Mara in 1973

Liptovská Sielnica

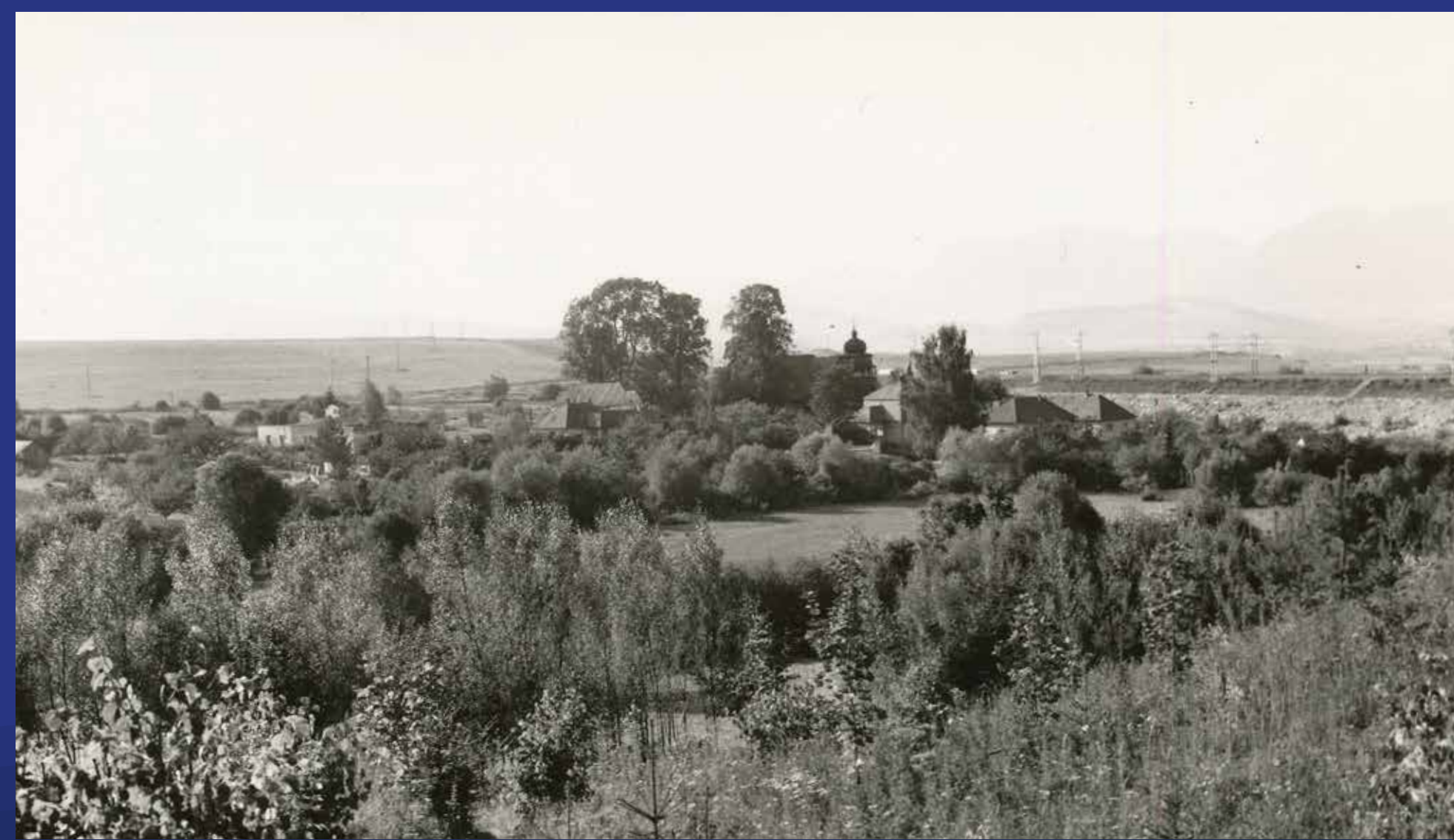
The origin of Liptovská Sielnica dates back to the 9th century. It was one of the oldest villages in Liptov. In 1463, the local inhabitants managed to gain bourgeois privileges. Annual fairs were also held here. The locals made a living from agriculture, but also from crafts. It is the only village that has been rebuilt outside the floodplain.



The original village of Liptovská Sielnica before flooding

Nežitovce

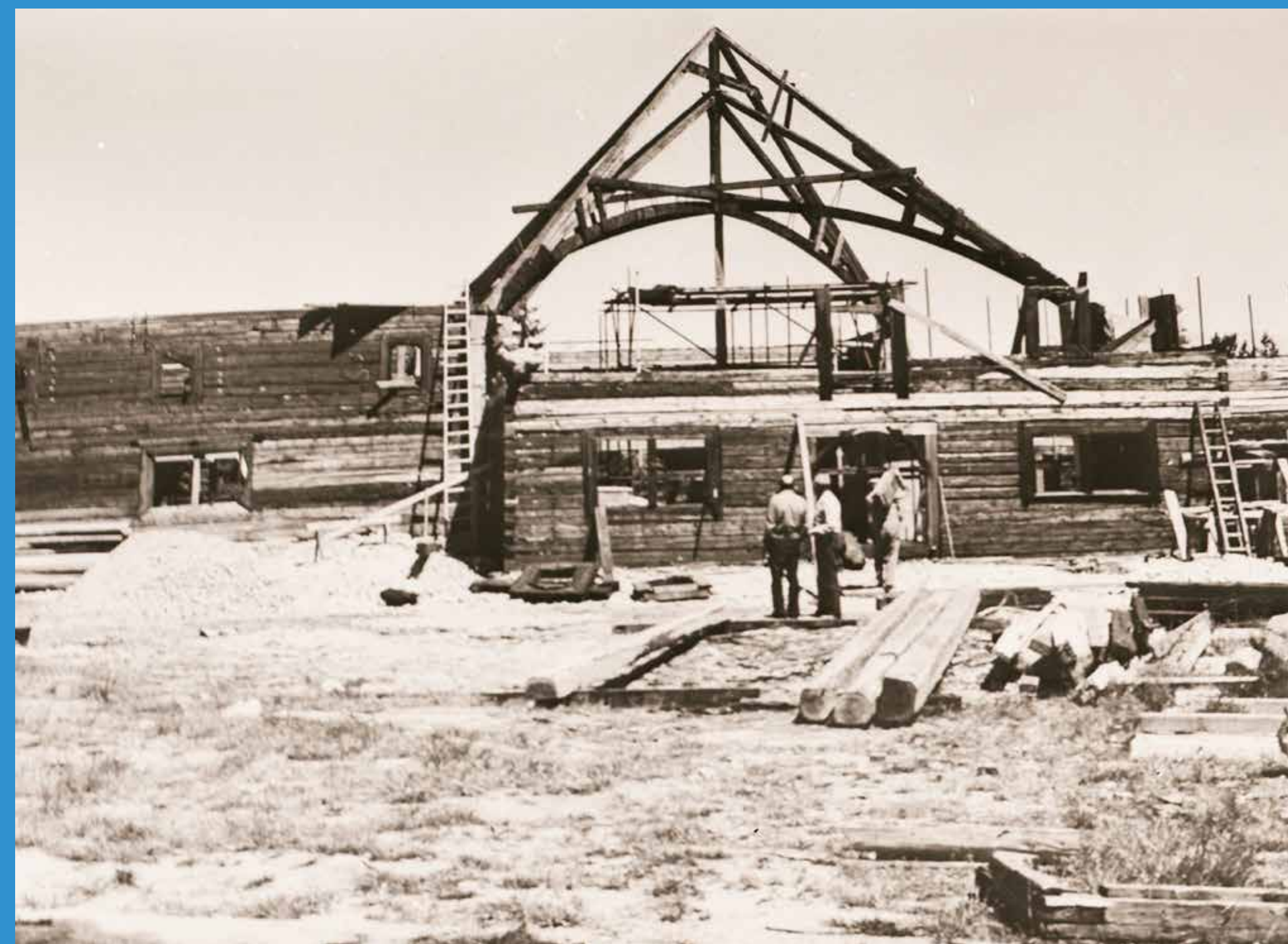
The beginnings of the village date back to the second half of the 13th century. Originally, only the yeoman population lived here, but in the 16th century, serf families began to settle in the village. In addition to agriculture, they also earned money from various crafts.



View of Paludza village before flooding

Paludza

The oldest written record of Paludza dates back to 1246, but archaeological findings advance its existence until the 9th century. It was a relatively large village in which both the yeoman and serf population lived. At the time of the religious reformation, it was the centre of the evangelicals of Central and Lower Liptov, who also built a wooden articular church here in 1693.



Dismantling of the articular church in Paludza before moving to Svätý Kríž

Parížovce

The settlement was probably established on the territory of the village in the second half of the 14th century. In addition to the yeomen, a small number of serf or ironworker families lived in Parížovce. In addition to agriculture, they also devoted themselves to rafting. In the first half of the 20th century, there was an agricultural manor in the village. The most important monumental structure was the Gothic manor house.

Ráztoky

The beginnings of the village of Ráztoky are documented in the first half of the 13th century. The origin of the name is related to the Váh River, which flowed into several distributaries. Initially, it was a settlement with an exclusively yeoman population. From the 16th century onwards, serfs and peasants were settled here by landlords, yet, in the first half of the 19th century, Ráztoky was again a village with an exclusively yeoman population.

Sestrč

Sestrč was a small settlement that consisted of only a few houses throughout its existence. It is possible that its origin dates back to the 13th century, or even earlier. It was also inhabited by the yeoman population. A toll was collected here from the 17th century.

Sokolče

The oldest report on the village is a deed from 1289. According to its name, it was established as the residence of royal falconers. The local population mainly supported agriculture, but seasonally men also devoted themselves to rafting. A significant raft was created on the Váh River near the village. From the 17th century, assemblies of the aristocracy – the congregation – were sometimes held here.

Vrbie

The oldest written reports about this small village date back to the first half of the 16th century. It was a settlement with only a yeoman population. However, even in this period, the Kubínyi family settled here several families of peasants and even founded a farmstead.



Vrbie on a 1810 plan

Zadiel

The oldest known written information about Zadiel dates back to 1584, but its existence is assumed as early as the 14th or 15th century. It was a settlement with an exclusively yeoman population. In the first third of the 19th century, there were 37 adults living in five houses.

In the flooded villages there were several architecturally and historically significant objects that were saved before filling up the waterwork. The Evangelical articular church of Paludza was dismantled and rebuilt near the village of Svätý Kríž, where it is still used today. On the contrary, only some architecturally and artistically significant parts were saved from the Roman Catholic church in Liptovská Mara and from the manor house in Parížovce, such as frescoes, stone lining and lintels or columns that were built into faithful copies of these buildings in the Museum of the Liptov Village in Pribylina. In the Museum of the Liptov Village, some buildings representing wooden folk architecture were also saved, especially from the village of Liptovská Sielnica. Faithful copies of them were also built here, using some of the original elements (central beams).

TOURIST AND FISHING USE OF THE WATERWORKS

The Liptovská Mara waterworks is located on the border of the Low Tatras and the High Tatras, which were the most important areas of tourism within the former Czechoslovakia. The Liptovská Mara landscape unit had about 344 hectares of areas suitable for the development of tourism centres with a total daily capacity of 10,000 visitors. The extensive water surface and sufficient length of shores suitable for beaches created conditions mainly for water sports, rowing, sailing, canoeing and sport fishing.

The transport solution of Liptovská Mara was mainly the route of the D-1 motorway Prague – Košice, the new railway line Žilina – Košice and the route of the first class national road No. 18. The aforementioned road ring is still the backbone of transport in the entire waterworks area. For the needs of the motorway rest area, the Dechtáre sheep farm was selected due to its attractive location.



Dechtáre sheep farm relocated from the floodplain and serving as a dock for the recreational boat LIPTOV

The Liptovská Mara waterworks forever changed the face of the Liptov landscape and subsequently influenced recreational construction, mainly in the northern part of the dam. Three recreation centres were built. Liptovská Sielnica resort, Liptovský Trnovec resort and Liptovská Mara resort. In addition to these complexes, other recreational sites were also planned, such as a walking forest park in the landscape area above Liptovská Mara, a thermal swimming pool and a nature reserve in Bešeňová, an archaeological reserve Havránok above Liptovská Mara, a sightseeing restaurant above Liptovská Mara, a regional arboretum on the island of Ratkovie, a sightseeing restaurant with a port near Ondrašová, a restaurant with a walking forest park near the Dechtáre sheep farm.



Recreation centre Liptovský Trnovec

Playgrounds, boat rentals, pedalos were built on the beaches. Floating piers were set up in places of difficult access to water. The rescue service centre was designed in the recreation centre Liptovská Sielnica and the observation station with the main signal mast on the southernmost tip. Since 1978, Liptovská Mara has been equipped with passenger boat transport, which has been provided by the 86-seat recreational boat LIPTOV. The shipping route connected the station docks Ondrašová, Liptovský Trnovec, Liptovská Sielnica, Liptovská Mara and Dechtáre.

It was assumed that rowing clubs would be established in Liptovský Mikuláš and Ružomberok at local athletic associations, therefore a two-kilometre rowing track was created in the western part of Liptovská Mara. On the northern shores, there was a complex of rowing equipment – shipyards, workshops, control tower and stands. About two hundred members of the rowing club and fifty boats were expected. In the area of the rowing centre, it was also planned to open a speed canoeing athletic club for two hundred members and one hundred boats.



Summer at Liptovská Mara in 1978

Liptovská Mara has become a new element in the landscape of the Liptov Basin and, in addition to the energy and recreational-sport aspect, it is also of great importance from the point of view of the biology of the landscape. The vast water surface represents an artificially created aquatic habitat for animals, which in the past was limited only to the flow of the Váh River and its tributaries. This fact was significantly reflected in the enrichment of the fauna in the floodplain. The banks of the dam are more or less continuously lined with newly planted coastal stands of trees and bushes. A decrease in the level of the reservoir during the year exposes muddy and gravelly banks, especially in shallow places of bays and around the Váh inlet, which has an attractive effect on several species of birds. In April, which is the richest month due to the abundance of monitored bird species, up to 38 waterbird species have been recorded. It is a period of intense passage of most duck species, mergansers, swans, as well as geese, coots, peewits, the passage of the garganey, tufted duck, Grebes and gulls culminates, waders migrate intensively, common terns arrive.

Of the important species, it is worth mentioning the greater scaup, common shelduck, common greenshank and Temminck's stint. The most important gathering place of water birds is the area around the inlet of the Váh River up to the islet near the Ondrašová marina.

The beautiful environment and rich ichthyofauna rank Liptovská Mara among the most valuable Slovak fishing grounds. Although the construction of the waterworks destroyed a valuable section of the Váh River, it was replaced by a new habitat, which at the birth signalled the huge possibilities of its future fishing use. Liptovská Mara forms a separate fishing area registered under number 3-5340-1-1. Pursuant to Act No. 139/2002 Coll. on Fisheries, the carp fishing area and the Bešeňová buffer water reservoir is a trout fishing area registered under number 3-6040-4-4. It is becoming an extremely attractive water body, increasingly sought after due to the abundance of capital specimens of brown and rainbow trout.



Tropical August at Liptovská Mara in 1983



Approximately ten years after filling, 30 species of fish belonging to ten families settled in the waters of the reservoir. Purposeful restocking systematically increased the number of desired species. Species such as pike and zander were stocked, but undesirable species such as ruffe and perch also naturally got into the tank. In recent years, however, there has been an interesting phenomenon – the self-reduction of ruffe overgrowth. In Liptovská Mara, the carp found its permanent home, which was intensively stocked in the early days of the waterworks as an economically valuable species, while currently hunted specimens weigh up to 10-15 kg. Other carp-like fish such as minnow, common gudgeon and bleak form the so-called companion species and create a food base for predators. The zander gained a dominant position among predatory species after multiple restocking in a relatively short time. There are also brook trout, lake trout, rainbow trout, chub, asp and tench. The most valuable fish of the reservoir include huchen as well as catfish.



Natural beach swimming pool at ATC Liptovský Trnovec



Maladinovo Resort



Tower of the Church of Virgin Mary



Archeological Museum Havránok



Articular Church in Svätý Kríž



Tatralandia Water Park



ZOO kontakt family park



MARINA Liptov

RESETTLEMENT OF THE FLOODPLAIN AND CONSTRUCTION OF LIPTOVSKÝ MIKULÁŠ

The waterworks were built by Váhostav, n.p. between 1965 and 1975. In 1964, Hydroprojekt Bratislava developed four alternatives, one of which was given its final form. In addition to the costs of construction works, the costs associated with the construction of the relocation of rail and road transport, energy and telecommunications lines were assumed. A special task was the resettlement of the population from the affected area.

After the liberation of the city in 1945, Liptovský Mikuláš had about 6,000 residents. Since 1955, its construction has been managed according to a municipal plan prepared by the Regional Monuments Board in Žilina. Particular attention was paid to its historical centre. In addition to housing, job opportunities had to be provided in the post-war period.

By the construction of the Plant of May 1, the foundations of today's industrial zone were laid, where the operations of the Leather Factories, Engineering Works, Feed and Glue Company and Central Slovak Dairy Works were later added. Economic organisations continued to build in the area between the so-called upper barracks and the large colony of Závody of May 1, north of the street of May 1. Individual housing construction was developed at the eastern end of Vrbica, Hriadky, Palúdzka, Ondrašová and Okoličné.



Leather Factories



Plant of May 1

"My parents were from Svätá Mara but I was already growing up on the embankment when the construction was on. Between the large concrete panels, we were playing chase and hide-and-seek with other children. No one had to worry, in one day maybe one car crossed the street. Building material was often used as hockey goals. Thanks to our neighbour Kuska we had nice front yards. He persuaded the workers who made the pavement to build them a bit longer. Many grew not only flowers but also vegetables, and Mr. Kuska until recently used to sit in the anteroom."

(Memories of Mr. Pujdes)



The past and present of the Nábřežie housing estate



The spectacular project of construction of the waterworks directly affected not only industrial but above all residential construction. In 1960, a plan was drawn up to resettle residents from the floodplain. As part of the construction of the waterworks, 940 families, a total of 3,431 residents, were to be resettled from the flooded villages. Residents were to be resettled mainly in the main economic centres of the entire district, with the construction of 730 new housing units planned.

A construction closure was issued for the affected villages, which prevented larger construction interventions and investments. The initial plans to relocate the residents to newly built villages were gradually abandoned. The original plan from 1956 envisaged the construction of a new resort village of Liptovská Sielnica, which was to serve several surrounding villages. The new, modern village of Liptovská Sielnica was the only one of the defunct villages newly built in 1974.



Inhabitants of Svätá Mara



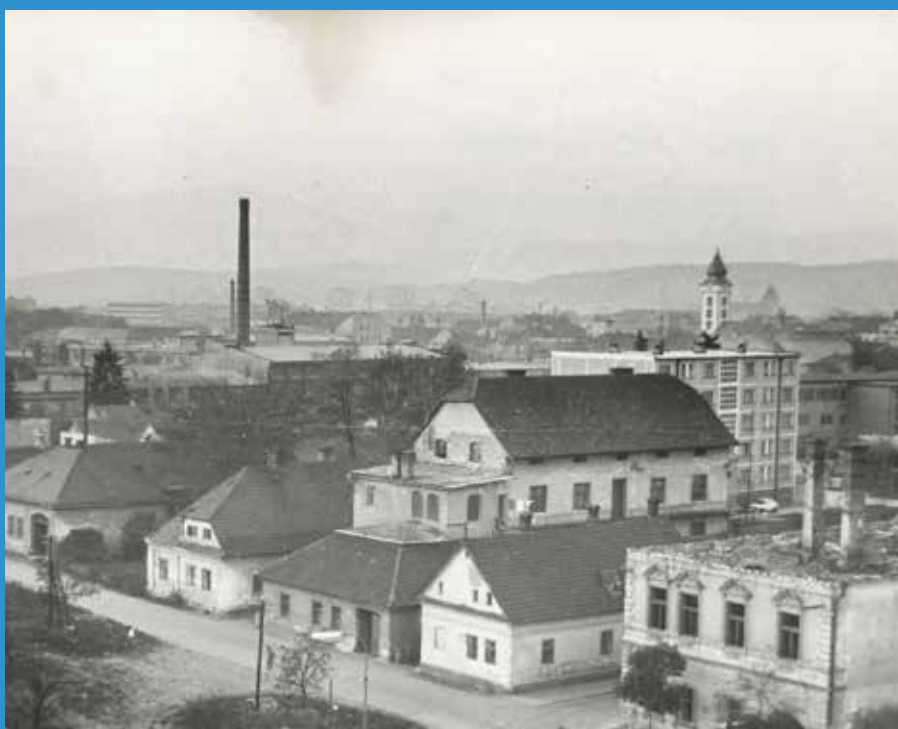
Wedding in the Church of Svätá Mara

They built the waterworks as the building of the fifth five-year anniversary. In April 1973, the Váh River was transferred to the bottom outlets. The water of the Váh River first passed through the dam facilities in 1973, and at the end of March 1975, the filling of the dam itself began. Until January 31, 1969, the investor paid financial compensation for the real estate to the resettled persons: Bobrovník – 55 properties purchased, Čemice – 9, Dechtáre – 83, Liptovská Mara – 75, Liptovský Michal – 5, Liptovská Ondrašová – 1, Liptovská Sielnica – 137, Liptovský Trnovec – 4, Paludza – 85, Palúdzka – 2, Parížovce – 26, Prosiek-Zádiel – 7, Ráztoky – 31, Sokolče – 132, Vrbie – 24. A total of 676 properties were redeemed and compensation in the amount of CZK 42,787,765 was paid.

Most people from the flooded villages went to the district town – Liptovský Mikuláš. According to a 1969 survey, up to 358 flats or houses were supposed to be inhabited by resettled people from the floodplain. We need to add 82 houses and flats in Demänová, which became a suburban area of Liptovský Mikuláš in 1976. For comparison, 362 houses or flats were allocated to resettled persons in other cities and municipalities during this period. At the end of the 1960s, the construction of the Nábřežie Dr. A. Stodolu began. The housing estate was first born on a green meadow, later the outworn houses of old Vrbica were also demolished.



Remediation of Vrbica and modern housing construction in the 1970s



The construction of the housing estate was performed in stages. At first, the construction of the access road began and the actual housing construction was implemented from 1966. At the end of 1969, out of 1064 housing units, 506 were built. In total, 1704 residential units were planned. The amenities were designed for about 6,000 residents. A significant part of the new flats was allocated to families from the floodplain area of the Liptovská Mara waterworks. Following the construction of the Nábřežie housing estate, the reconstruction of the centre – the historical centre of the city – was planned for the next years.

The relocation of residents from the floodplain was more or less spontaneous. In addition to the Nábřežie, other parts of the city were quickly populated. Residents from the villages of Liptovská Mara, Sokolče, Paludza, Liptovská Sielnica, Dechtáre and Parížovce lived on the streets of Čs. brigády and Nálepková. Former residents of the villages of Dechtáre, Parížovce, Liptovská Sielnica, and Ráztoky still live on Podtatranského Street. In family houses in Palúdzka, we can find descendants of residents from Paludza, Sokolče, Parížovce, Dechtáre, Čemice and Ráztoky. Several coevals from the villages of Svätá Mara, Sokolče, Dechtáre and Liptovská Sielnica live on J. Alexy Street. In addition to the Nábřežie, the residents of Mara also settled in large numbers on Stodolova Street.

"I was born in the village of Svätá Mara. When I was studying to be a car mechanic, the dam's construction was just starting. The people of Mara sought housing based on where they worked. When I got married, my wife and I moved straight to Liptovský Mikuláš to the new Nábřežie housing estate on the banks of the Váh River. Our sons grew up on one big construction site. In our apartment building alone, there were two other families from Svätá Mara, and many people, both young and old, from other flooded villages lived in the neighbourhood. We got along well with our neighbours, we helped each other, life was slower then. In the summer, we'd spread blankets out in front of our building and the children would swim in the Váh"

(From the memories of Vladimír Kováč)



Summer on the Embankment of Dr. Aurel Stodola



The Liptovská Mara waterworks had many supporters, but also many enemies. Some were in favour of the undeniable contribution and others for the inviolability of Liptov's nature and its cultural heritage. If it were not for the waterworks, the communication network and recreational construction in this area would not have been so generously addressed. However, it is also necessary to thank those who left their native village, moved and started a new life in new conditions.

"Dear, the Váh sung by many, although they have regulated your flow, you have not lost your charm and a walk along your shore is one of the most beautiful in the district town. New poplars are planted on one section of the dam, and when they adjust your entire shore in this way, the walk will be even more beautiful... You have a namesake near your riverbed. Even there, people like to come to refresh and harden. zefore 10:00 p.m., they return home and their stumbling figures complete the picturesque colour of the street."

(Interview with the Váh River, From the local press, 1975)

CONSTRUCTION OF THE LIPTOVSKÁ MARA WATERWORKS

The construction of dams has a history of more than four hundred years in Slovakia. The first small waterworks can be found as early as in the 15th century, but the golden period of the construction of water reservoirs was not until the 18th century when the rare ore mining boomed. Historically, the youngest ones are the energy waterworks built at the beginning of the 20th century. Stone and earthen dams belong to the most common in Slovakia, the Liptovská Mara is one of them.

Today, the Liptovská Mara dam is an unforgettable part of the Liptov Basin. With a dam height of 45 meters, it lies between the village of Vlachy and the town of Liptovský Mikuláš and, in terms of water accumulation, it is the largest earthen dam in Slovakia. It is located on the longest river in Slovakia, on the Váh River, in the Liptovská Basin, between the Western Tatras, the Low Tatras, the Veľká and Malá Fatra Mountains and the Chočské vrchy Mountains. At the maximum operating level, the flooded area reaches 2160 hectares and the volume of water reaches 361.9 million cubic meters. The Bešeňová buffer reservoir below the village of Vlašky covers an area of 193.27 hectares and the total volume of the reservoir is 10.73 million cubic meters. In the valleys of former tributaries, the Váh River forms the following inlets on the northern bank: Bobrovníčka (tributary of Sestrč), Prosiecka (Prosiečanka), Sielnická (Kvačianka), Beňušovská (Beňušovský stream), Trnovská (Petruška) and Ráztoky. On the southern bank, there are the inlets of Sokolčianska (tributary of Dúbravka) and Galovenská (tributary of Paludžanka).

The Liptovská Mara reservoir plays a key role on the Váh River. Not only does it improve dewatering conditions along the entire length of the river, but it also provides flood protection and electricity generation. The purpose of the water structure is also to ensure sufficient water for industry and agriculture in the Lower Váh River. It is worth mentioning the improvement of the purity and quality of water at times of low flows, as well as its use for recreation and fishing. Its parameters are improved by the Bešeňová regulating reservoir, which emphasises its energy and water management effect.

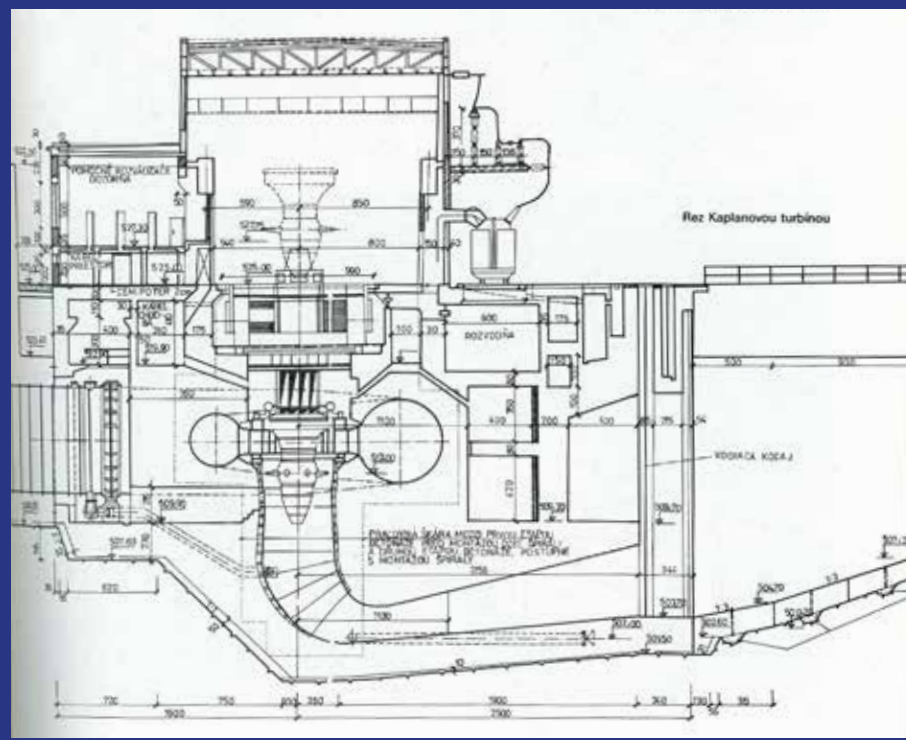


Between 1970 and 1975, around 1720 employees of Váhostav, n.p. worked on the construction of the waterworks

The Liptovská Mara pumped-storage hydroelectric power plant is located on the air side of the dam and is partially inserted into the dam body. It has four turbines with an output of 198 MW, which flow into the lower Bešeňová reservoir. Of these, two are Kaplan turbines with a diameter of 4.6m. The other two are reversible Deriaz turbines with a diameter of 5m, which can also pump water from the Bešeňová reservoir to the Liptovská Mara reservoir. From an energy point of view, it is a power plant operating in peak mode. It is remotely controlled from the dispatching center of Slovenské elektrárne. Interestingly, each of the four installed turbines can run into turbine operation without an outer source and provide electricity supply as required by the power grid. The Bešeňová water structure serves as a regulating reservoir for the Liptovská Mara power plant. It captures its flows and ensures their even discharge into the Váh riverbed. The discharged water is previously used to generate electricity. Together with Bešeňová, they form one water and energy complex.



Turbine installation



Kaplan turbine cut

The creation of the waterworks was preceded by long-term preparation and required not only previously unusual technical solutions, but also the overcoming of many obstacles. In 1954, the State Water Management Plan was finally approved, the preparation of which began in 1949. On its basis, the Water Management Act was adopted, which came into force in 1955. After the completion of the Orava Dam, the construction of an accumulation reservoir in the Liptov part of the Váh River also came to the forefront of interest. The plans took specific form only in connection with the more detailed development of the Váh Cascade project. The electrification of Slovakia and the availability of electricity to ensure the operation of energy-intensive heavy industry and planned industrial enterprises were also a key issue at that time.

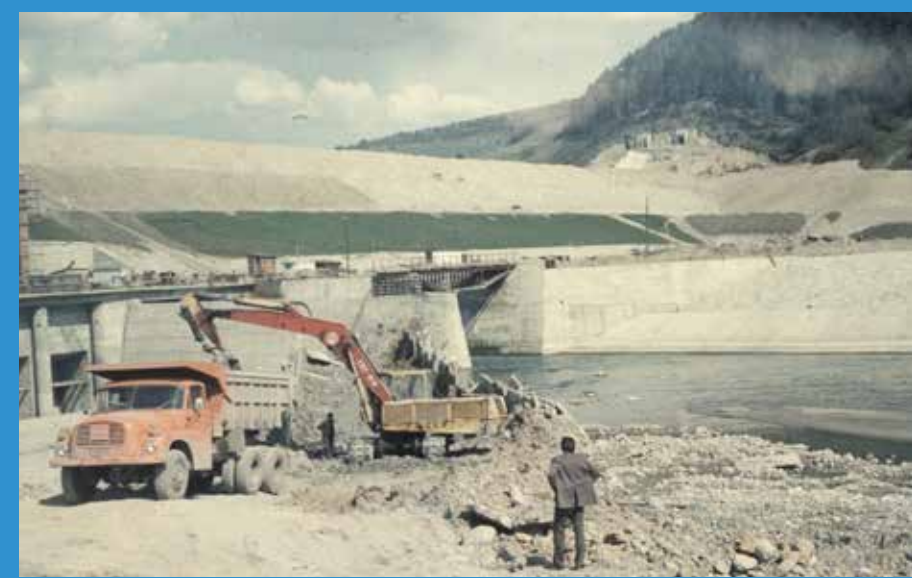
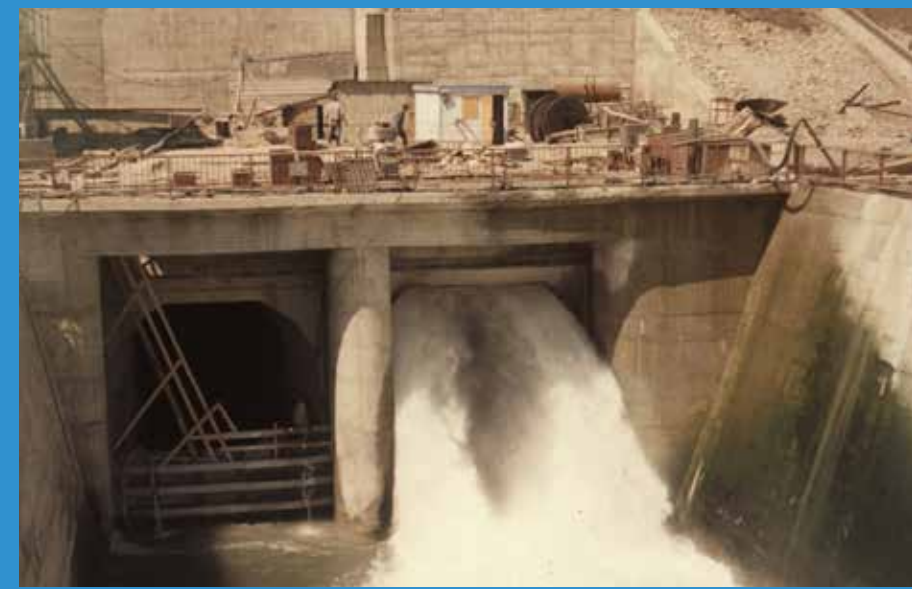


Construction of waterworks through the eyes of photographer Vladimír Rengevič

The first obstacle was to find a suitable place to dam the Váh riverbed in the Liptov region. Initially, the use of the Strečnianska úžina was also considered. It had the best geomorphological conditions, a narrow valley with steep slopes. However, the reservoir would swallow up the entire area, Sučany and a significant part of Turiec, disrupt the transport system, and bury Vrútky, Martin and a number of smaller villages. After examining several options, the location between the villages of Liptovská Mara and Vlašky was finally selected.

At the stage of preparatory works, the possibility of replacing one large structure with the joint effect of several smaller reservoirs was considered, which would save a significant part of the most fertile part of Liptov. However, from an investment point of view, such a solution would be much more difficult. Regarding the loss of arable land in the upper Liptov region, topsoil was relocated from 1550 ha in the amount of 480,000 m³, which was used to improve the soil fund by reclamation of existing land in 14 locations.

Approval authorities selected one of the four alternatives of the final project. The date of beginning of construction was influenced by the ongoing negotiations on the construction of a waterworks on the Danube at that time. However, Liptovská Mara became a priority. The expected time horizon for the launch of the entire complex was set for 1975 and the return on investment in 7-8.5 years. The first stage of construction was planned for 1965 in the range of CZK 280 million. Preparatory work should have started as early as 1964. In 1969, the decision to increase the intended output of the power plant by twice was made and measures to accelerate the construction process were taken.



Gradual filling of Liptovská Mara

Construction procedures required the construction of a three-dimensional river model with a movable bottom of the Váh riverbed. The model, which depicted the entire area between the railway and the first-class state road in the section between Liptovská Mara and Vlašky, examined individual construction stages with relocations of the Váh riverbed to the railway and the inlet object. During the construction itself, 11 mil m³ of soil, about 300 thousand m³ of stone and more than 400 thousand m³ of concrete and reinforced concrete were moved.

The construction of the entire complex was hindered by various terrain obstacles – state road number 18, the Váh River, double-track railway, state road number 4206. First, it was necessary to exclude traffic on road number 18 in the section of the dam as soon as possible. This made it possible to fully start the construction of functional buildings, i.e. towers, feeders and foundation outlets for the rerouting of the Váh water. The construction site of the hydroelectric power plant, already under construction at that time, was protected by a deployment fence, leading to the right bank over a temporary bridge. Work began on the Bešeňová junction and at the same time a part of the dam had to be landed up, after the connection with a temporary bridging of the original railway and a waste channel. After the Váh River was released through the unfinished combined building, the left part of the Bešeňová dam was backfilled and the railway superstructure was completed. The relocation of the railway was handed over to operation 5 April 1973. After the traffic was relocated to a new line, the original railway was dismantled and the Váh River was relocated to new outlets, construction works started throughout the entire width of the valley on the buildings of the Liptovská Mara interchange.

On 1 May 1975 the minimum operating level necessary to start the first and then the next three hydroelectric generators was reached. It reached the maximum operating level in 1977.

"Sometimes, as boys, we used to build huts, we called them hatanice, on the Jalovčianka stream near old water mills. We always altered the stream during the summer so that we could swim in it. But the rain came, the bigger water swept away the huts. We built them again. Where would I have thought that perhaps only three kilometres from the birthplace there would be a huge dam of the Liptov Sea, Liptovská Mara."

Ing. Blahoslav Rusina (16 July 1925 – 11 January 1999), inventor and constructor of modern barriers and lock chambers, was born in Bobrovec. As an engineer, he worked in the state-run plant Hydroconsult, where he later worked as the head of the steel barrier structures department. He designed the first hut for the Drahovce and Hričov waterworks, followed by the Domaša, Ružín, Tvrdosín waterworks, the shipyard in Komárno, the Gabčíkovo – Nagymáros waterworks system. He also left his mark in his native Liptov. Thanks to one of his inventions, the Čierny Váh pumped-storage hydroelectric power plant was put into operation. During his tenure, he solved a number of scientific and technical problems. He also collaborated on the Liptovská Mara waterworks.

OPAVA, THE TRUE QUEEN OF CZECH SILESIA

Opava Silesia is an unexplored treasury of the Czech Republic. Its centre is the city of Opava, which is one of the oldest in the country.

It acquired city rights before 1224 and its name is probably derived from the Germanic Ahwa, which means water. The dominant features of the city are certainly the co-cathedral of the Assumption of the Virgin Mary and the city tower – Hláška. Personalities such as Johann Gregor Mendel studied at the local grammar school and the oldest museum in the Czech Republic – the Silesian Museum – was also founded here.

You can enjoy the hot summer in Opava at the historic Municipal Swimming Pool. It was designed by the Opava architect Otto Reichner (1888 – 1961), the most prominent representative of interwar Opava architecture. Construction took place between 1930 and 1931. It used to be called the most beautiful and modern swimming pool in the Moravian-Silesian country. It has been included in the list of modern cultural monuments of the Czech Republic since 1974. For fans of natural swimming, there is a former gypsum quarry nearby – Silver Lake.



Historic Municipal Swimming Pool in Opava

The river of the same name flows through Opava, the banks of which are lined with cycling paths. Tourists can come across many interesting places along the way, such as the largest pond in the Opava region, Nezmar, the Lake at Dolní Benešov, extensive Czechoslovak fortifications, the Baroque castle in Kravaře, or the wetlands of Koutské a Zábřežské louky or Kozmické ptáčky louky. Upstream of the Opava River, tourists can come across the Silesian Countryside Museum or the Raškova vyhlídka Lookout. On the Cvilín hill near Krnov, tourists can see the Cvilín Lookout, the monumental building of the Baroque Church of the Holy Cross and Our Lady of Sorrows, and also the ruins of the Cvilín Castle, also called Šelenburk.

In addition to the Opava River, the Moravice River also flows through the city. Its banks are also lined with a network of cycling paths that will take tourists to many natural or historical attractions, such as the castle in Hradec nad Moravicí. The Moravice Valley also hides a technical unique feature – the Weissshuhn Canal, 3.5 kilometers long. It was created in 1890 by the founder of the Žimrovce Paper Mills, Silesian entrepreneur Karel Weissshuhn, and its main purpose was to supply wood to the paper mills, but the water from the canal subsequently also powered the turbines to produce electricity. The Slate Country National Geopark is located in the foothills of Nízký Jeseník. This rock, which was quarried here in the past, was widely used as roofing. The quality of slate from the Nízký Jeseník area is evidenced by the fact that it was also used on the roof of the National Theatre in Prague or the Parliament Building in Budapest. The Slate Country area is also important from a water management point of view. There are two important waterworks here – Slezská Harta and Kružberk, which form an inseparable pair on the Moravice River.



Technical unique feature – the Weissshuhn Canal



The Slate Country National Geopark



Kružberk water reservoir



Slezská Harta water reservoir

The older Kružberk was completed in 1955, its total flooded area is 280 hectares and the volume is 35.5 million cubic metres. The initial intention was energy use, but in view of the ever-increasing need for drinking water in Ostrava and its surroundings, it was decided that the waterworks would serve as a source of drinking water. The purpose of Kružberk is also to stabilise the flow on the Moravice River. A power plant with two turbines with an output of 100 kW is located at the reservoir. On the right bank of the reservoir is the Lobník reservoir, the purpose of which is to capture sediment. It is also the only place for legal fishing. Anywhere else it could disrupt the natural biodiversity of the reservoir and reduce water quality.

The construction of Slezská Harta began in 1987 and was completed in 1997. It is the youngest large reservoir in the Czech Republic. It is about four times larger than Kružberk, the flooded area has 870 hectares and the total volume reaches 218.7 million cubic metres. The main purpose is to improve the Moravice flow for Kružberk, emergency flood protection, fish farming and recreation. Tourists can also enjoy a cruise on a unique electric boat and learn about another unique features from its deck – the preserved peaks of extinct stratovolcanoes – the dominants of Bruntálsko. The volcanic landscape is completed by lava flows exposed by mining and volcanic bombs that occur freely in the landscape. The popular Moravice rafting is also associated with the dams. It is the waterworks that allow the necessary amount of water to enter the stream in order to achieve the viability of water sections.

In the heart of the picturesque valley of the Hvozdnice River lies the Hvozdnice Nature Reserve, a protected area of 56.24 ha, declared in 1988. This area is a unique mosaic of wetland meadows, ponds and alluvial forests, which are home to many rare species of plants and animals. The ponds, which were built here at the turn of the 15th and 16th centuries, today provide a safe haven for many waterfowl.

The Opava River, which flows through the city, caused problems for local residents in the past. But the difficulties with flooding have persisted to this day. In the last three decades alone there have been recorded floods in 1997, 2007, 2009, 2010, 2014, 2020 and 2024. It was the latter that had extremely devastating consequences. It affected approximately 16,000 residents, 6,500 buildings and an area of over 10 square kilometres. Subsequent damage was estimated at about 10 billion Czech crowns in the entire Opava region, with Opava being one of the most affected cities.



The consequences of the 2024 flood in Opava