

GEOTRAIL

BEAURAING



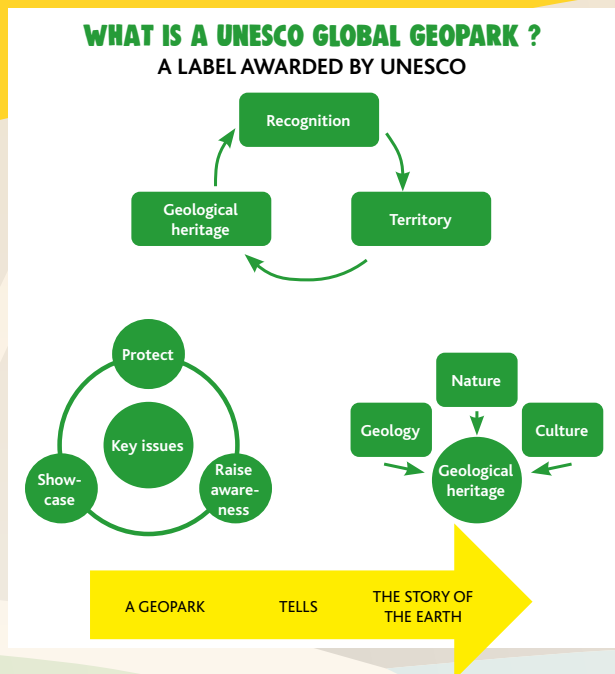
United Nations
Educational, Scientific and
Cultural Organization



Famenne - Ardenne
UNESCO
Global Geopark



WHAT IS A GEOPARK ?



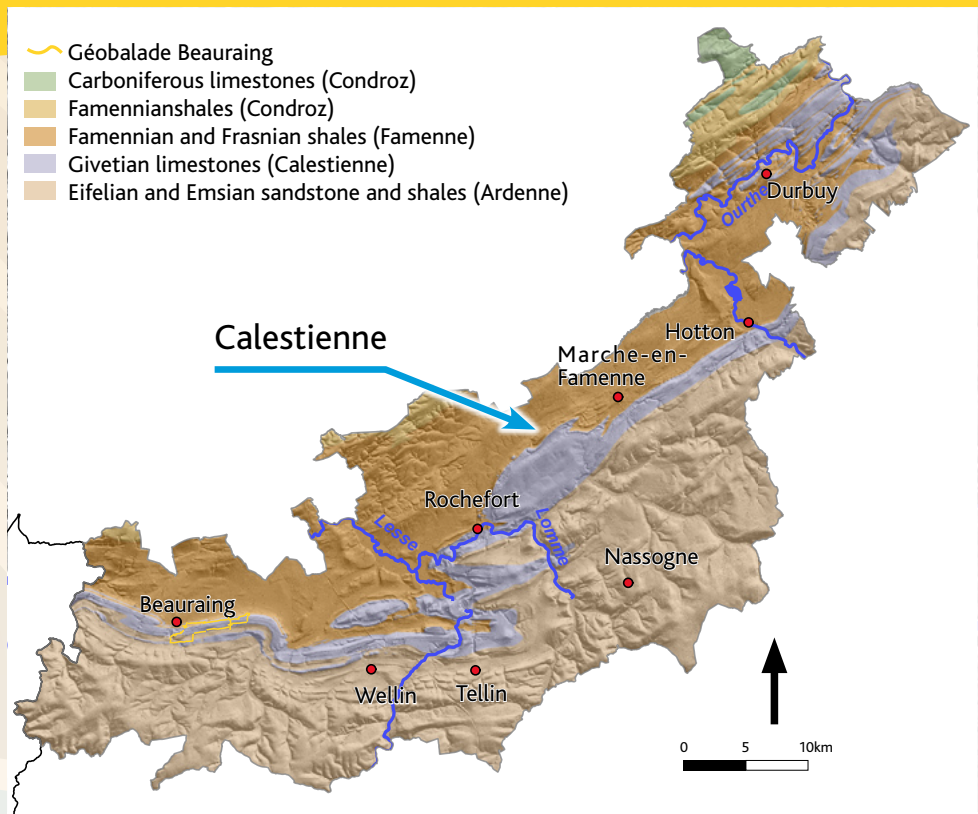
UNESCO Global Geopark is a label awarded by UNESCO to a single, unified geographical area where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. At the end of 2019, there were 147 Global Geoparks in 41 countries around the world.

L'UNESCO GLOBAL GEOPARK FAMENNE-ARDENNE

The Geopark encompasses the municipalities of Beauraing, Wellin, Tellin, Rochefort, Nassogne, Marchen-Famenne, Hotton and Durbuy, all sharing the distinction of being located on the Calestienne, a transitional strip of 910 km² separating the Famenne and the Ardennes, and home to a population of 67,250 inhabitants. The two outstanding geological features of the Geopark are its Calestienne limestones and their caves (karst systems) as they relate to the geological structure of the region.

The Calestienne

The landscapes found within the Geopark frequently reflect what lies beneath the surface. Among these landscapes, one particular strip stands out: the Calestienne, the common thread of the entire Geopark. This strip, consisting mainly of Givetian limestones, runs from Chimay in the west to Remouchamps in the east. It is bounded to the south by the Ardennes and to the north by the Famenne depression. The term Calestienne may be derived from the German Kalkstein (limestone), or from a prefix referring



A simplified map of the Famenne-Ardenne UNESCO Global Geopark superimposed on a relief map (LIDAR image), highlighting the link between the geology and the geomorphology. Sandstones are more resistant than limestones, which in turn are more resistant than shales, resulting in the relief visible on the map: to the south rise the heights of the Ardennes, ending in a narrow depression scooped out of the Eifelian shales, the limestone strip of the Calestienne standing out in relief (in blue) and to the north the shales of the depression (in brown). (Data sources: "Wallonia Public Service" <http://geoportail.wallonie.be>).

either to limestone or to heat (plants that grow on limestone are more thermophilic than those that prefer shale soils) – and from the Walloon word Tienne, meaning a high place.

Geological history

1. The geological history of the Geopark begins during the Devonian period (419 to 359 Ma) with the sedimentation of deposits of horizontal layers on the ocean beds.
2. These sediments will gradually become buried under their own accu-

System	Series	Stage	Age Ma
Devonian	Upper	Famennian	359
		Frasnian	372
	Middle	Givetian	383
		Eifelian	388
	Lower	Emsian	393
		Praguian	408
		Lochkovian	411
			419

En géologie, la chronologie se réfère souvent au tableau stratigraphique. Ici un extrait pour le système dévonien (qui fait partie de l'ère paléozoïque). Les étages portent les noms des lieux où ils sont décrits. Le Geopark se situe au cœur de ces lieux importants pour la géologie du Dévonien moyen et supérieur.

mulation and undergo a slow process of transformation into solid rock. The main rocks beneath the Geopark are thus sedimentary: shales, sandstones and limestones.

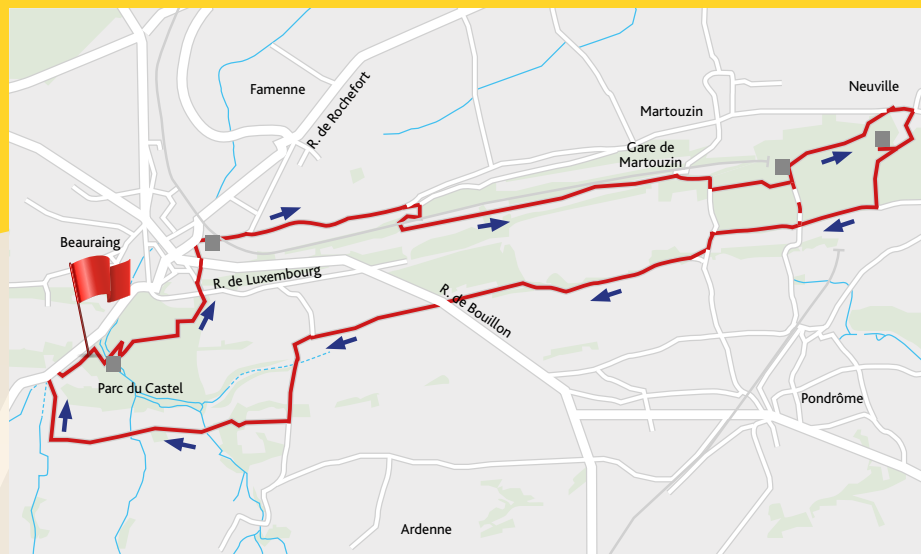
3. These rocks would later undergo severe deformation, some 320 Ma ago, during the formation of an ancient mountain chain (the Variscan orogeny), the remains of which form the Geopark. This event is what produced the many folds and faults now clearly visible in the landscape, such as the Durbuy anticline.

4. The mountain chain was soon eroded down to a vast flat surface known as a peneplain, which still constitutes the subhorizontal skyline visible throughout Upper Belgium. During the latter part of the Secondary era (Mesozoic) and the early part of the Tertiary (Cenozoic), a warm and humid climate profoundly altered the limestone rocks and formed ghost-rocks, the precursors to caves. In the second part of the Cenozoic, the Ardennes bedrock was uplifted, the river system became incised and caves formed.

THE COUNTRYSIDE CODE :

- ▶ Respect nature, geological heritage, wildlife and plants; do not pick plants, flowers or fruit of any kind.
- ▶ Follow the highway code, which applies on country lanes just as much as on the rest of the road network, and obey any prohibitions or restrictions on traffic.
- ▶ Use the pavement wherever there is one, otherwise walk on the left-hand side of the road, facing oncoming traffic.
- ▶ Make sure you are visible to road-users at all times (wear light-coloured clothing).
- ▶ Opt for full-length trousers to ward off ticks.
- ▶ Stay on the paths by following and sticking to the permanent or temporary waymarking.
- ▶ Scrupulously respect private property: you must obtain the owner's permission before entering.
- ▶ When you meet other walkers, remain courteous at all times and be the first to offer a greeting.
- ▶ Keep noise to a minimum, to avoid causing nuisance to others.
- ▶ Do not startle or disturb grazing animals.
- ▶ Keep your dog on a lead and under control.
- ▶ Take all your litter home with you.
- ▶ Lighting fires is strictly prohibited.





Start/finish : Parc du Castel Saint-Pierre (upper entrance, near the restaurant), rue des Ardennes, 83 à 5570 Beauraing.
If the car park here is full, you can always park at the lower entrance to the Parc on the same street and pick up the trail from there.

GPS (WGS84): Latitude : 50.105472°
Longitude : 5.953015°

Distance/Time : 14 km – 4 hours

Elevation change : 290 m

Level : intermediate



Begin your walk around Beauraing by walking through the Parc du Castel with its castle perched on the heights of the Calestienne, looking down across the town and the Famenne depression. Once you have left behind the town centre, its narrow lane and the site of the apparitions of the Virgin Mary, the rest of the trail continues along the limestone strip. This trail will take you to unusual geosites such as the Neuville travertine and the Martouzin take-off area. The final part of the trail follows a pretty GR footpath between the fields and the wall of the Parc de Castel.

The trail starts from the Castel Saint-Pierre municipal park just a few minutes from Beauraing town centre. The park runs along the valley of a stream, the Dammaron, and features a series of ponds, low cliffs and woods occupying a total of 27 hectares. This is a wonderful spot for all kinds of leisure activities, from walking to fitness circuits and jogging or mountain-biking trails. There are a number of picnic areas with barbecues that are free for visitors to use. The park owes its name to the ancient Romanesque chapel, now a listed monument, dedicated to the first Bishop of Rome, Saint Peter. This park leads naturally into the Parc du Castel Sainte-Marie, a 32-hectare estate that also offers endless opportunities for walks. There is no physical separation between the two parks, the



Upper entrance to the Parc du Castel Saint-Pierre

first of which is municipal and the second of which is owned by the association ASBL Pro Maria but is open to the public. The two parks were originally one, forming the 59-hectare “gardens” of Beauraing Castle.



Good to know

Just 1 km from the centre of Beauraing, the “Castel Saint-Pierre” restaurant serves high-quality local cuisine. When the weather permits, make the most of the terrace with views over the park. Whether you are looking for a meal, a drink or somewhere to stay, you will find a warm welcome and a wonderful setting here.

For those with an interest in botany, there is a small arboretum featuring over 50 forest species and a variety of different sorts of vegetation characteristic of the Calestienne. Approaching the exit, you will notice several sequoias, planted in the latter half of the 19th century. For the geology buffs, the upper car park stands on Eifelian sandstone but, as you head north, you will gradually find yourself in an area of limestone rocks. It is mainly in the stream valley that you will find the finest outcrops. This walk will take us to the secondary entrance to the Parc du Castel Sainte Marie some 1,500 metres NNE on Rue du Luxembourg. Of all the possible options, we opted for a route using paths and tracks that can sometimes be a little steep but offers a wilder, rockier setting.

Leaving the restaurant behind, walk

past the play area and take the path leading down to the woods opposite. After 50 metres, turn right onto another path. Follow this for 250 metres until you come to several depressions hollowed out in the rock. The path then winds downhill towards the stream and a broader path. Take this path and cross the stream via a little bridge and then turn off it onto the steep track that climbs up the other slope.

In geological terms, ever since we passed the little depressions in the rock, we have been following the first massive limestone beds. These are clearly visible not only to the naked eye (depressions, rocks), but also on the relief map. These depressions are in fact former small-scale limestone workings. In the past, the land belonging to the town was dotted with quar-

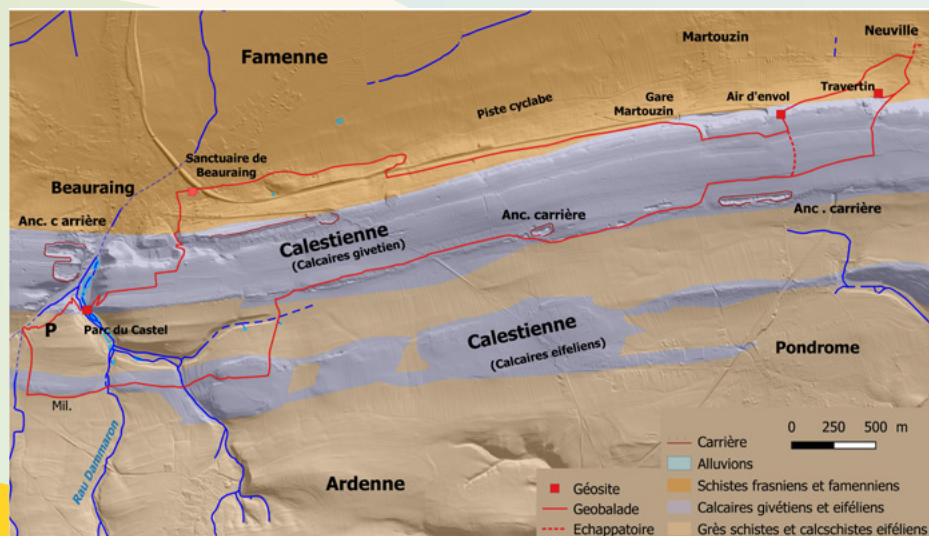


Photo –Trail route shown on a composite map consisting of a LIDAR relief map superimposed on an IGN map (Data sources: Wallonia Public Service <http://geoportail.wallonie.be>).

ries of different sizes, all now disused. The limestone extracted was used for building stones, pavements and aggregates, and also as raw material for the lime kilns, one magnificent example of which can still be seen on the main road (Rue des Ardennes) near the lower entrance to the Parc du Castel. Lime kilns were used to calcinate limestone (CaCO_3) into quicklime (CaO) at temperatures of 600–800°C.

After two hairpin bends, the path brings you to a large crossroads on the plateau that marks the start of the Parc du Castel Sainte Marie grounds. Follow the path straight on for 450 metres to the statue of the Virgin at the centre of the 8 paths that meet in a star formation. Take the path at a right angle on your left and follow it for 85 metres, then take the path on the right for 190

metres until it meets another. Take the left-hand path that heads downhill and after 230 metres brings you to a narrow road.

The castle was built in the Middle Ages on the northern edge of the Caléstienne, looking down over Beauraing and the Famenne. Its history is studied with tales of chivalry. Destroyed for the first time in 1436, it was quickly rebuilt. Other catastrophic events followed, including the razing of the castle at the end of the French Revolution. It remained in ruins until 1855, when its owner, the Duke of Osuna, decided to restore it from top to bottom. The cost of the restoration work was estimated at the equivalent of 300 million (euros) in today's money. This was the heyday of Beauraing



Parc du Castel Saint Pierre at the waterfall on the Dimarron stream. Erosion by the stream has uncovered the first massive banks of Givetian limestone.

Castle. The glasshouses in the gardens, some traces of which remain, once housed plants and shrubs obtained from all over the world: orange and lemon trees, palms and cacti. Apparently, two monkeys had even taken up residence there. And these were also the days when there was no shortage of guests of honour. The Prince of Wales and future King of England was a guest within these walls in 1880. Sadly, the castle was almost entirely destroyed by a terrible fire in the night of 3 December 1889. Following the sudden death of the Duke of Osuna, workers were employed in the building to pack up all the goods and furniture to be shipped to Cologne. They were relying on oil lamps to provide them with light to work by, resulting in an unfortunate accident. By the morning of 4 December, there was nothing left

of the castle but ruins. In 1946, the Pro Maria association acquired half of the former estate of the Dukes of Osuna, including the castle.

To resume the trail, take the narrow road on the right and go through the gates of the Parc, then turn left into Rue de Luxembourg. After 100 metres, cross the street and take a narrow lane - with something of a Mediterranean air about it - between the houses. Follow this lane for 270 metres (crossing the main road) until you reach Rue de l'Aubépine. The Beauraing Tourist Office stands on the corner to the left. Turn right. After a few metres, you will see on your right the sanctuary of Beauraing.

You have now reached the site of the Apparitions of the Virgin Mary, now a sanctuary and a place of pilgrimage. The story behind this site relates that,



Beauraing Castle in 2019

between 29 November 1932 and 3 January 1933, five Beauraing children witnessed apparitions of the Virgin on 33 occasions. After much reluctance and opposition from all sides, the diocesan authorities concluded, after rigorous investigation, that the children were telling the truth. Worship at the site was authorised in 1943, and the supernatural nature of the events acknowledged in 1949. The spot at which the apparitions occurred, beneath a hawthorn tree (aubépine), is open to the public night and day. The space around the tree is now enclosed and in it stands a statue of the Virgin,

with steps up to the plinth for placing candles and flowers at her feet: it is a focal point of reflection and prayer for visitors. Work began in 1947 on building a Votive Chapel in local limestone. Beautifully carved, it now forms the heart of the sanctuary.

Further buildings were gradually added, built in concrete and starkly streamlined in design. They include the Shelter, which surrounds the Garden of the Apparitions, the Crypt of Saint John, the church of the Rosary, with capacity for 700 worshippers, and the Upper Church, with capacity for up to 5,000 pilgrims.



The sanctuary at Beauraing: here, the Votive Chapel



Don't know : A Marian apparition is a supposedly supernatural phenomenon relating specifically to a vision of Mary, the mother of Jesus. Many Marian apparitions are recounted in popular traditions, but the Catholic Church has recognised only 18 such manifestations, including that of Beauraing, which has gradually become a place of international pilgrimage.

Leave the sanctuary behind and continue along Rue des Aubépines. At the end of the street, carry straight on along Rue de Martouzin. Stay on this road for 1.2 km until you come to a dedicated cycle path. Follow this path for 75 metres then turn right onto a narrow dirt track through the woods. Cross the railway line and carry on for 30 metres before taking the path to the left. Follow the path as it becomes a track for 1.7 km until it joins another track (Rue des Vergers, overlooking the disused Martouzin railway station). Turn right onto this track, leading uphill.

The track is a steep climb as it ascends the Calestienne (transitioning gradually from calcareous shales to pure limestone). A small disused quarry is visible on the right, and the path from here on is cut into the very rock. Finally, after 250 metres, the ascent levels off, rewarding you with a fine view to the north (Famenne depression) and, on each side of the track, an old limestone marker stone. To the south stretch the Martouzin woods.

Carry on south along the track for 70

metres, then take the path to the left (heading eastward) for 600 metres until it crosses another path (GR 577 and 126). Turn left, continue for 100 metres and in the distance you will see the Beauraing take-off point.

The Beauraing-Martouzin take-off point for paragliders and hang gliders is reserved for members of the Belgian free-flight association (Fédération Belge de Vol Libre, FBVL) and of associate foreign federations. The spot stands some 100 metres above the Famenne depression, and offers a magnificent lookout point over the depression, with the Condroz in the distance.

Follow the GR path for 1 km as it descends 90 metres into the Famenne to the village of Neuville. Turn right on the road (Rue du Bois d'Uchy) until you reach a crossroads, then turn right into Rue de la Source. After 170 metres, you will come to a crossroads just before a reservoir. At the crossroads, take the path on the right. The path narrows into a track and after 100 metres brings you to a crossroads. Take the track on the right: after 100 metres it will bring you

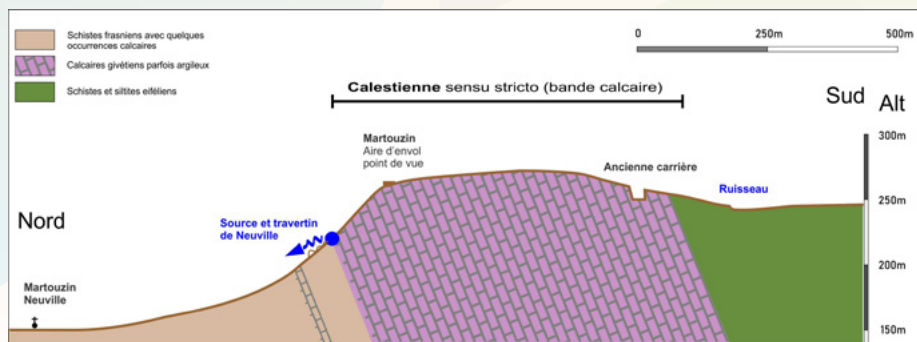


Martouzin take-off and lookout point. This take-off area for paragliders and hang gliders stands on the edge of the Calestienne. The hills on the far side of the Famenne depression mark the beginning of the Condroz.

to a flat area surrounded by low cliffs. Please note: should you wish, you can take a shortcut here to avoid Neuville by turning back and following the GR path to a large crossroads that cuts off the part of the route described below (the short-cut is shown on the map as a red and white dotted line).

You are now in a small disused quarry. Below you, you will see water emerg-

ing from the earth at different points. If you look closely, at the foot of the springs, you will see a new type of rock, known as travertine. The Neuville site consists of a series of small springs of highly mineralised water that are actively depositing travertine. The travertine, which in this instance could also be described as calcareous tufa, is still at a very early stage, still very soft and rich in plant debris. It is



Coupe Nord-Sud schématique au niveau de l'aire d'envol / travertin entre Famenne et Calestienne.



The Neuville travertine site, situated where shales and limestones meet, is particularly fragile and should not be walked on. Detail of the rock, which is a limestone incrustation over plant debris (which can still be made out in the photo).

very fragile, and walking on it would destroy it, which is why visitors are asked not to walk anywhere near the springs.



to know : Travertine is a porous sedimentary continental rock created when a crust of limestone is deposited on vegetation. The term calcareous tufa is used to describe travertines that are still very soft (not to be confused with volcanic tufa). Travertine is deposited at certain springs (incrusting springs) and sometimes in shallow watercourses with small waterfalls. When the highly mineralised water (rich in calcium and magnesium carbonate) reaches the surface, it releases CO₂, causing limestone to precipitate. The spongy appearance of the rock is partly due to the disappearance of plant debris, incrustated by the calcite, as it ferments. Some particularly hard travertines, such as those quarried in Tivoli in Lazio Roma, is hard enough to be used for construction (it was used, for example, in the building of the Colosseum). Other younger and softer forms, like that of Neuville, are highly fragile.

Now turn back and return to the last crossroads. The final part of the trail lies to your right, uphill: you will need to climb the path for 200 metres up to the plateau, where a number of rocks are clearly visible.

Carry straight on through the woods along the same path for 200 metres until you come to a well-maintained track that runs alongside farmland. Turn right here and after 500 metres, when you come to a crossroads, car-

ry straight on. You are now on a GR footpath (arriving from your right: this is the shortcut described earlier, cutting across from the Martouzin take-off area some 250 metres away). Carry on for another 500metres and then turn left at the cross-roads. After 125 metres, take the path on the right (GR126) and follow it for 1.7 km (Rue de Malakoff) until you reach the N40 Beauraing-Wellin road (Rue de Bouillon).

This path more or less hugs the edge of the limestone strip, with forests on your right and fields on your left. A number of disused quarries can be seen, mainly to the right of the path, illustrating how important limestone once was to the local economy.

Cross the N40 and follow a muddy path

for 800 metres until you reach a minor road (Rue de Chapy) on which you turn left. Leave this road after 550metres where it intersects with a path running along a slight height and through fields. Take the path on the right, which is still marked by the GR waymarks. After 250 metres, the path becomes a track and gradually makes its way down to a little stream that affords a charming view over the boundaries of the Parc du Castel.

Follow the GR waymarks: you will need to pass through 2 turnstiles, walk along the southern perimeter wall built from limestone fieldstone, pass a Second World War memorial (commemorating the crew of an RAF Flying Fortress that crashed here in the night of 10 to 11 August 1943), and follow a section of the Javingue-Pondrome Pilgrim Route.



View from the GR footpath of the pastures and fields characteristic of the Calestienne. In the background, the wooded Ardennes.



The end of the trail is reached via a narrow path through the fields (GRwaymarked), looking down on the outer wall of the Parc du Castel Saint Pierre et Sainte Marie.

Finally, 1,500 metres after leaving Rue de Chapy, you come to a new road. Here you leave the GR, which heads off left, and turn right in the direction of Route des Ardennes (N981) 400 metres away. Turn right onto the N981 and then enter the Parc du Castel where you started from.

Références :

LEMONNE E. ET DUMOULIN V. 1998. **Geological map of Wallonia, 1/25 000 : Agimont-Beauraing n°58/3-4**. Ministry for the Wallonia Region, Namur, 66 pp., 1 map.
 DUMOULIN V. ET BLOCKMANS S. 2013. **Geological map of Wallonia, 1/25 000 : Felenne Vencimont n°58/7-8**. Ministry for the Wallonia Region, Namur, 59 pp., 1 map.
Ville de Beauraing : Parc du Castel [online], [last consulted 26/11/2029], <https://www.beauraing.be/loisirs/decouvrir-beauraing/parc-du-castel>
Beauraing Tourist Office : Parc communal St-Pierre [online], [last consulted 26/11/2029], < <http://www.otbeauraing.be/a-visiter/parc-communal-saint-pierre> >

Tourist information offices

Beauraing Tourist Office

Rue de Rochefort 38 à 5570 Beauraing (B)

T. : +32(0)82/71.11.40 – info (@) otbeauraing.be - www.otbeauraing.be/

Open Tuesday to Sunday from 10am to 5pm (July and August: open every day from 10am to 6pm).

Famenne-Ardenne Tourist Office

Place de l'Étang, 15 à 6900 Marche-en-Famenne (B)

T. : +32(0)84/34.53.27 - info@famenneardenne.be

www.famenneardenne.be

Open Monday to Friday from 8.30am to 5.30pm.

Open weekends and public holidays from 9.30am to 5pm.

Closed 1 Jan, 1 Nov and 25 Dec

Geopark Famenne-Ardenne, asbl

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