Drifting Apart:
Inspiring interpretation on an international scale

Good Practice Guidelines for the Interpretation of Geological Heritage

Geological Time Trail at Marble Arch Caves Global Geopark, developed through the Drifting Apart Project.
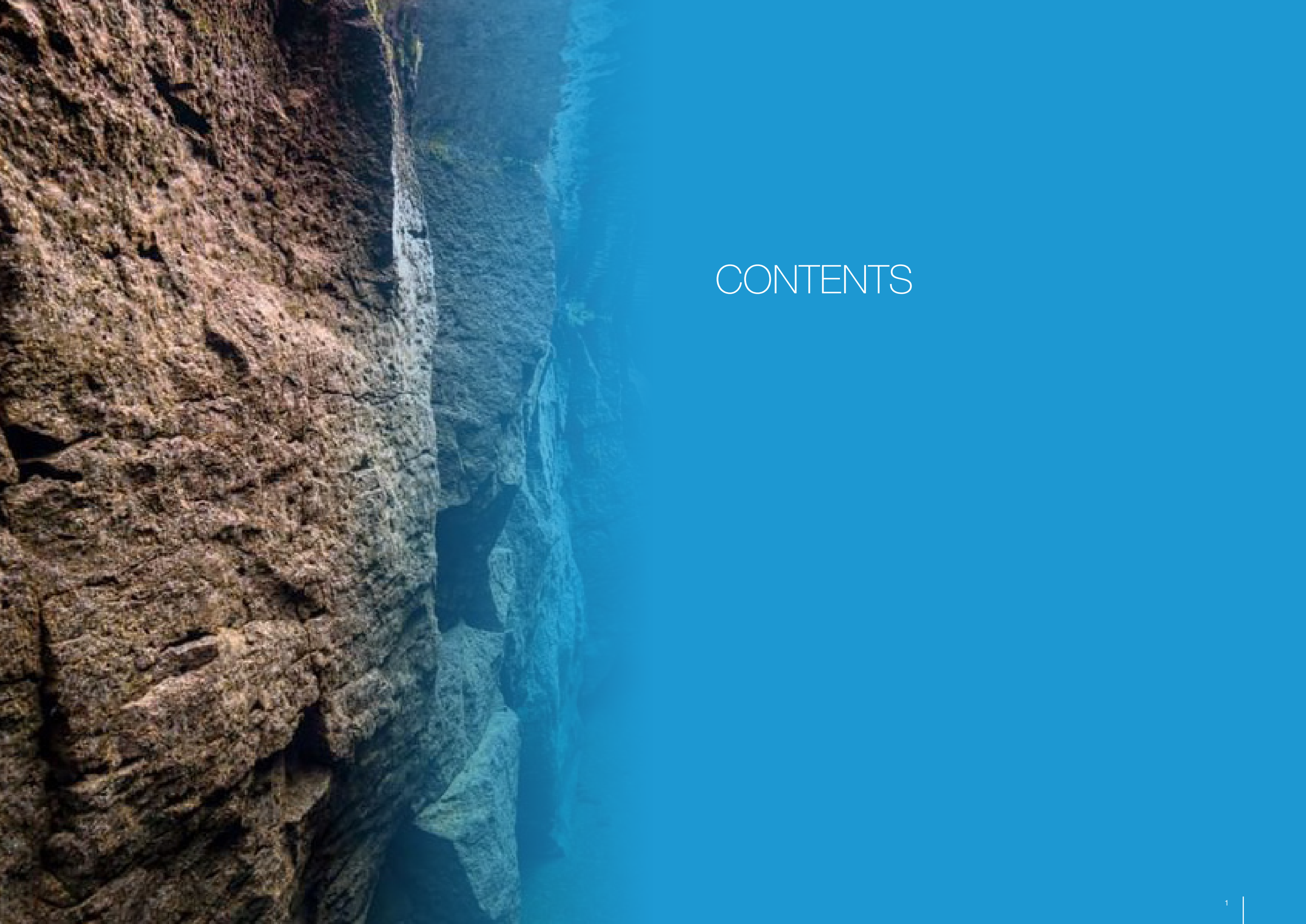
DRIFTINGAPART

CONTENTS

1 Introduction

1.1   Drifting Apart Project

The Drifting Apart project was a multinational project operational from 2015-2018. The project has brought together a series of partners from Northern and Republic of Ireland, Scotland, Norway, Iceland, Canada and Russia. The total value of the project was €1.6 million with €1.03 million provided through the Northern Periphery and Arctic Area Programme 2014-2020 under the European Regional Development Fund. The programme's vision was to help generate vibrant, competitive and sustainable communities, by harnessing innovation, expanding capacity for entrepreneurship and seizing the unique growth initiatives and opportunities of Northern and Arctic regions in a resource efficient way.

The aim of the Drifting Apart project was to unearth and strengthen understanding,
appreciation and enjoyment of the fascinating and interconnected geological
heritage of the Northern Periphery and Arctic region, and its many links to
natural, built and cultural heritage. The project has supported the development of
new and aspiring Global Geoparks in their initial journey on the way to becoming a UNESCO Global Geopark, promoted innovative products and services for social and economic prosperity and worked to build a strong network of geological heritage destinations in the Northern Periphery and Arctic Region.

1.2   UNESCO Global Geoparks

A UNESCO Global Geopark is a territory with clearly defined boundaries which has a geological heritage of global significance linked to a sustainable territorial development strategy. Geoparks promote and conserve cultural, built and natural heritage while boasting educational opportunities and working with local communities to benefit the area. There are currently 127 UNESCO Global Geoparks across 35 different countries worldwide.

1.3   Drifting Apart Partners

The project brought together seven lead partners and 14 sub partners from 7 different countries over a three year period. With Causeway Coast and Glens Heritage Trust as overall project lead. These partners are listed below, lead partners are distinguished in bold.

Northern Ireland and Republic of Ireland

- Causeway Coast and Glens Heritage Trust
- Fermanagh and Omagh District Council (Marble Arch Caves UNESCO Global Geopark)
- Cavan County Council (Marble Arch Caves UNESCO Global Geopark)
- Geological Survey of Northern Ireland
- Geological Survey of Ireland

Canada

- Stonehammer UNESCO Global Geopark
- Cabox Aspiring Geopark
- University of New Brunswick
- New Labrador Department of Natural Resources
- New Brunswick Museum

Iceland

- Reykjanes UNESCO Global Geopark
- Katla UNESCO Global Geopark
- Saga Aspiring Geopark

Scotland

- Shetland UNESCO Global Geopark
- Lochaber Aspiring Geopark
- North West Highlands UNESCO Global Geopark

Norway

- Magma UNESCO Global Geopark
- Geological Survey of Norway
- Trollfjell Aspiring Geopark

Russia

- Kenozero National Park
- Onego Pomorie National Park

In 2001, the Marble Arch Caves UNESCO Global Geopark (MACUGG) was one of the first eight European Geoparks to be established and was the first Geopark in the United Kingdom. When MACUGG expanded from County Fermanagh in Northern Ireland into County Cavan in the Republic of Ireland in 2008, it became the first International or cross-border Geopark in the World. MACUGG is particularly well regarded within both UNESCO (United Nations Educational Scientific and Cultural Organisation) and the Global Geoparks Network for its use of the UNESCO Global Geopark status to promote peace and reconciliation within Ireland. MACUGG is also seen as a particularly experienced Global Geopark in terms of its long standing membership of the Global Geopark Network and because of its well-proven management structure. In many respects, MACUGG can be regarded as a classic example of a UNESCO Global Geopark due to its scenic landscapes, remarkable sites of geological interest, high quality tourist facilities, site interpretation, professionalism and excellent service delivery.

MACGG is jointly managed on a cross-border basis by two local government authorities - Fermanagh and Omagh District Council in Northern Ireland (United Kingdom) and Cavan County Council in the Republic of Ireland. A number of government agencies throughout Ireland provide ongoing, active support for the Geopark including the Geological Survey of Northern Ireland (GSNI) and the Geological Survey of Ireland (GSI).

The MACUGG team was deemed as being well placed to use its combined expertise to lead on Work Package 3 of this project – Drifting Apart Story and Learning Opportunities – as the team has extensive experience in disseminating complex information about Earth Sciences and environmental issues to general public audiences. MACUGG continues to use a variety of interpretation mediums to provide public information including permanent and temporary exhibitions, outdoor panels, film and audio, website pages, social media, publications, field studies, guided walks, community events, community training, teaching workshops, outreach programmes, public lectures, music, drama and storytelling.

This work package has facilitated the development of high quality interpretation by all project partners, whether in existing UNESCO Global Geoparks or in regions that are working towards achieving UNESCO Global Geopark status. MACUGG has worked in close cooperation with the other project partners to achieve the full potential, maximum benefits and successful outputs of the project.

2. Interpreting Interpretation

2.1 Project objectives

Interpretation was identified as a key vehicle for the project to achieve the following objective:

Objective:
- To develop common/shared opportunities for all visitors (specialists and generalists) to learn about area's geological history and related heritage, highlighting local sites of interest and how they fit into the Drifting Apart Story.

Results:
- Development of a shared geological Drifting Apart Storyline which links sites from each of the partner areas and promotes their common geological heritage. This formed the baseline for the other outputs from this section of the project.

- Development of a Transnational Visitor Trail promoting sites from the storyline promoting linked natural, cultural and built heritage features.

- Development of "Drifting Apart: Inspiring interpretation on an international scale - Good Practice Guidelines for the Interpretation of Geological Heritage" document.

- Development and enhancement of interpretation and access at 62 sites which tell the Drifting Apart Storyline, enhancing visitor and learning experiences.

- Development and enhancement of 16 information points or visitor centres across the partner areas where the Drifting Apart story is told. These centres provide increased opportunities for specialist and generalist visitors to learn about the local and wider areas geology and linked heritage.

It is anticipated that the results achieved through the Drifting Apart project will ultimately lead to more prosperous rural and remote areas with the development of economic and social activities linked to the geodiversity and linked heritage. It has allowed for the development of sharing and learning opportunities which enhance the conservation, promotion of the areas' unique heritage. It offered innovative opportunities to learn about the heritage and manage the geological sites. Local, regional and national decision makers were involved throughout the project which has helped to engage and support the long term the management models for each area, which in turn allows long term sustainable management and development of the geodiversity and linked natural heritage area in each of the partners' country, at Northern Periphery and Arctic programme level and further afield in the EU.

2.2 Document use

This guidance document was first drafted in December 2015 at the beginning of the three year project to assist the Drifting Apart Steering Group and partners to identify appropriate interpretative options for delivery of project related interpretation. It has also acted as a catalogue of interpretation developed by partners over the three year duration of the project and has been revised to become a resource for Aspiring Geoparks, UNESCO Global Geoparks and similar organisations.

2.3 What is meant by interpretation?

Interpretation is not simply about relaying facts, figures and information, it is the medium used to communicate the value, significance and meaning of geological, cultural, natural and built heritage to the general public. It provides a learning experience communicating stories and theories behind the heritage provoking the audience to think for themselves, reaching their own conclusions

Effective interpretation must:
- catch the attention;

- provide a connection between heritage and people's own experiences providing relevance to the audience ;

- be interesting and meaningful;

- be effectively presented , easy to use and understand;

- meet the needs of a variety of audiences;

- communicate a clear theme.

Interpretation should form part of a range of heritage-related communication activities including marketing, visitor information and orientation. These forms of communication often use the same mediums as interpretation, such as panels or leaflets, but there are crucial differences between them. Marketing materials aim to sell a product, visitor information provides information on recreation activities and amenities and orientation helps people find their way around. Just because a site has information panels it does not mean it is being interpreted!

2.4 Why interpret your heritage asset?

Quality interpretation can:
- Raise awareness of a heritage feature or tradition. It may be intangible so not available to view and might otherwise not be known about.

- help the audience to discover and understand heritage. Interpretation can support formal education and help visitors to learn new skills. Through interpretation development, staff and

  volunteers may also learn more about the heritage assets in your area;

- enhance visitors' enjoyment and value of their visit, better connecting them with the natural, built and cultural qualities of the heritage asset;

- involve local people in presenting a heritage site, fostering a sense of community ownership and stewardship;

- promote a conservation ethos and encourage visitors to support conservation work;

- encourage responsible behaviour by visitors, for example, refraining from dropping litter or climbing on a ruin;

- enhance the experience that paying visitors expect. Audiences may also expect interpretation at sites with free entrance:

- create income generation through related merchandising, marketing and events;

- improve promotion through repeat visits and word-of-mouth promotion;

- at a strategic level, benefit a country's competitiveness in the international heritage tourism market.

3. Interpretation planning - Planning a new project

The starting point for any interpretation project is to create a plan. This document should set out clearly what you plan to achieve and how you intend to achieve it.

It should include the following:
- Aims – what you want to achieve.

- Audience – Identify target audience(s) and use research and consultation to outline audience needs

- Themes and topics – outline messages and subjects to be communicated.

- Objectives - what audience should experience, learn, feel and do as a result of the interpretation.

- What you will implement – details of the proposed media. Include a timetable for delivery and realistic costs. Actions and costs may include concept designs of the interpretation, ground works required, installation, maintenance.

- Review of management issues which may affect proposed interpretation –interpretation locations (remote location), landownership, conservation policies, staff resources to operate and maintain interpretation and current and projected budget available for installation, operation and long-term maintenance .

- Evaluation – outline of mechanism to be put in place to monitor proposed interpretation to gauge audiences engagement once in place.

4. Interpretation Planning – Draft working document

The preceding sections of this document will formulate a framework for an interpretative plan that can be adopted by all partners. It is highly probable that site specific considerations will need to be considered in certain instances and the proposal can be adapted accordingly.

i. **Aims:**
Develop and present a high standard of material via utilisation of a variety of interpretative methods that will appeal to visiting and local audiences.

ii. **Audience:**
Can be adapted on a partner by partner basis but in general the focus is on the lay-person, that is, non-geology specialist.

iii. **Themes & Topics**
For example: Communication of Drifting Apart Storyline

iv. **Interpretative Media**
Desktop research coupled with analysis of best practice examples of a variety of interpretative media as provided by partners has been conducted and the following are proposed as interpretive media to be used as part of this project.

4.1 Barriers to access

It is important to address a variety of barriers that will impact on an individual's ability to access and understand our interpretation. These barriers include:

- **Intellectual** barriers make the content of interpretation difficult to understand - text that is too long and uses technical language. Being aware of this barrier is also about giving information in a variety of formats so that if people prefer not to or cannot read they can access the content in other ways.

- **Sensory** barriers make interpretation difficult to see or hear - text that is too small to read.

- **Physical** barriers make interpretation difficult to access - a display that is too high for children and wheelchair users to use. (see figure X, page X)

- **Cultural** barriers fail to reflect the cultural perspectives of different audiences - interpretation only in English at a site visited by many foreign tourists or closely linked to an immigrant community.

- **Financial** barriers exclude people on low incomes - having to pay a further charge for an audio tour on top of the cost of transport to your site and an entrance charge.

- **Organisational** barriers exclude visitors because of the way the interpretation is provided - an events programme running only during midweek.

Considerations should be given to individuals of limited mobility or those that are wheelchair bound. In certain countries, legislation dictates that it is unlawful to treat disabled people less favourably.

Photo: Numerous walking trails within Marble Arch Caves UNESCO Global Geopark, Northern Ireland and Republic of Ireland, have been resurfaced to make them fully accessible routes, such as this one at Ely Lodge Forest.
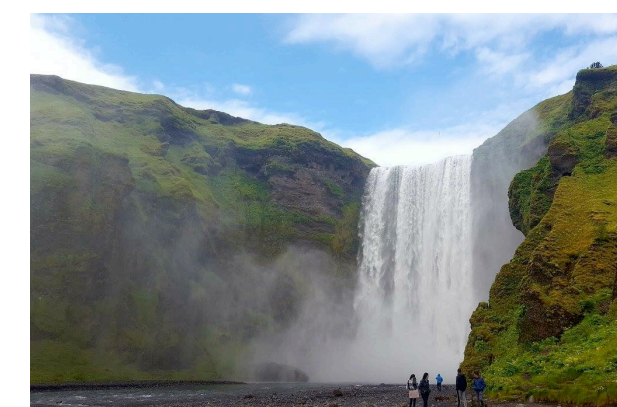
Photos: Many iconic geological tourism sites in Iceland are free of admission charge, such as the iconic Bridge Between Continents in Reykjanes UNESCO Global Geopark and the stunning Skógafoss Waterfall in Katla UNESCO Global Geopark.

4.2 Considerations for content

The following principles should be taken into consideration by each partner when constructing the content of their chosen media:

Consider what scale of interpretation is appropriate for your site. Too much interpretation is unnecessary and intrusive, and you should always leave some things for your visitors to discover for themselves.

- In meeting the needs of a wide audience, be careful not to oversimplify the contents for those with a greater interest in the subject. This is where you will need to take a layered approach to your interpretation. In graphic design this means having a text hierarchy that uses headlines and short introductory paragraphs that most people can quickly read, followed by more detailed text for those who want to know more. For a whole display a layered approach requires the use of a choice of media that will meet the different learning preferences, abilities and levels of interest of an audience. This could mean, for example, combining graphic panels with interactive displays, audio presentations, computer touch-screens and published fact sheets, rather than relying on one medium alone.

- Each piece of interpretation should communicate a single or limited number of themes or messages, not a jumble of facts.

- Each piece of outdoor interpretation should clearly and specifically relate to features, objects, or events in its immediate surroundings:

- for fixed media such as panels, it should be possible to see the subject of the interpretation from the location of the panel; and for media such as leaflets designed for use on the move, the interpretation should refer to specific features that can be seen or otherwise appreciated when exploring the site

- Interpretation should encourage visitors to notice and explore the things around them and should draw attention to specific features that can be seen, touched, heard, smelled or tasted.

- Fixed interpretation should use materials sympathetic to its surroundings and be located so it does not impinge on the character of a site or building.

- Effective use should be made of pictures and graphics. They should:
  o be high resolution and easily understood
  o be visually stimulating
  o have a clear relationship to the text
  o complement the text, or what your visitors can see, rather than duplicate it.

4.3 Environmental considerations and community engagement

- Build your interpretation to last, combining high quality and durable infrastructure (such as panel frames, audio equipment and display cabinets) with easily updateable content (such as graphic panels, audio files and objects on display).

- Liaise with the local community as extensively as possible prior to the development or installation of any interpretative media.

5 Types of Interpretative Media

This section describes the common forms of interpretive media and their respective benefits and weaknesses.

In choosing what media to use, you should firstly consider your aims, themes, audience characteristics, budget and maintenance capacities. If an interpretive media matches these, it is likely to be the right solution. In a large project you may consider providing a mix of media, reflecting the needs of the different learners you would like to involve in your project.

5.1 Outdoor interpretation panels
Outdoor panels are the most common method of interpretation with regards to natural heritage. It can take many forms but the most common form is landscape lecturn or upright panels displaying photos, maps and information or diagrams and illustrations about the area or site.
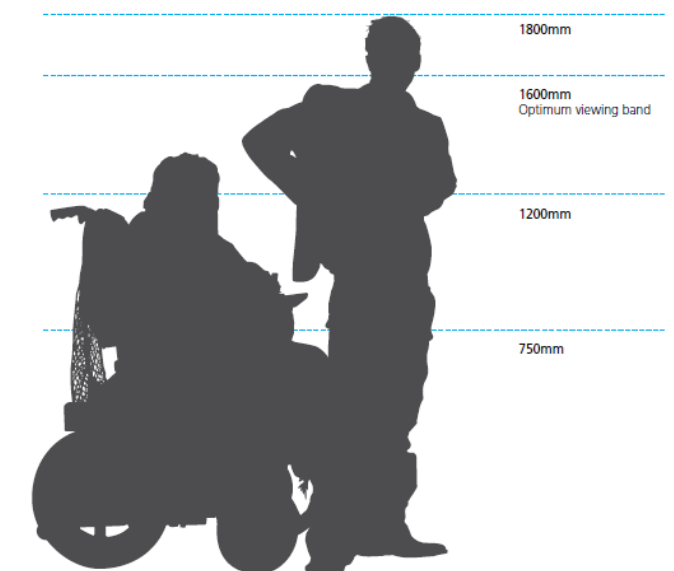Variations include:

- Lecturn panel
- Upright panel
- Waymarker post panels
- Useful interpretation e.g. bench

- When a Geopark is developing interpretation as part of a funded project involving other partners, if an in-house style or brand guidelines already exists, then these should take precedence on the interpretative media such as font styles and colour pallets. It is however important that the project logo and funder logos are included.

- Word counts should not exceed 300 words in short, direct sentences and technical jargon should be avoided.

- Content: Text should be appropriate for the average reading age of an 11 year old.

- Graphic Presentation

- All text, photographs and images should be positioned within an optimum viewing band, as shown to the right

See Annex II for specifications of tried and tested outdoor interpretation, including approximate costings.

Pros: durable, long-lasting and low maintenance; they reach a large audience over time and are good for presenting concise text, photographs and other illustrations. They can also include interactive elements such as tactile plaques, audio and lift flaps.

Cons: can be intrusive so think carefully about where they are placed so as not to detract from the landscape, townscape, architecture or archaeology. Panels are used everywhere so can give rise to 'not another panel' fatigue.

1800mm

1600mm
Optimum viewing band

1200mm

750mm

STØYPET

Trollfjell Geopark

A blanket of pepply stones 🇬🇧

Leka features a number of impressive land forms related to beach loss and wave erosion during the isostatic uplift. The most impressive of which is perhaps here above Støypet.

Countless waves have broken loose and organised materials that were once here into a blanket of pebbly stones. A number of shoreline ridges are indicative of the enormous power of the storm waves that have washed in from the southwest – large stones have been cast up into impressive ridges. Smaller particles such as gravel and sand have been washed back out to sea. The waves rolled unimpeded toward land when the sea level was about 50 metres higher than the current sea level, whereas a lower sea level causes the wave to break upon the skerries west of Stein. The variation in grain size reflects this in an excellent manner – ranging from sorted stones in the heights up at Støypet to sand on the flat areas down toward Stein.

Stone Age people lived here at the top of Støypet ca. 10,000 years ago. Back then, Støypet was a narrow land bridge between the main island, Leka, and Steinstind. In the Steinstind area, numerous caves where people once lived have been found. In more recent times, hill forts have been found on the hilltops on Mannatind and Steinstind.

Støypet is both a geological monument and a cultural monument, and the traces of our forefathers can easily be destroyed. Show respect and leave the stones lying just as they always have done. This will allow generations coming after us to experience this too.

En teppe av stein 🇳🇴

Leka byr på en rekke imponerende landformer knyttet til strandvasking og bølgeerosjon under landhevingen. Mest imponerende er det kanskje her over Støypet.

Her har utallige bølger brutt løs og organisert daværende materiale til et teppe av runde steiner. En rekke strandvoller indikerer den enorme kraften på stormbølgene som har skylt inn fra sørvest - store steiner har blitt kastet opp i imponerende rygger. Mindre partikler som grus og sand har blitt skylt ut til havs igjen. Bølgene har hatt fri ferd mot land da havet sto ca. 50 meter og høyere over dagens havnivå, mens på lavere nivå har bølgene blitt brutt av skjærene vest for Stein. Variasjonen i kornstørrelse gjenspeiler dette på en fin måte - fra sortert stein i høyden opp mot Støypet til sand på flatene ned mot Stein.

Her på toppen av Støypet holdt steinaldermennesker til for ca. 10 000 år siden. Da var Støypet en smal landbro mellom hovedøya Leka og Steinstind. I Steinstindområdet er det funnet flere huler hvor mennesker har holdt til. Fra senere tid er det funnet bygdeborger på Mannatind og Steinstind.

Støypet er både et naturminne og et kulturminne, og sporene etter våre forfedre kan lett ødelegges. Vis respekt og la steinene ligge slik de alltid har gjort. Da kan også generasjoner etter oss få oppleve dette.

Foto: Arnfinn Holand

Image: Landscape outdoor interpretation panel developed by Trollfjell Aspiring Geopark. Note the use of dual language to increase the usability of the interpretation.

Photo: One of 12 portrait interpretation panels installed by Magma UNESCO Global Geopark to enhance an already used walking route with information on the geology, history and culture of the mining industry which once dominated this location. Note the use of dual language.

Photo: This is one of a suite of 13 outdoor interpretation panels that have been installed as part of the Drifting Apart Project in Cabox Aspiring Geopark. Prior to the project this Geopark had no geological interpretation, so this part of the project has been highly significant.

Image: Geopark Time Trail developed by Marble Arch Caves UNESCO Global Geopark to illustrate the significant events in the geological history of the Geopark through rock specimens. 3 separate trails were placed to enhance the interpretation outside 3 geo-centres within the Geopark.
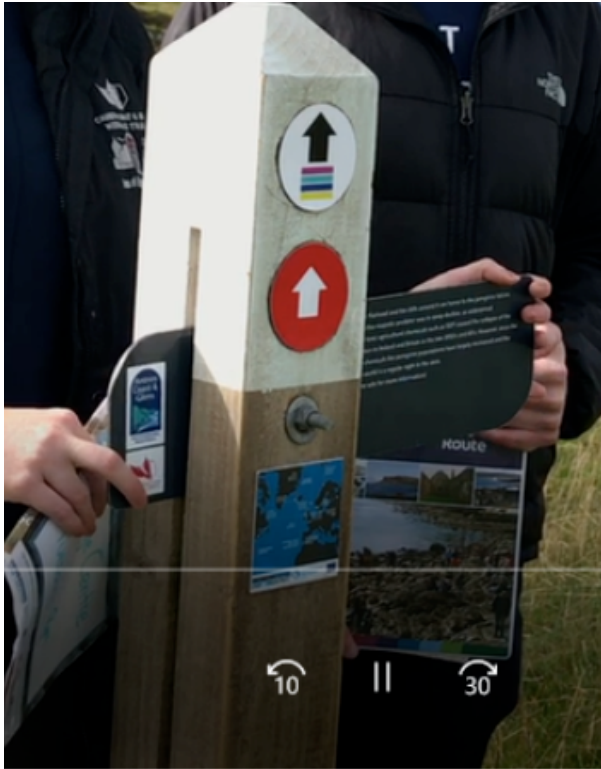
Image: Information panel providing information on hiking routes as well as interpreting the surrounding landscape at Marble Arch Caves UNESCO Global Geopark.

Photos: One drawback from using outdoor interpretation panels is that they can clutter the landscape and ruin views. The above photos from Causeway Coast and Glens Heritage Trust and Marble Arch Caves UNESCO Global Geopark display one such solution to this – use of waymarked posts to house information points. These posts can act as a guide for visitors as well as providing landscape interpretation at strategic points within a site. Photos: One drawback from using outdoor interpretation panels is that they can clutter the landscape and ruin views. The above photos from Causeway Coast and Glens Heritage Trust and Marble Arch Caves UNESCO Global Geopark display one such solution to this – use of waymarked posts to house information points. These posts can act as a guide for visitors as well as providing landscape interpretation at strategic points within a site.
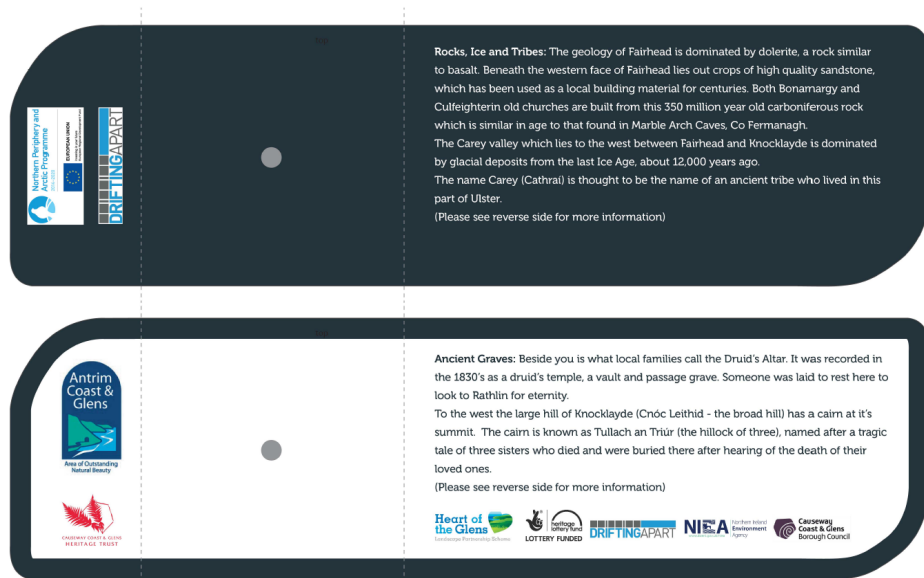
Image: design of the way marker post interpretation installed at Fairhead, Northern Ireland by Causeway Coast and Glens Heritage Trust.

Image: Interpretive panel interpreting the landscape, geology, wildlife and folklore in Causeway Coast and Glens.

Photo: One of four engraved interpretative benches installed in Stonehammer UNESCO Global Geopark, Canada (cost $4475 CDN). Graphics display: global position, a particular earth process and an artistic interpretation of the geosite. The bench provides a learning experience while providing useful infrastructure at a popular geosite.

5.2 Indoor graphic panels and displays

Types of indoor graphic panels and displays include:
- Visitor centre dedicated to interpreting the heritage of a particular area or site

- Education classroom or centre

- Exhibition panels (within an existing building)

- Models

- Displays of artefacts

Points relating to branding, content and graphic presentation as listed in the outdoor interpretation panel section are also applicable for the development of indoor graphic panels and displays.

Pros: durable, long-lasting and low maintenance; they reach a large audience over time and are good for presenting concise text, photographs and other illustrations. They can cover large spaces relatively cheaply, be a good backdrop to other media and include interactive elements such as audio, video or computer interactives.

Cons: no real disadvantages, but try not to rely on this medium on its own.
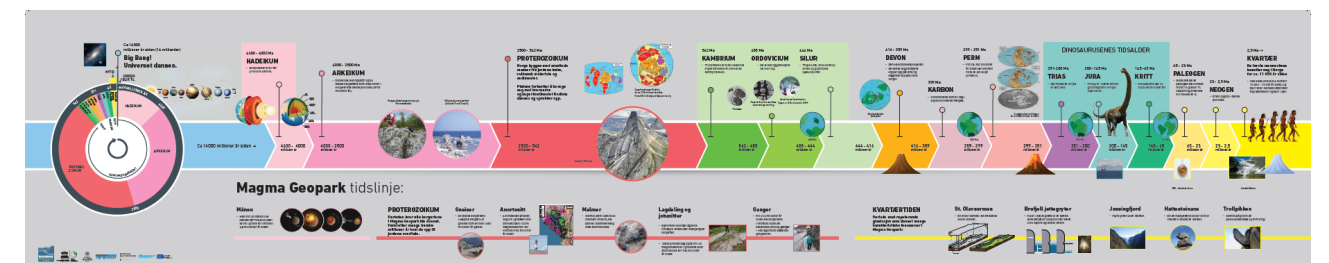
Photo: Timeline depicting the geological history of Magma UNESCO Global Geopark displayed within the visitor centre.

Photo: Indoor interpretation directly interpreting the landscape within the Rock Stop - North West Highlands UNESCO Global Geopark Visitor Centre.

Photos: Educational classroom including interactive displays developed by Kenezero National Park, Russia

Photos: Lochaber Geopark Visitor Centre developed by Lochaber Aspiring Geopark, Scotland. The illuminated light box information panels and timeline wall panel display have been funded through the Drifting Apart project. This visitor centre also incorporates other forms of indoor interpretation such as an audio-visual display and 3D geological scale model. It also includes a panel developed to inspire the younger generation.

Photo: Cavan Burren Park Visitor Centre was developed as part of the EU funded Border Uplands project. It is an excellent example of an unstaffed interpretive centre. While it provides exceptional interpretive value it requires minimal maintenance and staff time in comparison to many staffed visitor centres.

5.3 Live interpretation: guided walks, tours and demonstrations

This type of interpretation can include many forms:

- Formal lectures
- Laidback talks
- Guided walks and hikes
- Demonstrations
- Worskhops

And can be delivered by
Staff members
Volunteers and ambassadors
External experts or partners

Pros: regarded as the most effective interpretive medium as an experienced interpreter can be responsive to their audience tailoring each presentation appropriately. It provides opportunities for staff and volunteers to have direct contact with visitors. Can incorporate BSL or hearing-loops for hearing impaired visitors.

Cons: usually only reaches a limited audience and be restricted to when the tour etc. can take place. Can be expensive in terms of administration, marketing and staff costs.

Geopark Events

The Marble Arch Caves UNESCO Global Geopark, jointly managed by Cavan County Council and Fermanagh & Omagh District Council, includes a wide variety of sites of interest allowing visitors to appreciate the best of what this unspoiled border region has to offer.

For 2018 our aim is to host events which encourage people with various interests and abilities to interact with their Geopark and to attract visitors to this wonderful region.

On all our walks and sites we promote Leave No Trace Principles. Please be responsible and wear sturdy footwear and warm waterproof clothing.

Events may be added, altered or removed and most are weather dependant so please check our website www.marblearchcavesgeopark.com or Facebook page and Twitter for updated details. Alternatively you can contact us on phone numbers provided.

FEBRUARY

Sunday 11th February 11am
Celebrate Losar Tibetan New Year at Geopark Site
Jampa Ling Tibetan Buddhist Centre. GPS: 54.10, -7.70
FREE Contact Jampa Ling on +353 (0) 499523448

Saturday 17th February
10am - 12.30pm & 1.30pm - 3pm
NI Science Festival –
Dye Tracing in the Marble Arch Caves
GPS: 54.25, -7.81
FREE Booking essential
Contact +44 (0) 2866348855
See www.nisciencefestival.com

Sunday 18th February 1.45pm
Burren Legends Walk
Interpretive Centre, Cavan Burren Park, GPS: 54.26, -7.88
FREE Contact +353 (0) 499526121

Friday 23rd February 7pm - 10pm
NI Science Festival –
Cosmic Cuilcagh Dark Sky Event
Meet at Marble Arch Caves Visitor Centre. GPS: 54.25, -7.81
Adults £5 Children £3 Family £12 **Booking essential**
See www.nisciencefestival.com

Sunday 25th February 3pm
Turbet Island Walk and Talk
Meet at the Car Park Turbet Island, Belturbet. GPS: 54.10, -7.45
FREE Contact +353 (0) 499526121

MARCH

National Tree Week 4th - 11th March

Saturday 3rd & Sunday 4th March 12pm - 4pm
Guided Tours of Marble Arch Caves - Discover
Fermanagh Open Weekend GPS: 54.25, -7.81
FREE Booking essential Contact +44 (0) 2866348855

Monday 5th March 10am-4.30pm Daily
Marble Arch Caves 2018 Opening GPS: 54.25, -7.81
Booking recommended Contact on +44 (0) 2866348855

Thursday 8th March 11am - 1pm
Haiku Poetree Walk/Workshop at Cladagh Glen
Meet at Marble Arch Caves Visitor Centre GPS: 54.25, -7.81
FREE Contact Bee on +353 (0) 719643936

Monday 12th - Friday 16th March
Interactive Earth Science Workshops
for Primary Schools as part of Science Week
Contact on +44 (0) 2866348855 for more information

Domhnach 18ú Márta 1.45pm
Turas as Gaeilge – Cónocht an Earraigh
Páirc Bhoireann an Chabháin, Learga SAOR GPS: 54.26, -7.88
Déan teagmháil Séamus Ó hUltacháin +353 (0) 87 9653178

Monday 19th March 2pm - 4pm
Reading from 'Earth Writing' - UNESCO World Poetry Day
Meet at Interpretive Centre, Cavan Burren Park, Blacklion,
GPS: 54.26, -7.88 **FREE** Contact Bee on +353 (0) 719643936

Saturday 24th March 10am-12pm & 2pm - 4pm
On the Trail of Martel Wild Caving Event
Marble Arch Caves Visitor Centre GPS: 54.25, -7.81
COST €10.00pp **Booking essential** Contact +44 (0) 2866348855

Sunday 25th March 3pm
Skealon Lock Looped Walk
Meet at Lock No 3, Skealon, (off Ballyconnell/Carrigallen Road)
GPS: 54.06, -7.63 **FREE** Contact +353 (0) 499526121

APRIL

Monday 2nd & Tuesday 3rd April 10am - 4pm
Easter Egg-stravaganza at Marble Arch Caves
FREE GPS 54.25, -7.81 Normal admission to caves
Contact +44 (0) 2866348855

Sunday 15th April 1pm
Holy Wells & Early Christian Churches of the Geopark Meet at Doobally Church, Dowra, GPS. 54.21, -7.87
FREE Contact Andy on +353 (0) 87 6638428

Sunday 22nd April 10am - 4pm
Hidden Cuilcagh – Guided trek of the Hikers Trail
Meet at Gortalughany Viewpoint Car Park, GPS: 54.21, -7.74
COST €5.00pp **Booking essential** Contact +44 (0) 2866348855

Saturday 28th April 10am - 12pm & 2pm - 4pm
Cuilcagh Mountain Jeep Safari
Meet at Marble Arch Caves Visitor Centre. GPS: 54.25, -7.81
COST £5.00pp **Booking essential** Contact +44 (0) 2866348855

MAY

Friday 4th May – Friday 11th May
Cavan Walking Festival
For full list and information on walks please see www.cavansportspartnership.ie or www.marblearchcavesgeopark.
com or alternatively find us on Facebook and Twitter.

Saturday 12th May 5am - 8am
Breakfast & Birdsong in the Cladagh Glen
Meet at Marble Arch Caves Visitor Centre GPS: 54.25, -7.81
COST £3.00pp **Booking essential** Contact +44 (0) 2866348855

Saturday 19th May 2pm - 4pm
Guided Walk of Tully Castle & the Shores of
Lough Erne Meet at Tully Castle Car Park GPS: 54.45, -7.80
FREE Booking essential Contact +44 (0) 2866348855

Sunday 20th May 2pm
Geopark Wildflower Walk - Biodiversity Week
Meet at Doobally Church, Dowra GPS: 54.21, -7.87
FREE Contact +353 (0) 499526121

Sunday 27th May 11am
Vesak Saga Dawa
Celebration of Buddha's Birthday, Enlightenment & Entering
Nirvana at Geopark Site Jampa Ling Tibetan Buddhist Centre
GPS: 54.10, -7.70
FREE Contact Jampa Ling on +353 (0) 499523448

JANUARY

Tuesday 2nd January 7pm
Moonlight Walk on the Golden Way
Meet at Templeport Resource Centre. GPS: 54.09, -7.66
FREE Contact on +353 (0) 499526121

Saturday 20th January 10am - 4pm
Drifting Apart Geopark Bus Safari
Meet at Marble Arch Caves Visitor Centre GPS: 54.25, -7.81
FREE Booking essential Contact +44 (0) 2866348855

Wednesday 31st January 7pm
Celebrate the Islands on St Mogue's Day
Meet at Town Hall, Belturbet GPS: 54.10, -7.44
FREE Contact +353 (0) 499526121

January - June 2018

Image: Marble Arch Caves UNESCO Global Geopark Events Guide providing information on the wide variety of "live interpretation" events that are delivered by the Geopark each month. These events are delivered by a combination of Geopark staff, Geopark Ambassadors and external partners and experts. Events are varied, from geological talks to guided biodiversity walks, practical teacher training worskshops, practical Science Week workshops for schools, to scientific dye tracing experiments and stargazing events. This is in order to achieve engagement with a wide range of people of all abilities, interests and knowledge.

Photo: Guided tour in Vershinino village, Kenezero National Park, Russia as part of a programme of "Winter Meetings" organised to empower local communities and provide communities with increased knowledge and understanding of their local landscapes and heritage and funded through Drifting Apart.

5.4 Live interpretation: performances and theatrical events

Pros: costumed characters can be powerful interpretive tools, creating a very evocative sense of place. Can create an entertaining spectacle that becomes part of an enjoyable experience.

Cons: usually only reaches a limited audience and be restricted to when the performance can take place. Requires a suitable performance space, good weather if outdoors and can be expensive in terms of administration, marketing and staff costs.

5.5 Publications

Publications can take many forms:

- a simple map of a site,
- visitor map of Geopark, area or trail including site information
- information leaflet

- in depth booklet or guidebook e.g. geological information
- education workbooks
- posters

Pros: all can contain information in appropriate amounts to the target audience. Leaflets and booklets can be small enough to carry around a site, aid orientation and provide information at a relatively small cost. Guidebooks can contain more detailed information, are a take-home memento and can help market a site when shown to others. Can be revenue generating (especially guidebooks) and large-print options can be provided for visually impaired people.

Cons: require storage space and regular up-dating as aspects of the site(s) change. Can be off-putting if poorly designed.
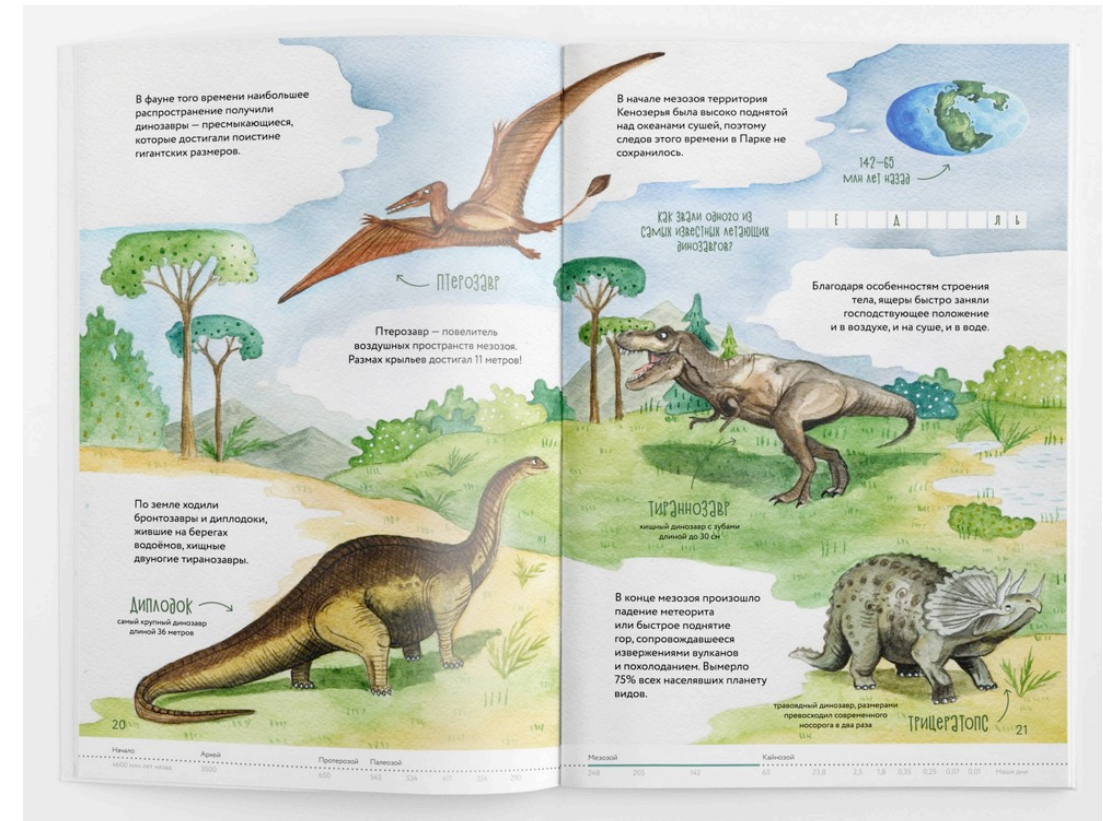
Image: Page from the beautifully illustrated GEObooklet for Children, developed by Kenezero National Park to portray its 4.5 billion year old geological history.
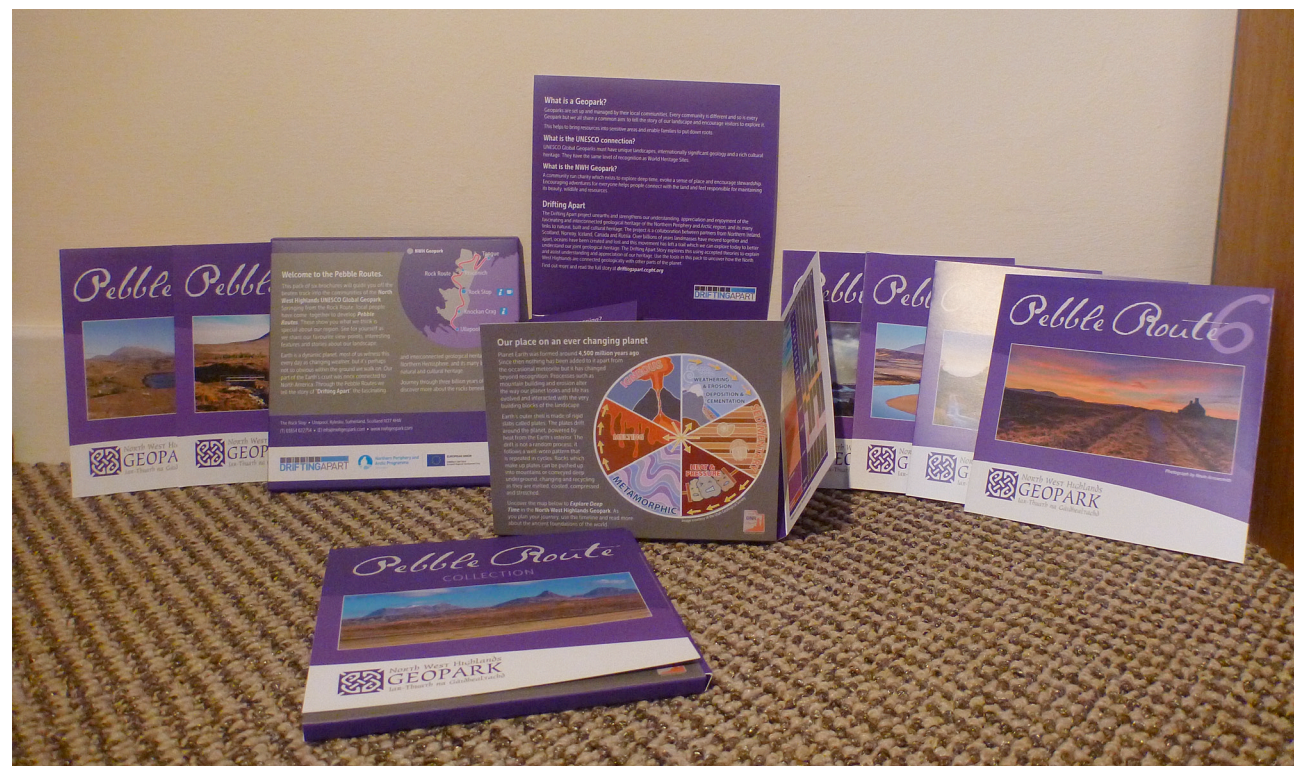

Photo: Suite of "Pebble Route" publications developed by North West Highlands UNESCO Global Geopark which provide information on driving and cycling routes within the Geopark. These publications utilise artwork created by local children to interpret the landscape and geological heritage within the Geopark, while also providing practical information on the routes such as start locations and directions.
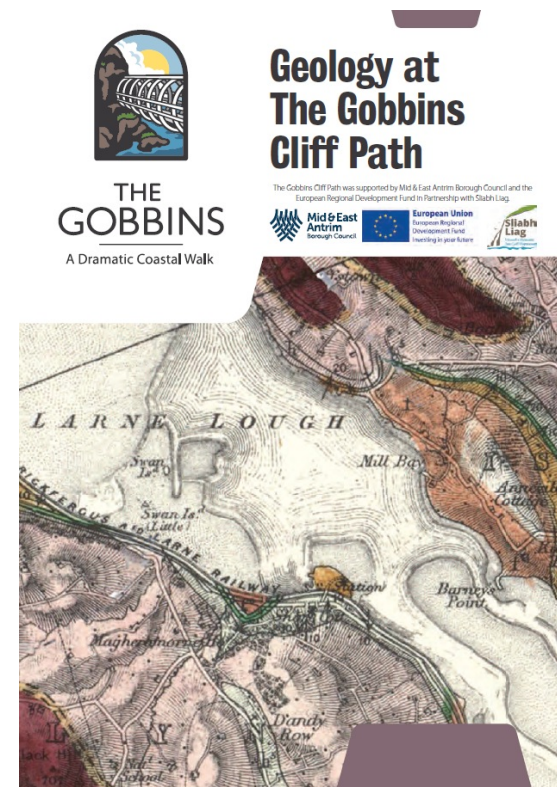
Image: Cover image of the geological publication produced by Causeway Coast and Glens Heritage Trust to enhance visitor understanding of the diverse geological landscape to the Gobbins geosite, Northern Ireland.
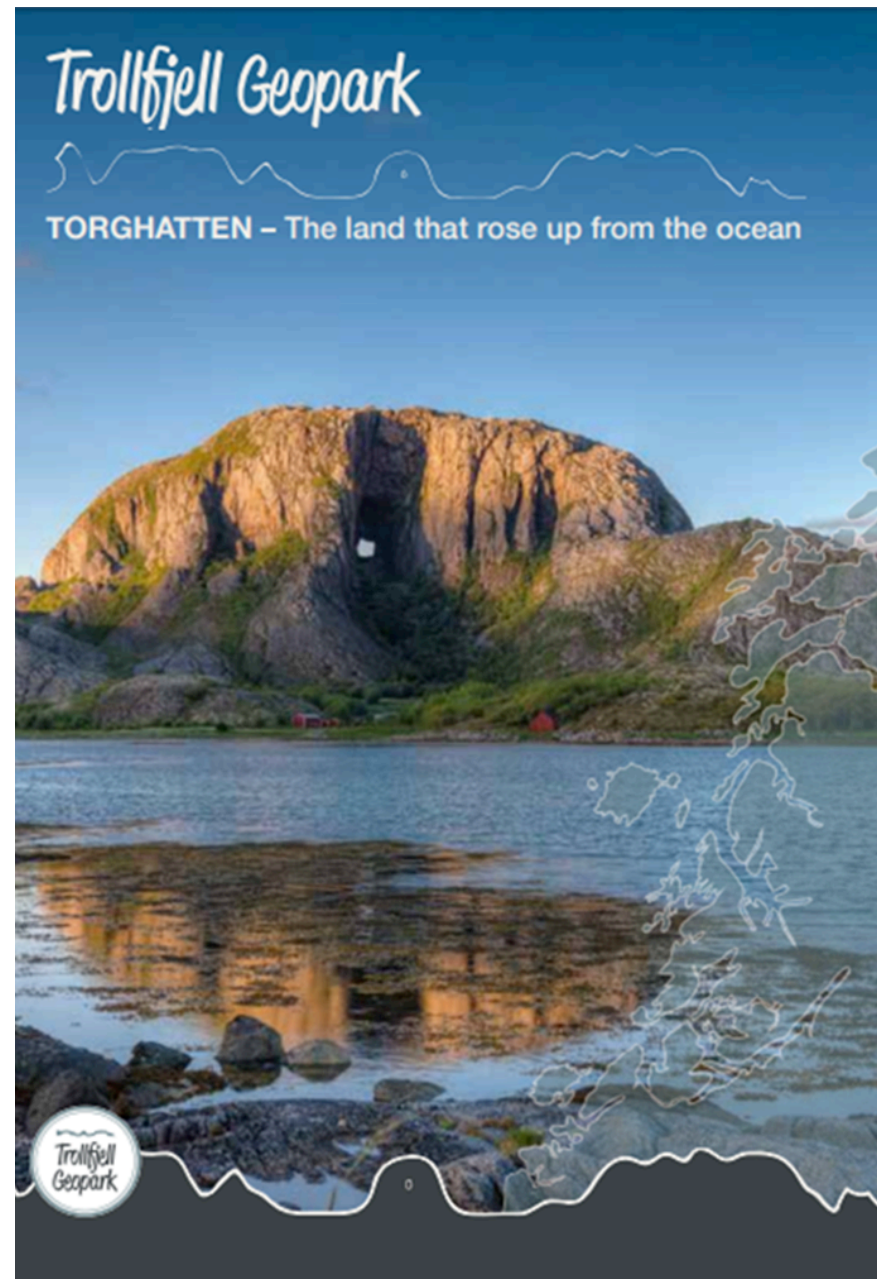
Image: Brochure produced by Trollfjell Aspiring Geopark, detailing the folklore that shrouds the geological heritage within the Geopark.

Image: Carboniferous Sea Investigator activity leaflet developed for a specific site in Marble Arch Caves UNESCO Global Geopark.

5.6 Activity packs/areas

A number of partners have developed self-led activity trails trails including Geopark Shetland and Marble Arch Caves Global Geopark. This could be developed as an additional interpretative media and targeted to children/young people to enable them to fully explore an understand the uniqueness and importance e of these sites.

Approximate Cost: €1500 (Design and print of one activity trail)

Pros: a good way to target family groups, encourage children and adults to learn together and keep children occupied. Can be linked to relevant national curricula and can generate revenue if sold.

Cons: need storage space and need up-dating as aspects of the site change. Can be heavy on administration – need checking and missing materials replacing after use.

5.7 Low-tech interactive displays

Jigsaws, models, lift-flaps, revealer wheels etc.
Pros: can be very effective, relatively cheap and robust and generally they are tried-and-tested designs.

Cons: can be simplistic for adult audiences, they need daily checking to make sure everything works and there are no broken parts and they may need to be regularly re-set by staff (e.g. a jigsaw that has to be taken apart for the next child to use).

5.8 High-tech interactive displays

Pros: can be very effective and engaging.

Cons: usually complex and often expensive to produce and maintain, and can date as technology moves on. Also they need daily checking to make sure everything works.

Photo: This highly interactive Augmented Reality Sand Box exhibition installed in the Rock Stop in North West Highlands Geopark, Scotland which can be used to educate users about landscape formation, weathering and erosion, volcanoes and geo-hazards such as flooding.

5.9 Audio media

The development of short audio media clips should be considered. Fixed point, on-site devices as well as mobile forms of communication such as on websites etc could be considered. This is an excellent medium for presenting dialogue in a range of languages and is also useful for individuals with visual impairments and mobility issues.

Approximate Cost: Short Audio Clip (approx 5 minutes in length) €1,500 (Fixtures and Fittings if required range up to €1200 per unit)

Pros: can be very evocative, especially if the presentation makes good use of sound effects and creative editing. It is a good medium for presenting dialogue, first-person narrative, bi- and multi-lingual content and for people with visual impairments. Encourages visitors to look and listen at the same time. Audio tours can make use of visitors' own equipment, such a smart-phones, are a good aid for orientation and can avoid the need for permanent installations in sensitive locations. Mobile phone audio tours can generate automatic evaluation feedback and potentially provide an income.

Cons: headphones can isolate visitors from one-another, Initial out-lay for equipment can be expensive and equipment will need to be checked regularly and maintained.

5.10 Tactile media

Pros: excellent media for people with visual impairments and extends the sensory experience for sighted visitors. Can be used as part of a rubbing trail or activity pack for children.

Cons: not good for complex or colour images. Need to be designed of a suitable hard-wearing material for high levels of use.

5.11 Labels and plaques

Pros: a simple and usually very cheap way to identify something and communicate a few key facts or basic messages about it. Relatively easy to up-date or replace and is a recognised way to identify a building, its historic occupants etc.

Cons: can only contain a small amount of information.

5.12 Audio-visual media

Pros: can be a very effective and immersive experience and a good way to introduce a site and a range of themes and messages in a single presentation. If combined with sub-titles, BSL translation and audio-description they are excellent for people with sensory impairments. When produced digitally they can be used across a number of digital media. Can be projected onto blank walls or glass instead of screens, thus avoiding intrusion in an historic building.

Cons: relatively expensive to produce, can be distracting, can date as technology moves on and can result in bottlenecks as visitors emerge from a presentation in a group.

5.13 Multi-media and virtual reality

Pros: computer-based games and interactives have a strong appeal to children and young people and allow the presentation of a large amount of material in a small physical space. Can provide a virtual tour of a site or building especially for people with mobility impairments. Digital presentations can potentially be transferred to other media such as a website. Provides opportunities for volunteers, especially young people, to help new users by showing them what to do.

Cons: can exclude audiences who are not comfortable with technology, are relatively expensive, usually only used by one or two people at a time and can date as technology moves on.

Photo: An outdoor interpretation panel at Kenezero National Park, Russia which is suitable for people who are fully sighted and due to a braille element on the panel, it is also inclusive for visually impaired people.

Photo: GeoVR exhibition in Magma UNESCO Global Geopark visitor centre, where users can virtually visit Geopark sites within Magma UNESCO Global Geopark and partner Geoparks across the world.

5.14 Websites

Websites are now deemed a vital tool for marketing, pre- and post-visit information and activities which reach a very large audience.

Pros: Can be used for downloadable audio tours (podcasts), apps and site leaflets, and can contain interactive games and activities. Can be used to provide up-to-date reports such as recent bird sightings or archaeological finds and can contain a special education area for teachers with curriculum related activities and learning exercises. Can reach large audiences globally.

Cons: can exclude visitors without access to the internet and needs regular up-dating and maintenance.
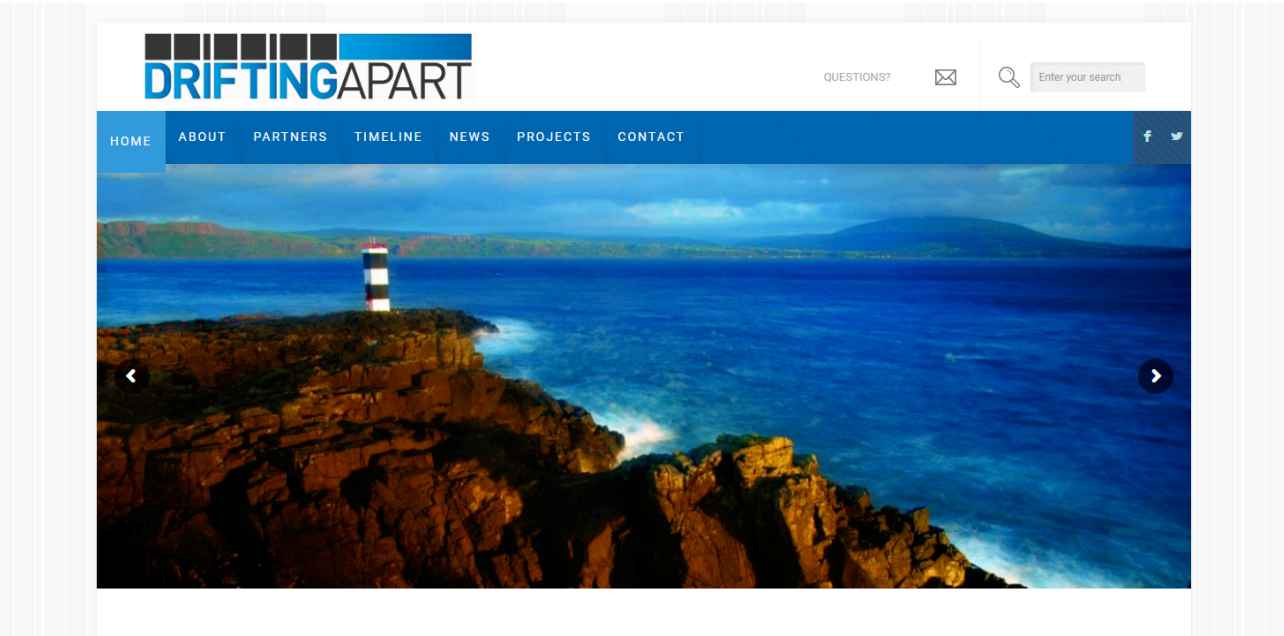
Image: the Drifting Apart project website includes information about the project, the geological Storyline which links all of the partner areas together, it has documented the project outputs as they have occurred, such as educational teacher training events, the exciting launch of geoVR at Magma UNESCO Global Geopark, and development of partner geocities and centres. It also has a link to all the sites which have been developed as part of the Trans-National Visitor Trail.
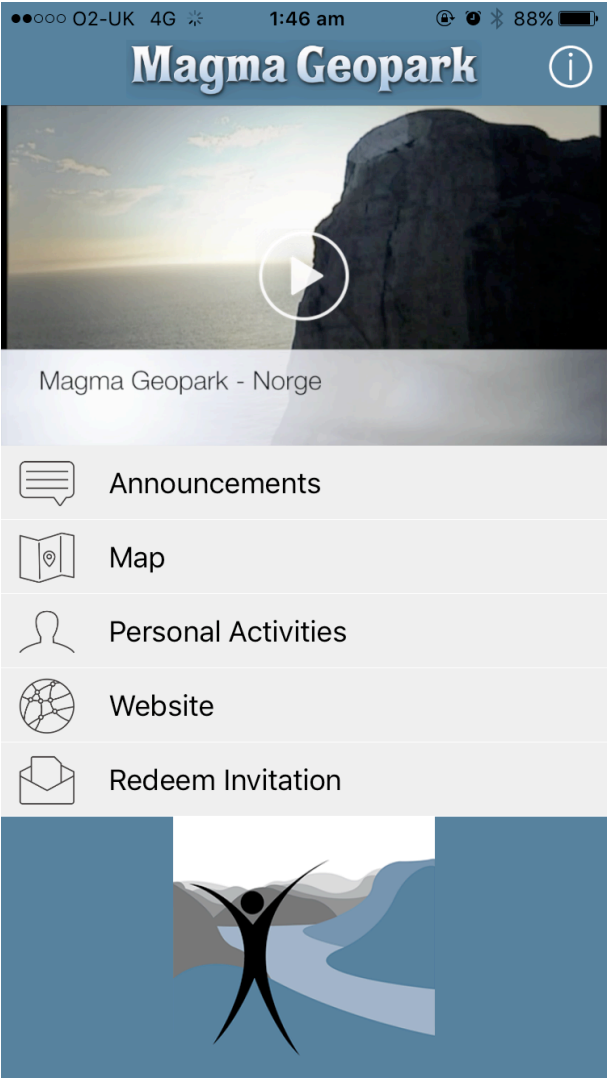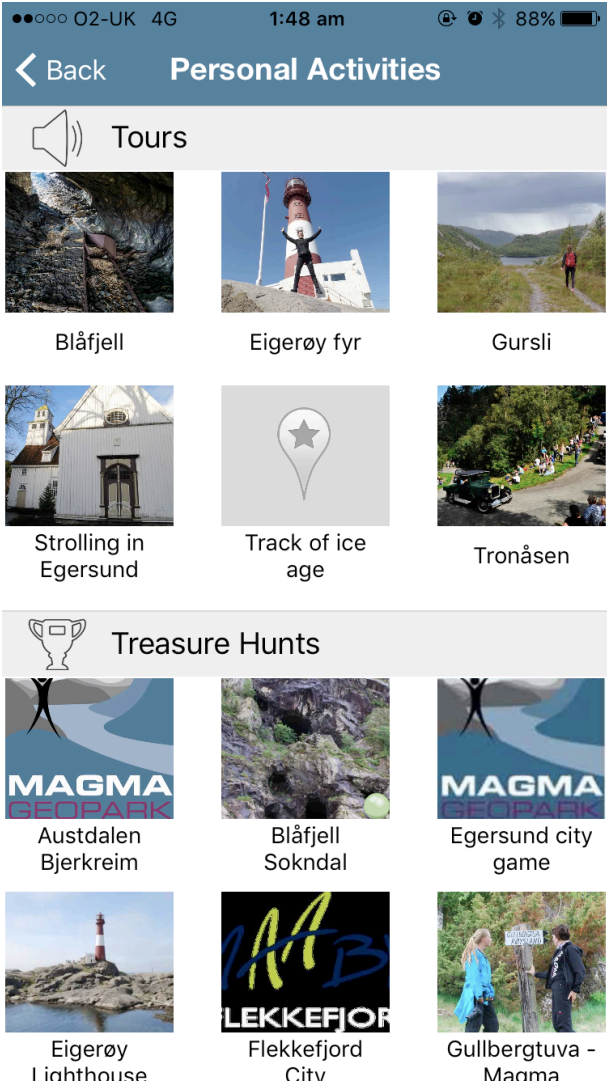
5.15 Interactive app

Interactive apps are an up to date method of providing interpretation. They can be downloaded prior to visits and provide background information, maps, directions and visitor trails.

Pros: Can be used for audio tours, and can contain interactive visitor trails, games and activities. Can be valuable tool for providing directions and maps. Can reach large audiences globally.

Cons: can exclude visitors without access to the internet, may not be suitable for Geoparks with limited mobile connection and needs regular up-dating and maintenance.

Approximate Cost: €10,000

Images: interactive app utilized by Magma UNESCO Global Geopark to provide important information on the Geo park such as activities, sites and accommodation.

5.16 Arts media

Pros: the use of the visual arts and poetry have a strong creative appeal and are good ways of engaging audiences at an emotional level, enhancing the sense of place. Public art can be a pleasing feature for regular visitors each time they come and is a good way to involve local people and schools. Can be a good way to celebrate a site, event or collection.

Cons: may not be effective at communicating specific messages and can be expensive.

During the course of the Drifting Apart Project, a Trans-National Visitor Trail has been established through the development and enhancement of 56 individual sites and 15 geo-centres across 7 countries. This has been achieved through the use of a wide range or interpretive mediums including indoor and outdoor interpretation panels, development of sites using interpretive furniture and enhanced by the use of publications.

Annex I: Types of Interpretative Media

Outdoor panels	**Pros:** durable, long-lasting and low maintenance; they reach a large audience over time and are good for presenting concise text, photographs and other illustrations. They can also include interactive elements such as tactile plaques, audio and lift flaps.	**Cons:** can be intrusive so think carefully about where they are placed so as not to detract from the landscape, townscape, architecture or archaeology. Panels are used everywhere so can give rise to 'not another panel' fatigue.
Indoor graphic panels and displays	**Pros:** durable, long-lasting and low maintenance; they reach a large audience over time and are good for presenting concise text, photographs and other illustrations. They can cover large spaces relatively cheaply, be a good backdrop to other media and include interactive elements such as audio, video or computer interactives.	**Cons:** no real disadvantages, but try not to rely on this medium on its own.
Live interpretation: guided walks, tours and demonstrations	**Pros:** regarded as the most effective interpretive medium as an experienced interpreter can be responsive to their audience tailoring each presentation appropriately. It provides opportunities for staff and volunteers to have direct contact with visitors. Can incorporate BSL or hearing-loops for hearing impaired visitors.	**Cons:** usually only reaches a limited audience and be restricted to when the tour etc. can take place. Can be expensive in terms of administration, marketing and staff costs.
Live interpretation: performances and theatrical events	**Pros:** costumed characters can be powerful interpretive tools, creating a very evocative sense of place. Can create an entertaining spectacle that becomes part of an enjoyable experience.	**Cons:** usually only reaches a limited audience and be restricted to when the performance can take place. Requires a suitable performance space, good weather if outdoors and can be expensive in terms of administration, marketing and staff costs.
Publications	**Pros:** all can contain information in appropriate amounts to the target audience. Leaflets and booklets can be small enough to carry around a site, aid orientation and provide information at a relatively small cost. Guidebooks can contain more detailed information, are a take-home memento and can help market a site when shown to others. Can be revenue generating (especially guidebooks) and large-print options can be provided for visually impaired people.	**Cons:** need storage space and need up-dating as aspects of the site change. Can be off-putting when poorly designed.
Activity packs/areas	**Pros:** a good way to target family groups, encourage children and adults to learn together and keep children occupied. Can be linked to relevant national curricula and can generate revenue if sold.	**Cons:** need storage space and need up-dating as aspects of the site change. Can be heavy on administration – need checking and missing materials replacing after use.

Low-tech interactive displays Jigsaws, models, lift-flaps, revealer wheels etc.	**Pros:** can be very effective, relatively cheap and robust and generally they are tried-and-tested designs.	**Cons:** can be simplistic for adult audiences, they need daily checking to make sure everything works and there are no broken parts and they may need to be regularly re-set by staff (e.g. a jigsaw that has to be taken apart for the next child to use).
High-tech interactive displays	**Pros:** can be very effective.	**Cons:** usually complex and often expensive to produce and maintain, and can date as technology moves on. Also they need daily checking to make sure everything works.
Audio media	**Pros:** can be very evocative, especially if the presentation makes good use of sound effects and creative editing. It is a good medium for presenting dialogue, first-person narrative, bi- and multi-lingual content and for people with visual impairments. Encourages visitors to look and listen at the same time. Audio tours can make use of visitors' own equipment, such a smart-phones, are a good aid for orientation and can avoid the need for permanent installations in sensitive locations. Mobile phone audio tours can generate automatic evaluation feedback and potentially provide an income.	**Cons:** headphones can isolate visi-tors from one-another, Initial out-lay for equipment can be expensive and equipment will need to be checked regularly and maintained.
Tactile media	**Pros:** excellent media for people with visual impairments and extends the sensory experience for sighted visitors. Can be used as part of a rubbing trail or activity pack for children.	**Cons:** not good for complex or colour images. Need to be designed of a suitable hard-wearing material for high levels of use.
Labels and plaques	**Pros:** a simple and usually very cheap way to identify something and communicate a few key facts or basic messages about it. Relatively easy to up-date or replace and is a recognised way to identify a building, its historic occupants etc.	**Cons:** can only contain a small amount of information.
Audio-visual	**Pros:** can be a very effective and immersive experience and a good way to introduce a site and a range of themes and messages in a single presentation. If combined with sub-titles, BSL translation and audio-description they are excellent for people with sensory impairments. When produced digitally they can be used across a number of digital media. Can be projected onto blank walls or glass instead of screens, thus avoiding intrusion in an historic building.	**Cons:** relatively expensive to produce, can be distracting, can date as technology moves on and can result in bottlenecks as visitors emerge from a presentation in a group.

Multi-media	**Pros:** computer-based games and interactives have a strong appeal to children and young people and allow the presentation of a large amount of material in a small physical space. Can provide a virtual tour of a site or building especially for people with mobility impairments. Digital presentations can potentially be transferred to other media such as a website. Provides opportunities for volunteers, especially young people, to help new users by showing them what to do.	**Cons:** can exclude audiences who are not comfortable with technology, are relatively expensive, usually only used by one or two people at a time and can date as technology moves on.
Websites and Apps	**Pros:** a vital tool for marketing, pre- and post-visit information and activities which reaches a very large audience. Can be used for downloadable audio tours (podcasts) and site leaflets, and can contain interactive games and activities. Can be used to provide up-to-date reports such as recent bird sightings or archaeological finds and can contain a special education area for teachers with curriculum related activities and learning exercises.	**Cons:** can exclude visitors without access to the internet and needs regular up-dating and maintenance.
Arts Media	**Pros:** the use of the visual arts and poetry have a strong creative appeal and are good ways of engaging audiences at an emotional level, enhancing the sense of place. Public art can be a pleasing feature for regular visitors each time they come and is a good way to involve local people and schools. Can be a good way to celebrate a site, event or collection.	**Cons:** may not be effective at communicating specific messages and can be expensive.

# Annex II: Interpretative Media Examples

Note: *prices are based on 2018 price checks from suppliers based in Northern Ireland and the republic of Ireland.*

Option 1: Tall single post

Specification
200mm x 200mm x 2400mm square post
Pressure treated larch with four-way weather top.
Dark brown weather seal stain
Routered for inset panels x 4
Routered v-cut lettering for each site

4 x acrylic panels – (size 150mm x 150mm x 5mm)
Fitted to routered sections in post
Rounded corners.
Graphics applied as reverse printed clear vinyl and backed with white.
Logos and maps same for all sites
15 posts – each with individual site name
Logo panels same on each site

Costs
Single unit cost approximately €450
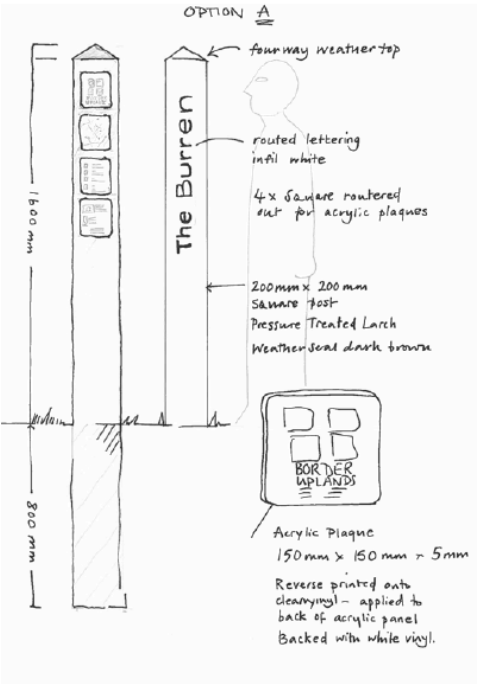
Option 2: Low height two-post single panel

100mm x 100mm x 800mm square post
with slanted weather top.
Dark brown weather seal stain.
200mm x 19mm x 700mm treated timber panel –
routered for four insert acrylic panels.
4 x acrylic panels – (size 150mm x 150mm x 5mm)
fitted to routered out sections in post.
Rounded corners. Graphics applied as reverse printed clear vinyl and backed with white.
Logos and maps same for each site.
15 post and panel sets.
Same on each site.

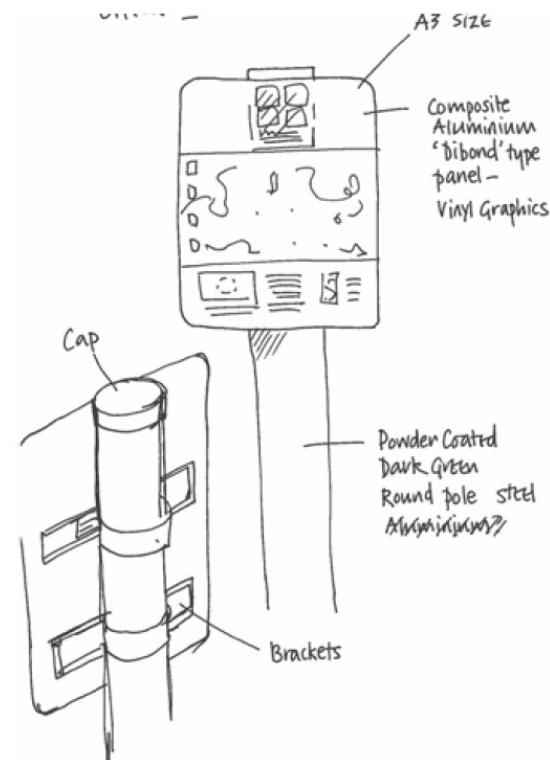**Costs**
Approximately €350
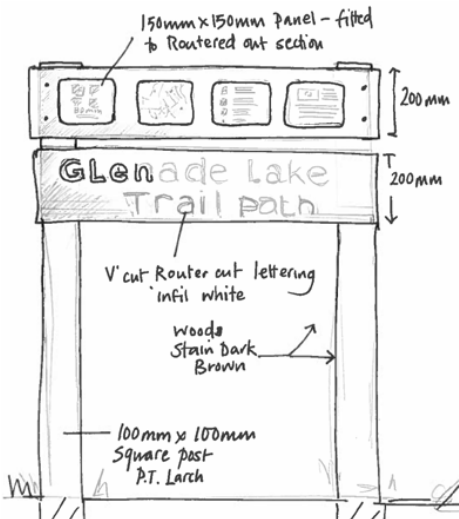
Option 3: Composite aluminium panel and post

Panel – printed vinyl onto 5mm composite aluminium panel. Rounded corners and fitted with rails and clamps to standard steel post with top caps. Post to be powder coated dark green.
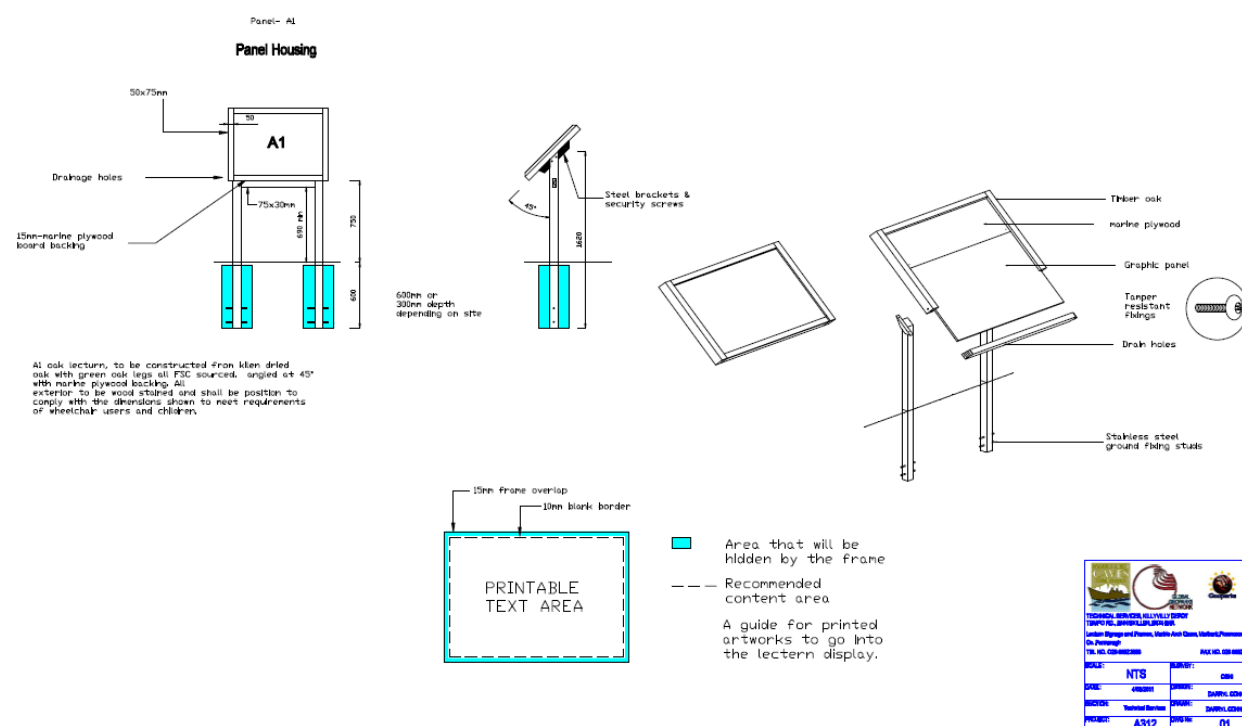15 sites – all the same.

Costs
Approximately €450

A3 SIZE

Composite Aluminium 'Dibond' type panel – Vinyl Graphics

Cap

Powder Coated Dark Green Round Pole Steel Aluminium?

Brackets

Option 4: Lecturn Style Panel

Costs
Approx €750 per panel Design, Fixtures & Fittings
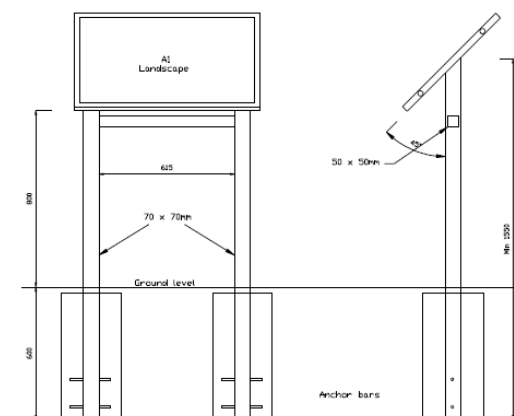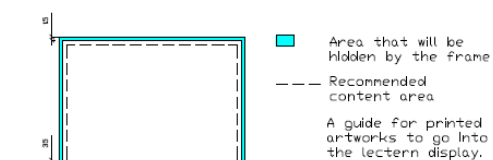
Type A:

Oak Lecturn

Type D:

A1 standard mild steel lectern

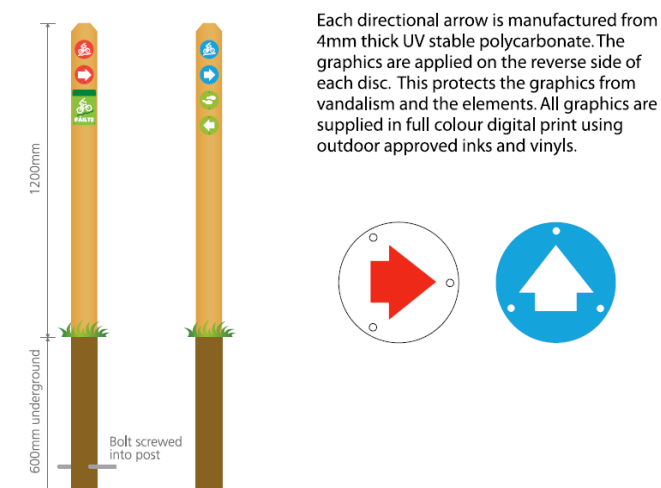
Mild steel frame and back tray with Zintec top frame unit.

Area that will be hidden by the frame

Recommended content area

A guide for printed artworks to go into the lectern display.

Option 5: Landscape Style Panel

Costs
Approx €750 per panel Design, Fixtures & Fittings

Timber Marker posts

Each directional arrow is manufactured from 4mm thick UV stable polycarbonate. The graphics are applied on the reverse side of each disc. This protects the graphics from vandalism and the elements. All graphics are supplied in full colour digital print using outdoor approved inks and vinyls.

Signal signs are used to display interesting points of information along a walking trail. A full colour acrylic sign plate which swivels out from the wooden post presents the information to the viewer, which is then returned inside the post for protection against the elements and vandalism.

Signal Sign

Hinge

Hinge

350mm

1800mm

Indent in wooden post so that signal sign can be accessed. Printed sign rotates upwards from the centre of the post.
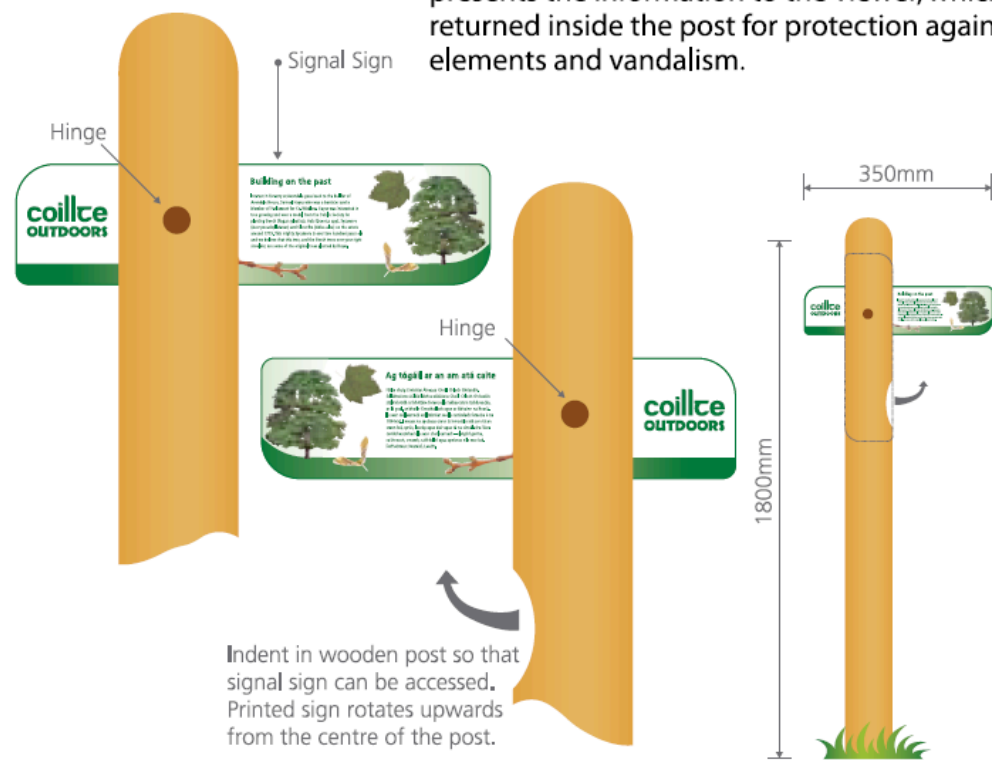
Timber Signal Signs

Educational Classroom developed by Kenezero National Park,
funded through the Drifting Apart Project.