High Weald AONB Management Plan 2014-19

Expert Engagement: **Geology, Landform, Water Systems & Climate**

Produced June 2017

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1. Introduction

The High Weald AONB Management Plan is subject to a 5 year review cycle and work to review the 2014-2019 Plan began in March 2017. A crucial part of the review process is engagement, and the decision was taken to engage at an early stage to ensure the revised draft incorporated as many different peoples' views from the outset as possible. The engagement process may be divided into two parts:

1. Expert engagement
2. Public engagement

This report provides an overview of the entire consultation and engagement process, as well as the method used to complete each stage.

The process involved running a series of character component-themed workshops in which experts their respective fields were invited to submit their views on various aspects of a specific character component. Those unable to attend the workshops were given the option of submitting their views via a feedback form. Full transcripts of the workshop are reproduced in Appendix A and completed feedback forms (where available) in Appendix B, both of which are at the end of this report.

The following sections outline the method used to run the workshop, a summary of the results and some conclusions on what they mean for the new plan. This particular report details the woodland-themed workshop, which was the first workshop in the series.

NB: As this review seeks to be light touch – in line with the scoping report – the aim of the workshops was not to revise the objectives, but to instead focus on the issues, targets and indicators of success.

2. Method

In order to gather expert input at an early stage, practitioners and representatives from a range of partner organisations were invited to a series of character component-themed workshops. Invitees were selected from the AONB Unit's database of contacts – a process which also afforded the opportunity to update and add to our existing contacts where gaps were apparent – and invitations were sent out via Eventbrite several weeks in advance of the events

Public Understanding & Enjoyment workshop
Image ©Matt Pitts

The workshops themselves all took place in mid-May, with each workshop consisted of either a morning (10am-1pm) or afternoon (2pm-5pm) session. They involved a series of introductory presentations (outlining the importance of the AONB and Management Plan, as well as introducing the character and significance of the component in question) and the use of facilitators to note down responses to a range of pre-defined questions on a flip chart. Some of the questions also involved a ranking component and the session was broken up by a guest speaker with specialist knowledge of an aspect of a particular component.

The geology, landform, water systems and climate workshop was held in the morning of Wednesday May 17th. A detailed outline of the work shop may be found in the table on p.3.

Question	Purpose	Activity	Timings
INTRODUCTORY PRESENTATION FROM THE DIRECTOR & COMPONENT-SPECIFIC PRESENTATION ON CHARACTER AND SIGNIFICANCE			30 mins
Q1) "*What has been done to achieve the conservation and enhancement of High Weald XXXX in the last 5 years?*"	The purpose of this questions is: i) to get people in a positive frame of mind by asking them to think about successes/achievements and ii) to contribute to the performance & condition monitoring portion of the plan by giving us a sense of the work that has been done conserve & enhance the landscape and realise the MP's targets.	▪ Write the question at the top of a flipchart sheet in advance of the workshop ▪ Split the participants into manageable groups (up to 10 per group) with each group working on separately on the same question ▪ Record peoples' comments on the flipchart, ensuring each group uses a different colour pen ▪ Throughout the process try to keep discussion and debate to a minimum and ensure everyone has a say, and try to keep to time ▪ Make sure to write as neatly as possible so the information can be transcribed later!	15 mins
Q2) "*What are the main issues affecting the conservation and enhancement of XXXX in the High Weald?*"	The purpose of this question is to generate a list of the most important issues affecting each component and in doing so, potentially identify new issues that were not included in the previous plan.	▪ Write the question at the top of a flipchart sheet in advance of the workshop, as well as the initials of the facilitator, the topic and question ▪ For smaller groups (10 and under) this exercise may be done as a single group. For larger groups, split the participants into two groups with each group working on separately on the same question ▪ Record peoples' comments on the flipchart, ensuring each group uses a different colour pen ▪ Once everyone's had a chance to submit their views, number each point randomly ▪ Once all the points are numbered, ask the participants to rank them by noting down on sticky dots the numbers of the four issues they consider most important. ▪ Once everyone's numbered their four dots collect them up and – with the help of another facilitator – stick the dots next to their respective point ▪ Once all the dots have been stuck up summarise the results for the group pointing out the highest ranking points and asking the groups' opinion on the result ▪ Throughout the process try to keep discussion and debate to a minimum and keep to time ▪ Make sure to write as neatly as possible so the information can be transcribed later!	30 mins
REFRESHMENTS & GUEST SPEAKER			40 mins
Q3i) "*What would the successful conservation and enhancement of High Weld XXXX look like?"* *Q3ii) "What needs to be done in the next 5 years to achieve the conservation and enhancement of XXXX in the High Weald?*"	The purpose of these questions is to get people thinking about: i) what the landscape would be like if it was to be successfully conserved and enhanced and ii) the most achievable actions that need to be taken/changes that need to occur for this vision to be realised.	▪ Write the question at the top of a flipchart sheet in advance of the workshop ▪ Split participants into manageable groups (up to 10 per group) ▪ Give each group a different colour pen and send them to separate stations ▪ Allow 20 mins for each group to initially respond to their assigned question and then swap the groups around so each group can have their say on the other groups' question (**NB:** make sure you keep the same colour pen so that you can distinguish which responses belong to which group). ▪ Once the groups have switched stations, their facilitator should explain the new question ask the group if there's anything they would like to add to what's already been said by the previous group. Each group then has ten minutes to add their thoughts and comments to what has already been written down by the preceding group. ▪ Once everyone's had a chance to submit their views, gather everyone into one large group around the *Q3ii) "What needs to be done to achieve it?*" question and number each point on the board randomly ▪ Once all the points are numbered, ask the participants to rank them by noting down on sticky dots the numbers of the four issues they consider most important. ▪ Once everyone's numbered their four dots collect them up and – with the help of another facilitator – stick the dots next to their respective point ▪ Once all the dots have been stuck up summarise the results for the group pointing out the highest ranking points and asking the groups' opinion on the result ▪ Throughout the process try to keep discussion and debate to a minimum and keep to time ▪ Make sure to write as neatly as possible so the information can be transcribed later!	c.40 mins
NB: In addition to the activities outlined above, workshop participants will also be given the opportunity to make additions to the draft character statements. The draft statements will be posted on the wall during the workshops and the opportunity to add to them will be flagged up following each character component presentation.			

3. Results

Responses from the workshop have been organised by question and are displayed below. A list of the original points for each group is provided first, followed by some basic analysis of these responses. In the case of Q1, this entailed generating a word cloud from participant responses and that shows the most frequently occurring words in larger font.

For the following questions (Q2 – Q3), workshop answers were tabulated and grouped according themes identified in the existing Management Plan (2014-2019). Where responses did not fit into pre-existing categories they were grouped in their own standalone category. Using this approach enables support for existing issues, targets and indicators of success to be clearly identified, as well clearly highlighting those that have been newly identified through the workshop process.

Ranking information from the workshop exercises has also been included where available.

Q1) What has been done to achieve the conservation & enhancement of High Weald geology, landform, water systems & climate in the last 5 years?

Both groups' transcribed responses to the first question of the geology, landform, water systems and climate workshop may be seen below:

Group 1 CW responses

- Rivers Trusts becoming more established creating more of an active and engaged community that's raising the profile of water management
- Water framework directives impact
- EA has become more proactive in past few years
- More partnership working
- Sussex flow initiative – SWT Rother partners (EA and Woodland Trust)
- Practical work going on - river restoration projects e.g. Sheffield Park
- EA & IDB work undertaken downstream of Mayfield opening up canopy etc.
- Sussex Geodiversity website resource
- Increasing availability of GIS data e.g. EA data
- Catchment Partnerships and Farmer clusters
- Water Companies are adopting a more landscape scale approach
- LIDAR – from HW and EA has been helpful
- SWT has developed an ecosystem services model for the area
- Water companies seem to be more receptive to soft engineering/sympathetic approaches to water management
- Long serving/dedicated individuals have helped and continue to help improve catchment management
- Direct support and advice on the ground for landowners
- Change in management to avoid hydromorphological harm comes through in advice
- Culture change in conservation world – shift from site based to more landscape scale
- Acknowledgment by organisations that they are part of the landscape and have responsibility
- Avoidance of unexpected consequences as a result
- Evidence and advice documents more widely available

- Soil conservation is creeping up the agenda and awareness if it's importance is growing
- Local wildlife site review – almost finished
- Acknowledgment of the challenges of managing uncertainty - climate element
- Greater recognition by organisations and individuals of our collective responsibility
- Recognition of importance of dealing with invasives and work done to this end
- CIC's/social enterprise/ELT etc.

Group 2 GS responses

- Water catchment partnerships across the HW – 4
- 2 waste and mineral plans (ESCC) sets policy for mineral applications (protects geological features including restoration. Also consider other features.
- ESCC/EA Brede restoration fund
- Local plans adopted with relevant policies
- CSFF in Rother – help to facilitate change with multiple land holdings
- EA investigation process to understand habitat and water quality issues in catchments
- Start of an increase in understanding of NFM (and spin off benefits)
- More people thinking about multiple benefits – not single ecosystem benefits
- Start increasing understanding of natural capital
- Water cos has a wider impact through partnership working
- Water cos keeping CSFF going lots of people on the ground
- Designated sites – SSSIs favourable/ unfavourable
- Pett Level moving to favourable condition

After transcription, all the above responses were gathered together in a single and fed into an online word cloud generator (available from: http://www.wordclouds.com/). The word cloud generator determines the size of the words in the output image by the number of times they are used in the original text. The image below, therefore, provides a visual representation of the most frequently occurring words used by attendees in answer the “what’s been achieved in the last 5 years” question.


releveant
issues
almost
dealing
recognition
GIS
SWT
individuals
Local
people
features
land
spin
cos
help
landscape
ground
data
advice
water
going
growing
CSFF
change
etc
ESCC
waste
lots
IDB
fund
start
Water
end
sites
benefits
Greater
NFM
scale
work
multiple
Sussex
applications
Pett
done
wildlife
review
sets
single
site
management
Level
mineral
across
agenda
invasives
element
impact
restoration
catchment
ESCC/EA
finished
Brede
enterprise/ELT
understanding
Also
wider
conservation
plans
climate
awareness
CIC's/social
soil
collective
responsibility
uncertainty
partnership
working
challenges
Park
river
importance
ecosystem
SSSIs
policy
flow
favourable
natural
partnerships
capital
Recognition
Acknowledgment
increase
managing
shift
Rother
organisations
keeping
based
catchments
thinking
increasing
conditon
consider
unfavourable
moving
quality
creeping
Designated
including
opening
protects
process
Farmer

Q2) *What are the main issues affecting the conservation & enhancement of geology, landform, water systems & climate in the High Weald?*		
		Issues raised in the workshop categorised by issues in the 2014-19 AONB Management Plan (with workshop scores in brackets)
Existing top five issues MP 2014-2019	*Understanding the capacity for small scale mineral extraction to support conservation of heritage buildings and assist rural businesses without damaging the AONB*	- Inappropriate design of new developments not just sheer pressure but about how it sits in landscape, use of local materials to reflect geology
	Managing multiple interests on the sandstone outcrops – soft rock climbing and cryptogams – in the face of threats to the integrity of the sandrock and its humid microclimate from invasive species such as rhododendron; mechanical damage and the use of drying agents for climbing; and climate change (increase in rainfall intensity with longer dry periods)	- Invasives (2) - Recreational pressure – especially at some geological sites/sandstone outcrops (1) - Non-native invasive species so many to be controlled (1) - No research into control of Crassula needs long term approach – takes years - Sandrock damaged by climbers - Leisure impact generally - Preservation and management of important geological features in addition to the well-known "sandrocks" Is also an issue. ***NB: a point coloured purple signifies that it has been submitted remotely via a consultation form rather than during the workshop.**
	The need to find a long term plan for the drained landscapes of the Eastern High Weald river valleys which unites the interests of profitable agriculture and conservation of historic assets with sustainable water management and biodiversity	- Farm support systems and agri-environment schemes having a damaging impact sometimes - Use of pesticides and herbicides – run off into watercourses
	Pressure on groundwater supply and threat of damage from engineering solutions to meet the growing demand for water across the South East from increased households and changes in agriculture and horticultural practices	- New developments rarely consider water management effectively – lack of management plans (1) - Increase in impermeable surfaces causing problems with run off etc. (1) - Danger of having insufficient water available (1) - Historic and hidden infrastructure – culverts, drainage etc. is expensive to remove - Old abstraction licenses - Development has an impact – incremental development collectively has an impact on run-off, demand for fresh water (6)
	Understanding and responding to the effects of climate change on key landscape features and biodiversity.	- Climate change uncertainty (2) - Climate change – availability of water – small tributaries (gills) may dry up (5)

New Issues	- Development pressure (3) - Wise use of soil and soil conservation (2) - Cultural issue of seeing environment and economy as a trade-off (1) - Lack of public awareness of natural resource use and its impact on climate, soil, water resources etc. (1) - Lack of up to date planning policies covering the area (1) - Changing farming patterns – bare land over winter and consequent loss of soil and nutrients - Gains of past being lost and in danger in future - Commercial foraging - Cultural disengagement with nature/the environment - Inappropriate SUDs schemes – planting invasive species with little means of control - Highways surface run off and pollution - Neighbourhood plans – danger residents are not well informed enough - Lack of funding - Food production and consumption - Building planning for the future – increasing resilience in development of all kinds - Shale gas/oil extraction - Change in agri-environment schemes – now and post BREXIT will farmers be paid to keep a standard – drop off already - reduction buffer strips can't get into mid-tier immediate impact (6) - Point source/diffuse pollution incidents impact on water quality etc. (3) - Funding generally – EA for habitat enhancement going down (2) - Monitoring resources due to cuts – ecological (2) - Flood prevention – 3 orgs (county EA IDB) unclear who has responsibility – who to go to advice (1) - Hydro-carbon exploration esp. West Sussex (1) - Positives can be undone quite quickly regulatory funding changes (1) - But easier for county councils as more an internal teams. Differs across area – some counties have kept expertise others haven't - Increase covering of soil with artificial layers - Other sectors (not just water) need to take on responsibility - Affects Buglife initiatives/beelines - Rural bus services declining - Nitrogen deposition Ashdown Forest - Loosing expertise

Q3 i) *What would the successful conservation & enhancement of High Weald geology, landform, water systems & climate look like?*		
		IoS raised in the workshop categorised by IoS in the 2014-19 AONB Management Plan
Existing IoS MP 2014-2019	**G1 Objective: To restore the natural function of river catchments.** **Associated IoS:** *i) Reduction in the rate at which flood waters pass down the middle and upper reaches of the AONB's catchments, and reduction of excessive sedimentation due to water run off and flood flows* *ii) Shift in the balance between the quantity of floodwater conveyed directly to the outfalls and the quantity diverted into temporary storage on the floodplains.*	- Another/more river restoration schemes achieved - Ecological networks effectively mapped to highlight gaps - Where appropriate removal/adaptation of historic structures – culverts weirs dams etc. – but whilst recognising original purpose - More flood/drought resilience - More floodplain woodland and wetland habitat – more naturalised habitat - Support/grants for landowners to restore and enhance – more innovative funding streams too e.g. crowdfunding - Equal weighing to drought/flood issues - More resilient streams that can cope with flood and drought - More ponds as part of NFM
	G2 Objective: To protect the sandstone outcrops and other important geological features of the AONB. **Associated IoS:** *i) No change in extent of sandstone outcrops from 2012 baseline* *ii) Favourable ecological condition achieved at important sandstone outcrops.*	- Biological records more effectively captured and historical records utilised too to shed light on past species assemblages

	G3 Objective: Climatic conditions and rates of change which support continued conservation and enhancement of the High Weald's valued landscape and habitats. **Associated IoS:** *i. A low carbon economy in the High Weald* *ii. Adoption of appropriate land management practices that reduce greenhouse gas emissions and store carbon.*	-

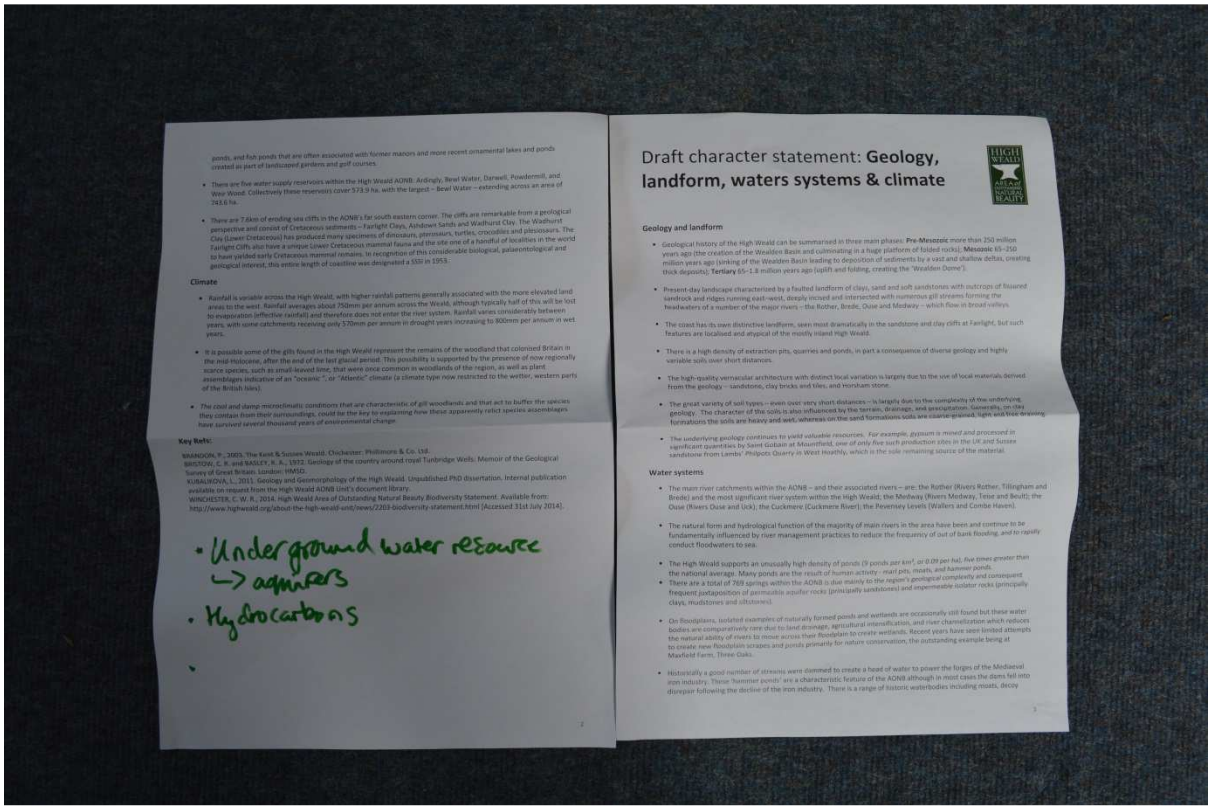
New IoS	- Established invasive plant species groups to help control invasives community events – beer festival etc. – can be a hook to hang this on - More citizen science activity - More landowner engagement – in joined up landscape scale way - Better identification of locations for new projects - Greater use and promotion of best practise guides e.g. the wild trout trust survival guide - Raising awareness of biosecurity amongst all stakeholders – boaters farmers fishermen etc. - Brexit survived in terms of viability of land management - Proper natural capital accounting – consistent methodology - Better control of tree disease - More partnership working and ongoing partnerships maintained - Development taking better account of drainage water management - Better awareness of importance of soil conservation and more training events and education - Guidance for outfits – highways etc. – on appropriate management - Levies on developers for delivering positive conservation outcomes - Better understanding of the implications of oil and gas – conventional and unconventional – in the area - More community supported land management and social enterprise type stuff - More education of children outdoors - Better use of unmanaged woodland - Maintain status quo in water quality given pressures this would be good - More knowledge re start position amongst LOS – stewardship role - Enhanced sustainable tourism economy recognising value of asset - Shared understanding/agreement of what success in the HW looks like - Less invasive species - Thoughtful use of building stone - Better appreciation of the value of water and water environment – people outside as well - Beavers - Bring back one to one visits - More talking to landowners - More use of local skills – woodsman - More education of young people - Preservation of gills in their natural state is important geologically as some locally have natural rock outcrops in the stream bed and banks. Marline Valley nature reserve is a good example. - ***NB: a point coloured purple signifies that it has been submitted remotely via a consultation form rather than during the workshop.**

Q3 ii) *What needs to be done in the next 5 years to achieve the conservation & enhancement of geology, landform, water systems & climate in the High Weald?*		
		Targets raised in the workshop categorised by Targets in the 2014-19 AONB Management Plan
Existing targets MP 2014-2019	**G1 Objective: To restore the natural function of river catchments.** **Associated Targets:** a. Integrated water and land management strategies for river catchments within the AONB, identifying the potential for restoring natural functions and complementary with the Water Framework Directive; b. Sites which demonstrate river restoration techniques developed and promoted ; c. Review and supplement if necessary advice and support provided to ensure development and land management delivers sustainable water management; d. Integration of AONB policy objectives with Environment Agency's River Basin Management Plans, Shoreline Management Plan, Catchment Flood Management Plans and Water Companies' Water Resource Management Plans to ensure they fulfil their statutory duty to the AONB; e. Integration of environmentally responsible water policy objectives into other policy areas, such as the Common Agricultural Policy (including agri-environment schemes), water resource and land use planning to ensure a sustainable balance between water demand and supply; f. Land use measures fully attuned to the requirements of river restoration, contributing to an ecosystem services approach; g. Consultation facilitated on medium and long term objectives for the lower reaches of the Rother and	- Integrated approach to NFM – clean, slow water to ensure multiple benefits align funding streams (7) - Landowner awareness – simple solutions (4) - Increased effort to communicate success stories and best practise including social media (4) - Concerted effort to work with organisations with large landownership to implement solution/ better management practises (3) - Natural Capital and ecosystem services etc. – how to align funding streams rather than disparate EA water conservation (2) - Make it easy for landowners to understand what is needed (2) - Work to better understand trout spawn grounds and then to create where appropriate (1) - More leaky woody debris - Build on natural capital and ecosystem services - Be clear on what to focus on with landowners (which battle to pick?) - More GI and blue infrastructure planning

	Brede.	
	G2 Objective: To protect the sandstone outcrops and other important geological features of the AONB. **Associated Targets:** a. No loss of sandstone outcrops; b. Environmental management plan for the Brightling Gypsum mine and works complex reflecting AONB priorities; c. A coordinated campaign to promote the unique geological heritage of the High Weald with publically owned sites providing a lead in line with Geodiversity Action Plan; d. Integrated management plans in place for popular sandrock sites with vegetation management informed by the needs of key species; reflecting the views of all users and linked to climbing good practice guides; e. Guidance provided to allow small scale utilisation of the geological resources of the High Weald where this does not damage the AONB.	- The G2 objective in the Management Plan apparently includes protection of other important geological features of the AONB as well as the sandstone outcrops. This is desirable and appears to be compatible with target **c** to promote the unique geological heritage of the High Weald with publicly owned sites. However the Rationale presented in the Plan refers only to the well-known "sandrock" outcrops of the Ardingly (Tunbridge Wells) Sandstone. - There are plenty of other sandstones in the High Weald with different characteristics to the Tunbridge Wells Sandstone. They are very well exposed along the coast from Hastings to Pett Levels which is an SSSI. Other outcrops occur along road edges such as the Ashdown Formation sandstone in Waldron village. Others occur in old quarries but these tend to not have public access. - The clay formations interbedded with the sandstones are well exposed along the coast. Inland they are less accessible, mainly in quarries. - Our Sussex Geodiversity website includes descriptions of all Local Geological Sites in Sussex, many of which are SSSIs. Those accessible to the public are identified on the index map. http://www.geodiversitysussex.org.uk/riggs.php - Some of these sites are designated for geomorphological (landscape) features, especially the coastal sites. - Target **e** refers to guidance provided to allow small scale utilisation of the geological resources of the High Weald. The High Weald has a long history of utilisation of geological resources including present day sandstone quarrying, brickmaking and gypsum mining. This should be recognised as part of the High Weald heritage and suitable sites commemorated or preserved in some way. - Target **c** should be continued with a growing emphasis on geological features other than the "sandrocks". ***NB: a point coloured purple signifies that it has been submitted remotely via a consultation form rather than during the workshop.**

	G3 Objective: Climatic conditions and rates of change which support continued conservation and enhancement of the High Weald's valued landscape and habitats. **Associated Targets:** a. Use of renewable energy appropriate to the local landscape encouraged; b. Site specific design briefs for new development seeking zero carbon standards and use of materials with low embodied energy; c. Support in place for businesses seeking to encourage the meeting of local needs through local networks (e.g. food, materials, energy); d. Guidance on transition to a low carbon landscape promoted; e. Climate change mitigation and adaptation strategies taking account of AONB features;	- Better understanding of climate change impacts of scenarios – work/studies that achieve this (5) - Targeted research – gill streams and resilience to climate change e.g. sediment and transport in view of more future hearing rainfall events from climate change (2) - Continue to consider impact of climate change on policy
New targets	- Collective response re funding agri-environment changes to influence change post Brexit (6) - Need to consider how to sell environment as an asset – need to think about how we talk about the natural environment especially to LEPs businesses etc. (3) - Need good monitoring programmes as key to assessing achievements (2) - Research into economic viability of reedbeds likewise for eels (2) - NFM prioritisation and mapping at more localised level (1) - Limit housing and transport development (1) - Need to be clear about what is needed/proposed to take to LEPs (1) - More joined up monitoring and collective analysis – sharing of results in a way everyone can understand (1) - Using existing landowners to spread the word e.g. on the Ouse Sheffield Park (NT). Others in the Ouse. Bateman's estate? Takes Himalayan Balsam off (1) - Greater engagement of youth groups – scouts etc. (1) - Creation of volunteer partnerships in the HW and sharing volunteer resource and established groups (1) - Margaret Pilkington's work on meadow floodplain valued carbon capture - Capture work being undone to as evidence to support response - Production natural asset/capital report to enable case for management to be more effectively made	

Q3 iii) *What do you think needs to be added – or taken away – from the draft geology, landform, water systems & climate character statement?*



"The High Weald landscape shows a close relationship between landform and underlying geology and development in the area should respect this as far as possible. Educational material should be provided to promote a better public understanding of the landforms and their origin. The 'sandrocks' are a particularly good example of landscape related to geology."

***NB: a point coloured purple signifies that it has been submitted remotely via a consultation form rather than during the workshop.**

4. Conclusions

The woodland workshop provided an invaluable opportunity to engage with a range of experts at an early stage of the Management Plan review. The input that has been provided on the issues, indicators of success and targets for geology, landform, water systems & climate will help shape the next Plan and highlight sections that require updating and/or additional information.

By comparing responses collated during the workshop and organising them alongside the content of the existing plan (see the tables on the preceding pages), it is clear that many of the points raised – including some of the most highly ranking (where ranking data is available) – are largely supportive and fit squarely within the issues, indicators of success and targets of the existing Plan. Where differences do occur (such as the issue of invasive control in river catchments, the need to address the area's hydrocarbon and groundwater resources, and the importance of soil conservation – all of which are not currently included in the current Plan) this will be taken on board in the review process and appropriate updates made. Similarly, parts of the plan that received little or no support from consultees will be considered for removal or alteration.

As well as informing the redrafting of the revised Plan, the information gathered at this expert engagement workshop will also be fed into the Performance and Condition Monitoring reports – documents that are required by the review process and that help measure the effectiveness of the last plan and thereby highlight areas that require improvement in the next Plan.

In conclusion, the information summarised in this report represent a critical first step in the 2019-2024 Management Plan review.

Appendix A

Workshop question response transcripts

Q1) What has been done to achieve the conservation & enhancement of geology, landform, water systems & climate in the High Weald in the last 5 years?

Group 1 CW responses

- Rivers Trusts becoming more established creating more of an active and engaged community that's raising the profile of water management
- Water framework directives impact
- EA has become more proactive in past few years
- More partnership working
- Sussex flow initiative – SWT Rother partners (EA and Woodland Trust)
- Practical work going on - river restoration projects e.g. Sheffield Park
- EA & IDB work undertaken downstream of Mayfield opening up canopy etc.
- Sussex Geodiversity website resource
- Increasing availability of GIS data e.g. EA data
- Catchment Partnerships and Farmer clusters
- Water Companies are adopting a more landscape scale approach
- LIDAR – from HW and EA has been helpful
- SWT has developed an ecosystem services model for the area
- Water companies seem to be more receptive to soft engineering/sympathetic approaches to water management
- Long serving/dedicated individuals have helped and continue to help improve catchment management
- Direct support and advice on the ground for landowners
- Change in management to avoid hydromorphological harm comes through in advice
- Culture change in conservation world – shift from site based to more landscape scale
- Acknowledgment by organisations that they are part of the landscape and have responsibility
- Avoidance of unexpected consequences as a result
- Evidence and advice documents more widely available
- Soil conservation is creeping up the agenda and awareness if it's importance is growing
- Local wildlife site review – almost finished
- Acknowledgment of the challenges of managing uncertainty - climate element
- Greater recognition by organisations and individuals of our collective responsibility
- Recognition of importance of dealing with invasives and work done to this end
- CIC's/social enterprise/ELT etc.

Group 2 GS responses

- Water catchment partnerships across the HW – 4
- 2 waste and mineral plans (ESCC) sets policy for mineral applications (protects geological features including restoration. Also consider other features.

- ESCC/EA Brede restoration fund
- Local plans adopted with relevant policies
- CSFF in Rother – help to facilitate change with multiple land holdings
- EA investigation process to understand habitat and water quality issues in catchments
- Start of an increase in understanding of NFM (and spin off benefits)
- More people thinking about multiple benefits – not single ecosystem benefits
- Start increasing understanding of natural capital
- Water cos has a wider impact through partnership working
- Water cos keeping CSFF going lots of people on the ground
- Designated sites – SSSIs favourable/ unfavourable
- Pett Level moving to favourable condition

Q2) What are the main issues affecting the conservation & enhancement of geology, landform, water systems & climate in the High Weald?

Group 1 CW responses	**Rank**
▪ Development pressure	3
▪ Climate change uncertainty	2
▪ Wise use of soil and soil conservation	2
▪ Invasives	2
▪ Cultural issue of seeing environment and economy as a trade-off	1
▪ Recreational pressure – especially at some geological sites/sandstone outcrops	1
▪ Lack of public awareness of natural resource use and its impact on climate, soil, water resources etc.	1
▪ New developments rarely consider water management effectively – lack of management plans	1
▪ Increase in impermeable surfaces causing problems with run off etc.	1
▪ Lack of up to date planning policies covering the area	1
▪ Danger of having insufficient water available	1
▪ Changing farming patterns – bare land over winter and consequent loss of soil and nutrients	
▪ Farm support systems and agri-environment schemes having a damaging impact sometimes	
▪ Gains of past being lost and in danger in future	
▪ Commercial foraging	
▪ Cultural disengagement with nature/the environment	
▪ Inappropriate SUDs schemes – planting invasive species with little means of control	
▪ Historic and hidden infrastructure – culverts, drainage etc. is expensive to remove	
▪ Highways surface run off and pollution	
▪ Use of pesticides and herbicides – run off into watercourses	
▪ Neighbourhood plans – danger residents are not well informed enough	
▪ Lack of funding	
▪ Old abstraction licenses	
▪ Food production and consumption	
▪ Inappropriate design of new developments not just sheer pressure but about how it sits in landscape, use of local materials to reflect geology	
▪ Building planning for the future – increasing resilience in development of all kinds	
▪ Shale gas/oil extraction	

Group 2 GS responses	**Rank**
▪ Development has an impact – incremental development collectively has an impact on run-off, demand for fresh water	6
▪ Change in agri-environment schemes – now and post BREXIT will farmers be paid to keep a standard – drop off already - reduction buffer strips can't get into mid-tier immediate impact	6
▪ Climate change – availability of water – small tributaries (gills) may dry up	5
▪ Point source/diffuse pollution incidents impact on water quality etc.	3

- Funding generally – EA for habitat enhancement going down 2
- Monitoring resources due to cuts – ecological 2
- Flood prevention – 3 orgs (county EA IDB) unclear who has responsibility – who to go to advice 1
- Hydro-carbon exploration esp. West Sussex 1
- Positives can be undone quite quickly regulatory funding changes 1
- Non-native invasive species so many to be controlled 1
- But easier for county councils as more an internal teams. Differs across area – some counties have kept expertise others haven't
- Increase covering of soil with artificial layers
- Other sectors (not just water) need to take on responsibility
- Affects Buglife initiatives/beelines
- No research into control of Crassula needs long term approach – takes years
- Sandrock damaged by climbers
- Leisure impact generally
- Rural bus services declining
- Nitrogen deposition Ashdown Forest
- Loosing expertise

Q3 i) What would the successful conservation & enhancement of geology, landform, water systems & climate in the High Weald look like?

Group 1 CW responses

- Established invasive plant species groups to help control invasives community events – beer festival etc. – can be a hook to hang this on
- More citizen science activity
- More landowner engagement – in joined up landscape scale way
- Better identification of locations for new projects
- Another/more river restoration schemes achieved
- Biological records more effectively captured and historical records utilised too to shed light on past species assemblages
- Greater use and promotion of best practise guides e.g. the wild trout trust survival guide
- Raising awareness of biosecurity amongst all stakeholders – boaters farmers fishermen etc.
- Brexit survived in terms of viability of land management
- Proper natural capital accounting – consistent methodology
- Ecological networks effectively mapped to highlight gaps
- Better control of tree disease
- More partnership working and ongoing partnerships maintained
- Where appropriate removal/adaptation of historic structures – culverts weirs dams etc. – but whilst recognising original purpose
- Development taking better account of drainage water management
- Better awareness of importance of soil conservation and more training events and education
- Guidance for outfits – highways etc. – on appropriate management
- More flood/drought resilience
- Levies on developers for delivering positive conservation outcomes
- More floodplain woodland and wetland habitat – more naturalised habitat
- Support/grants for landowners to restore and enhance – more innovative funding streams too e.g. crowdfunding
- Better understanding of the implications of oil and gas – conventional and unconventional – in the area
- More community supported land management and social enterprise type stuff
- More education of children outdoors
- Better use of unmanaged woodland

Group 2 GS responses

- Maintain status quo in water quality given pressures this would be good
- More knowledge re start position amongst LOS – stewardship role
- Enhanced sustainable tourism economy recognising value of asset
- Equal weighing to drought/flood issues
- Shared understanding/agreement of what success in the HW looks like
- Less invasive species

- More resilient streams that can cope with flood and drought
- Thoughtful use of building stone
- Better appreciation of the value of water and water environment – people outside as well
- More ponds as part of NFM
- Beavers
- Bring back one to one visits
- More talking to landowners
- More use of local skills – woodsman
- More education of young people

Q3 ii) what needs to be done in the next 5 years to achieve the conservation & enhancement of High Weald woodland?

Group 1 & Group 2 combined responses	**Rank**
Integrated approach to NFM – clean, slow water to ensure multiple benefits align funding streams	7
Collective response re funding agri-environment changes to influence change post Brexit	6
Better understanding of climate change impacts of scenarios – work/studies that achieve this	5
Landowner awareness – simple solutions	4
Increased effort to communicate success stories and best practise including social media	4
Need to consider how to sell environment as an asset – need to think about how we talk about the natural environment especially to LEPs businesses etc.	3
Concerted effort to work with organisations with large landownership to implement solution/ better management practises	3
Natural Capital and ecosystem services etc. – how to align funding streams rather than disparate EA water conservation	2
Need good monitoring programmes as key to assessing achievements	2
Make it easy for landowners to understand what is needed	2
Targeted research – gill streams and resilience to climate change e.g. sediment and transport in view of more future hearing rainfall events from climate change	2
Research into economic viability of reedbeds likewise for eels	2
NFM prioritisation and mapping at more localised level	1
Limit housing and transport development	1
Need to be clear about what is needed/proposed to take to LEPs	1
More joined up monitoring and collective analysis – sharing of results in a way everyone can understand	1
Using existing landowners to spread the word e.g. on the Ouse Sheffield Park (NT). Others in the Ouse. Bateman's estate? Takes Himalayan Balsam off	1
Greater engagement of youth groups – scouts etc.	1
Work to better understand trout spawn grounds and then to create where appropriate	1
Creation of volunteer partnerships in the HW and sharing volunteer resource and established groups	1
More leaky woody debris	
Build on natural capital and ecosystem services	
Be clear on what to focus on with landowners (which battle to pick?)	
Margaret Pilkington's work on meadow floodplain valued carbon capture	
Capture work being undone to as evidence to support response	
Continue to consider impact of climate change on policy	
More GI and blue infrastructure planning	
Production natural asset/capital report to enable case for management to be more effectively made	

Appendix B

Consultation form response transcripts

High Weald AONB Management Plan Review

*Technical consultation on the conservation and enhancement of the **geology, landform, water systems and climate** component of natural beauty*

Context

AONB Management Plans guide the management of the nation's protected landscapes and are a statutory requirement of the Countryside and Rights of Way Act (CROW) 2000. The High Weald AONB Management Plan is an evidence-based document that sets out the priorities for future conservation and enhancement efforts in the area, as well as providing a means for you and others to assess the impact of development on the landscape's special character.

Purpose of the consultation

We are reviewing the High Weald AONB Management Plan (on behalf of our 15 local authority partners) and need your specialist input on the geology, landform, water systems and climate component of natural beauty. Specifically, we would like your views on:

- landscape character as it relates to geology, landform, water systems and climate
- the top issues facing geology, landform, water systems and climate
- the most important long-term objectives for the management for geology, landform, water systems and climate
- the most significant 2024 management targets for geology, landform, water systems and climate

- the means by which progress towards these objectives should be assessed

How you can make your views heard

Please fill in your contact details below and then complete the consultation form on the following pages. Text from the current Plan is highlighted in the grey. Targets from the current Management Plan have been omitted for brevity, but can be found in full here, along with the information specifically relating to geology, climate and water (pp.22-23). Your views on which targets should be rolled forward to 2019 and why would be welcome, as well as any proposals for new targets. A map showing the extent of the AONB may be found at the end of this document.

The information you provide will help shape the new Management Plan and, ultimately, the future management of this special area.

Thank you in advance for you time!

Name:	XXXX
Email:	XXXX
Organisation:	XXXX

Geology, landform, water systems and climate

Character defined

The High Weald AONB is characterized by a deeply incised, ridged and faulted landform of clays and sandstone. The ridges tend east-west, and from them spring numerous gill streams that form the headwaters of rivers. Wide river valleys dominate the eastern part of the AONB. The landform and water systems are subject to, and influence, a local variant of the British sub-oceanic climate.

Comments:

The High Weald landscape shows a close relationship between landform and underlying geology and development in the area should respect this as far as possible. Educational material should be provided to promote a better public understanding of the landforms and their origin. The "sandrocks" are a particularly good example of landscape related to geology.

Top 5 issues:

- Understanding the capacity for small scale mineral extraction to support conservation of heritage buildings and assist rural businesses without damaging the AONB;
- Managing multiple interests on the sandstone outcrops – soft rock climbing and cryptogams – in the face of threats to the integrity of the sandrock and its humid microclimate from invasive species such as rhododendron; mechanical damage and the use of drying agents for climbing; and climate change (increase in rainfall intensity with longer dry periods);
- The need to find a long term plan for the drained landscapes of the Eastern High Weald river valleys which unites the interests of profitable agriculture and conservation of historic assets with sustainable water management and biodiversity;
- Pressure on groundwater supply and threat of damage from engineering solutions to meet the growing demand for water across the South East from increased households and changes in agriculture and horticultural practices;
- Understanding and responding to the effects of climate change on key landscape features and biodiversity.

Comments / Additional issues:

Preservation and management of important geological features in addition to the well-known "sandrocks" Is also an issue.

G1 Objective: To restore the natural function of river catchments **Indicators of success** i) reduction in the rate at which flood waters pass down the middle and upper reaches of the AONB's catchments, and reduction of sediment ii) shift in the balance between the quantity of floodwater conveyed directly to the outfalls/diverted into temporary storage on floodplains
Comments: Preservation of gills in their natural state is important geologically as some locally have natural rock outcrops in the stream bed and banks. Marline Valley nature reserve is a good example.
Please mark targets to be rolled forward to the next plan with a 'y' and targets to be removed with an 'n' a) b) c) d) e) f) g)
Proposed new targets for 2024:
G2 Objective: To protect the sandstone outcrops and other important geological features of the AONB **Indicators of success**

i) No change in extent of sandstone outcrops from 2012 baseline
ii) Favourable ecological condition achieved at important sandstone outcrops.

Comments:

The G2 objective in the Management Plan apparently includes protection of other important geological features of the AONB as well as the sandstone outcrops. This is desirable and appears to be compatible with target **c** to promote the unique geological heritage of the High Weald with publicly owned sites. However the Rationale presented in the Plan refers only to the well known "sandrock" outcrops of the Ardingly (Tunbridge Wells) Sandstone.

There are plenty of other sandstones in the High Weald with different characteristics to the Tunbridge Wells Sandstone. They are very well exposed along the coast from Hastings to Pett Levels which is an SSSI. Other outcrops occur along road edges such as the Ashdown Formation sandstone in Waldron village. Others occur in old quarries but these tend to not have public access.

The clay formations interbedded with the sandstones are well exposed along the coast. Inland they are less accessible, mainly in quarries.

Our Sussex Geodiversity website includes descriptions of all Local Geological Sites in Sussex, many of which are SSSIs. Those accessible to the public are identified on the index map.

http://www.geodiversitysussex.org.uk/riggs.php

Some of these sites are designated for geomorphological (landscape) features, especially the coastal sites.

Target **e** refers to guidance provided to allow small scale utilisation of the geological resources of the High Weald. The High Weald has a long history of utilisation of geological resources including present day sandstone quarrying, brickmaking and gypsum mining. This should be recognised as part of the High Weald heritage and suitable sites commemorated or preserved in some way.

Please mark targets to be rolled forward to the next plan with a 'y' and targets to be removed with an 'n'

a) y b) y c) y d) y e) y

Proposed new targets for 2024: Target **c** should be continued with a growing emphasis on geological features other than the "sandrocks".
G3 Objective: Climatic conditions and rates of change which support continued conservation and enhancement of the High Weald's valued landscape and habitats **Indicators of success** i) a low carbon economy in the High Weald ii) adoption of appropriate land management practices in place that reduce greenhouse gas emissions and store carbon
Comments:
Please mark targets to be rolled forward to the next plan with a 'y' and targets to be removed with an 'n' a) b) c) d) e)

Proposed new targets for 2024:
Any other comments?