



NATURE AND HISTORY PARK

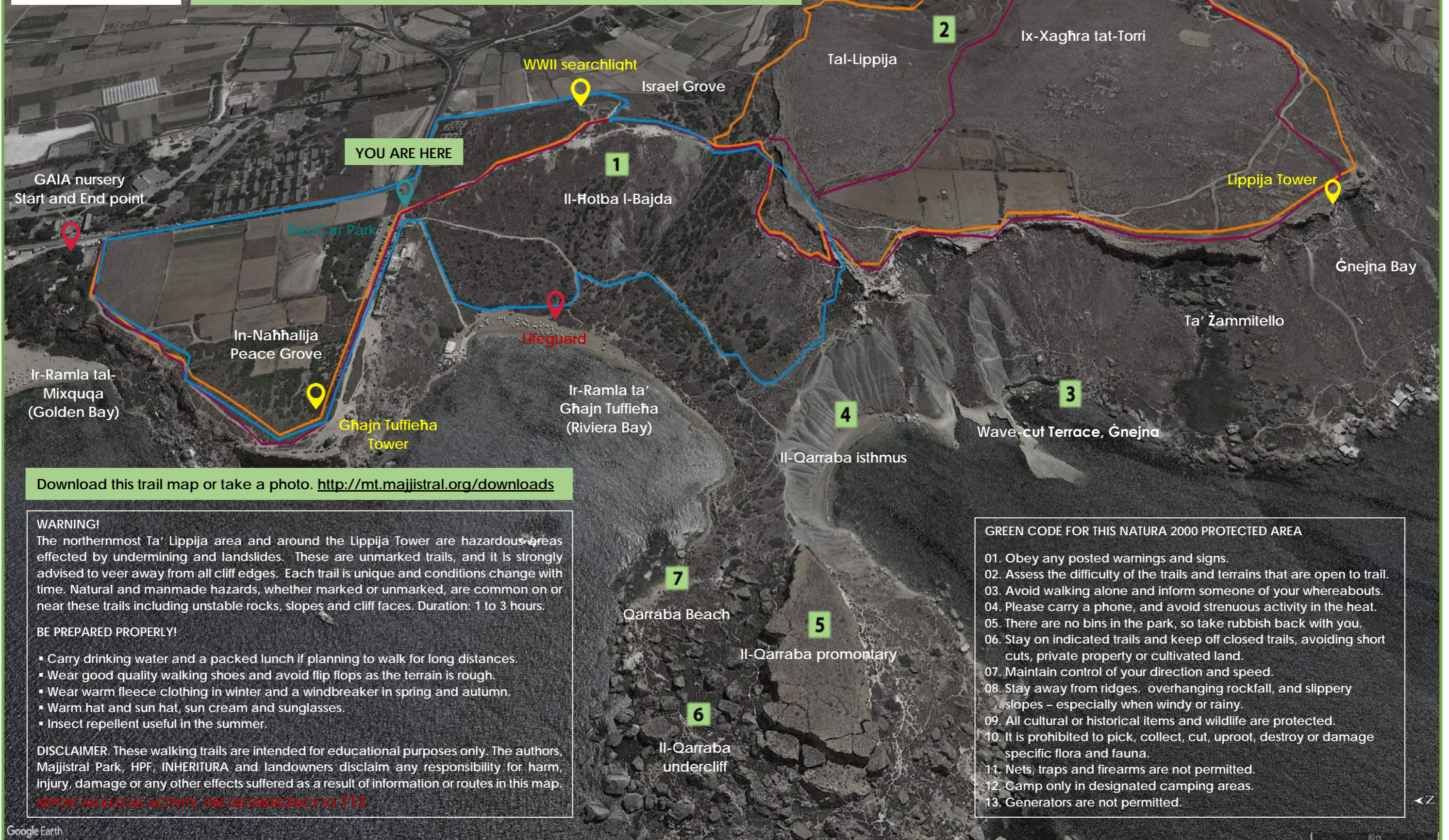
INHERITURA Geology and Heritage Trails Ir-Ramla ta' Għajn Tuffieħa

NATURA 2000, NW of Malta.

<http://www.majjistral.org>



<https://inherit.interreg-med.eu/>



Download this trail map or take a photo. <http://mt.majjistral.org/downloads>

WARNING!
The northernmost Ta' Lippija area and around the Lippija Tower are hazardous areas effected by undermining and landslides. These are unmarked trails, and it is strongly advised to veer away from all cliff edges. Each trail is unique and conditions change with time. Natural and manmade hazards, whether marked or unmarked, are common on or near these trails including unstable rocks, slopes and cliff faces. Duration: 1 to 3 hours.

BE PREPARED PROPERLY!

- Carry drinking water and a packed lunch if planning to walk for long distances.
- Wear good quality walking shoes and avoid flip flops as the terrain is rough.
- Wear warm fleece clothing in winter and a windbreaker in spring and autumn.
- Warm hat and sun hat, sun cream and sunglasses.
- Insect repellent useful in the summer.

DISCLAIMER. These walking trails are intended for educational purposes only. The authors, Majjistral Park, HPF, INHERITURA and landowners disclaim any responsibility for harm, injury, damage or any other effects suffered as a result of information or routes in this map.

REPORT AN ILLEGAL ACTIVITY, FIRE OR EMERGENCY TO 112.

- GREEN CODE FOR THIS NATURA 2000 PROTECTED AREA**
- Obey any posted warnings and signs.
 - Assess the difficulty of the trails and terrains that are open to trail.
 - Avoid walking alone and inform someone of your whereabouts.
 - Please carry a phone, and avoid strenuous activity in the heat.
 - There are no bins in the park, so take rubbish back with you.
 - Stay on indicated trails and keep off closed trails, avoiding short cuts, private property or cultivated land.
 - Maintain control of your direction and speed.
 - Stay away from ridges, overhanging rockfall, and slippery slopes – especially when windy or rainy.
 - All cultural or historical items and wildlife are protected.
 - It is prohibited to pick, collect, cut, uproot, destroy or damage specific flora and fauna.
 - Nets, traps and firearms are not permitted.
 - Camp only in designated camping areas.
 - Generators are not permitted.

POINTS OF HISTORICAL INTEREST

Għajn Tuffieħa Tower was one of the seven towers built by Grand Master Lascaris who embarked on building a number of coastal towers in various vulnerable parts of the Maltese Islands (1636 to 1657); in order to surveil the coastline and warn of any approaching vessels. Għajn Tuffieħa Tower was built in 1637 on the site of a medieval watchpost, and has Lippija and Nadur Towers in its line of sight. The tower was designed by the Italian architect Vincenzo Maculani, and is almost identical to Lippija Tower, having a square plan and two floors topped by a flat roof with a parapet. Each floor has a single room, and access to the upper floor, originally reached by a wooden ladder. It was originally armed with a half-pounder gun, and its garrison consisted of a captain and three men.

Għajn Tuffieħa WW2 searchlight and sound locator position can be found at the back of Hotba I-Bajda, and the concave batter walls were intended to deflect the wind from the sound locator deployed within the small compound. They also helped deflect blasts away from the emplacement, with the locator itself stored in an adjoining building. A British 150cm anti-aircraft searchlight on a teethered mobile mounting (NWMA) was wheeled into a roofed protective searchlight emplacement at an adjacent position to the rear which included an observation platform, a generator room and limited accommodation.

Ta' Lippija Tower, also known as Ġnejna Tower, was also built in 1637, and the tower is located on the cliff edge of the Wardija Ridge overlooking Ġnejna Bay. It stands at an altitude of 80m above sea level and 11m high, over an area of 6m by 6m. Above the upper entrance to the tower were two escutcheons with the coat-of-arms of the Order and Grand Master Lascaris, together with the inscription PAX FIAT IN VIRTUTE TUA ET ABUNDATIO IN ... 1637. The Lippija tower was manned by a garrison of four men and was armed with a single 'cannone di mezza libra'.

ABOUT THE PARK

The area in the northwest of Malta, which includes the coastal area from Golden Bay to Il-Prajjet and ix-Xagħra I-Ħamra, was declared a national park by the Government of Malta by Legal Notice 251 in September 2007. The Park was named after the Northwest wind, 'Majjistral' in the Maltese language. The Park's area includes a stretch of 6km of protected coast, designated as part of a larger Special Area of Conservation (SAC) within the Natura 2000 network of sites. The Għajn Tuffieħa SAC incorporates a varied landscape of clay slopes, beaches, karstland, boulder scree and agricultural land and is rich in biodiversity, with over 300 plant species.

The Park is managed by the Heritage Parks Federation (HPF) and overseen by a supervisory board, composed of representatives from three NGOs, Mellieħa Local Council and an independent chairperson nominated by the Minister for the Environment (Subsidiary Legislation 549.83).



This map complements two new books about the flora and fauna in the Majjistral park (2020). Available from the Majjistral Visitors Centre or the GAIA Elysium nursery.



Sources: Planning Authority (1997). North West Local Plan - Survey sheets 3880-4083, 1963- 1996. | Planning Authority Management Plans (2015). G.A.I.A./Malta University Services (1997). Għajn Tuffieħa area - Geology, Geomorphology and Hydrology | G.A.I.A./Sciberras, J (2012). An ecological appraisal of Ramla tal-Mixquqa | G.A.I.A./Malta University Services (1997). An ecological survey of the Għajn Tuffieħa area | Stephen C. Spiteri (2006) - British Military Architecture in Malta Stephen C. Spiteri (2008). Fortresses of the Cross: Hospitaller military architecture, 1136-1798. |

For information about this map contact info@mrddf.org. Updated: June 2020.

GEOLOGICAL HIGHLIGHTS

1 Il-Ħotba L-Bajda - Il-Ħotba il-Bajda is a highly weathered limestone ridge made up of Il-Ħotba L-Bajda, Għajn-Tuffieħa and It-Tafal. This shallow soil is confined to Ix-Xagħra Tat-Torri, Il-Ħotba L-Bajda ridge, and the butte of Il-Qarraba promontory. It is invariably associated with karst landscape as it represents the residue left behind by the leaching of limestone, as in Tas-Sigra soil but without subsequent movement. It is a very shallow soil, red, heavy textured, decalcified soil with a strong subangular or angular block structure occurring intermittently among the limestone outcrops of the karstified Upper Coralline Limestone along solution channels and fissures. Elsewhere, particularly on the exposed high plateaux, it is only found in scattered patches and is only of importance to the local wild flora.

2 Ix-Xagħra tat-Torri step - Geographically, this step is made up of Tal-Lippija, Il-Lippija and Ix-Xagħra Tat-Torri. It is the largest geomorphological unit in the Area, covering some 0.33 km², with elevation varying between 70 m and 100 m ASL. Although it constitutes the highest topographical unit in the area, it is a step of Il-Ħotba L-Bajda Ridge. Like the ridge, it is composed of a top limestone plateau overlying the Blue Clay Formation. Unlike the ridge however, the limestone is relatively much less karstified and stands at a higher level than the ridge, giving the impression of an opposite structural relationship. Morphologically, the limestone top is in the form of plateau with a gently undulating top in the form of a NS trending saddle, reaching maximum elevation of 96 m. ASL at Ix-Xagħra Tat-Torri. The plateau is surrounded by a near vertical low-cliffs on all sides, except in the extreme east at Il-Lippija where it continues further east. The surface is karstified and practically barren of soil except for isolated shallow patches. Rock fins separated by deep grooves developed by the weathering of the exposed limestone are seen in many places. These lapies represent the initial stage of karst landform. The limestone is probably cavernous in places as doline features are also observed. Further karstification will eventually reduce the platform to a hum, similar to the one found on the Il-Ħotba L-Bajda Ridge.

3 Wave-cut Terrace in Upper Globigerina at Ġnejna Bay - A small but pronounced wave-cut terrace is found in the very south of the area, on the coast facing Ġnejna Bay (Plate XVI). It consists of a stretch of flat coastal exposure of Upper Globigerina raised above sea-level by a few tens of centimetres and formed by the marine erosion of the overlying soft Blue Clay. The terrace is therefore the contact between the Upper Globigerina Member and Blue Clay Formation. The erosion of the clay by wave action extends to the steep slopes at the back of the terrace where a notch cut in the base of slopes is seen in places. Unlike classical wave-cut terraces, this terrace is therefore unrelated to drops in sea-level and is purely the result of differential erosion. The influence of Tal-Lappija Fault has produced a striking projection of the terrace out into the bay. Although not easily accessible, the terrace is popular with bathers in the summer months on account of its flat surface and sharp ledges which drop vertically into relatively deep water.

4 Il-Qarraba isthmus and sandy beach - A very pronounced narrow isthmus (narrow land bridge), made exclusively of Blue Clay, connects the promontory to the mainland. It is in the form of a narrow and high saddle approximately 80 m wide and 170 m long, and some 23 m. high above sea-level at the centre of the saddle. The clay is practically barren on top of the isthmus and is highly susceptible to splash erosion and exfoliation. Sparse vegetation is found on the northern slope while the slope facing Ġnejna Bay is barren. Deep rills characterise these steep slopes which wash the run-off and sediments derived from the weathered clay directly into the sea. The isthmus is the only one made of clay in the Maltese Islands. The small sandy beach on the southern shore of the isthmus is very similar to that of Għajn Tuffieħa Bay except in size which is only about 90 m long and 8 m wide. The source of sand is the weathering of Mtarfa Member detached from the limestone butte of the promontory in the form of rock-fall and boulder scree. A limited supply of sand may also reach the beach as littoral drift from the direction of Ġnejna Bay. In contrast to the larger sand beach, this one has no apparent longshore drift as wave action, of a predominant reflective nature, reaches the beach perpendicularly. The sand at the back of the berm has an admixture of material derived from the erosion of the adjacent steep Blue Clay slopes. The berm crest is practically non-existent, suggesting a very small active lens and weak wave action. Access to the beach by land is very difficult.

5 Il-Qarraba Promontory - The top of il-Qarraba provides a highly exposed habitat and supports a low garrigue plant community, with shrubs growing prostrate, hugging the ground. Il-Qarraba lies between Ġnejna Bay and Għajn Tuffieħa Bay, is approximately 450 m long and 300 m wide with an area of approximately 0.09 km² (isthmus included). It is made up of a well-preserved butte of Upper Coralline Limestone overlying Blue Clay and surrounded by undercliffs. The gently inclined butte is defined by sharp low cliffs on all sides except at the head of the promontory where its highly fractured edge makes its boundary with the undercliffs less distinct. Here, strong wave action on the exposed clay tends to subject the butte to accelerated erosion - inducing rockslides, slumps and rockfalls which form a well-developed undercliff facing the open sea. Access to the promontory is by footpaths over the Blue Clay slopes of the isthmus. Further out on the promontory, the footpaths wind round boulders and through crevices in the limestone scree. The butte itself may be reached with some difficulty either by climbing a steep low cliff at the landward end of the butte or through crevices in the fractured limestone at the far end. The promontory is the only one in the Maltese Island preserving a fine example of a butte.

6 Qarraba undercliff - The coastal low-cliffs at Għajn Tuffieħa Tower and Il-Qarraba promontory are characterised by a low vertical drop against the edges of the Upper Coralline Limestone plateaux and a steep slope against the Blue Clay underneath. The clay slopes, particularly those at the base of these cliffs, are hardly exposed as they are overlain by a combination of rockslides, slumps and rockfall made up of coralline limestones detached from the edge of the plateaux. The size of these rock fragments ranges from a grain to boulders weighing several tons, and the talus is often referred to as boulder scree. The formation of these talus slopes is facilitated by the accelerated weathering and erosion of the Blue Clay which undermines the overlying coralline limestone. The cliffs have recesses which tend to funnel the rock fragments, particularly rockfall, into chute-like exits, causing the formation of minor talus cones. The freshly exposed surfaces of coralline talus is easily weathered as it slides down the clay slopes to reach the shore. The easily weathered Mtarfa Member produces sand grains by this process which are eventually carried away towards the beach by littoral drift to source the sandy beaches in the area.

7 Sandy Beach at Il-Qarraba - Some boulders from the undercliff of Il-Qarraba promontory protrude out into Għajn Tuffieħa Bay to trap sand as it drifts bay-ward to form a small sandy beach, about 50 m long, on the northern shore of the promontory. The berm of this beach is curved and only about 5 m. wide.