

Habitat Regulations Executive Committee

Appendix B: Pebblebed Heaths Trail Audit - Summary Results

SUMMARY REPORT FROM TRAIL AUDIT 2017

A trail audit was carried out on Bicton, Woodbury and Colaton Raleigh commons during the summer/autumn of 2017. The purpose was to assess the current condition of the trails and to inform a programme of works to ensure they are brought up to a good condition.

The survey procedure was designed to enable us to easily highlight priority sections of trails for attention by recording in a structured spreadsheet with accompanying photos. This has allowed us to create a costed programme of works. It was carried out in a way that is replicable so that the survey can be repeated in the future.

Maintaining the trails in a good condition is crucial to managing the visitor access across the site. The site is designated SPA, SAC and SSSI due to its importance. It is recognised that the site is subjected to high visitor pressure and so managing public access is key to maintaining the site appropriately in line with our obligations. It is expected that public use of the heaths will increase due to development in the surrounding area. In 2016 the Pebblebed Heaths Visitor Management Plan was created as part of the work being carried out by the Habitat Regulation Mitigation Partnership. This identified priority measures that should be taken to mitigate against the impact of increasing visitor pressure, improvements and maintenance of visitor infrastructure, including surfacing of paths and boardwalks, was one of these priorities.

Bare ground is an important feature of heathland and is used by invertebrates, reptiles & amphibians and some rare plants. Wear from feet, bicycles and horses hooves can create and maintain bare ground features, but if too heavy there is the risk of damaging any interest. Furthermore, once vegetation is lost there is the risk of substrate being washed into mires and damaging wetland habitats and interest features and the paths themselves becoming shallow trenches.

There is therefore a difficult balancing act in terms of the management of paths and bare ground. Preventing footfall or concentrating footfall to very limited areas results in a loss of bare ground habitat. Path surfacing often damages the habitat and renders it useless for many species. Providing a boardwalk or similar raised walkway in wet areas or where run-off is a particular problem may resolve issues, but needs careful assessment on the ground. With increasing access, bare ground components of the Pebblebed Heaths will need to be monitored and consideration given to creation in areas away from heavy trampling.



The survey was part funded by South East Devon Habitat Regulations Partnership.



SUMMARY TABLE



	Total distance covered	Work identified	SEDHRP works	Aggregate for SEDHRP works	Aggregate £14/ton+VAT	Reduced rate £10/ton+VAT	Boardwalks
Bicton Common	12583m	3 urgent 16 general	4 actions	40mm 10T As dug 40T	£700	£500	25m new
Woodbury Common	9312m	4 urgent 9 general	7 actions	40mm 50T As dug 100T	£2100	£1500	
Colaton Raleigh	20986m	8 urgent 23 general	8 actions	40mm 80T As dug 110T	£2660	£1900	10m new, 130m repair, new bridge and steps
Total	42881m	15 urgent 48 general	19 actions	40mm 140T As dug 250T	£5460	£3900	




Areas which need priority attention in relation to public access in order to maintain SAC/SPA features are highlighted in the following table. Funding from the SEDHRP fund will be used to deliver this work. As well as being works identified to reduce direct impact (e.g. erosion) of interest features, this work also fits into the wider mitigation strategy as most of the work will be carried out on routes which will be promoted through trails/maps/licencing of events.



PRIORITY AREAS MOST RELEVANT TO SAC/SPA FEATURES TAKEN FROM AUDIT

Common	ID	Con	Problem and recommendations		Action
Bicton	B8e	A	<p>At GR 0391 8600 the stream has broken its banks and splits in two making an awkward and muddy crossing. Two Sleeper type footbridges required, constructed to give a deck width of 500mm minimum, protected by heavy duty netting to give non-slip surface. No handrail required as long as the height of the deck above the stream bed is no more than 750mm. Heavy duty netting to be fixed to the deck to give non-slip surface. The bridge on the western side needs to be 4 metre span, the eastern one 5 metres. Abutments suggested as 1 metre lengths of the same timber (cross-section 255 x 90mm), set into the ground with the deck timber firmly fixed.</p>		<p>10m boardwalk, required?</p>
Bicton	B10b	A	<p>At the northern end at GR 0369 8625 the sleeper walkway across the muddy stream. Replace with a similar type structure, overall length 15 metres, minimum width 500mm plus, covered with heavy duty netting for non-slip surface.</p>		<p>15m board walk with netting</p>


Colaton Raleigh	CR1d	A	<p>ADVISORY: Steps at GR 0471 8707 [Photos CR1d 3&4]. The stone infill and some of the timber risers have become eroded. The steps run along the NW side of the path, are overgrown, and do not appear to be used. Query as to whether repair/rebuild is justified. The remaining steps could either be removed, or left as they are.</p> <p>WATCH: Sleeper bridge at GR 0462 8701 [Photos CR1d 6&7]. The structure is currently sound and stable, although this is not apparent in the photos. No action at present, but watch for future deterioration.</p> <p>ATTENTION: Sleeper walkway. GR 0461 8700 [Photo CR1d 8]. An awkward step onto the walkway at the NE end from the steep, muddy path surface. Improve access by the construction of two or three steps, timber risers infilled with stone. Materials: Timber, c 255 x 130mm section, total length 4 metres to make three steps. Approx. 1.5T stone for infill. GR 0456 8695 [Photo CR1d. 10] One of the surface timbers is breaking up and collapsing. Replace with treated timber, 130 x 255 x 2400mm. The whole 130m length of the walkway has been covered with lightweight wire netting to provide a non-slip surface. This is no longer fit for purpose, having been worn away, also presenting a potential trip hazard. Should be replaced by heavy gauge welded galvanised netting (130 x 0.50 metre width)</p>		<p>Remove old steps. Install 3 steps. Replace rotten board. Netting for 130m board.</p>
Colaton Raleigh	CR2a	A	<p>ATTENTION:GR 0422 8800 to 0450 8807 For the first approx. 230 metres the path is subject to flooding. Surface water collects where the track is lower than the surrounding ground and no run-off is possible [Photos 1 to 6] (alternative narrow tracks have been created by walkers on the north side of the main track).The remaining 270 metres has minor ponding at locations shown [Photos 7 to 9].The flooding can be remedied by laying stone, and compacting to form a crown which will allow the track to drain. This is estimated to require 200T+ of stone, suggested quantities for each location shown in the photo titles.</p>		<p>Reduce to 80T and address drainage.</p>




Colaton Raleigh	CR3a	A	<p>Between GRs 0339 8746 & 0336 8757 [Photos 3 to 6] 130 metres with deep ruts, mud and standing water in wet weather. Approx 50T stone to infill ruts, laid to form a crown, and compacted.</p>		<p>130m 40T as dug Heath brash</p>
Colaton Raleigh	CR3c	A	<p>ATTENTION: Sleeper walkway at GR 0341 8775 [Photos 1&2] Low point in the track. The track is prone to flooding and accumulation of mud for about 20 metres, and the existing sleeper walkway on the West side is in disrepair</p> <p>Two suggested remedies: a) Rebuild the walkway Treated timber sized 130 x 255 x 2400mm, double width, to replace existing walkway. To construct the deck, 18 such timbers required. To create footings, 6 extra required, to be cut to 800mm length to support each end of the decking sections. The whole to be covered on the upper surface with heavy gauge welded galvanised netting.</p> <p>b) Raise the level of the track. 30T stone laid to form a crown to assist drainage, and to provide 2 metre width for vehicular use.</p> <p>WATCH GR 0342 8778 [Photo 3]. At the junction with CR4b the track is lower on the southern side, allowing a build-up of mud. Passable for walkers at present. Could be resolved by raising track level with c5T stone.</p>		<p>Remove old boardwalk 20T 40mm 10T as dug</p>

Colaton Raleigh	CR6a	A	<p>ATTENTION: Muddy and flooded section GR 0375 8740 [Photos 2 to 6] Path enters left-right-left S bend. Confused section with surface water and build-up of mud. No evidence of significant water action causing wash-out, so building up the track base should restore the track. 50T stone laid and built up to create a crown profile, 3 metre width to give good vehicular and recreational access.</p> <p>WATCH: Surface water from GR 0377 8743 to 0383 8748, a 65 metre level section covered by slow-moving surface water to a maximum depth of 20 to 30 mm. Currently this is negotiable for path users, and no apparent risk of erosion.</p> <p>ATTENTION: Flooded section from GR 0384 8751 to 0369 8754 [Photos 10 to 12]. The track descends to run level to the south east a large pond. The track is covered by shallow, slow-moving water for approx. 30 metres, before reaching a water course crossing the track from the pond, with an inadequate sleeper bridge to provide a crossing point. Two suggested remedies: a) Replace the existing bridge with a longer, 9 metre, structure, sited at the SE side of the track to allow access for vehicles. Some cutting of overhanging trees and bushes will be needed to create headroom. Bridge construction: treated timber sized 130 x 255 x 2400mm, double width. 10 timbers in all, 8 for the deck, and the other two to be cut to 800mm lengths to construct the footings. All to be covered with heavy gauge welded galvanised netting. b) Alternatively it may be possible to create a route for walkers around the northern side of the pond [Photo 13]. There are no significant water courses entering the pond across this route. Clearing of undergrowth and levelling of the surface to produce a walking surface.</p> <p>WATCH GR 0393 8759 [Photos 14&15]. The track rises sharply towards the North East, the central section is badly eroded on the slope. Alternative routes on either side, the eastern option is in good condition and the preferred option for walkers and vehicles. Block eroded routes to discourage use.</p>	  	<p>Reduce width so reduce stone 20T 40mm 20T as dug 9m boardwalk Heath brash</p>
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Colaton Raleigh	CR10b	A	<p>ATTENTION: GR 0508 8688. A stream crosses the route, but in wet weather ponding spreads over a greater area (approx. 5 metres in width). A previous sleeper bridge has collapsed. Suggested remedy: Install two sleeper type bridges, [as indicated in Photo CR10b Bridge site]. At the southern end the remains of the footings for the previous bridge(s) are in place and still sound. New footings for the main bridge [shown as "1" in the bridge site photo] will be sited next to this, and the existing structure can act as a step onto the new bridge. This position will occasionally flood, therefore the suggestion is that a concrete plinth should be formed. Excavate a 900mm square hole, approx. 200mm deep, construct temporary wooden formers and fill with approx. 0.5 cu m concrete. The top surface will then be approx. 300mm above ground level. Before the concrete sets steel bolts or rods inserted to project 400mm vertically will provide anchorage points for the timber decking. Footings 2 & 3 can be constructed from 800mm lengths of treated timber, 150 x 300mm section. Bridge decking timbers to be 150 x 300mm section, laid as double width, and heavy gauge welded galvanised steel netting securely fixed to the upper surface. The spans of the two bridges will be approx. 5.0 to 5.5 metres, precise lengths to be determined once the footings are in place. This solution is not ideal, but appeared to be the best available without constructing a major 10 metre span bridge. It does depend on the stability of the spit of land projecting from the northern bank, where Footings 2 is proposed. Currently this is protected by the roots of a small tree growing from the bank. Judicious pruning of the tree to reduce top weight may help to prevent it falling and taking the bank with it. ATTENTION: GR 0508 8685. Steps leading from the footbridge site to join CR 11 [Photo 6]. Four steps in disrepair lead up to join CR11. These to be removed, and five new steps constructed, using risers 50 x 200mm section, each 2000mm length, retained by timber pegs or posts driven into the ground. 2 to 3T stone to provide infill for the step surfaces. WATCH: GR 0508 8685: Path entrance from CR11 [Photo 7] is somewhat overgrown. Cutting back of surrounding growth and widening will help to identify the path entrance for users.</p>	 	Bridge and steps
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Colaton Raleigh	CR22a	<p>ATTENTION: GR 0413 8698 [Photo CR22a 1] Flooding across the width of the track. 10T stone to restore level.</p> <p>ATTENTION: GR 0413 8700 [Photos CR22a 2 & 3] The existing 10 metre boardwalk is sound, but access at either end is affected by flooding and deep mud. Infill each end with 20T stone, or extend the boardwalk by 5 metres each end.</p> <p>ATTENTION: GR 0416 8735 to GR 0426 8750 [Photos CR22a 7 to 10] 125 metre stretch which crosses several small watercourses, and when inspected was covered with water and mud throughout, to a depth of 100mm, but with a hard base beneath. Possibly the only solution would be to construct a boardwalk along the entire 125 metre length, minimum ground clearance of 200mm to allow water to flow underneath. In winter the only suitable footwear would be wellingtons. The existence of the boardwalk and sleeper bridge are evidence of attempts in the past to make this an all-weather route, but to ensure this with the construction of a further 125 metre boardwalk may not be justifiable.</p>		Remove infrastructure to discourage use. Use resources on alternative nearby routes (CR1d & CR6A)
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Woodbury	W17d	A	<p>Deeply flooded and damaged section for 105 metres from the northern end [photos W17d 4 to 7] Requires 100+T stone, levelled, to infill. Continuing south, at the bottom of the hill [photo W17d 3 flooding occurs after wet weather. c10T stone to raise the level and allow water runoff.</p>		<p>Reduce to 30T 40mm 40T as dug Reprofile existing material and address drainage. Heath brash</p>
Woodbury	W18a	A	<p>1). Severe damage for approx 30m, where the route starts downhill from W9 [photos W18a 1 to 4]. The route splits with a walking option either side for the length of the erosion. Solution could be to rebuild one side (eastern), to leave the other side as it is. Repairs could consist of laying c30T stone, levelled, and held in place by a series of revetments across the route using timber such as 450 x 250 cross section, to effectively create a series of four to five steps. Vehicle access required, reform and include drainage. Heath brash spread on sides to restore edges of track.</p> <p>2). 50m further south at GR 0424 8680 [Photo B18a. 4] flooding of the route has occurred at the bottom of the hill. It will be necessary to allow water to drain across the route so the solution could be EITHER to lay 20 to 30T of <u>large</u> stone, OR to construct a 5m footbridge on the western side, using two sleeper sized timbers to give a min width of 500mm, at a height above ground of not more than 700mm, which would then not require a handrail.</p>	 	<p>20T as dug and reprofile. Heath brash</p> <p>10T 40mm</p>

Woodbury	W1c	W	Erosion starting to cause deep ruts over 20m of route [photo W1c 1]. Approx 5T stone required to infill, and then graded level.			5T as dug
Woodbury	W4e	W	Pothole and possible flooding area. 5T stone to raise level of track. Access from Uphams Wood car park [photo W4e (2)]			5T as dug
Woodbury	W7b		Approx 100m where potholes are developing, risk of flooding developing across the whole width of the route. Recommended 40T stone spread and levelled across problem areas			40T

			<p>WATCH GR 0413 8778 Where the track follows a 900 right-hand curve water cannot drain away on the inside of the bend, threatening flooding of the whole track. If not possible to improve drainage by cutting drainage channels, 25T stone laid and compacted would increase the track level and allow natural drainage away from the site</p>		Drain (25T tbc)
Bicton	B1a B1b		<p>Ponding over 20m. 30T stone, spread and levelled. Ponding in wet weather towards junction with B1c. 30T stone spread and levelled to fix.</p>		40T as dug over total section
Bicton	B1e		<p>At GR 0367 8573, at the bottom of the hill near the junction with B6d a water course crosses from the west side. After rain, water ponds across the full width of the track. It does not appear feasible to pipe the water course below the track. If a solution is required, a raised sleeper walkway on the western side of the track would provide a dry crossing. Double width sleeper size treated timbers 3400 x 255 x 90mm, covered with heavy duty mesh, minimum overall length 10 metres.</p>		10T Stone or French drain rather than boardwalk?

ONGOING MAINTENANCE

Other works identified in the audit will be carried out as part of the PHCT general site maintenance. Many of the tracks suffer from water damage, both from running down slopes and pooling at the bottom of slopes and on level sections. The conditions of the routes would be improved by addressing the water flow, treating the cause of the problem rather than the symptoms. This will involve the creation of drains across tracks to catch water reducing the impact on slopes as well as having an appropriate camber over the track to move water off to the side preventing pooling which leads to the formation of potholes. This will generally require labour and the use of a digger and roller to reform the existing material, relatively small amounts of aggregate will need to be brought in. An amount will be included in the annual budget for this work each year.