BMC Cymru (North)

Fixed Gear: General Advice and Guidance for North Wales[1] (June, 2021)

Introduction

This document provides advice and guidance, reflects past and current opinion, and recommends sustainable practice for those climbers involved in placing/replacing fixed gear and route/crag development: it is not a set of rules. A vast array of discussion, polling, technical information, local consultation and data has been considered, further information on which is presented within footnotes and appendices. This document was compiled by a representative group of local climbers at the request of Tim Jepson, Chair of BMC Cymru (North). Dan Lane acted as Chair of the Fixed Gear Working Group and Andy Boorman acted as Convenor and Scribe.[2]

***Diversity Statement**: BMC Cymru (North) greatly values the rich and unique history of rock-climbing in North Wales which has resulted in an unrivalled variety of world-class rock climbs covering the full spectrum of climbing, from multi-pitch adventure climbs to single pitch sport climbs.*

Climbing in North Wales provides opportunities for climbers of all abilities to experience a wide range of environments, encounter a wide range of rock types, and appreciate a wide range of climbing styles. New route and crag development continues at the cutting edge and throughout the spectrum of grades - climbers involved in any such development have a responsibility to respect local climbing traditions and the natural environment.

A critically important aspect of climbing in North Wales has been the acceptance of strong ethical principles regarding the placement of fixed gear - typically pegs, bolts and slings. In general, these ethics and attitudes are a triumph of common-sense and compromise, serving to maintain the adventurous character of the vast numbers of traditional (trad) climbs now protectable solely by hand-placed, removable equipment, whilst accepting there is also a place for limited sustainable fixed equipment in specific circumstances. Trad routes are by their nature adventurous, and should not be sanitised by the over-use of fixed equipment.

Many locations within this large and diverse region have gradually evolved into pure sport or mixed sport/trad venues… and all things in-between. On sport routes there is a reasonable expectation that fixed gear will be safe, and those placing fixed equipment on sport routes should recognise this.

Before placing, replacing or removing any piece of fixed gear, BMC Cymru (North) urges resident and visiting climbers to understand and carefully consider the, often complex, ethics and opinions which currently preserve the unique history, traditions, values and variety of climbing in North Wales. This is a fine balance between protecting heritage and tradition whilst acknowledging a place for modern developments and the provision of an ongoing legacy.

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[1] For the purposes of this document, North Wales is defined as all parts of Wales north of the line drawn along the southern watershed of the valleys containing the A5 from Chirk to Betws-y-Coed, then the A470 to Blaenau Ffestiniog, and finally the A487 to the coast at Porthmadog.

[2] See Appendix 1 for the working group's brief.

Sustainability is key [3]

Pegs, slings and bolts have been placed for decades. We now have the benefit of hindsight to know what rots and decays and what resists the elements. In cases where fixed gear is deemed essential, sustainable equipment should be used wherever possible; if old and degraded fixed gear is removed it should be recycled. Now, as never before, we have a more complete understanding of the natural environment and our responsibility to conserve it; this consideration should be at the forefront of any decisions made with regard to developing new crags and cleaning/overcleaning new or existing routes.

Main points for climbers to consider before placing or replacing fixed gear

- access, land ownership, environmental status and existing agreements
- opportunities for hand-placed, removable protection
- history, traditions and ethics of the area and crag
- legacy for future climbers
- sustainability of any fixed gear used
- aesthetics – general appearance of the crag environment
- rock type, nature and location of the crag
- personal level of equipper's experience, technical knowledge and competence
- views of the first ascensionist (if relevant/feasible)

Fixed gear on trad climbs

Improvements in equipment means most trad routes can be adequately protected using hand-placed gear, with little or no need to rely on any fixed gear they may still contain. Such old pieces often have scant worth as protection, or as anchors on stances, but may provide useful waymarks, and a reminder that placing any fixed gear prone to rotting rapidly is not a good plan.

On occasion, a piece of fixed gear is significant to the grade, character and balance of a route. Many such pieces have been routinely replaced, like-for-like, by conventional pegs or threaded slings which, in turn, will rot and become useless.

Replacing conventional pegs: When an old rusted peg is replaced with yet another conventional peg and remnants of the original are not totally removed, cross-contamination and galvanic corrosion issues will add to expected degradation, especially in marine environments. It is often difficult to remove old pegs completely, so in a significant number of cases a replacement peg has been inserted in a different location to the original, usually adjacent in the same crack or in another nearby; in extreme cases the remains of up to five rotted pegs are visible in one small area.

[3] The theme throughout this document is one of sustainability; further detailed technical information is provided in appendices.

Conventional stainless pegs (even if 316 grade or similar) may fare better than other pegs but will still rot inside marine cracks. They are also vulnerable to cross-contamination and galvanic corrosion and prone to cracking when hammered in.

Since 2010, a small number of key, rotting pegs on trad routes in North Wales coastal areas have been replaced with stainless steel *'eco pegs'* [4]. Significant evidence indicates that these will remain effective for much longer than conventionally constructed and placed pegs. Placement has involved the removal of all rust debris from the site of the old peg to avoid cross-contamination (using a peg or chisel, or sometimes a drill) and the use of a suitable cement to protect and secure the new eco peg.

The general consensus is that these eco pegs now form part of our varied history and most will remain in place. Any future development of this sort should be considered carefully and widely, recognising not only the adventurous nature of trad routes and the need to avoid sanitising them, but also the original character and balance of individual climbs.

Placing fixed gear on first ascents of trad climbs: With future generations and environmental impact in mind, it is recommended that no fixed gear be placed on first ascents of trad lines - if a potential trad route is deemed unclimbable without fixed gear at that moment in time, it should be left as a challenge for the future.

In-situ threads: Every effort should be made to reduce the number of in-situ threads. They are often unsightly, deteriorate relatively rapidly and may sustain unseen wear – such factors make it hard for a leader to assess age and condition accurately. Many such threads now have traditional protection opportunities nearby, few now offer vital protection or waymarks, and few are too difficult for a leader to place en-route. If an informed, appropriate decision is made to renew a thread, bright colours should be avoided (use black/grey or whatever blends in best), suitable rope or cord rather than tape should be used, and any debris should be disposed of correctly.[5]

Fixed abseil stations and lower-offs [6]

These have proliferated in North Wales over the past 30 years and a significant number are unsightly, non-sustainable, unsafe and unnecessary. Fixed abseils on trad crags should be kept to a minimum in favour of fewer 'centralised' abseil stations, as dictated by the specific crag's topography. Tremadog's Bwlch y Moch is one example of how this approach can work well.

On traditional crags many of the existing abseil stations rely upon non-sustainable fixed gear, including rope and tape slings, pitons, rusty wires, old angle iron stakes and small trees. If establishing or renewing a fixed abseil station, sound natural rock anchors (as opposed to pitons

[4] Appendix 2 provides further details on eco pegs. Appendix 9 provides a link to a video on pegs.

[5] Appendix 3 provides further technical advice on threads.

[6] Appendix 4 provides further technical advice on fixed abseil stations.

and nuts) such as blocks, spikes, natural threads and well-seated chockstones are the preferred choice. In certain crag environments substantial, well-rooted trees may be suitable, as may galvanised cut-down scaffold poles used as stakes. Where appropriate, anchor points should be fitted with semi-static rope of a minimum diameter of 10mm in preference to chain or cable. Whilst rope will need replacing over time this is felt to be a more sustainable approach than using chain or cable, which is harder for the average climber to inspect and more difficult to renew or remove. Large diameter stainless steel rings or maillons should be attached to the rope to form the abseil point. Visual impact should be carefully considered. The minimum possible should be left and should be as discreet as possible, using rope of similar colour to the rock. Flat tape should never be used as it degrades rapidly when exposed to UV light.

Walking off from a crag top should always be a consideration, however, there are a number of occasions when establishing a sustainable fixed abseil station would be appropriate, and several important issues to consider:

- access and safety issues: land ownership at crag top, difficulty and suitability of alternative descents, unjustifiably dangerous or poor-quality finishes or final pitches
- environmental considerations: erosion prevention, protection of ecology – especially with regard to plant and animal habitat, durability of trees, root trampling and tree disease
- aesthetics: negative visual impact of brightly coloured, rotting, untidy or excessive gear
- availability of placements for removable equipment: if an abseil is needed to gain access to climbs (as is sometimes the case at a sea cliff) a suitable, sustainable fixed abseil station should be considered, especially at a popular location or where a ‘go to’ tree is dying or dead. Galvanised steel stakes as installed on behalf of the BMC above St Govan’s Head in Pembrokeshire may provide a good compromise solution in some cases
- convenience: consider whether there is a good enough reason to place a fixed abseil station - does the topography and history of the route or crag indicate that walking off would be more appropriate?

At pure sport and mixed sport/trad climbing locations it is appropriate, well-accepted practice (often the result of a combination of access, environmental, safety and aesthetic factors) to fix double bolt anchors. At present the most sustainable system is to use 316 grade stainless cemented bolts, each fitted with a compatible maillon and ring – the rings rarely show signs of wear and can be changed easily if this occurs (e.g., nearly all venues in the Clwyd Limestone, North Wales Limestone and Slate areas).

Sport climbing and mixed trad/sport areas: bolting, re-bolting and retro-bolting

The BMC provides a comprehensive set of technical literature concerning bolting and has a Technical Officer who can offer specialist advice. [7]
Equipment and support are offered by the North Wales Bolt Fund for most re-equipping projects. [8]

In North Wales the vast majority of sport and mixed sport/trad climbing has been developed on quarries of various rock types (including limestone, slate, micro-diorite and granite) and on the natural limestone crags.

In each case, be considerate of the history of the crag, or the route, and the effect any such bolting may have upon surrounding routes; it is generally not acceptable to detract from existing routes (usually, but not always, trad routes). Adding inferior new routes with fixed gear very close to, or crossing, classic routes should be avoided - especially if the new fixed gear can be clipped from the existing line.

If rock quality and availability of suitable protection indicate that a worthwhile trad line can be preserved (or added as a 1st ascent) then this is to be commended: rock quality and vegetation cover are major factors - removing vegetation usually has negative environmental implications and bolting on poor rock makes little sense - both should be avoided. Some old, now vegetated, trad climbs are often best left to provide a haven for plants and animals. There has been some retro-bolting of what may be seen as neglected/poor/loose trad climbs, often by removing loose material and changing the line slightly to seek better rock. This is a grey area, and careful consideration and consultation should take place before any action - there is an evolving view that some crags or routes should now be left to return to nature.

If creating a new sport line, bolt spacing should make a route safe, with sustainable bolts placed in good rock and, if possible, in the optimum place for on-sight placement and clipping of quickdraws.

Due to inferior gear being used in the past, there are many examples of sport or mixed routes with corroded bolts; if re-gearing a route, it is sound practice to unscrew or chop these off. If placing expansion bolts it is advisable to over-drill the holes so that if (eventual) replacement is needed the old studs can be hammered flush with the rock.

It is expected that any new bolts/maillons/hardwear should be a minimum of grade 316 stainless steel. It is, however, worth considering that even two slightly mismatched grades of stainless will cause galvanic corrosion: whilst expansion bolts are easier to place, they should generally only be used as a last resort, with cemented bolts (preferably one-piece designs with no joints) being used wherever possible as they are generally more durable and put less stress on the surrounding rock, especially when used in softer rocks such as slate.

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[7] Bolts, A Guide for Installers: https://www.thebmc.co.uk/media/files/Gear/Bolts%20A%20Guide%20for%20Installers.pdf

[8] Appendix 7 provides information about the North Wales Bolt Fund.

LIST OF APPENDICES

APPENDIX 1: Brief from the Chair of BMC Cymru (North) for a fixed gear working group

To consider the report of the Open Debate (23 Feb. 2021), technical submissions to that debate, records of previous discussions in N Wales area meeting minutes, and the BMC Statement on Drilled Equipment* (see Appendix 8 in this document)*, in order to produce guidelines which can be put to the North Wales area membership for acceptance or rejection. Those guidelines which are accepted by members will be available for use by guidebook writers, web-based information sites, and the Officers of BMC Cymru to express a consistent vision of sound practice in respect of the future use of fixed equipment on rock climbs in North Wales.

APPENDIX 2: Summary of the main differences between conventional pegs, eco pegs and bolts

Pegs or Pitons

- Professionally produced and commercially available, in some cases strength rated, hard steel pegs of various designs and materials have been used in the UK for over 50 years. Older mild steel and alloy pegs, both commercial and home-made, have been employed here for over 70 years and are now rarely used in the UK.
- Pegs are usually fixed in place by being struck repeatedly with a steel hammer into cracks, seams, pockets and shattered or softer areas in the rock face, i.e. into existing areas of weakness. When hammered in, a hard steel peg will cut into the rock (this could be described as a chiselling action) and modify the chosen area of weakness, to a greater or lesser extent, according to the nature of the rock. In harder rocks such as granite they will bottom out if a crack ends or closes rapidly. Softer, mild steel and aluminium pegs deform within the rock, following lines of weakness – they do less damage but are often harder to remove, meaning more damage to the rock may be caused with such action; thinner versions of hard steel pegs sometimes act in a similar way. Examples of all these types of pegs have been left in place to rot in the crags of North Wales.
- Hammering mixes metals, can cause corrosion due to electro-potential differences (the battery effect) and also stresses the peg, adversely affecting the quality of the material and making it more likely to deteriorate, especially in a marine environment, and especially out of sight within cracks.
- Corrosion rates will depend on the metals involved and upon temperature, salinity and humidity. The combination of moisture, oxygen and salt (especially sodium chloride) damages metal more rapidly than rusting due to oxygen and fresh water. Salt water corrodes metal up to 5 times faster than fresh water; salty, humid ocean air causes metal to corrode up to 10 times faster than air with normal humidity. Aluminium is long lasting (it merely oxidises and doesn't weaken significantly) but isn't very strong. Conventional steel pegs are strong but deteriorate rapidly; 316 grade stainless is far more resistant (see later references to longevity at test beds sites and via inspection of in-situ samples of stainless materials). Electrochemical corrosion will occur due to fine spray and splashing. If longer term exposure to salt water happens (e.g. when metal is submerged or stays damp inside cracks) anaerobic corrosion will also occur. Even 316 stainless, titanium etc are affected to some degree, especially if seawater is able to invade any cavities surrounding a peg.
- Integral strength and holding power ratings for short and long term in-situ pegs will vary according to the type of peg, the quality of the rock, the mechanics of the placement and any corrosion/falls/other stresses which may have taken place.
- Unless strong, modern pegs are 316 grade stainless steel, titanium or similar, and have been tapped in with a hard rubber mallet, they will rot very quickly in a UK marine environment.
- Commercially produced modern steel pegs (some stainless, some not) are still in use and are being left in place in some marine environments in Wales. It has been observed in some cases that stainless steel pegs have fractured when hammered into anything other than a perfect shaped crack. All the above practice will inevitably lead to future unreliable, rotting fixed gear.
- It is difficult for a lead climber to assess accurately the security of fixed pegs when they have not placed the pegs themselves, and do not know how long they have been in place.

The manufacture and fitting of stainless steel 'Eco Pegs'

- Eco Pegs are designed specifically for use as a replacement for existing rotting in-situ conventional pegs on a small number of trad climbs.
- Eco Pegs have been in use on coastal crags in North Wales since 2010 with the aim of providing a more sustainable type of fixed protection on a few key trad routes where rotting or missing protection pegs appear to have changed the grade, character and balance of such routes.
- Engineering design includes input from a well-respected 'metal guru' in the climbing gear manufacturing world. They are manufactured from a sheet of 316 stainless steel by a specialist engineering company using laser technology and ceramic tumbling (to smooth rough edges). All versions tested to a minimum of 20kN with no failure; various tests include some by Jim Titt (maker of the twisty stainless bolts used on North Wales Limestone). Eco Peg Version 1 (since improved and strengthened) was pulled to 30kN – the eye deformed but did not fail... the resin bond to the rock did eventually fail.
- When fitting it is important to remove all traces of old pegs to prevent corrosion due to electro-potential differences.
- Placement requirements have included: clean fit installation into cracks and pockets using a rubber mallet; some cases have required the use of *Lost Arrow / King Pin* pegs or small hand-held engineering chisels to clean out old pegs and the contaminated area, others required use of a battery-operated hammer action chisel with a rotary option (i.e. a drill). Enhancement of depth has been seen as preferable to cutting down the pegs.
- Widening and deepening of cracks is regarded in the climbing world as 'chipping', so the use of Eco Pegs is controversial, although conventional hard steel pegs have, over the years, cut into and enlarged cracks.
- Lack of variety in size and shape indicates that these pegs will only be a tight fit in a small range of cracks/slots/pockets etc, thus a suitable cement is often necessary to fix them in place.
- To avoid ferrous impregnation (cross contamination) these pegs are tapped in using a hard rubber mallet. Most, but not all, of these pegs are secured in place using a suitable cement. This serves not only to fix them but also to protect them from hidden anaerobic corrosion, thus considerably extending longevity.
- It is difficult for a lead climber to assess accurately the security of these pegs as they are sited in areas of weakness in the rock (cracks, seams, pockets etc), from where rotting traditional pegs have been removed. However, it appears most unlikely that the pegs themselves will rot and disintegrate at any significant rate, and it has been suggested that any cement present may enhance surrounding rock stability.
- If these pegs were to be installed into a hole drilled into blank, solid rock, with previously in-situ fixed gear adjacent or not, they would definitely be a bolt.

Modern Bolts

- These are, in the main, professionally produced and commercially available, strength rated, hard steel items and, preferably, should be made of 316 grade stainless steel or titanium for use in a marine environment. Many home-made 'staples' have also been in use.

- A bolt is an anchor fixed into a hole drilled into rock. When placing a bolt, an experienced operator should ensure that the area of rock into which the hole is drilled is totally solid and does not contain any areas of weakness such as cracks, seams and shattered or softer areas.
- In North Wales there are large numbers of bolts on natural limestone cliffs, on several volcanic crags, and in many quarries of various rock types. Some of the earlier bolts are not stainless and some were not designed for the shock loads of a leader fall.
- Expansion bolts fix mechanically by expansion into drilled holes and thus put stresses on the surrounding rock – this can be a problem with softer rock such as slate. They consist of several parts, making them more susceptible to galvanic corrosion. They are tapped into a pre-drilled hole – this is best done with a hard rubber mallet in order to avoid cross-contamination.
- Glue-in (cemented) bolts come in a variety of designs and are made from one piece of material. They are slotted into pre-drilled holes and fixed with a suitable resin.
- Stainless steel bolts placed in marine environments in North Wales appear to be lasting well. Glue-in anchors on Pen Trwyn have been in place since 1991 and regular tests indicate that there is very little corrosion. Test bed sites confirm this. Many of the pre-stainless bolts have now been removed by volunteers.
- It is relatively easy for a lead climber to assess accurately the security of bolts.

APPENDIX 3: Advice on threads

Threads and chockstones provide climbers with countless opportunities for fitting strong loops of tape or rope to create an anchor point. This practice may appear straightforward but several issues are associated with it. Such issues become more complex if threads are left in-situ:

- soundness of rock - will it hold a fall or is it judged to be just about OK as a temporary measure while getting other protection or as just one of several weaker points?
- rock strength may be good but sharp edges may be in contact with the threaded rope or tape and cause wear/failure under loading - such edges may be concealed within the rock face and wear or threat of cutting may be invisible, especially when threads have been in-situ for a period of time
- assuming that the rock surface is sound and smooth then rope of the thickest diameter to fit may be used - the problem here is a small natural thread could take thick rope and suggest ‘bomber’ whilst a bigger and much stronger natural thread may only take thinner rope
- tape is in common use as its high strength, flat profile and malleability allows threading through constricted slots in the rock – especially at those sites where a weaker, thin cord would be the other alternative. However, tape degrades rapidly, as any UV damage is to the strength component, i.e. the webbing, whereas rope or cord has internal strength independent of sheath degradation
- tape cuts more easily than rope – even a slight nick on the edge of a piece of tape may cause failure

- little research has been carried out in order to determine the best type of rope or cord for use as an in-situ thread. Dynamic nylon rope is best for absorbing shock and is relatively resistant to UV damage but it is not as strong, durable or resistant to cutting as other materials such as Aramid/Kevlar (as used in Edelrid sewn rope slings) and Dyneema. However, such materials are more susceptible to UV (best sourced with an integral nylon sheath), more prone to shock load deterioration and may fail catastrophically after repeated impact….

It appears best not to leave any threads in place. However, if climbers decide to fit a vital, hard to place, in-situ thread runner they will need to take many of the above factors into account. If a climber intends to lead a route containing any in-situ threads they are advised to check the provenance and, if in any doubt, renew the thread (hard for that to happen, of course, in the real world of on-sighting!).

APPENDIX 4: Advice on fixed abseil stations and cliff top anchors

Careful consideration should be given to whether or not fixed abseil stations and anchors should be placed on or above trad crags in North Wales. All viable alternatives should first be considered.

Trees often offer a convenient, solid anchor. However, many smaller trees on craggy ledges have now been destroyed due to years of root trampling and rope damage – placing and then pulling abseil ropes directly around trees may mean that no fixed gear needs to be left in place, however, it also means that trees get damaged and may be lost. Only substantial, healthy, well-rooted trees should be used and should be fitted near the base with an anchor consisting of semi-static rope of at least 10mm diameter (the thicker the better as it will last longer), onto which is threaded a large diameter stainless steel ring or maillon. Ash dieback and other tree diseases will increasingly become an area of concern.

Semi-static rope is more hard wearing than dynamic climbing rope and just as strong. It is also suitable because abseil points are unlikely to be subjected to shock loads. There are issues with the inspection, removal and deterioration of chain or wire, especially if sheathed in plastic: most climbers don't have this specialist knowledge but are able to inspect rope and, if necessary, source and renew it. In-situ ropes will suffer chafing and UV damage - this can be ameliorated by fitting the rope within a 10mm tubular tape sheath.

When rope is used to join several natural rock anchor points (e.g. threads, chocks, spikes, blocks) to create an abseil station, care should be taken to use the minimum and to match the colour to the surroundings wherever possible. Conventional pegs and nuts have, in the past, been used to create anchor points, but such practice is not recommended nor sustainable. In a small number of cases Eco Pegs have been used to provide anchors onto which static rope can be attached. An alternative set-up, which could be considered in the future, would be to place two Eco Pegs each fitted with a stainless steel maillon and ring: this would create a sustainable, minimalist and inconspicuous abseil station.

In the past the BMC have placed specially designed and manufactured galvanised anchor stakes on cliff tops where there are no practical alternative belays or anchor points. These stakes have proved to be useful but very expensive and over-designed. Current opinion is that galvanised scaffold poles (cut to size with a pointed end) make excellent stakes, are easier to source and much cheaper (although it has been reported that they can hold water at particular sites).

APPENDIX 5: Extract from minutes of the BMC Cymru Local Area Meeting 3.11.20 [9]

Progressing the Fixed-Gear Debate

The Chair prefaced this item by saying that 'fixed gear' discussions took up a large proportion of his BMC role, citing the Castell Helen abseil station during the last meeting, and very recently, a UKC on-line thread about 'Bolts at Gogarth', prompted by an article written by XXXXX. The BMC has no authority to regulate fixed gear on crags, but it could produce guidelines or a policy which might influence the actions of both local and visiting climbers.

XXXXX introduced the debate by describing the historical context of 'pegs' at Gogarth and how a few of the original, now rotting 'pegs' had recently been cleaned out and replaced with drilled, glued stainless steel 'bolts', using the existing crack-lines. Such 'bolts' have also been used to secure anchors at the top of selected climbs e.g. *The Strand* and at Rhoscolyn. While use of these 'bolts' may, arguably, have made routes safer, and allowed neglected routes to become more popular again, the concern is that routes and crags change their very nature when they have an element of bolt protection. The other concern is an apparent lack of consultation before placement.

Dan Lane said that at the end of tonight's discussion there would be an indicative poll on the following statement:

“ The default position at Gogarth should be not to replace pegs with bolts, or other drilled hardware.”

If agreed, this would set an expectation that it wouldn't be normal behaviour to place drilled, fixed equipment at Gogarth without proper consultation and subsequent consensus agreement.

Members at this meeting, but resident outside N Wales, would be invited to vote in this poll. Despite the contentious topic, there followed a good-natured and balanced discussion with many, varied opinions expressed. Contributions were received verbally, in the chat room and via email.

Although these minutes do not attribute all contributions, the main points emerging were:

- Gogarth is a jewel of world adventure climbing. Locals need to be careful that its character is not lost (XXXXX)
- Locals are very aware of Gogarth's importance for adventure climbing, as indicated by this discussion. We are not talking about a proliferation of pegs/bolts. It should be possible to compile criteria for limited, appropriate use of glue-in pegs/bolts. (XXXXX)
- Any bolts on Gogarth represent the 'thin end of a wedge'. (XXXXX)
- XXXXX 's proposal is constructive. At the moment it is a free-for-all, a mess. Important to get all sides of the argument on board before proceeding. Consensus, taking into account a host of factors, will be difficult to achieve, but some sort of guidelines are necessary. (XXXXX)
- We should differentiate between peg/bolts on stances and pegs/bolts as protection? (XXXXX)
- Why just Gogarth? There are lots of other trad. crags in North Wales. (XXXXX)
- Use of sustainable, SS, glue-in pegs/bolts on a 'like-for-like' basis is a sensible compromise. (XXXXX).

[9] All names in this document have been redacted with the exception of the BMC Cymru (North) Chair: Tim Jepson, the Chair of the Fixed Gear Working Party: Dan Lane, and the Convenor/Scribe of the Working Party: Andy Boorman.

- Several expressions of support for 'like-for-like' replacement. (XXXXX)
- Problems with defining like-for-like', given modern equipment and rising standards.
- Much support for 'case-by-case' consideration of all replacements.
- Much support for fuller consultation before any replacements.
- Should decisions about fixed gear be made by local climbers, familiar with the routes, or by climbers more generally? (Andy Boorman).
- How would consultation be achieved and how would decisions be policed?
- Any principles should apply to climbs of all grades – not just the hard ones.
- Only a few of these peg/bolts have been placed; it's not a big deal.
- Castell Helen abseil station is a complex and 'special case' – it needs a sustainable solution.
- Surely if you can climb at Castell Helen you can rig a safe anchor?
- There is an education element to all this – i.e. for those new to climbing and unfamiliar with the tradition and ethics of UK climbing. (XXXXX)

The discussion concluded with an agreement that a single-issue, open meeting would be arranged in order to clarify the arguments and attempt to draw up consensus guidelines for placing fixed gear in North Wales. XXXXX and XXXXX asked to be invited to any such meeting.

The indicative vote was then conducted with the following result:

35 voted on the proposition that:

“The default position at Gogarth should be not to replace pegs with bolts (or other drilled hardware)”

Agree (26) Disagree (4) Don't care (0) Abstain (5)

APPENDIX 6: 'Fixed Gear on Rock Climbs in North Wales' - Open Debate Report

Zoom, on-line, 23/2/2021.

Chair's Summary:

The issues being debated were not new, but provided the opportunity for a wide range of nuanced ideas to be clearly expressed. The ideas expressed followed a structured progression, and were exchanged without rancour.

No definitive conclusions were reached, but none had been expected.

The primary objective of all those contributing to the debate could be summed up as “a desire to maintain and develop the trad. ethic on rock climbs in North Wales for the benefit of climbers present and future”. However, the methods proposed for achieving that objective varied greatly from climber to climber.

It is now up to the local area (North Wales) to take this report, with its polling results, and to decide whether or not to develop any guidelines on fixed gear which could be acceptable to a substantial majority of climbers.

Attendance and Polling:

Approximately 50 people joined the debate at some point and most stayed logged on throughout. Poll 1 provides a breakdown by age, residence and membership.

NB. Voting figures are less than attendance figures due to hosts and BMC officers not being able to vote, and others choosing not to. Care therefore needs to be exercised when interpreting poll results. Results cannot be assumed to be representative of the climbing community as a whole.

Poll 1: Age distribution:

20 - 29 30 - 39 40 - 49 50 - 59 60+	1 6 4 9 6
Total Result	**26**

BMC Member: Resident in North Wales BMC Member: Resident outside Wales non-BMC Member: Resident in North Wales non-BMC Member: Resident outside Wales	17 5 1 3
Total Result	**26**

This single-issue debate followed the advice outlined in the BMC's statement on Drilled Equipment (2014) and was prompted by recent discussions at local N. Wales area meetings at which there was insufficient time available for meaningful debate. An agenda was circulated prior to the debate. That agenda was arranged around a series of polling questions, the results of which are tabulated below.

Chair's introduction:

The Chair outlined issues concerning the 'Need for the Open Debate', the likely 'Outcomes from the Open Debate' and the 'Scope of the Open Debate', all in the context of climbing in N Wales at the present time.

A presentation was used to introduce each topic and each poll.

Further details:

The Chair's presentation, which includes the agenda, and a technical paper produced by Andy Boorman are available on request.

The Starting Point for Discussion:

A 10-minute video, produced by XXXXX, was shown which explained the history of peg manufacture and use world-wide, culminating in the recent local development of a stainless steel 'peg' designed to be cemented into an existing, or an enhanced, hole of specific diameter and depth.

The perceived benefits of such a stainless steel 'peg' are:

A sustainable protection point which, if properly placed, is very resistant to corrosion, won't need to be replaced, and thereby minimises further damage to the rock.

A protection point which eliminates the uncertainty of a corroding 'normal' peg and thus encourages more ascents in a trad. style of climbs (typically on Gogarth) which have become vegetated and rarely climbed.

The Controversy:

In essence, this open debate revolved around the definition of these recently developed stainless steel 'pegs'. Are they pegs, or are they bolts? And in either case, should they be used at all, and if they should, in what contexts?

The Discussion:
There is no recording of the verbal debate, but these are non-attributed notes which give a flavour of the discussion:
• It's a bolt due to glue, it only fits specific crack without glue.
• It's a bolt – crack-enhancement is the key.

- Hard steel pegs 'enhance' cracks as well. Most of these pegs are not drilled in. Bolts are put into solid rock. These pegs have gone into a crack/area of weakness. They keep the character of the route.
- It's both a peg and a bolt. Depends on where you put them.
- Most pegs at Gogarth 'enhance' the crack – they are hammered in hard. These stainless pegs will last potentially indefinitely. It's not about how placed; if you say it's about how its placed, most pegs at Gogarth are 'bolts'.
- Peg indicates a higher degree of uncertainty than a bolt.
- They are a bolt because of the glue.
- It's the drilling that makes them into bolts. For me the issue is it's not the 1950s, why do we need pegs anymore? We have modern protection. Stainless steel pegs will rust, they just take longer.
- Closer to a bolt. Resin, changing the placement with drilling. They are disguised in natural placements. Whenever you see pics of Yosemite – hundreds of pegs of diff sizes – but these are all same size unusual for a peg to fit every natural placement.
- Don't believe in convenience, we should aim for less fixed protection. Rhoscolyn – never had a problem getting belay, never seen anyone belay off the wall. Not a problem there being routes that aren't climbed – for next generation.
- Unless you keep it to belays/cliff top anchors (or have none)– it will always be a judgment issue.
- Having lived in N Wales, and moved to Peak. Peak isn't necessarily perfect for ethics. Peg came out of London wall. Decision was made not to replace it. Even on Millstone (an old quarry). Yet Gogarth is bastion of traditionalism. Peak district setting ethical bar is a bad situation.

• I think if peg is crucial it's crucial. E.g. on *Bells Bells*. If it's crucial it should be replaced like for like, if that's a peg/bolt so be it. For belays, you have duty of care to your second, you've taken them there to belay you. So these should be replaced for second's safety's sake.

- Chair asked: Is 'crucial' is subjective?
- Yes, but on *Bells*, if you fall off you're dead.
- Belays are different. No pegs crucial are on route, if it's climbable it's climbable; we should be evolving, moving the sport forward.
- I'm ambivalent but to take what XXXXX said – two lads were killed on Gauntlet when the leader fell, both ripped off, peg had gone. It's crucial. But it's only VS/HVS.
- Climbing has bent itself to push limits further; we should aim to push those limits further. But we need to avoid a tendency towards elitism.
  We need to leave rock to be climbed by future generations of climbers, as we have had the privilege of doing over the last few decades.
  The BMC Participation Statement already makes it clear that climbing can be dangerous.

- By email:
  This whole process is a waste of time if it is ignored just as the 2014 BMC guidelines were ignored.
  Since the 1960's grades have been changed by ascents in better style, whether its aid reduction or ascents with fewer/no pegs. Inevitably the routes become less ‘accessible’ but that is ‘progress’ in trad climbing, and in retrospect it has virtually always been seen as the right thing to have done. Who would dream these days of pegging their way up Citadel or over the main overhang at Bosigran?
  The replacement of pegs, so that routes retain their original character and safety, is a good thing otherwise the routes stop being climbed.

A decision to re-peg a route should be put to a vote of a local board of elected climbers?
Tat on trees for lower offs can be unsightly and potentially dangerous for inexperienced climbers. Tat could be replaced by a single plastic-covered SS wire strop and stainless maillon that would last for years.

The Chat Room:

Is it a bolt a peg or something else?

- It's a bolt with strict rules about where it can and can’t be placed?
- You can always enhance a crack with a traditional steel peg, which has been done in the past and probably still goes on.
- Not a bolt as it's not where you would necessarily choose to put one, but uses largely natural features. Not a peg as it's glued. Why does it have to be one thing or the other anyway? Can't we just acknowledge they're something different?
- Why would anyone place a bolt in an area of weakness?
- So they are basically shit bolts?
- So '*Bells*' still has a poor peg which is pretty reliant for aiming towards and route finding. Tons of routes in Pembroke are similar. Where pegs can go in, modern protection still can't replace where knife-blades go.
- I agree with XXXXX some pegs are way-markers and encourage an on- sight/ground up ethic.
- With a reduction in pegs, top-roping and head-pointing become more common. Pegs make a lot of routes amenable for on-sighting. Eg. on Craig Dorys, Pembroke, Lundy.
- I don’t think top-rope practice is a step forward from on-sighting.
- Many guidebooks need to be re-written as they are full of references to pegs - most of these are rotten or gone?
- Elitism is relative. VS or E1; E5 or E6/7.
- Climbing is a partnership, there are many trad., thin ice routes on Ben Nevis, where both partners must accept the risk if they wish to climb the route. Should better belays be placed or should the climbers choose the risk?

Should crags be bolted/repegged?...(comments from the chat box)

- As discussion has gone one - a case-by-case approach should be adopted.
- I think that getting agreement at a local area meeting would be impossible for any fixed gear, unless it’s done by majority vote, as there will always be a range of opinions. It seems to me

that if we reject a sustainable type of peg, logically, we should reject all new pegs as they only really serve the first ascent or people with first hand beta from the person that placed the peg.

- The problem with the case-by-case approach is that it is more important to look down the road rather than what is in front of you.
- Agreed with XXXXX earlier that the mystery and adventure that is attached to rarely climbed bold or esoteric routes is a major part of the attraction of our sport!
- I think that a number of active North Wales climbers have been consulted about the placing of some of these cemented, stainless pegs. The first ascentionists of these routes most probably did not consult anyone before belting in pegs that will rot.
- What about best technology of the day or nothing? Why compromise?
- Like for like = crucial, same place, same as or improved equipment.
- There are also some good environmental reasons for placing abseil points on some cliffs. *Strand* being a good example to avoid the upper areas, which is reverting to nature and is naturally rewilding part of an internationally important site of special scientific interest...the upper pitches of some of these routes are just vegetation scrambling for its own sake and highly damaging to nature conservation.
- Like for like with longer lasting replacement means it prevents need for regular replacement - regular replacement may /will damage the rock
- Hard today is gonna be steady in 20yrs; it's not elitist. It is about legacy, we will have to stand by this in 20yrs.
- Sooner or later a rusty peg that looks OK at the rock surface will kill somebody. I think that is a tragedy. A peg belay on Red Walls nearly killed XXXXX, which has probably influenced his decision making in this matter.

Poll 5...(comments from the chat box)

• Locals + BMC

- not every climber is a member of the BMC
- It would need to be a vote rather than 100% agreement, otherwise nothing will ever get decided. These are very contentious matters, specially if you don't even know the route.
- Local area meetings are not necessarily representative of the wider climbing community.
- Combination of local activists and BMC MEETINGS

Poll 6 - Statement Thoughts...(comments from the chat box)

- Doesn't mention anything about style of ascent...on-sight, ground-up, top-rope etc.
- Looks very good, but could perhaps add that decisions need to be by majority vote of the local area group.
- Does this mean we can now bolt Crib Goch?
- Difficult because some people may not recognise the statement.
- To be fair I think regarding the new pegs I think they should be used very minimally but I'm often impressed when someone can be bothered to replace a peg.

The Poll Results:

Poll 2:

When used as described, this type of protection should be designated as ....

Suggestions for alternative designations: Cemented Peg.

Poll 3:

Assuming these stainless steel pegs/bolts are chosen to replace corroded metal protection in an existing, but drill-enhanced, and resin- cemented, peg scar, within a natural feature (crack or hole), I could approve of their limited use .....

...bolts ...pegs ...Require an alternative designation (Use chat for suggestions)	16 6 15
Total Result	**37**

as a runner	17
at abseil/lower-off points	24
never	1
never at Gogarth	7
never, and remove those that have been placed on stances	1
only if approved at a local BMC meeting	21
only on bolted/sport crags	9
only where there is no alternative trad protection	2
	21

Poll 4:

Replacing corroded or worn fixed gear should be done on the understanding that it is ....

case by case. like for like. never using a drill on trad crags. never using glue/resin/cement on trad crags. No! Corroded or worn fixed gear should not be replaced on trad climbs. using a like for like principle, but decided on a case by case basis. (empty)	8 8 10 8 6 7
Total Result	**47**

Poll 5:

If there is an element of decision-making Case by Case, should decisions be made by:

...a group of local activists. ...BMC local area meetings. ...individual peggers/bolters. ...the First Ascentionist. other - use chat.	14 18 1 2 2
Total Result	**37**

Chat Room suggestion: Combination of local activists and BMC meetings. x2

Poll 6:

Does the following statement have value?

Sustaining the variety:

BMC Cymru (North) greatly values the rich history of rock-climbing in North Wales which has resulted in an unrivalled variety of world-class rock climbs covering the full spectrum of climbing styles from multi-pitch adventure climbs to single-pitch sports climbs to bouldering.

Climbing in North Wales provides opportunities for climbers of all abilities to experience a wide-range of environments, encounter a wide-range of rock types, and appreciate a wide-range of climbing styles.

A critically important aspect of climbing in North Wales has been the acceptance of strong ethical principles setting limits on the placement of fixed gear, typically pegs, bolts and slings.
These ethics maintain the adventurous character of climbs which can be protected by leader-placed, removable equipment.
Before placing, replacing or removing any piece of fixed gear, BMC Cymru (North) urges resident and visiting climbers to consider very carefully the local, often complex, ethics which currently preserve the unique history, traditions, values and variety of climbing in North Wales.
Thank you!

No, it simply repeats the BMC Position Statement on Drilled Protection. No. It's too general to be of use. Other - use chat Yes, but only if it refers each case to the local BMC area Yes, it's useful to have a statement specific to North Wales.	2 7 3 3 18
Total Result	**33**

APPENDIX 7: The North Wales Bolt Fund

The North Wales Bolt Fund (NWBF) was born out of the proceeds from the 1987 and 1992 North Wales Slate guidebooks and has since been supported by considerable revenues from the 2014 edition of 'North Wales Limestone: the definitive guide', by a donation from sales of Mike Doyle's A55 Climbs, by a small donation from Rockfax, and by generous donations from the climbing public.

NWBF has played a major role at sport climbing venues throughout the region by encouraging and facilitating the re-equipping of many popular climbs with stainless steel bolts, providing free high-quality hardware, courses of extra training for volunteer equippers and arrangements to lend out high quality drills and grinders. To date, well over 2000 new bolts have been supplied and placed, and hundreds of lower-offs have been replaced and equipped with stainless steel maillons and rings to ensure long term sustainability.

Additional funding has been supplied by the BMC who, since 2007, have contracted NWBF to complete the inspections of the routes and lower-offs above the Great Orme's Marine Drive. Without these inspections Conwy Borough Council would not allow climbing on these crags. 'Better Bolts' (a campaign by the BMC to help bolt funds in England and Wales) has been generous to North Wales, as have the Beacon and Indi Climbing Walls.
For further information and support contact northwalesboltfund@googlemail.com

APPENDIX 8: BRITISH MOUNTAINEERING COUNCIL

BMC position statements on Drilled Equipment and Dry Tooling

Introduction

This document sets out the BMC's position on the separate but related issues of drilled equipment and dry tooling as agreed by National Council on 8 February 2014.

a. Drilled Equipment

Background

The BMC's position on drilled equipment was debated by the Area Meetings and National Council in 2012-2014; this position statement was agreed by National Council on 8 February 2014. For the purposes of this document drilled equipment refers to bolts and drilled pegs (i.e. pegs placed in drill holes), and retro-bolting refers to the placing of drilled equipment in a position where there was previously no drilled equipment in place.

BMC position

British climbing has a rich history and a well-established code of ethics which has evolved over many years through debate amongst climbers. The BMC recognises that, as the representative body for mountaineering in England and Wales, it is the de facto guardian of the heritage of the sport in all its forms. The BMC strongly supports the approach to climbing based on leader-placed protection which makes use of natural rock features.

The diversity of climbing styles and the existence of 'bolt free' areas are distinct and internationally important aspects of British climbing. It is the responsibility of all climbers to promote and respect agreed drilled equipment policies.

Debates about the use of drilled equipment have taken place across the country for many years and there is a continuing need for a clear understanding about where bolts are acceptable and where they are not acceptable in terms of climbing ethics. The Pembrokeshire and Cornish sea cliffs, the mountain crags of Snowdonia and the gritstone edges are examples of places where traditional (i.e. bolt free) climbing is the accepted norm. There are also many crags across the country where sport climbing is agreed and accepted and some crags where both approaches co-exist.

Access, environmental and land ownership considerations have a significant bearing on decisions about the use of drilled equipment. The BMC believes that care and concern for the crag and mountain environment is of paramount importance in such decisions.

Site specific and regional drilled equipment agreements and proposed changes to those agreements must be debated and agreed by climbers at open meetings arranged by the BMC. The Area Meetings provide a structure for such debates. No proposal for changing the drilled equipment status of a crag should be voted on at the meeting where it is first

proposed. Proposed revisions to drilled equipment policies and / or retro-bolting proposals should be widely publicised prior to discussion, and agreed on a consensus basis.

In these discussions the following factors must be given careful consideration:

- ***Access, environmental and land ownership issues.***
- ***The history of the area or crag in terms of the established climbing ethics.***
- ***Existing drilled equipment policies and agreements in place.***
- ***The views of the first ascensionists.***
- ***The level of importance (i.e. local / regional / national) of the area or crag in question.***
- ***The nature of the rock (i.e. natural or quarried) and the availability of natural protection.***
- ***The aspirations of current and future generations of climbers.***
  In the case of substantive and potentially controversial proposals to use drilled equipment, wider consultation should be carried out through National Council, the BMC Area structure and the BMC's media outlets prior to agreement. The document provides further guidance to the BMC drilled equipment policy 1992.

b. Dry Tooling

Background
The BMC's position on dry tooling was debated by the Area Meetings and National Council in 2013-2014; this position statement was agreed by National Council on 8 February 2014. Dry tooling is a form of climbing which takes place on outdoor crags and indoor climbing walls using ice axes and crampons. This statement refers to dry tooling on outdoor crags in 'summer' conditions; it does not refer to mixed climbing or dry tooling in winter conditions or to dry tooling in climbing walls. Dry tooling typically occurs on overhanging quarried rock (or other rock faces generally unsuitable for conventional rock climbing) and usually involves the use of fixed equipment and drilled / manufactured axe and crampon placements.
BMC position
The BMC acknowledges that dry tooling has a place in British climbing. The suitability of individual sites for dry tooling should be considered on a case-by-case basis by the relevant BMC Area Meeting. Dry tooling is not considered to be an acceptable practice on established rock climbs.

D Turnbull s/off/con/ManRegs/BMCpol/Drilled Eq_Dry tooling 31 March 2014

Appendix 9: Video Presentation on Pegs: https://www.youtube.com/watch?v=yX0apNzic0E

Sources of further information and advice

Local climbers, Local climbing guidebooks, North Wales Bolt Fund.
BMC RAD, BMC Access Reps, BMC officers, BMC local area meetings and minutes, BMC technical papers, Fixed Gear Guidelines from BMC and from other local areas.