

PLASTIC-FREE YR WYDDFA

IMPACT REPORT (2022-2024)



PLASTIC-FREE YR WYDDFA IMPACT REPORT (2022-2024)

EXECUTIVE SUMMARY

Plastic-Free Yr Wyddfa was a two-year pilot project (Oct 2022 – Oct 2024) led by Eryri National Park Authority to tackle the persistent litter problem on Yr Wyddfa, one of Wales' most popular destinations. Our ambitious goal was to make Yr Wyddfa the first mountain in the world to achieve a “plastic-free” status by eliminating single-use plastic litter and pollution. Over the course of the project, we launched a series of **trial campaigns and initiatives** targeting visitors, local businesses, youths, and the wider community. We also worked on policy changes and infrastructure improvements aimed at reducing single-use plastics at the source.

During the pilot, **we engaged hundreds of local students and volunteers**, audited dozens of businesses, and rolled out creative communication campaigns that garnered national attention. Notable efforts included a Plastic-Free Business accreditation scheme, the removal of bins from key car parks to

encourage a “pack it out” ethos, installation of water refill stations around the mountain, youth-led innovation challenges, and viral awareness campaigns like the “Bananacam” and a fantasy-inspired litter prevention campaign. We collaborated closely with Bangor University to apply behavioural science (including the COM-B framework) in interventions, leading to a measured reduction in litter along trial hiking paths.

By project's end, **Yr Wyddfa was not yet “plastic-free”**, as roughly 1.5 tonnes of litter were still collected on the mountain in 2025. However, **significant progress** was made: public awareness of the issue grew, a network of eager businesses and young “Plastic-Free” champions was established, and we demonstrated effective strategies to change visitor behaviour. The insights gained — from what worked well to the challenges we faced — will inform our next steps. We are committed to building on this foundation, continuing successful programs, and scaling up our efforts to protect yr Wyddfa from further microplastic pollution.



(All data and statistics in this report are from the 2022–2024 Plastic-Free Yr Wyddfa pilot project.)

TABLE OF CONTENTS

4

INTRODUCTION AND CONTEXT

5

PROJECT PRINCIPLES

Maintaining and Respecting Our Environment
Sustainable Communities
Future Generations

6

BUSINESS ENGAGEMENT INITIATIVES

Plastic-Free Yr Wyddfa Business Scheme
Leading by Example (ENPA Internal Actions)

9

RESEARCH AND BEHAVIOUR CHANGE INITIATIVES

Academic Collaboration (Bangor University & COM-B)
Bin Removal Pilot (Changing Visitor Behaviour)

13

YOUTH ENGAGEMENT AND EDUCATION

15

VOLUNTEER AND COMMUNITY INITIATIVES

“Fill a Bag, Win a Bottle” Litter Pilot
The Big Yr Wyddfa Clean-Up Event

19

COMMUNICATIONS AND AWARENESS CAMPAIGNS

Mabinogion Fantasy Campaign
Bananacam Project
COM-B Survey Campaign
Plastic *Peak* Short Film

24

PROJECT OUTCOMES

Plastic-Free Status: Challenges and Lessons
Key Achievements

27

NEXT STEPS



INTRODUCTION AND CONTEXT

Yr Wyddfa attracts around **600,000 walkers each year** (plus about **120,000** who take the mountain railway to the summit). This heavy visitation unfortunately comes with significant litter: in 2022 alone, over **550 kg** of rubbish was collected by the Caru Eryri volunteer initiative on Yr Wyddfa. Microplastic pollution is a particular concern – a recent survey found that about **5%** of the surface material at the summit consists of microplastics. Recognizing the scale of the issue, and with **82%** of mountain users supporting a ban on single-use plastics on the mountain (Yr Wyddfa Visitor Survey 2024), we embarked on a mission to drastically reduce plastic litter in this fragile environment.

In October 2022, we (the Eryri National Park Authority) launched the **Plastic-Free Yr Wyddfa** pilot project – a two-year campaign to make Wales' most popular tourist destination, and Europe's busiest summit, the world's first "plastic-free" mountain. The project aimed to end the perennial litter problem on Yr Wyddfa and stop microplastic pollution at its source. We defined a *Plastic-Free Zone* in January 2023 covering the mountain itself and its key gateway villages (Llanberis, Waunfawr, and Beddgelert), focusing our efforts on this area.

From the outset, we understood that achieving a completely plastic-free mountain would be extremely challenging. The project adopted a **"working towards"** approach – rather than a single grand solution, we ran a series of trial campaigns and interventions to find out what works. These ranged from encouraging responsible visitor behaviour, to engaging local communities and businesses, to making infrastructure changes. This report details the work undertaken, the outcomes achieved, and lessons learned, as our pilot drew to a close at the end of October 2024.



PROJECT PRINCIPLES

Our efforts were underpinned by three key principles that aligned with both local and national sustainability goals:

Maintaining and Respecting Our Environment

We are committed to safeguarding the natural and built environment of Eryri. This means balancing the visitor economy with the custodianship of our landscapes (as highlighted in the Eryri, Gwynedd and Conwy Sustainable Visitor Economy Plan). Through Plastic-Free Yr Wyddfa, we sought to instill a stronger sense of responsibility in both residents and visitors for caring for Yr Wyddfa's environment. Every action was measured against the standard of respecting nature and reducing human impact.

Sustainable Communities

Plastic-Free Yr Wyddfa encourages a localized shift toward a circular, zero-waste visitor economy, echoing the Welsh Government's **Beyond Recycling** strategy. Our project initiatives aimed to boost the local economy (e.g. supporting green businesses) while simultaneously cutting the local carbon footprint and reliance on single-use products. This aligns with the National Park Authority's own Net Zero Carbon targets. In practice, this principle meant working closely with community stakeholders to reduce waste, reuse materials, and promote sustainability at a local level.

Future Generations

Our project gives a voice to young people on issues that will shape their future. We support youth in taking action on litter and climate change, in line with the EUROPARC Youth Manifesto's call to involve younger generations in park stewardship. Plastic-Free Yr Wyddfa included educational components to teach the importance of caring for the National Park, and created opportunities for young people to lead and innovate. By combining health, well-being, and environmental action, we aimed to improve youth well-being and build a legacy of passionate, informed future custodians of Yr Wyddfa.



BUSINESS ENGAGEMENT INITIATIVES

One of the pilot's priorities was to engage the local business community, especially those catering to visitors, in the mission to cut down single-use plastics.

Plastic-Free Yr Wyddfa Business Scheme

A pivotal element of the project was the **Plastic-Free Yr Wyddfa Business Award Scheme**, which recognised and supported businesses that commit to reducing single-use plastics in their operations. We focused initially on local food & drink establishments, accommodation providers, and outdoor activity businesses, many of which are “last stop” shops supplying visitors before they head up the mountain. These businesses are key allies, as they can influence a huge number of visitors by offering plastic-free alternatives and spreading the leave-no-trace message.

Over the course of the project, we **audited 44 local businesses** against a comprehensive sustainability framework. Using an audit checklist of over 60 questions, we reviewed products sold, packaging used, waste management practices, customer engagement, and general operations. Each business visit resulted in an action plan and an accreditation score at one of three levels: **Llydaw (Bronze)**, **Glaslyn (Silver)**, or **Copa (Gold)**. This scoring system (named after lakes and the summit of Yr Wyddfa) set a baseline and improvement target for each business. We agreed on continuous improvement goals with owners/managers and followed up to encourage progress.



We updated the audit framework in line with new legislation in 2024 and evolving best practices in sustainability. By 2025, we even introduced a self-assessment option to streamline re-accreditation for businesses updating their status. The scheme wasn't about one-off awards – it was about fostering an ongoing commitment. Businesses embraced resources we provided, like regional Refill station maps and **“Plastic-Free Adventure”** infographics to educate customers. Several partner initiatives (e.g. Surfers Against Sewage's plastic-free program, Keep Wales Tidy guidance, Refill Wales) were woven into our framework to amplify impact beyond our own checklist.



LEADING BY EXAMPLE (ENPA INTERNAL ACTIONS)

We knew it was important to **lead by example** and address our own operations. Early in the project, we audited all products sold at the National Park's Information Centres and the packaging used by our suppliers. As of late 2022, the Authority held over **2,000** stock-keeping units (SKUs) from 70+ suppliers across three visitor centres. Many suppliers had already begun eliminating single-use plastic packaging, but our audit identified remaining problem areas and helped us push for improvements. By December 2022, we completed a full stock audit and sent a sustainability self-assessment questionnaire to each supplier to encourage better packaging practices.

Our own sites also pursued Plastic-Free accreditation through the same business framework we used externally. The café at Plas Tan y Bwlch and the café at Yr Ysgwrn both earned **Llydaw (Bronze)** status, with commitments to reach Glaslyn and Copa levels respectively by further reducing single-use plastics.

In 2024, we formalised our commitment by implementing a **Single-Use Plastics Policy** for the Eryri National Park Authority. This internal policy sets out a clear hierarchy for reducing and ultimately eliminating single-use plastics in our procurement and activities. It also provides staff with guidance on sourcing sustainable alternatives.

The new Single-Use Plastics Policy and the internal audit process have laid a foundation for ongoing improvement. Our management is on board, and the practices we've put in place will continue to be monitored and advanced. In short, we've embedded the plastic-free ethos into the Authority's day-to-day operations.



RESEARCH AND BEHAVIOUR CHANGE INITIATIVES

Understanding *why* people litter and how to encourage better behaviour was a critical part of the project. To that end, we collaborated with academic experts and tried innovative interventions on the mountain.

Academic Collaboration (Bangor University & COM-B Framework)

Our partnership with **Bangor University** proved invaluable for injecting behavioural science into our campaigns. We worked with Professor John Parkinson and his team to apply the **COM-B framework** – a behaviour change model focusing on *Capability*, *Opportunity*, and *Motivation* as drivers of behaviour. Using this framework, we designed interventions that addressed the root causes of littering. For example, if people lack the *capability* (knowledge or tools) to carry out their waste, or the *opportunity* (like a convenient bin or bag) to dispose of it properly, or the *motivation* to do so, each of these factors needs to be tackled.

In 2023 and 2024, Psychology MSc students from Bangor University helped us conduct **behavioural experiments** on two popular ascent paths (Watkin Path and Llanberis Path). Trained student researchers engaged with walkers face-to-face using a prepared script grounded in psychological techniques (like motivational interviewing). We wanted to see if a friendly chat at the start of a hike - covering preparedness, personal responsibility, and the impact of litter - would result in less littering.

The results were encouraging. On the Watkin Path, our trial saw a **60%+ reduction** in the number of litter items observed during the experiment period. We also gathered **149** signed “plastic-free pledges” from hikers as part of this engagement. Notably, neither the weather nor the initial cleanliness of the path seemed to affect how much litter was dropped – meaning even on a messy or rainy day, our intervention still made a difference. Litter was mostly found at spots where people tend to stop (popular rest points or viewpoints), underlining that human activity areas need particular attention.



Professor John Parkinson, who served as a Behavioural Science advisor to the project, reflected on these findings:

Prof. John Parkinson (Bangor University) noted: “People litter for a variety of reasons and not just because they don’t care (COM-B). A good example is the *Opportunity* one of having no bin to put rubbish in and (the *Capability* one) of not having planned in advance to bring a bag to take rubbish away.

People are motivated to protect the Park (picking up other people’s litter) and so this should be a key goal. In other words, see this as an opportunity to promote community citizenship in a positive and constructive way, rather than focusing on trying to punish wrongdoers.

That said, there are clear issues on the periphery of this such as illegal/fly camping (this year, again, there have been campers on the shores of Padarn with some regularity, leaving rubbish etc.) as well as overnight camper vans (again having a negative impact for everyone else, both antisocial behaviour and rubbish). Currently, there is no perceived negative consequence for people who do this, and so the behavioural norm is growing that these are acceptable behaviours in the National Park.

Removing bins is a good way to support personal responsibility, but it needs to be linked with campaigns to explain **why** and **how** people should behave.

An overarching conclusion is that we need to understand *why* people are behaving in a certain way (e.g. using COM-B) to then design a solution. And we should always be promoting the good behaviours. Behaviour change that emphasises the positive target behaviour tends to be much more effective than attempts to reduce bad behaviour (though having visible punishment/consequences for bad behaviour can be useful deterrents, as long as you clearly communicate the *why* and highlight the good behaviours to aim for).

The ENPA–Bangor University work demonstrates the value of collaborating with academia, as well as the importance of using an evidence base to make decisions (rather than just relying on people’s ‘wise’ opinions).

Bangor University ran a model to test the significance of the face-to-face behaviour-change interventions on the Watkin and Llanberis paths in 2023 and 2024. The analysis came out statistically significant ($p = 0.033$), meaning the intervention had a real effect on reducing litter on both paths. If you test each path separately, both are independently significant:

- Watkin path: $p = 0.00036$
- Llanberis path: $p = 0.03142$

As you can see, the impact on the Watkin path was greater than on the Llanberis path. The two likely reasons for this are that (1) the researchers were able to speak with a greater proportion of walkers on the Watkin path, and (2) there is a less engaged and experienced demographic of mountain user on the Llanberis path.”

As a direct outcome of this collaboration, we incorporated a new **behavioural communication framework** into our Volunteer Wardens’ handbook (and shared it with other interested groups). This framework, based on what we learned, guides our staff and volunteers on how to talk to visitors about litter in a positive, effective way. It’s a lasting change that will continue to influence visitor interactions on Yr Wyddfa.

We plan to train more of our teams in the COM-B methodology so that future public-facing messages and campaigns can be even more targeted and evidence-based. Prof. John Parkinson’s role has been formalised into a voluntary “Behavioural Science Advisor” position to continue advising us. He has already helped connect us with Bangor University’s Sports Psychology department to explore new research and pilot projects addressing litter and outdoor recreation behaviour.

BIN REMOVAL PILOT (CHANGING VISITOR BEHAVIOUR)

To encourage personal responsibility for litter, we decided to experiment with removing rubbish bins in strategic locations. In theory, if visitors know there are no bins, they must be prepared to carry out their waste –but this only works if they understand why bins are removed and are motivated to do the right thing.

In early 2023, we removed the bins from three popular car parks at the base of Yr Wyddfa (Nant Peris, Cwellyn, and Rhyd Ddu). These sites often had overflowing bins or were misused for dumping household waste, creating an extra burden on our staff and an eyesore in the landscape. Before taking this step, we worked with Bangor University to design informative signage based on the COM-B insights, evolutionary and gamification psychology – signs that explained the “why” (protecting the mountain) and “how” (asking people to take their litter home) in a positive way.

We closely monitored these **bin removal pilots**. Bangor University researchers helped analyze the outcomes, comparing areas with our new signs to areas without signs. The initial results varied: in places where no explanatory signage was present, litter actually increased (indicating some people were caught off-guard or resisted the change). However, in areas with the COM-B-informed signage, litter did not significantly worsen, and importantly **complaints dropped to near zero** within weeks. We also saw an immediate stop to the frequent incidents of fly-tipping and trash overflow that had plagued these car parks previously. This suggests that while removing bins can be effective, it must be accompanied by strong communication to set new norms.



We surveyed visitors about their attitudes on the bin situation. Only about **10%** of mountain users reported that the lack of bins was a major challenge for them in taking responsibility for their litter. In fact, over **69%** of users told us they had **no difficulty managing their own rubbish**, and more than half (**54%**) were already aware that bins are only provided at the summit station and main car parks. These figures are encouraging – they show that most visitors can adapt to a pack-it-out approach, especially if they come prepared.

The bin removal experiment has so far been considered a success anecdotally. Through 2024 and 2025, we did not see an uptick in litter in those no-bin areas, nor did serious littering incidents recur there, indicating a new norm might be taking hold. The next step we foresee is to try removing a bin from a higher-risk, higher-traffic area to truly test this approach's limits. We will continue to use careful messaging and monitor any such pilot closely. Over the long term, scaling back bin infrastructure (and the significant servicing costs that come with it) could allow us to redirect resources to other preventive measures, provided visitors remain cooperative and informed.



YOUTH ENGAGEMENT AND EDUCATION

Engaging young people was central to Plastic-Free Yr Wyddfa – after all, the mountain and its future belong to them. We wanted to educate and empower youth to be environmental champions.

During the project, our officers delivered presentations and workshops at **13 secondary schools and 21 primary schools** across North Wales. Through school assemblies and classroom sessions, we introduced students to the Plastic-Free Yr Wyddfa initiative, the issue of litter pollution, and ways they can help. These outreach efforts not only raised awareness among hundreds of pupils, but also built closer ties between local schools and the National Park.

Our marquee youth event was **COPA1**, the first youth environmental summit on Yr Wyddfa, held in September 2024. (COPA is a play on “COP” (Conference of Parties) with a local twist as it also means “summit” in Welsh.) We designed COPA1 as a high-profile platform for young people (aged 12–18) to voice their ideas and become stakeholders in the mountain’s future. By partnering with *Keep Wales Tidy*, we sought to inspire the “climate ambassadors of tomorrow” through a mix of competition, innovation, and outdoor experience.



To earn a place at the summit, students participated in a region-wide challenge. We invited youth to submit short video pitches addressing problems and solutions related to litter, communication, policy, or innovation on Yr Wyddfa. Our team provided educational resources aligned with the national curriculum to help guide their thinking, and we toured schools to promote the competition. The response was fantastic: by the deadline in May 2024, over **200 students** from 8 different secondary schools had sent in **79** creative video ideas.

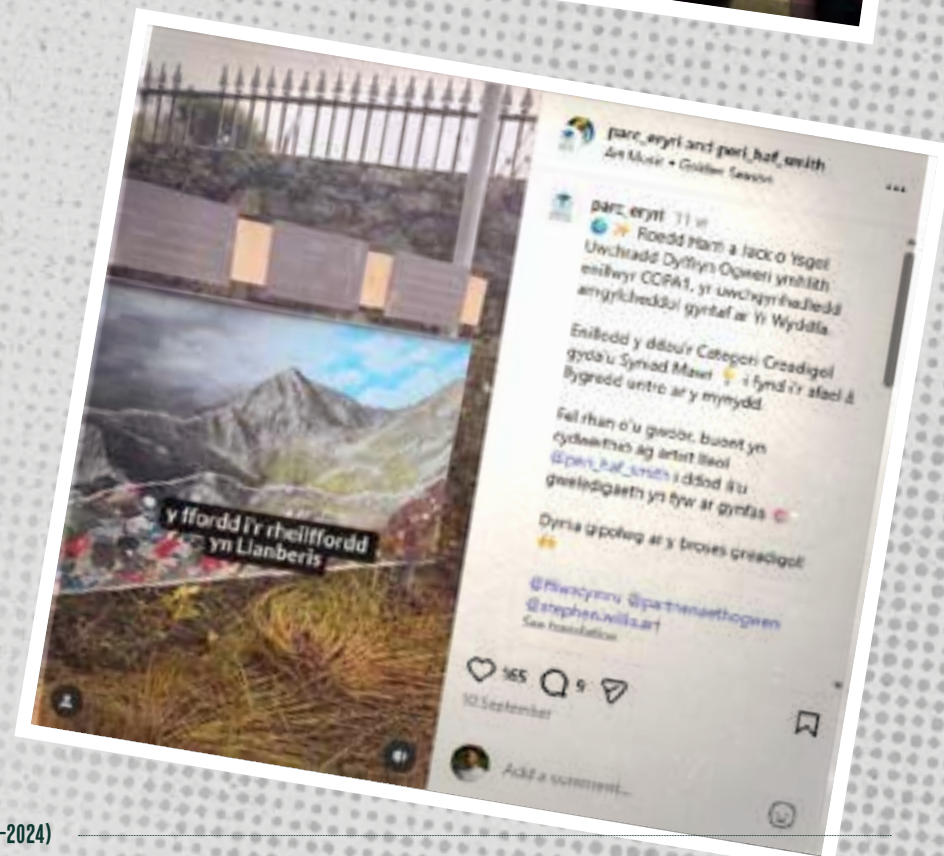
On the day of COPA1, the shortlisted teams (the best pitches from each category) gathered on Yr Wyddfa for a series of “incubator” workshops and a live pitching session. The energy and creativity were palpable. Ultimately, winners were chosen in each category, and **each winning team received a £1,500 development grant** to turn their idea into reality. The winning ideas were impressive, for example: one team invented a 3D-printed gadget that hooks to your belt for carrying litter bags, another conceptualised a large multimedia art installation to raise awareness, and a third proposed a prize-draw incentive for volunteer litter pickers.

Tim Wort, Education Manager at Keep Wales Tidy, captured the spirit of the event when he said:

“Tackling plastic pollution demands innovation and fresh perspectives. That’s why we’re excited to support COPA1, an impactful initiative empowering young minds with a groundbreaking challenge. It serves as a launchpad for action, ownership, and solutions that can truly make a difference.”

COPA1 proved to be an effective way not only to generate fresh ideas, but also to get young people personally invested in protecting Yr Wyddfa. Many of the participants had never been involved in something like this; by presenting their ideas and ascending the mountain, they forged a personal connection with the place and the issue. The event also strengthened our relationships with schools and demonstrated the value of youth-focused environmental engagement.

(COPA1 was generously funded by the National Lottery Community Fund and Bangor University, highlighting the strong support for youth engagement in our community.)



VOLUNTEER AND COMMUNITY INITIATIVES

Our Volunteer Wardens and Caru Eryri work tirelessly for six months of the year, the true custodians of Yr Wyddfa, collecting litter and data to inform better decision-making in the Park. We are immensely grateful for their continued hard work.

Community volunteers and visitors themselves also played a major role in the Plastic-Free Yr Wyddfa project. We ran campaigns to encourage people to actively help with litter removal and to shine a light on the scale of the issue.

“FILL A BAG, WIN A BOTTLE” PILOT

In summer 2024, we trialed an incentive program to turn every mountain visitor into a potential volunteer. The **“Fill a Bag, Win a Bottle”** campaign invited walkers on the popular Pyg and Miners’ tracks (from Pen-y-Pass) to pick up any litter they found during their hike. Hikers could then bring the filled bag to our warden’s base at the end of their walk, where we would weigh it, collect the rubbish for proper disposal, and reward the participant with a **free reusable aluminium water bottle** branded for Plastic-Free Yr Wyddfa.

This pilot ran for 3 months at the peak of hiking season. In that time, **51 participants** took part and we collected **88 kg** of litter through their efforts. While those numbers may seem modest relative to overall visitor numbers, the campaign had a wider impact: it visibly demonstrated positive peer action on the trails. Walkers seeing others carry a litter bag were often inspired to pick up a few items themselves. The free bottle incentive was a small gesture that both thanked participants and equipped them with a tool to avoid single-use plastic (a reusable bottle) in the future.

From this trial, we learned that structured yet simple initiatives can activate a subset of motivated visitors. Not everyone will volunteer to pick up trash, but those who do can help remove significant amounts of litter and set a great example. We also gathered feedback that participants enjoyed the “treasure hunt” aspect of litter-picking and the opportunity to contribute tangibly to the mountain’s wellbeing.



THE BIG YR WYDDFA CLEAN-UP EVENTS

One of the most dramatic undertakings of the project was **The Big Yr Wyddfa Clean-Up** in September 2024 – a two-day intensive cleanup of some of the mountain's most remote and litter-ridden areas. This event was spearheaded by the British Mountaineering Council (BMC) in collaboration with Trash Free Trails, Plantlife, the Snowdonia Society (Cymdeithas Eryri), and the National Park Authority. It targeted the **Trinity Gullies** on Clogwyn y Garnedd, steep cliffside gullies near the summit that act as natural traps for windblown litter.

These high, rugged gullies are not only visually striking; they are ecological refuges for rare arctic-alpine plants and invertebrates. They are also frequented by winter climbers. Over the years, litter tossed (or lost) from the busy summit had accumulated in these nearly inaccessible chutes. To our knowledge, a thorough clean-up of the upper gullies had never been done before.

Over two days, a specialised team of professional rope-access technicians abseiled from near the summit into the gullies, while on the second day a ground team of **40 volunteers** approached from below to collect debris that was lowered down. The results were staggering: a total of **2,765 items** were removed from the rock faces. Among these, **809** were drink containers (with one particular energy drink brand, Lucozade, being the most commonly found. Other trash included discarded hiking equipment, food packaging, and concerningly, various construction materials.



© Claire Maxted/BMC



Cymdeithas Eryri
Snowdonia Society



Plantlife



The operation garnered significant media attention and served as a call to action for all residents and users of the mountain by highlighting that even the most remote parts of our landscapes are not spared from plastic pollution. Importantly, safety and education were integral: volunteers and climbers were briefed on the environmental sensitivities of the area (to avoid disturbing the rare species that live there) and on the behavioural science of littering (connecting back to our COM-B approach).

The Big Yr Wyddfa Clean-Up happened again in 2025, expanding its scope. This time, **50 volunteers** tackled litter in the upper Glaslyn bowl (near the popular Pyg Track route) while an expert mountaineering team returned to the Trinity Gullies. In the second year, an even greater haul of **4,282 items** of 'single-use pollution' was removed. An estimated 25% of those items were drink containers that **could have been avoided entirely if a Deposit Return Scheme (DRS)** for bottles was in place – a finding we've used to advocate for broader policy changes.



© Claire Maxted/BMC

PLASTIC PEAK SHORT FILM

To celebrate and share the story of these extraordinary community efforts (and our youth initiatives), we commissioned a short documentary film titled **"Plastic Peak."** This 16-minute film follows some of the participants of the Big Yr Wyddfa Clean-Up and the COPA1 youth summit, exploring the relationship between people and the mountain, and showcasing how collective action can make a difference. *Plastic Peak* was screened at the Kendal Mountain Festival and the FOCUS Wales film festival in 2025, bringing the message of Plastic-Free Yr Wyddfa to wider audiences in the outdoor and arts communities. By featuring real local heroes, from teenage students to rope access technicians, the film helped inspire even more people to reflect on their impact on nature and how they can be part of the solution.



COMMUNICATIONS AND AWARENESS CAMPAIGNS

We knew that to truly shift behaviour and culture, we had to capture the public's imagination. Throughout the project, we ran creative communications campaigns to raise awareness about litter issues in engaging, unexpected ways.

MABINOZION FANTASY CAMPAIGN

One standout campaign in summer 2023 drew inspiration from Welsh mythology to deliver a modern environmental message. We partnered with several outdoor adventure social media influencers to create a **20-week public information campaign** themed around the **Mabinogion**, a collection of ancient Welsh folktales. The idea was to tap into the public's love for fantasy epics (think *Game of Thrones* or *House of the Dragon*) and give our litter message a legendary twist that would captivate attention.

The Mabinogion Litter Campaign had four key motivations:

1. **Reach new audiences:** By leveraging influencers with a combined following of **85,000** outdoor enthusiasts, we aimed for at least **600,000 impressions** on social media. This extended our reach far beyond the usual National Park channels.
2. **Ride the fantasy wave:** We launched in step with popular fantasy media trends, hoping that the mystical imagery would resonate culturally and stand out in people's feeds.
3. **Create memorable content:** We invested in high-quality visuals – dramatic photos, short cinematic videos, and even an original music score – all themed to mythical legends, to ensure the campaign was eye-catching and shareable.
4. **Celebrate local culture:** By weaving in local mythology and heritage, we added depth and educational value, showing that caring for the mountain is part of our cultural story.



The campaign kicked off in June 2023 and ran through the summer. We produced a range of content: epic landscape photographs with anti-littering messages, video reels and YouTube shorts depicting princes, princesses, and other mythological characters 'battling' the scourge of modern trash. We even took this content on the road – at the National Eisteddfod festival in Boduan and the Harlech County Show, we set up a green-screen photo booth where festival-goers could don props and insert themselves into our fantasy scenes, instantly creating shareable images with Plastic-Free Yr Wyddfa messaging.

The campaign achieved around **410,000 digital impressions** (just shy of our ambitious target), and importantly it sparked conversations. We received positive feedback not only from the public but from organizations like Visit Wales and National Parks UK, who applauded the fresh approach. And notably, we did all of this with **£0 spent on influencer fees** – the influencers were happy to participate because the cause and the content were compelling.



BANANACAM PROJECT

Sometimes a bit of humor can drive a message home. In July 2023, we launched the **Bananacam**, an quirky experiment to challenge the common misconception that biodegradable waste (like banana peels) isn't actually litter. Banana skins are the **5th most-found litter item** on Yr Wyddfa – many hikers think tossing a banana peel is harmless, assuming “it will biodegrade.” However, in the cold, low-bacteria environment of a mountain, organic waste can persist for a surprisingly long time, and it looks unsightly in the meantime.

Inspired by local mountain leader Mike Raine (who had been informally testing how long litter like peels and orange rinds last in the uplands), we set up a live-feed camera focused on a single banana peel at the summit of Yr Wyddfa. This “**Bananacam**” streamed time-lapse images to a website so people could see day by day what was happening to the peel.

The Bananacam project quickly caught national media attention. BBC and ITV reporters made their way up to the summit to film segments for the evening news, interviewing our team about why on earth we were livestreaming a banana skin. Online, the Bananacam sparked lively debate: some people were shocked to learn how long a peel can stick around, and we started a **sweepstake**, both on social media and at the National Park headquarters, where hopeful gamblers wagered how many days the peel would last. (Spoiler: the mountain's harsh weather ended up outlasting our first device – the camera succumbed to wind and rain while the peel was still there, proving the point in a way!). The last fragment of banana peel was eventually blow away during Storm Lilian, **402 days** after originally being thrust in the limelight.

By the numbers, the Bananacam was a hit: the BBC's coverage of it garnered **100,000+ views**, and attracted dozens of national headlines, all on a modest **£600** budget for the custom camera setup.



COM-B SURVEY CAMPAIGN

In 2024, we launched a follow-up communications initiative directly tying back to our behavioural research. We created a **digital and out-of-home (OOH) poster campaign** that presented thought-provoking questions to the public, derived from the COM-B model and the scripts our Bangor University students had created. These posters – displayed at our visitor centers and on social media – featured stunning still shots and drone photography of Yr Wyddfa overlaid with questions using motivational interviewing techniques. Examples included prompts like: “What one thing could you do to help protect this mountain?” or “Who inspires you to leave no trace?”

The goal was to get people thinking introspectively about their role in protecting the mountain and to reinforce the notion of a collective effort. We encouraged people to write in or comment with their answers. We received **47 thoughtful responses**. Common themes that emerged from the public’s answers were *personal responsibility*, “leave no trace” ethics, and feeling like they are “*part of something bigger*” when everyone does their bit.

Professor John Parkinson offered these encouraging words after reviewing the survey responses:

“The original aims of the Park Authority were about getting people to take personal responsibility and to engage in a stewardship role – people looking out for nature and picking up others’ rubbish when they see it. The responses align well with this, which is very encouraging and supportive of the broader impact of your work. It’s definitely a foundation worth building upon.

Several responses talk about the ‘bigger picture’ or being ‘part of something bigger’. There’s an opportunity here: not just getting individuals to take responsibility, but fostering a sense of connectedness – **with each other** (working together as a community of visitors) and **with nature** (protecting and supporting the environment we all cherish).”

The survey campaign, while small in scale, validated that our messaging was hitting the right notes with those it reached. People were internalizing the call to care for Yr Wyddfa and seeing themselves as part of a community effort, which is exactly the mindset shift we hoped to achieve.



ADDITIONAL OUTREACH AND MEDIA

Beyond the major campaigns above, the Plastic-Free Yr Wyddfa project maintained an active presence in local and national media throughout the two years. Our more sensational stories – like the Bananacam, the Big Yr Wyddfa Clean-Up, and the youth summit – acted as hooks to get press coverage, which in turn educated a broader audience about single-use plastic pollution. These **headline-grabbing narratives** helped us reach people who might not follow the National Park's channels or typical environmental messaging. From local Welsh news outlets to UK-wide publications and TV, the project's activities were featured widely, helping to increase the all-important dialogue about single-use plastics and litter.



PROJECT OUTCOMES

Plastic-Free Status: Challenges and Lessons

We have the following recorded data for the last four years

2022

53 PATROLS

840 TOTAL VOLUNTEER HOURS

288.5 BAGS OF LITTER (135.5 OF WHICH WERE RECYCLABLE WASTE)

568 KG COLLECTED

10.71 KG PER PATROL/0.67 KG PER VOLUNTEER HOUR

2023

49 PATROLS

1158 TOTAL VOLUNTEER HOURS

336.5 BAGS OF LITTER (139 OF WHICH WERE RECYCLABLE WASTE)

639 KG COLLECTED

13.04 KG PER PATROL/0.55 KG PER VOLUNTEER HOUR

2024

287 PATROLS

5631 TOTAL VOLUNTEER HOURS

878 BAGS OF LITTER (177 OF WHICH WERE RECYCLABLE WASTE)

1606 KG COLLECTED

5.59 KG PER PATROL/0.285 KG PER VOLUNTEER HOUR

2025

294 PATROLS

3982 TOTAL VOLUNTEER HOURS

1094 BAGS OF LITTER (154 OF WHICH WERE RECYCLABLE WASTE)

1535 KG COLLECTED

5.22 KG PER PATROL/0.38 KG PER VOLUNTEER HOUR

Despite all our efforts, **Yr Wyddfa did not fully achieve “plastic-free” status by the end of the pilot.** We must acknowledge that the scale of the litter problem turned out to be larger than our initial estimates, and the collective mind shift required to eradicate remains out of reach. Early on, we realised that our baseline measurements were off – the amount of litter on the mountain was roughly triple what had been officially recorded before. This taught us an important lesson: we should have established a standardised data collection and monitoring system at the very start of the project (instead of a year into it). With better baseline data, we could have set more realistic targets and tracked progress more rigorously. Going forward, consistent monitoring will be crucial to measure the impact of interventions and adapt strategies accordingly.

Several factors made the plastic-free goal challenging. **Visitor reach** was one issue: even with multi-channel communications, we simply couldn't reach everyone. Hundreds of thousands of people visit Yr Wyddfa annually, and not all encountered our campaigns or messaging. Some who did hear our advice still ended up contributing to litter inadvertently. Human nature played a role – for example, hikers might plan to carry all their own food and water, but after a tough ascent they might **“affectively forecast”** poorly and, once tired or hungry, give in to buying a single-use packaged item at the summit café (which

is a member of the Plastic-Free Yr Wyddfa Business Scheme, but yet to achieve Llydaw – aka Bronze – status). In other words, good intentions can falter in the moment.

On the business side, we had enthusiastic participation from many independent local businesses, but **supply chain limitations** persist. Those businesses still struggle to source certain products without plastic, and well-resourced franchises or chain stores in the area (which serve many of our visitors) were outside the scope of what our small team could influence during the pilot. This highlighted that a hyper-local approach, while effective for community building, can limit leverage on national-level retailers. Broader policy changes and corporate buy-in will be needed to remove single-use plastics from popular hiking provisions (like drinks and snacks) sold everywhere. An open letter to regional distributors with several local signatories was drafted to address some of these concerns.

It's also worth noting that **environmental and social factors** can affect litter outcomes in complex ways. Weather, seasonal tourism patterns, and even subtle cues like the cleanliness of an area (think Broken Windows Theory) influence littering behaviour. We observed, for instance, that warm sunny weather brings not just more visitors but different kinds of activities (picnics, wild swimming) that tend to generate more trash.

Storms can hide litter by flushing it into odd corners, complicating our data. All this means it's hard to directly attribute changes in litter solely to our interventions – and it reinforces that keeping the mountain clean will require ongoing effort and adaptation, not a one-time fix.

In summary, **the plastic-free mountain remains an aspirational goal rather than a current reality.** Yr Wyddfa is not yet rid of single-use plastic waste. However, we have a much deeper understanding of the problem now, and a toolkit of approaches that have been proven to work on a small scale. The challenges we encountered have only strengthened our conviction that this is a fight worth continuing, with even more stakeholders involved.



KEY ACHIEVEMENTS

Despite the hurdles, the Plastic-Free Yr Wyddfa project made **progress** on multiple fronts. Here are some of the most significant achievements from the 2022–2024 pilot:

- **Public Awareness:** By 2024, roughly **19%** of all Yr Wyddfa visitors were aware of the Plastic-Free Yr Wyddfa initiative – that’s over **100,000 people** annually who carried the knowledge of our campaign with them up the mountain. This widespread awareness is the first step in changing long-term behaviours.
- **Business Network:** We built a growing network of local businesses eager to reduce single-use plastics and promote circular economy practices. Through our audits and follow-ups, these businesses improved their waste habits, adjusted procurement to greener products, and actively educated their customers. In doing so, they’ve become lasting allies and multipliers of the plastic-free message in the community.
- **Youth Empowerment:** We provided hundreds of young people in North Wales with a platform to actively protect their beloved mountain. From classroom engagements to the COPA1 summit, youth were not only educated but also empowered to contribute solutions. The three youth-generated ideas we trialled in 2025 (thanks to COPA1’s winners) are a legacy that will inspire even more innovation in years to come.
- **Innovative Storytelling:** We captured the public’s imagination with headline-grabbing, shareable stories. Creative projects like the **Bananacam** turned a niche issue (biodegradable litter) into national news, educating a broad audience in a fun way. Similarly, the mythic flair of the Mabinogion campaign brought cultural richness to an environmental message, engaging people who might not respond to typical “enviro-talk.”
- **Behaviour Change Success:** Perhaps most encouraging, we found evidence that the right interventions *can* significantly reduce littering in real time. Using the COM-B behavioural framework and face-to-face engagement, we saw a notable drop in litter on the paths where we tested these methods. In-person interaction – whether by staff, volunteers, or even peer hikers – proved to be a powerful tool in influencing visitor behaviour towards stewardship.
- These achievements give us a strong foundation to build upon. They show that while making a mountain plastic-free is complex, the community and visitors are willing to change given the right support and inspiration.



NEXT STEPS

The conclusion of the pilot is not the end of the Plastic-Free Yr Wyddfa ambition. Based on the positive strides made and the lessons learned, **we plan to continue and expand this work**. Here are the key next steps we will be pursuing:

- **Continue and Expand the Business Scheme:** We will keep the Plastic-Free Business Scheme running under the Park Authority's guidance, aiming to bring more businesses on board. There is interest in evolving it into a **Plastic-Free Eryri** Business Scheme for broader geographic reach. We'll also consider developing new audit frameworks for sectors we haven't yet covered. Crucially, participation will remain free, and we will introduce an online self-assessment tool so that returning businesses can easily renew their status and track their improvement over time.
- **Ongoing Academic Collaboration:** Prof. John Parkinson will continue to work with us as a Voluntary Behavioural Science Advisor. With his help, we're already exploring a new partnership with Bangor University's Sports Psychology department to delve into litter behaviour in relation to outdoor adventure sports. We intend to carry out further research and pilot programs to test innovative solutions – whether that's new signage strategies, tech interventions, or educational programs – all grounded in evidence. Strengthening our data collection and analysis methods will be a part of this, so we can better measure impact moving forward.
- **Scale Up Successful Pilots:** The bin removal pilot has shown promise, so we will expand this approach carefully. The next step is to **remove bins in a higher-risk area** (for example, a busier trailhead or picnic spot) and closely monitor the results. If it succeeds without causing issues, it could pave the way for a permanent "carry in, carry out" policy area-wide, coupled with consistent messaging. Simultaneously, we'll keep an eye on the sites already without bins to ensure they remain clean over time or intervene if not.



- **Launch a Sustainable Tourism Engagement Platform:**
Thanks to new funding, we are developing a **Sustainable Tourism Platform** – essentially an app and program to encourage visitors to participate in environmental and cultural stewardship activities in exchange for discounts or special experiences. Litter-collecting will likely be a central feature of this app, turning cleanup efforts into a kind of game or challenge for visitors. For example, visitors might earn points or rewards for every bag of litter they report collecting. This platform will not only incentivise good behaviour but also educate users about the park (through content on ecology, local culture, etc.), thereby deepening their connection and sense of responsibility.
- **Reframe the Narrative – “Single-Use Pollution”:** In line with thought leaders like Trash Free Trails, we plan to shift away from using the word “litter” and instead use the term **“single-use pollution.”** This change in language is subtle but important. It emphasizes that the problem is not just unsightly trash (litter) but the broader impact of disposable, single-use items on ecosystems. By talking about “pollution,” we hope people will understand that what they leave (even if it’s just a bottle or a wrapper) has real, harmful effects on wildlife and habitats, and that it’s not just a mess for someone to clean. We will integrate this terminology and the fuller explanation of its meaning into our educational materials, signage, and communications. The recent microplastics findings on Yr Wyddfa’s summit underscore this point: tiny particles from broken-down litter are polluting all of the mountain.



- **Expand Refill Infrastructure:** Finally, we will continue to improve facilities that enable visitors to avoid single-use plastics in the first place. We plan to install more **water refill stations** (we're particularly exploring options at Hafod Eryri, the summit visitor center). We'll pair these with prominent signage and app-based maps so that everyone knows where they can get safe, free drinking water. Our surveys show **97% of mountain users are willing to bring a reusable bottle if they know refilling is convenient** – so we want to make it as convenient as possible. By ensuring people have easy access to water and perhaps other necessities without packaging, we remove one more reason someone might resort to buying a disposable plastic item during their visit.
- **The success of COPA1** set the wheels in motion for **COPA2**, planned for 2026, which will focus on new themes (provisionally “Celtic Rainforests and Dark Skies”). We intend to continue the model of youth competitions leading to a summit event, ensuring that every cycle of students has an opportunity to participate in shaping the Park’s future.
- In conclusion, Plastic-Free Yr Wyddfa has established a solid foundation for long-term change in how waste is managed on the mountain. The Eryri National Park Authority, alongside its partners and community stakeholders, remains committed to advancing this work. The pilot has demonstrated the value of evidence-based interventions, stakeholder collaboration, and community engagement. Building on the insights gained, our focus will now shift to scaling proven initiatives and embedding plastic reduction strategies across the park. This will be a sustained effort aimed at achieving a measurable reduction in single-use plastic pollution across Yr Wyddfa and beyond.

