

South Downs National Park Authority Tranquillity Study 2017

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What is Tranquillity?

1.1 Tranquillity is considered to be a state of calm, quietude and is associated with a feeling of peace. It relates to quality of life, and there is good scientific evidence that it also helps to promote health and well-being. It is a perceptual quality of the landscape, and is influenced by things that people can both see and hear in the landscape around them.

Why did we set out to map areas of Tranquillity within the National Park?

- 1.2 'Tranquil and unspoilt places' are one of seven special qualities of the National Park. They are the key characteristics that help make this place special. As a special quality of the National Park, it is something that visitors and residents greatly value. In many areas of the National Park, the landscape largely lacks intrusive development and retains areas of dark night sky. In a busy and pressured area like the South East of England these qualities are especially important.
- 1.3 These are not characteristics that apply uniformly across the whole of the National Park. Some areas are more tranquil then others, dependent on a wide number of influences. To date it has been difficult to properly identify areas that have the greatest, or least, tranquillity.
- 1.4 The tranquillity mapping project is a means for us to be able to do this and is intended as evidence work for our Local Plan. Once we have completed the work we will be able to use the results across a wide range of our activities including in relation to our planning work. It is our intention to use the data we collect to help protect and enhance areas of high tranquillity within the National Park.

Why is the term 'relative' tranquillity used in relation to this study?

1.5 The tranquillity scores apply specifically for the South Downs National Park; they are therefore to be considered <u>relative</u> to the National Park area only. They are not intended to be comparative or considered in relation to Tranquillity scores for other National Parks or other areas of the country.

Policy hooks and drivers for this approach

- 1.6 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. There are specific references to Tranquillity in the framework:
 - **Paragraph 123** of the NPPF states that planning policies and decisions should aim to 'identify and protect' areas of tranquillity where they have remained relatively undisturbed by noise and prized for their recreational and amenity value.
 - This is highly relevant within the National Park given our statutory purposes and the fact the 'tranquil and unspoilt places' is a distinct special quality identified by residents and users of the National Park.
 - **Paras 115 & 116** (footnote 25) of the NPPF also refers to the National Parks and their 'special qualities' with reference to the Government Vision and Circular on National Parks and the Broads (Defra 2010)
- 1.7 The National Planning Policy Guidance (NPPG) note on Noise also identifies factors that are relevant to identifying areas of tranquillity. It states that 'for an area to be protected for its tranquillity it is likely to be relatively undisturbed by noise from human caused sources that undermine the intrinsic character of the area. Such areas are likely to be already valued for their tranquillity,

including the ability to perceive and enjoy the natural soundscape, and are quite likely to be seen as special for other reasons including their landscape'. As a designated landscape, recognised as being of national importance, this is highly applicable to the South Downs National Park.

- **1.8** NPPG Paragraph 170 also refers to Landscape Character Assessment and the need for tranquillity to be 'assessed in the field as an aesthetic and experiential quality' which is often associated with areas of high landscape value.
- 1.9 Tranquillity is a relevant quality and important feature of the landscape character of the South Downs. The NPPF also makes reference to character in Paragraph 17 Core Planning Principles. Paragraphs 55 & 58 also reference the need for schemes to be 'sensitive to the defining characteristics' of the countryside and to respond to local character.

Developing a suitable methodology

- 1.10 The project we carried out was built upon a proven methodology. This was originally developed by Natural England and the Campaign for the Protection of Rural England (CPRE) in 2005. Tranquillity mapping projects of this kind have also been carried out in other protected landscapes such as Cranborne Chase AONB and the New Forest National Park. The National Park Authority sought advice from both of these bodies to help develop a project tailored for our purpose.
- 1.11 An initial map was produced using the national level data from the original CPRE study. This was re-plotted so that the maps showed the relative tranquillity scores across the South Downs National Park. This gave us a baseline of the areas of highest, and lowest, scoring areas of tranquillity across the National Park.
- 1.12 Appendix I shows a map of this re-plotted data and represents the relative tranquillity across the South Downs National Park split into three broad categories :-
 - Areas of highest tranquillity Shown in dark green on the map
 - Areas if intermediate tranquillity Shown in yellow on the map
 - Areas of lowest tranquillity Shown in orange and red on the map

How do you assess tranquillity?

- 1.13 Tranquillity is a perceptual quality of the landscape. In making an assessment it is important to consider both visual and audible factors. To do this it is essential to spend time at each survey location and carefully assess the landscape around you in terms of what you can both see, and hear.
- 1.14 The approach requires the site based assessment of a range of factors that contribute to, or impact upon, the tranquillity of an area. There are 44 factors in total, covering a whole range of things that might be seen or heard in the landscape. A full list of the factors are included in Appendix 2. The assessment considers them in two distinct groups:
 - **Positive Tranquillity Factors** aspects that add to the tranquillity of the area;
 - Negative Tranquillity Factors aspects that detract from the tranquillity of the area.
- **1.15** These factors are then related and scored, which allows them to be mapped using a Geographic Information System (GIS).

Development of a mobile application for the survey

- 1.16 In order to keep the survey methodology simple, we worked with the developers of the mobile mapping and data collection application called FieldTrip GB. This application was specially developed for this kind of task. It can be used on any mobile device, including a tablet or smart phone. A number of mobile devices were purchased and loaded with the relevant software, along with maps of survey sites. The National Park Authority provided these on loan to volunteers if they wished to make use of one.
- 1.17 The application also had the advantage of being free to download and use, which allowed surveyors to use their own devices if they preferred. This made it a very flexible approach that could be fitted in around other volunteering or outdoor activities.
- 1.18 The application allowed the surveyor to score criteria directly whilst on site using the custom template. This used a simple sliding scale for scoring the factors individually. The data was collected in a form that could be directly uploaded into a DropBox account which was set up specifically for the project. This was linked to the application so that uploaded records could be accessed and used to generate a GIS mapping layer. Having the GPS co-ordinates for each survey plot also made it possible to geo-locate the survey location accurately and plot it onto the GIS layer.
- **1.19** A copy of the guidance note for the use of FieldTrip GB is included in Appendix 3 at the back of this report.

Defining the location of the field plots for the first phase of the survey

- 1.20 We plotted a total of 350 survey sites across the National Park. They were randomly selected to give a good geographical spread across the National Park and to cover the different landscape character areas. They were also predominantly located within, or close to, areas of intermediate tranquillity as these represented the areas that were most vulnerable to change. This number of plots broadly equated to a 15% sample survey, which was considered a good baseline for the first phase of the study.
- **1.21** A map showing the plots in relation to the landscape character areas within the National Park is included in Appendix 4.
- 1.22 The survey was conducted as a rolling programme from east to west and involved volunteer groups from each area. The National Park Authority provided training and guidance for surveyors on how to carry out the assessment in the field. The initial tranche of survey work was undertaken from the end of March 2015. The map provided in Appendix 5 of this report gives an overview of the grid squares that were used to sub-divide the NP area into survey areas. Each survey area contained a number of survey plots.

Carrying out the site survey work

- 1.23 The programme of site survey work was undertaken to 'ground truth' the initial output maps and establish a good baseline for our evidence. To help us, volunteers from the South Downs Volunteer Ranger Service surveyed were allocated survey areas across the National Park.
- 1.24 At the survey sites, Surveyors were asked to assess the tranquillity factors that influenced or impacted at that location. Through the use of the mobile application they were able to score the individual factors while they were on site. This was done by completing the standard

template at each location. The surveyors were also provided with maps of each area that show the individual survey plots – the size of each survey plot being 500 metres by 500 metres.

- 1.25 All survey sites were accessible by public right of way or situated within publicly accessible land. To conduct the survey they were encouraged to get as close to the centre of each square as possible. For the purpose of the study they needed to assess the tranquillity of the square as a whole, not just the immediate locality.
- 1.26 For example, if they were stopped on a footpath with hedges each side, they might struggle to be able to properly assess the range of factors that influenced the whole survey plot. Through the training and guidance the volunteers were encouraged to consider what was all around them, and take it into account the whole survey area when conducting their assessment.
- 1.27 Other points the surveyors were asked to consider when surveying an area included:-
 - Assessing the tranquillity of the square from a safe and public place.
 - Finding the location that gave the best chance for landscape to be viewed i.e. not behind a hedge or boundary feature that prevents your view.
 - Spending at least 15 minutes at each location in order to get a good feel for the survey area and record their perceptions/observations using the digital template.
 - Making sure they applied a score to each factor.
 - Making full use of the 'Guide to tranquillity terminology' sheet provided to help them fully understand what each factor means (see Appendix 3)
 - Adding any additional observations/photos that were relevant to the survey.
 - Making sure that they captured the GPS location/time of the survey plot.

Outputs from the tranquillity mapping project

- 1.28 Results so far indicate that the areas that are most susceptible to change are to a degree more tranquil than the original CPRE desk based study suggests. Having a person out in the field, assessing the experiential qualities of tranquillity does introduce some level of subjectivity. A considerable effort to overcome this was made through the training and guidelines that were provided for conducting the assessments.
- 1.29 That said site based surveys provide something that no desk based study can. It provides us with an assessment of how this characteristic is experienced on the ground. This is clearly the best way to assess how tranquillity, as a special quality, is actually experienced and understood by people out in the National Park.

Local Plan policies and development management

1.30 The emerging South Downs Local Plan includes a strategic policy on relative tranquillity. The purpose of draft policy SD8 is to ensure that development does not harm the relative tranquillity of the National Park and to encourage the conservation and enhancement of positive tranquillity factors. The supporting text for this policy refers to this study and figure 4.6 of the plan is the same as the map forming appendix I of this study.

- 1.31 The results of the work to date are also being used to inform responses to planning applications and appeals. What is clear is that the South Downs National Park contains some highly tranquil areas that need to be preserved, and others areas highly susceptible to changes brought about by increased noise and visual impacts.
 - Areas of highest tranquillity (Shown in dark green on the maps) should should demonstrate that they conserve and enhance factors that contribute to relative tranquillity.
 - Areas if intermediate tranquillity (Shown in yellow on the maps) are often those areas most vulnerable to change, should avoid further harm and take every opportunity to enhance it.
 - Areas of lowest tranquillity (Shown in orange and red on the maps) are often located within or on the edge of urban areas, may have limited scope for enhancing tranquillity but opportunities for enhancement should be taken wherever possible.
- 1.32 The extent that development proposals conserve and enhance tranquillity will be determined by an assessment of the likely impact on the relevant factors. This assessment will be proportionate to the scale and expected impact of the development in relation to the surrounding context. The National Park Authority is working on providing on-line tranquillity maps that can be accessed by the public including anyone making a planning application. It is the intention that these maps will be available on-line by the time that the South Downs Local Plan is adopted. Applicants are advised to contact the Authority at the earliest opportunity for further information about the level of relative tranquillity at their respective sites.

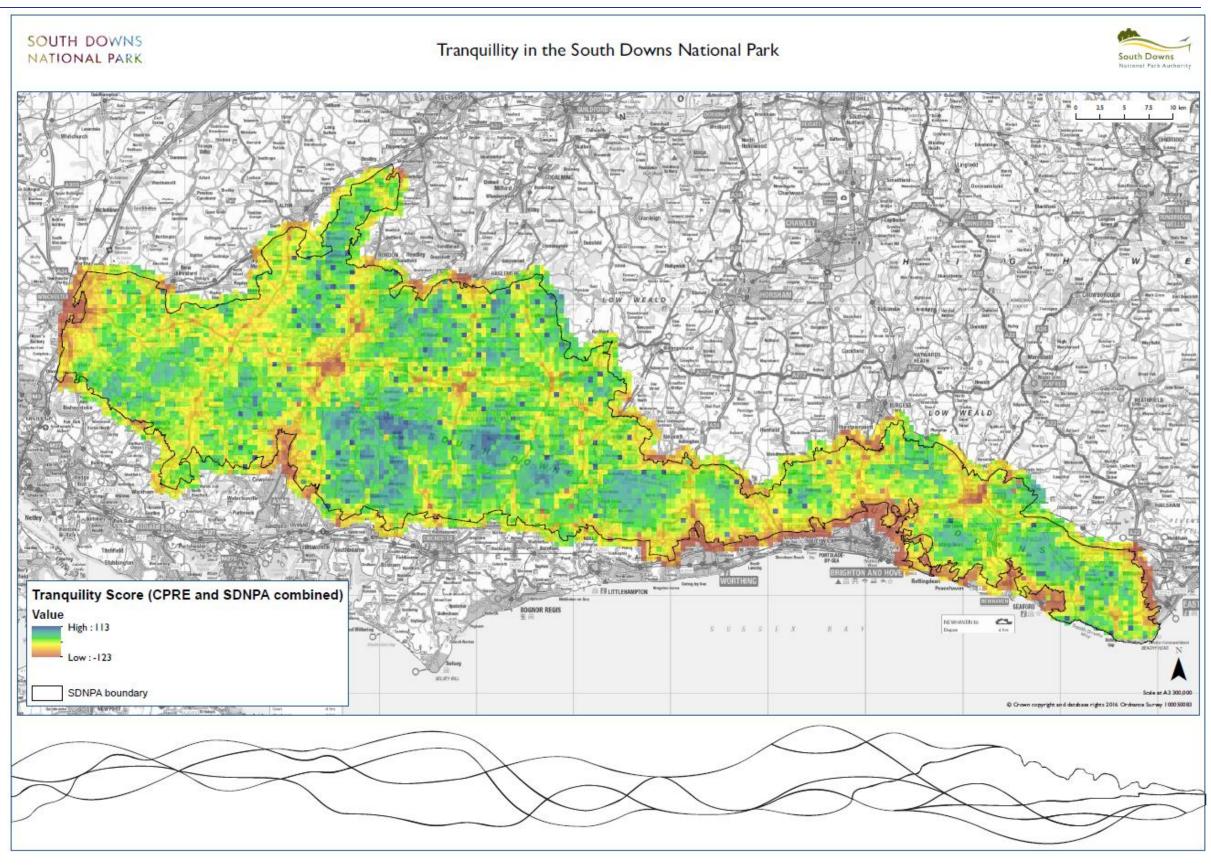
Next steps for the tranquillity mapping survey

- 1.33 This is intended to be a rolling programme of work, further phases of the project are planned. In order to develop a better understanding of relative tranquillity within the National Park we need to continue to improve upon this baseline of evidence. Beyond 2016, we aim to extend the survey so that we cover an increased number of survey sites. We also want to enable the involvement of a wider group of volunteers in the survey work.
- 1.34 With constraints on both staff and volunteer time, alternative methods of data sourcing data are being considered. These include a crowd sourcing project which would widen the ability of the public to participate in this as a data collection exercise. This will give us the opportunity to increase the coverage of survey sites across the National Park area. There is also great potential for involving interested parish councils and other interest groups in the future.
- 1.35 As the data collection application is free to download and use, it would be possible to encourage visitors to the Park to record their experience of tranquillity via their own mobile devices. It is possible that without face to face training, this type of data collection might expose the project to a higher degree of subjectivity in the recording.
- 1.36 That said, tranquillity is something that is experienced on a very individual level. The second purpose of the National Park designation directly addresses the enjoyment of the Park by the public. A crowd sourcing exercise would contribute to a better understanding of the public's perception of the relative tranquillity in different parts of the National Park. This would be a highly valuable exercise in its own right.
- 1.37 So far the project has focused on 'intermediate' areas. These are the areas within the national Park that are the most vulnerable to change. This has indicated that these areas are more tranquil than the original desk based study suggested. The sample survey of 15% provides us

with good coverage. To be able to get a sense if this is the case across the wider National Park we do need to extend this coverage. It would then be possible to re-plot the mapping parkwide with a greater degree of confidence.

1.38 Future surveying will also be extended to areas of very high and very low tranquillity to test whether these areas may also be more tranquil than previously thought. Over time we will develop a far more comprehensive picture of tranquillity, and how it is experienced, within the South Downs National Park.

APPENDIX I: RELATIVE TRANQUILLITY SCORES FOR THE SOUTH DOWNS NATIONAL PARK AREA





APPENDIX 2: TRANQUILLITY FACTORS ASSESSED ON SITE AS PART OF THE STUDY

POS	POSITIVE TRANQUILLITY FACTORS - SEEING			
I	A Natural Landscape	Natural looking vegetation cover, beautiful scenery. May contain fields, glades and woodland but appears sensitively managed. Extensive (and not intensive) farming practices, natural crops and livestock i.e. corn, wheat, sheep, cows.		
2	Wide open spaces	Open Vistas, long and wide views of surrounding landscape. Sweeping fields. The higher the visibility, the more 'open' an area is perceived to be. Ignore man-made structures that from a minor element of the Landscape.		
3	A Wild Landscape	A natural unmanaged landscape. Absence of development, no human activity or people and no hedgerows or roads etc.		
4	A remote Landscape	Very few roads or tracks are visible, very little sign of development; possibly the odd farmhouse. Little human activity is visible.		
5	Trees in the Landscape	Any types of trees forming a feature in the Landscape.		
6	Deciduous trees in the Landscape	Principally native trees such as Oak, Beech, Ash and Elm feature in the Landscape.		
7	Natural looking woodland	Mainly Deciduous trees, with understorey and leaf litter. Little evidence of active management.		
8	Streams	Streams form a feature within the landscape.		
9	Rivers	Rivers form a feature within the landscape.		
10	Lakes	Lakes form a feature within the landscape.		
11	The Sea	Seascape views or extensive views out to sea.		
12	The stars at night	Open aspect, ability to see an expansive skyscape, lack of light pollution or bleed from adjoing settlements and properties.		

POSITIVE TRANQUILLITY FACTORS - HEARING			
13	Birdsong	Sound of birdsong is a significant feature or is audible in the Landscape.	
14	Wildlife	Sounds of wildlife are audible within the Landscape.	
15	Natural Sounds	Sounds such as the leaves rustling, trees creaking, the wind or other natural sounds are clearly audible within the Landscape.	
16	Silence	Lack of any sounds within the Landscape.	
17	Peace and Quiet	The surrounding Landscape is quiet and peaceful with a predominant lack of background sound/noise.	
18	No human sounds	Complete lack of sounds associated with human activity and/or development.	
19	Running Water	Hearing natural sounds of running water such as streams, rivers or waterfalls.	
20	Lapping Water	Hearing lapping water such as at a lakeside.	
21	The Sea	Hearing sounds of the sea, such as waves breaking on the shoreline.	

NEGATIVE TRANQUILLITY FACTORS - SEEING			
22	Lots of people		
23	Anyone at all	Any visible sign of people in the landscape, or any sign anyone has been in the landscape recently.	
24	Overhead light pollution (at night)	Consider the proximity to developed areas – Consider any possibility of night-time 'sky-glow' or potential light pollution as from street lighting.	
25	Low Flying Aircraft	Aircraft are visible flying at low altitudes (Estimated up to 7000 feet).	
26	High Altitiude Aircraft	Aircraft are visible at high altitudes (estimated 7000 feet or more)	
27	Coniferous Woodland	Plantation trees such as Pine, Spruce, Cedar, Larch etc.	
28	Power Lines	Any sign of pylons, power cables or power plants.	
29	Wind Turbines	Wind Turbines or Wind Farms are visible in the Landscape	

30	Urban Development	Any building structures within the landscape. Including isolated houses, farm buildings, hamlets, power cables, pylons, roads etc.	
31	Any signs of human impact	Any building structures within the landscape – including anything related to human activity, foot paths, signs, litter, intensive farming practices i.e. Maize, Oilseed rape.	
32	Railways	Railways lines are visible within the landscape.	
33	Roads	Roads of any size or class, including farm roads, B Roads, Minor roads.	
34	Towns and Cities	Large settlements with over 10,000 inhabitants. Signs of extensive development and human activity, large expanses of buildings. Lots of evidence of pylons and power cables etc.	
35	Villages and scattered villages	Smaller settlements with fewer inhabitants. Evidence of some development and human activity. Open spaces. May be some evidence of power cables and pylons.	
36	Military Training (Not Aircraft)	Obvious signs of military training, vehicle movements, gunnery ranges or encampments.	
NEG	ATIVE TRANQUILLITY FACTOR	RS - HEARING	
37	Lots of people	See and hear more than I or 2, or crowds of people. This can include those travelling through the Landscape in cars, on bikes, walkers etc.	
38	Low Flying Aircraft	Clear, audible noise from Low flying aircraft can be heard.	
39	High Altitude Aircraft	Noise from High Altitude aircraft can be heard at all.	
40	Trains and Railways	Hearing the rumble and motion of any train or railway activities at all.	
41	Constant noise from cars, lorries and/or motorbikes	Little or no breaks in traffic sounds, frequent and regular traffic flow noises, repetitive and on-going sounds of motor vehicles.	
42	Occaisional noise from cars, lorries and/or motorbikes	Audible traffic noise, with frequent breaks in traffic sounds, infrequent and not regular traffic flow noises, can be high volume.	
43	Military training (not aircraft)	Sounds of military training, tank or vehicle movements, shooting ranges or target practice.	

44	Non-natural sounds	Sounds that drown out natural sounds such as bird
		song. Sounds associated with human activity and
		development.

APPENDIX 3: TRANQUILLITY MAPPING PROJECT- FIELDTRIP GB USER GUIDE

If you are using a SDNPA iPad, switch it on and log in with the code ****.

Before you can proceed, the iPad must be connected to the internet. Assuming you have WiFi at home:

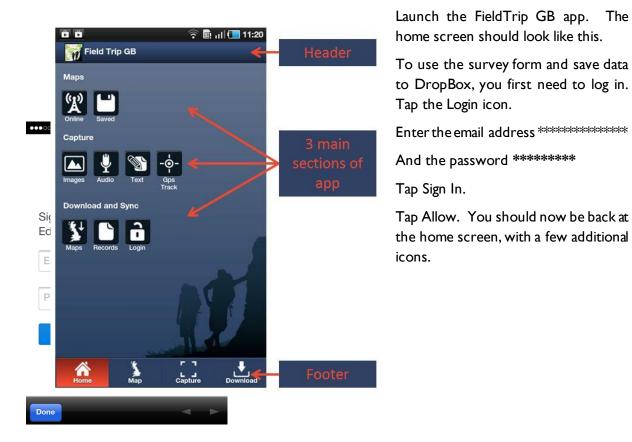
- 1. On the home screen of the iPad tap Applications (might be Apps).
- 2. Tap Settings.
- 3. Tap WiFi
- 4. After a moment there should be a list of available networks.
- 5. Tap your home network and enter your details. The iPad should now be connected to the internet and you should be able to proceed with using FieldTrip GB.

I. Download the App - if you are using your own device

FieldTrip GB is available for Android and iPhone. If you do not already have it installed on your device you can download the app from:

Android – Google Play Store

iPhone – Apple iStore



2. Using FieldTrip GB

3. Checking your location



Tap the Map button on the footer bar. There should be a blue arrow indicating your location.

Check that it is showing in the correct place – if it is not then you may not have a signal and so will need to record your location using the survey form. If you pan around the map and want to pan back to your location, tap the target icon at the top. This will centre the map over the blue arrow again.

You are now ready to enter data.

4. Capturing Data

You can capture data without being connected to the internet. The iPad is GPS enabled, so will record your location, and the FieldTrip GB app will save your survey forms to the device you are using so you can upload them one you are connected to the internet again (eg when you are back home or in an SDNPA office).

Tap the Capture button on the footer bar. You will have one survey form available to you – SDNPA Tranquillity. Tap on this form to open it. **Once you have opened and started to fill in the form, do not navigate away from it – doing so will lose your entered data.**

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The first few items are free text for you to enter: Your name Survey square – eg IM256; this should be on your survey map and list of grid squares OS Grid Ref – eg SUI2345678, taken from an OS map Weather conditions - using tick boxes. You can select more than one.

Following these items are the survey questions. These consist of 44 headings for tranquillity factors. The factors should be organised to reflect the accompanying guidance. Please refer to the 'Methodology for the Field Surveyors – Tranquillity Mapping Project' for guidance on the individual factors and how to assess them.

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The tranquillity measures should be scored between 0 and 10 for positive factors and -10 and 0 for negative factors. The survey provides a sliding scale button for you to enter the appropriate score, or you can type directly into the small oval to the left marked 'placeholder'.

To enter a zero you must still tap the slider (do this once to register zero) or manually enter a zero in the placeholder.

Fill in all the factors.

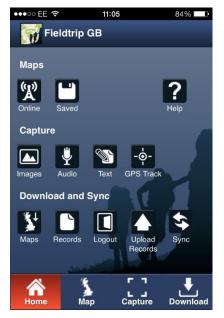
At the bottom of the survey you will have the option to upload a photo. To take a picture with your device, tap 'camera' and take a picture. Alternatively tap 'gallery' to use a picture you have taken already.

Please ensure the photo you take is representative of the survey area – make the one photo count!

You must carefully pull out the small flap covering the camera lens on the back of the iPad and ensure you close it again afterwards.

Then tap 'save'. This saves your survey form to the device. Note that you must have filled in all the required fields to save your survey. Any incomplete elements will have a red highlight around them.

5. Uploading completed surveys



Once you have completed and saved a form it must be uploaded to DropBox. You need a 3G signal or connection to WiFi (SDNPA iPads require this) to do this. You can upload survey forms one at a time as you complete them if you have a connection, or wait until you have a set of forms and upload them all in one go once back in range of WiFi or 3G.

When you are ready to upload your surveys tap the 'home' button on the footer bar. Then tap '**Upload Records**'.

This will send all your survey forms to DropBox.

Using the 'Sync' icon will result in all surveys carried out by other surveyors being downloaded to your device. **Please avoid using this option.**

6. Supporting Material and Survey maps

In DropBox you will find two additional folders: Supporting Material and Survey Maps.

Supporting Material – contains PDFs of all the guidance notes, a spreadsheet of map sheets with VRS names allocated and a spreadsheet of survey square grid references (centre point).

Survey Maps – contains PDFs of all the survey maps generated for the whole Park. Please only download those maps that you need for your work; downloading more will use up storage capacity on the device unnecessarily. You will need internet connection to access DropBox. To access it on the iPad:

- 1. Tap on the DropBox icon at the bottom of the Home screen. If you are not logged in, please refer to the user details in section 2 of this guidance note.
- 2. Tap on a folder to view the contents.
- 3. To view the PDFs, tap on the title. This will open the PDF in a viewer within DropBox.
- 4. To open the PDF and save it to your device for reference when you are not connected to the internet, tap the share icon at the top of the DropBox window.
- 5. You will be presented with the option to Open With tap this and then choose Adobe.



6. The PDF should now be open in Adobe and available for viewing.

You can also access DropBox via a web browser so you can download material to your desk top, should you wish to print anything out. Go to

https://www.dropbox.com/login

And enter the login details provided at section 2. Click on the folder you wish to access then right click on the relevant document. Choose 'download' to copy the file to your computer.

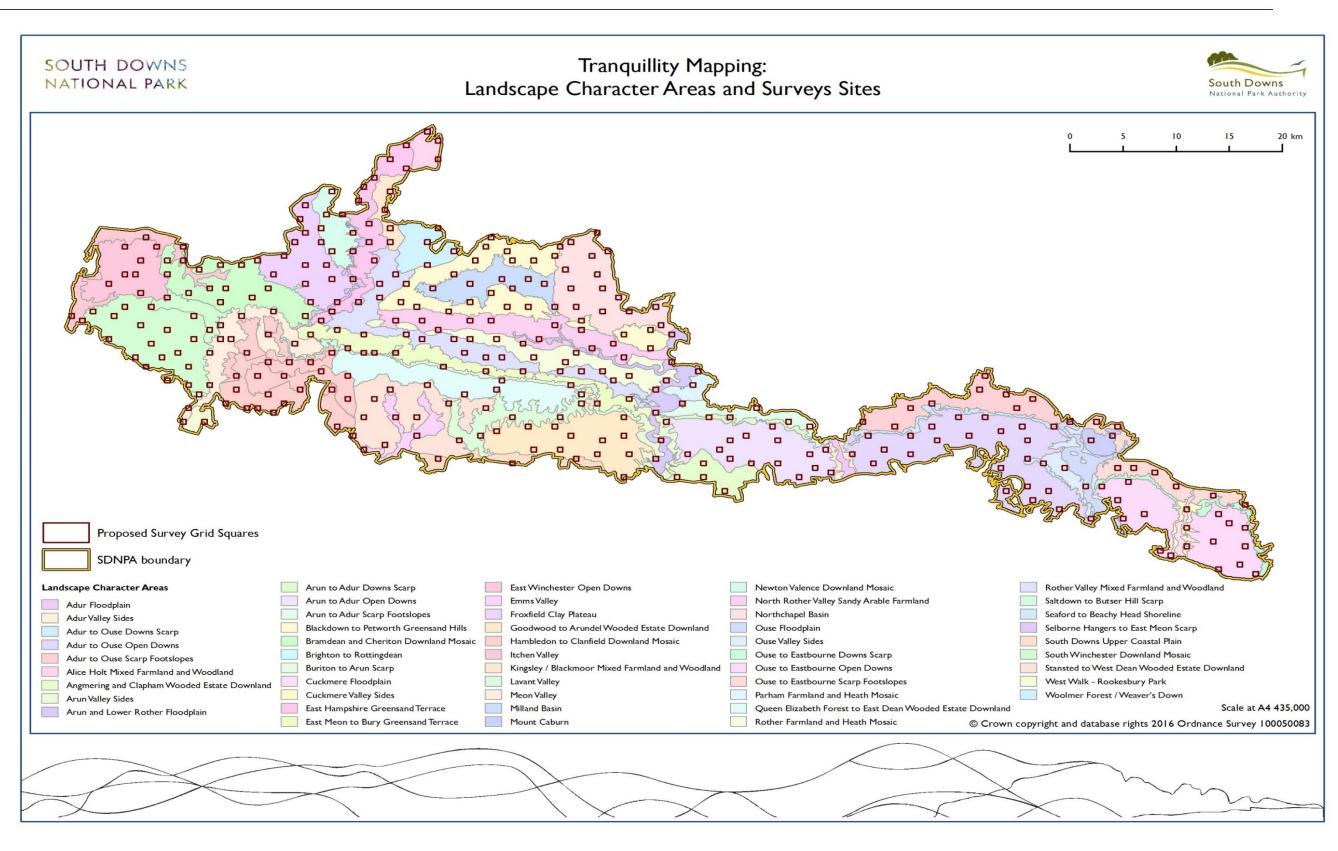
7. About FieldTrip GB

FieldTrip GB is a mobile mapping and data collection app that is available for iPhone and Android devices. It has been developed by EDINA, based at The University of Edinburgh, with support from Jisc. It allows the collection of data against high quality cartographic maps. The main features of the app are:

- Free to download and use
- High quality background maps that offer rich data in both urban and rural environments
- Map caching to allow off-network usage
- Data capture
- Custom data collection forms that allow users to define the data they want to capture.

The FieldTrip GB project is supported by Jisc as part of its commitment to encourage the use of new and emerging technology to support research and learning in the UK

APPENDIX 4: MAP SHOWING THE SURVEY PLOTS IN RELATION TO THE LANDSCAPE CHARACTER AREAS WITHIN THE NATIONAL PARK



APPENDIX 5: SURVEY MAPS OVERVIEW- THE GRID SQUARES USED TO SUB-DIVIDE THE NP

