

Traduction anglais – La Balade au fil de l'eau

Panneau 1

In the Vosges Mountains, water is very present, even if the episodes of drought are more and more frequent.

The Munster Valley has an important heritage linked to the domestic, artisanal and industrial uses of water: wells, wash houses, fountains, canals, mills, turbines, not to mention artificial lakes, natural waterways or peat bogs, fauna and flora.

It is a part of this wealth that we invite you to discover through the "waterside" walk

We respect and protect better what we know, especially if we are aware of the issues: this is all the more important for this inestimable treasure that is water.

Thank you for taking great care of it for the sake of all the living beings on the planet and future generations!

Water is our common benefit !

The Walk along the Water

Panneau 2

I walk along the water's edge

At the edge of the river's water bed

Dreaming along the water,

Beyond the infinite blue of the sky

Where the brilliance of the sun's beauty shines

In the thousand mirrors of the water Song by J. Higelin

The pond of the Parc de la Fecht

Until 1926, the two parks of the Fecht and Albert Schweitzer were one.

A huge space, including the current swimming pool and extending to the campsite, crossed by the Fecht and named "Herrengarten". It used to be a holiday and rest area for the industrialists of the Hartmann family, who owned the textile factories.

Not far from the pond, stood one of the Hartmann properties: it was built around 1880. This beautiful house was badly damaged during the First World War and demolished after 1918.

The aquatic population of the Fecht pond consists of roaches, rudd, carps, pikes, pikeperches and perch. Mallards and a goose can be seen on the lake.

Mallard

Anas platyrhynchos - Mallard

Family description:

Anatidae are medium to large birds, occupying all continents except Antarctica. The colony is large with some 165 species. They are very linked to water, mainly to fresh water. Their short legs are webbed, adapted to swimming.

Rudd Pond fish

The rudd "Scardinius erythrophthalmus, also called red roach, is another representative of the cyprinidae family. It looks a lot like the roach, its body is massive, flattened laterally. The back of the rudd is blue-grey, with a white belly and both sides in the same shades.

Riddle:

What is the average life expectancy of a mallard?

- a) 30 years
- b) 2 years
- c) 5 to 10 years

Answer: C

Panneau 3

At the confluence of the two Fecht

A little bit of history...

The confluence of the two Fecht, the large one and the small one, gave its original name to the city of Munster: "ad confluentes, monasterium confluentis".

Name of the Fecht through the centuries...

Fachina (772), Phachina (865), Waconos (13th century), Vächt (1560), Veech (1639)

The large Fecht has its source on the eastern slope of the Vosges mountain, at a place called Salzbach, in the area of Metzeral, between the Lauchenkopf (1314 m) and the Breitfirst (1280 m). It has 16 tributaries (14 streams and 2 rivers).

It measures 49.1 km and crosses eighteen villages of the Haut Rhin, before flowing into the Ill.

In Munster, the waters of the Petite Fecht (Klein Talbach) which come down from the southern slope of the Schlucht, reach it by the left bank to form the Fecht.

The exploitation of hydraulic power boosted the artisanal and industrial development of the valley.

At the confluence of the two Fechts (the Fecht and the Petite Fecht), the town was ideally located to take full advantage of its hydrological potential. The monks of the Benedictine abbey of Saint-Grégoire (founded in the 7th century) had probably already installed mills there.

Riddle:

What is the altitude of the source of the Fecht?

- a) 2300 m
- b) 1190 m
- c) 800 m

Answer: b

Panneau 4

"The tree is this power that slowly embraces the sky". St Exupéry

Remarkable Trees

Water supplies factories and is also used to irrigate plantations and create ponds and water jets. A lake was located in the center of the Albert Schweitzer park.

This park has been classified as an "arboretum" by the University of Strasbourg. It is recognized as one of the ten most beautiful ones in Alsace.

It is home to many species of trees brought by the Hartmanns during their various trips. It was given to the city of Munster in 1929.

The design of the park was based on the different colors of the trees that appear in fall.

Among them, two trees classified as "remarkable trees" of the Haut Rhin can be found.

A weeping beech and an imposing plane tree, particularly for their height, circumference, and aesthetics.

They form a natural treasure for the city of Munster.

Riddle:

Do you know how trees absorb carbon dioxide from the air?

- a) Through their roots
- b) With the help of insects
- c) Through their leaves

Answer: c

Weeping beech planted in 1853, one of the oldest in Alsace.

The oldest plane tree in the park, 35 m high, 5 m in circumference.

Panneau 5

Workers' city Inselhof

The city of the Island

From the initial city built in 1900, there remain seven collective buildings as well as the laundry and the washhouse. There were two types of facilities used for washing clothes outside the homes:

- The "Waschplätz", open air, at the edge of a watercourse, simple paved flat area the size of a washboard, overlooking the stream.
- The "Waschhissla", a sort of wooden hut, closed on three sides with an access door and roof covering everything, including the washboard. In general, the washhouses were built and maintained by private owners, often the Hartmann factories, near the homes, on a land belonging to them.

This old canal, diverted a hundred meters upstream, enabled the building of this magnificent private washhouse. It joins the small Fecht downstream, at the bridge.

These buildings in the Cité de l'Île are grouped around a public square like a small village. Their architecture is inspired by neo-regionalism.

A plan of the Inselhof workers' city drawn by architects L. and A. Feine.

Laundry room of the Lavoir de la Cité de l'Île.

Don't miss the washhouse behind you.

Aromatic and medicinal plants that require little water.

Thyme

Sage

Lavender

Oregano

Savory

Helichrysum

Chives

Lemon balm

Rosemary

Panneau 6

The water cycle :

Water is a common and universal benefit that characterizes our planet. It is the source of life and it circulates on earth in an immemorial, constantly renewed movement

- Rainfalls: the water present in the atmosphere falls back to the surface of the earth in the form of rain, snow or hail.
- Infiltration: A portion of the precipitated water infiltrates into the ground to reach the water tables.
- Runoff: the precipitation that does not infiltrate drains from surface to reach the seas and oceans via streams, rivers or rivers.
- Evaporation and evapotranspiration: under the action of the sun, a portion of the water in the seas and oceans evaporates to form clouds. These clouds are also formed by the evapotranspiration of plants and animals.

...we are talking about the great water cycle or natural cycle

Water is precious, let's not waste it:

- Do not let water run unnecessarily in the sink or washbasin
- Take showers instead of baths

- Save water when flushing toilets
- Do not throw toxic products into the water.
- Reduce the doses of household products
- Use collected water to water plants

The water cycle

Sun rays

warm the ocean

Ocean

Gaseous

Some of the water infiltrates underground

Water vapor

hot

Wind

Cold air

EVAPORATION

CONDENSATION

PRECIPITATION

TRANSPIRATION

Liquid

solid

Ocean: The largest body of water on earth (71% of the surface)

Panneau 7

It's up to you to spot it, to observe it...

It's the dipper, the bird that flies underwater...

The dipper, also called the "water blackbird"

It may seem hard to believe, but the dipper is able to walk and fly underwater.

The dipper is a short-tailed bird. Its head, neck, and upper back are reddish-brown, its back is dark slate-gray, with a scaly appearance. Its chin, throat, and chest are pure white. It is able to dive, catch fish, walk underwater, swim against the current, and hold its breath.

While flying, the dipper emits its melodious song, a very soft, long, and fluid warble, sung by both sexes. The dipper lives alone or in pairs, but during the winter several birds sleep together in a sheltered place, often under a bridge.

In order to stay completely submerged, they beat their wings rapidly underwater, which also allows them to move forward.

Riddle:

How long can the dipper stay underwater at most?

- a) 20 seconds
- b) 2 minutes
- c) 5 minutes

Answer: a

Panneau 8

The washhouse

Originally, the washhouse used to be a flat stone or a simple board placed at the edge of a watercourse, a pond or a spring, without shelter. Pollution due to the industrial revolution and epidemics led to the development of specific constructions at the end of the 18th century, which saw local councils equip themselves with basins located at the bottom of a meadow, below a spring or fountain, on the edge of a stream, a canal or a river.

The so-called public washhouses were then built and maintained by the city of Munster on public land. The city provided the washboards, but not the boxes.

Washing consisted of boiling the laundry at home, on the stove, in the "Waschkessel", and going to rinse it in the washhouse, or the laundry that could not be boiled was also completely washed, with the help of large pieces of Marseille soap, a brush and a bat. The wheelbarrow and the tub were used for transport between the house and the washhouse.

Some Alsatian expressions:

- Die Waschiwer: the washerwomen "sie hät a Gosch wia n'a Waschfrau": she speaks like a washerwoman.
- Dr Waschkissa: the cushion for kneeling in the "Waschkischt"
- Dr Waschkàrrich: the washerwoman's car
- Dr Waschkìwel: the oval tub with two handles
- Dr Waschkessel: the tub for washing
- D'heim fir die Wesch kocha: At home to cook the laundry
- Dr Wascheimer: the washing bucket
- Die Weschhang: the clothes horse "fir die Wesch trickla hank's in die Waeschhang bis dass's drucka isch! »

Before/after

Photo Benoît Schaffner

Renovation of the washhouse in 2022

Work at the washhouse - Citizens' Day 2022-2023

Panneau 8 (2)

Testimony of a Munsterian.

Life at the washhouse

Before I arrived in Rue des Vosges, on January 14, 1956, the women of the neighborhood used the large "Waschkessel" placed in the left corner as you enter. It was placed on a stand under which they lit a fire fueled by the logs of wood that they brought back.

Repaired several times, it had become unusable. I then boiled my laundry with washing powder in a small "Waschkessel", at home, on my wood stove. The laundry was then transported in a basin to the washhouse. Spread out on a wooden washboard, it was washed with Marseille soap then brushed vigorously. Rinsed several times in river water, it was wrung out by hand then hung on the clotheslines. In very cold weather (the winters were harsh), my husband helped me to defrost the laundry which had frozen immediately on the board, by pouring hot water on it. The sheets were brought to the « Dischinger laundromat » located in Grand'Rue, near the Town Hall.

I used this washhouse until 1962, the year I bought my first washing machine. Only overalls and carpets were still washed there until around the 1980s.

This washhouse was a friendly place, Emilie, Ana, Madeleine, Jacqueline, Lydie, Alice and many other women would chat, laugh or sometimes cry there, while washing. Sometimes we were joined by women from other neighborhoods when the water was cut off or too low in their washhouses. We had to wait because there were only 2 washboards and 2 kneeling boxes. Our washhouse was always very clean because each of us cleaned it after each use.

Every year in the summer, when the Hartmann factory closed for the holidays and cut off the water; Jacob, Walter, Robert and René (our husbands) maintained the washhouse, its surroundings and the lock located below. They liked to meet in the evenings, around the watering cans that they filled with the "Schepffers" and between 2 waterings of the vegetable garden, told each other "Wetz" while smoking their cigarette.

It was also a great place for the children of the neighborhood who came to play hide and seek or to dip their feet while having a snack.

Memories told by Alice Hierholtzer.

Panneau 9

The Stadtbach: the city's stream

Dr Stadtbach = Dr Kanal: It flows from the Loewel hospital to the Fecht park via the market square, partly underground.

Downstream, you can see a screen designed to trap waste of all kinds in the intake channel of the convent's hydraulic structure.

Some inhabitants of the Stadtbach:

The bullhead is a sedentary territorial fish that remains hidden in crevices. Most of the time it leaves its hiding places at nightfall to hunt. The species is very sensitive to the water quality.

The Planer brook lamprey (*Lampetra planeri*), formerly called the lamprillon, is a species of agnathan characterized by a naked anguilliform body measuring 12 to 20 cm.

The Planer brook lamprey

Panneau 11

The Abbey Mill

Opposite the abbey plan, we can see the remains of the old abbey mill, served by a canal that crosses the town.

This old mill building is used to regulate the water from the canal coming from the Petite Fecht that crosses the town and whose hydraulic energy was used by the Abbey, at the time, used. It also houses the sieve and the overflow valve.

An underground canal joins a private hydroelectric power plant "of the convent" still active and installed in the basement, in the old industrial buildings. (ADEV)

The water used by hydroelectric power plants is a renewable energy source.

In the case of a "run-of-river" power plant, only the available flow of the canal is used. There is no water store and it is not possible to stop or modify production according to needs. Electricity is produced continuously, as long as the flow of the river allows it.

In periods of high flow, the plant does not have the capacity to turbine all the water, and the surplus spills over the dam or water intake. During heavy floods, the dam is generally planned to be opened very widely, so as not to raise the level of the river too much upstream and avoid clogging the screens.

Alternator of the Couvent hydraulic power station

Overflow

Factory channel

Upstream

Water intake

Diversion channel (or penstock)

Power station building (turbine, generator, etc.)

Reservoir

Spillway dam

Fish ladder

Reserved flow

Tailway

Downstream

Panneau 12

"The power of water comes from the source" Persian Proverb

The factory canal

At the corner of the street Frédéric Hartmann (1822-1880, industrialist and mayor of Munster) and Koechlin (1789-1875 textile engineer), by a diversion of the Fecht, a factory canal, which dates from 1920, joins the turbine of the hydroelectric power station (owned by ADEV) located under the site of the convent's textile factory, still providing part of the energy needed for production today.

We can see, hanging on the low wall, a pulley that prevented the pumping pipes used by the firefighters from deforming when needed.

Riddle:

What is the pulley attached to the parapet of the bridge used for?

- a) to unroll fire hoses
- b) to fix a fishing rod
- c) to moor a boat

Answer: a

Panneau 14

"From a small river. From big fish do not hope..."

French Proverb

The valve on the Grande Fecht

A completely autonomous valve, allows to regulate the transit of water. After passing under the railway track, it will join, completely underground, the factory canal of the convent.

We can also observe here a fish pass. The function of this device is to allow the crossing of an obstacle, dam or threshold, in order to restore the free movement of fish fauna.

Trout food: Mayflies, Nymphs, Trichoptera.

La Fecht

Factory channel

The fish pass

Valve

The fish pass

Screen screen

Panneau 15

"They leave our winters, the migratory birds...and shout their freedom without prison or barriers, in their truant chirping"

Poem by Charly Lellouche

The Leymel Pond

After the destruction caused by the First World War, it was decided to establish a facility at Leymel combining a low-head hydroelectric plant and a storage plant.

The new Leymel hydroelectric plant, a true flagship project, was built between 1921 and 1923 to replace an older, smaller plant dating from the 19th century. At the cutting edge of technology, this monumental building was a true cathedral of modern times. The Leymel plant used not only water from the Fecht, but also, via a penstock, water from a storage basin located on the Solberg, which was filled at night by pumping in order to generate a sufficient peak load for the production facilities during the day.

This facility was one of the first of that type built in France.

This artificial pond transformed into a biotope* is populated by mallards, mergansers and tufted ducks, great egrets, grey herons, mallards, and many toads. The goosander has also been seen there.

* geographical area subject to conditions whose resources are sufficient to ensure the maintenance of life.

Construction of the Solberg reservoir in 1921

The cormorant

Lonely and motionless, the autumn cormorant meditates on the banks of the river, and its round eye follows the flow of the water.

If sometimes a man walks on the shore,

the cormorant moves away, slowly, swinging its head; (Sou-Tong-Po)

Construction of the Solberg reservoir in 1921

Grey heron

A large diurnal wading bird that is rather sedentary and solitary. It is a bio-indicator of the quality of the environment and the abundance of available food. It is protected in France by the Order of October 29, 2009.

Panneau 16

The Leymel Canal

The oldest canal in Munster

The first Leymel canal was dug around 1723 by Mr. Goll of Colmar, to supply water to his yellow copper factory located on the Leymel site. It was then taken over and extended by the Hartmann et Fils Manufactures, during the 19th century, to operate the machines of their Leymel spinning mill (now gone) via a waterfall. It is the result of a diversion of the Grande Fecht. Its role today is to supply water to the Leymel micro hydroelectric power station, built in 1921. Like the Fecht, it is home to a population of wild brown trout, these trout are particularly wary, but also rare freshwater crayfish whose presence suggests good water quality. In the valley, the rivers are classified in 1st and 2nd category. The dominant fish are salmonids.

Salamander

Screen cleaner

Freshwater crayfish

Wild brown trout

Panneau 17

"We should dedicate a little of ourselves to our old washhouse

If we want to preserve it

As a page of our history

to it"

by Alain Ryon

The public washhouse

Drinking, cooking, cleaning, washing, washing clothes, watering livestock...

Water is essential to life. The choice of location for village washhouses takes this vital need into account.

Munster and its valley are no exception. It was in the middle of the 19th century that the construction of public washhouses took off, particularly after February 3, 1851, when the legislative assembly voted a special credit to subsidize their construction.

From then on, the construction of washhouses multiplied. Washhouses and fountains were most often built with local materials.

Weaving of Fesseneck in 1886.

Factory canal located between Leymel and Fesseneck at the beginning of the 20th century.

Panneau 18

"Water alone is eternal"

by Yun Son-Do

Japanese knotweed, a colonizing plant

Japanese knotweed (*Fallopia japonica*) is an invasive exotic plant native to Asia, introduced to Europe in the 19th century for ornamental purposes. It is mainly found along our waterways and roads. Its dissemination is ensured either naturally by water (river, canal), or artificially by the transport of "contaminated" materials containing seeds or rhizomes (roots) during works. Knotweed is considered an invasive plant because its very rapid development leads to:

- a loss of biodiversity through competition with local plant species
- an economic loss in the event of invasion of hay meadows, crops and tree plantations
- safety problems linked to the lack of visibility of roadsides and waterways

Once knotweed has been firmly established, its eradication becomes very difficult, if not impossible: its asexual multiplication (reproduction alone) occurs with its rhizomes which can sink to two meters deep and extend laterally for ten meters.

This is why it is important to act from the early stages of colonization.

It is possible to use sheep or goats to limit the spread of young shoots and compete with the plant to encourage the return of local and adapted vegetation along the river.

Riddle: Why is Japanese knotweed invasive

- a) The plant disperses a lot of seeds
- b) Each piece of rhizome is a potential cutting
- c) It spreads by transporting rhizome fragments

Answer: b and c

Panneau 19

“Water is movement”

ADEV hydroelectric power plants in Munster

The use of water power has a long tradition in Munster. At the confluence of the two Fechts (the Fecht and the Petite Fecht), the city was ideally located to take full advantage of its hydrological potential. The monks of the Benedictine Abbey of Saint-Grégoire (founded in the 7th century) had probably already installed mills before, throughout the Middle Ages, the development of craftsmanship relied on water power. As proof, the stream that runs through the city is not a natural watercourse, but a canal built to transport water taken upstream from the Petite Fecht through the city. In the 18th century, the textile industry also knew how to take advantage of water power. The first water wheels that turned water wheels and powered hammers led, at the beginning of the industrial age, to factory halls fully equipped with machines that used the mechanical power of water turbines via transmission belts and gears.

At the end of the 19th century, the appearance of electrification not only modernised the production methods of the textile industry, but also brought progress in general to everyday life, from electric street lighting to household appliances and the electrification of railway lines such as the Münster-Schlucht tramway line (Münsterschluchtbahn) inaugurated in 1907.

The first hydroelectric power plants in Münster were built by the Hartmann Manufactories on the Couvent (1898) and Hammer (1913) sites. The new Leymel hydroelectric power station, a true flagship project, was built between 1921 and 1923 to replace an older, smaller power station dating from the 19th century. At the cutting edge of technology, this monumental building was a veritable cathedral of modern times. The Leymel power station used not only water from the Fecht, but also, via a penstock, water from a storage basin on the Solberg, which was filled at night by pumping in order to generate sufficient peak load for the production facilities during the day. With the advent of centralised nuclear energy and the decline of the textile industry in the 1980s, the days of these old hydroelectric facilities seemed numbered. By the turn of the millennium, the lack of maintenance and the low energy return seemed to condemn their continued operation. But the government's support for renewable energies decided in the early 2000s changed the situation. With guaranteed remuneration rates then covering the costs, it was possible to undertake the renovation of the old power plants.

The Swiss ADEV Group is an independent energy cooperative with citizen participation that has been planning, building and operating facilities for the decentralized supply of energy from renewable sources since 1985. With 120 of their own facilities and 18 employees at their headquarters in Liestal, in the canton of Basel-Landschaft, the ADEV Group achieved a turnover of around 13 million euros in 2021. Their French subsidiary ADEV Force Hydraulique SAS, purchased the three power plants at the Munster site from Manufactures Hartmann in 2009, which they renovated one after the other.

Since their commissioning, the three hydroelectric power plants in Munster have been making a valuable contribution to the region's renewable electricity supply. Even after more than a century, the idea of generating electricity in a decentralised and renewable manner remains relevant. In addition, combined with solar and wind energy, hydroelectric power contributes to security of supply.

Leymel Power Station

Convent Power Station

Hammer Power Station

Turbine Type

Electrical Power

Commissioning

Water Used

Water Flow (m³/s)

Head Height (m)

Annual Production (MWh)

Investment (EUR)

Commissioning

Panneau 20

Congratulations, you have come

Due to climate change, deforestation, the expansion of arid zones, fresh water and especially drinking water is less and less available on Earth, while the population and consumption levels continue to increase.

Let's protect our ecosystem:

To guarantee good quality water, in the long term and throughout the world, we must start by preserving the ecosystems that are responsible for storing water, filtering and purifying it, and then distributing it. The lakes, forests and soils are part of this ecosystem. By protecting our ecosystem, it will continue to play an essential role in the quality of water and soil, and have a positive impact on our health.

The Ballons des Vosges Regional Natural Park, headquartered in Munster, is responsible for safeguarding flora, fauna and wetlands through its actions on the ground. In this way, it is one of the driving forces behind the economic and tourist development of the Park.

Everyone is able to bring their contribution to the preservation of life by adopting a responsible behavior. In that way, however small the gesture seems, it may turn into a drop of water that will nourish the source of life.