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Ecosystems Services Statement

Kings Lane Field, Kings Lane, Pulborough RH20 1LE

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Consultant Ecologist: Richard Billingsley BSc (Hons) Ecology

Landscape Architect: Danielle Jeynes MA AMLI

1.0 Introduction

1.1 Client Instruction

Reports4Planning have been commissioned by the Client to prepare a bespoke Ecosystem Services Statement for an equestrian development at Kings Lane Field, Kings Lane, Pulborough RH20 1LE.

1.2 References

6577.1 Landscape Enhancement and Management Scheme

1.3 Qualifications and Experience

Danielle Jeynes MA, Landscape Architect, is an Associate Member of the Landscape Institute. She is a landscape ambassador for the LI and visiting lecturer at Birmingham City University delivering to MA students. Danielle is an experienced landscape architect; she has had her own practice for over ten years and has been providing landscape architecture expertise for Reports4Planning for two years. Danielle is passionate about landscape and how it can have a positive impact on quality of life as well as on their health and wellbeing.

Richard Billingsley BSc (hons) Ecology has twenty-five years' experience as an ecologist and landscape manager including work in the second and third sector projects managing countryside and urban sites for conservation and people working with students, volunteers, and land managers. He has a keen eye for historic landscape features, geomorphology, and ecological value.

Danielle and Richard have worked as a team for over ten years providing landscape design, appraisal and impact assessment nationally.

1.4 Reason for the Statement

Policy SD2 of the South Downs Local Plan, which is the National Park Authority's policy on Ecosystem Services states:

- 1. Development proposals will be permitted where they have an overall positive impact on the ability of the natural environment to contribute goods and services. This will be achieved through the use of high quality design, and by delivering all opportunities to:*



- a) Sustainably manage land and water environments;*
 - b) Protect and provide more, better and joined up natural habitats;*
 - c) Conserve water resources and improve water quality;*
 - d) Manage and mitigate the risk of flooding;*
 - e) Improve the National Park's resilience to, and mitigation of, climate change;*
 - f) Increase the ability to store carbon through new planting or other means;*
 - g) Conserve and enhance soils, use soils sustainably and protect the best and most versatile agricultural land;*
 - h) Support the sustainable production and use of food, forestry and raw materials;*
 - i) Reduce levels of pollution;*
 - j) Improve opportunities for peoples' health and wellbeing; and*
 - k) Provide opportunities for access to the natural and cultural resources which contribute to the special qualities.*
- 2. Development proposals must be supported by a statement that sets out how the development proposal impacts, both positively and negatively, on ecosystem services.*

1.5 Ecosystem Services (from Ecosystem Services and Householder Planning Applications SDNPA section 2)

Ecosystem Services are the benefits that people and society get from the natural environment. An ecosystems approach helps us to identify the benefits we get from nature, value them and build them into planning, decision making and management. Further details are set out in the Local Plan.



Everyone uses, has an impact upon, and is affected by our natural resources, which provide us with energy, clean water, air, food and wildlife. The complexity of the natural environment means many of these are related to one another, and Policy SD2 has been developed to guide us to use and manage these resources more sustainably in the National Park. Your householder planning application needs to comply with this Local Plan policy:

We can all play a role and contribute towards making a positive difference to the natural environment of the National Park. The policy asks you to consider how the changes to your property can include Ecosystem Services actions to the benefit of everybody. Even small actions can deliver multiple benefits for both people and wildlife. For example, planting a native hedge could create habitats and provide food for wildlife, whilst also storing surface water and improving air quality. The following diagram show how a householder can take several actions to provide Ecosystem Services and therefore meet policy SD2 of the Local Plan.

2.0 The site

2.1 Location

The site is King's Lane Field, King's Lane, Pulborough, RH20 1LE (see figure 2.1 below). Situated southwest of King's Lane and bounded to the southwest by Church Lane. The site is 15km north of Littlehampton. 6.7km southeast of Petworth and 20km northeast of Chichester.

It is situated within the South Downs National Park 2km southwest of the nearest boundary. The River Rother passes 200m north of the site at its nearest point. The site drains towards the river.

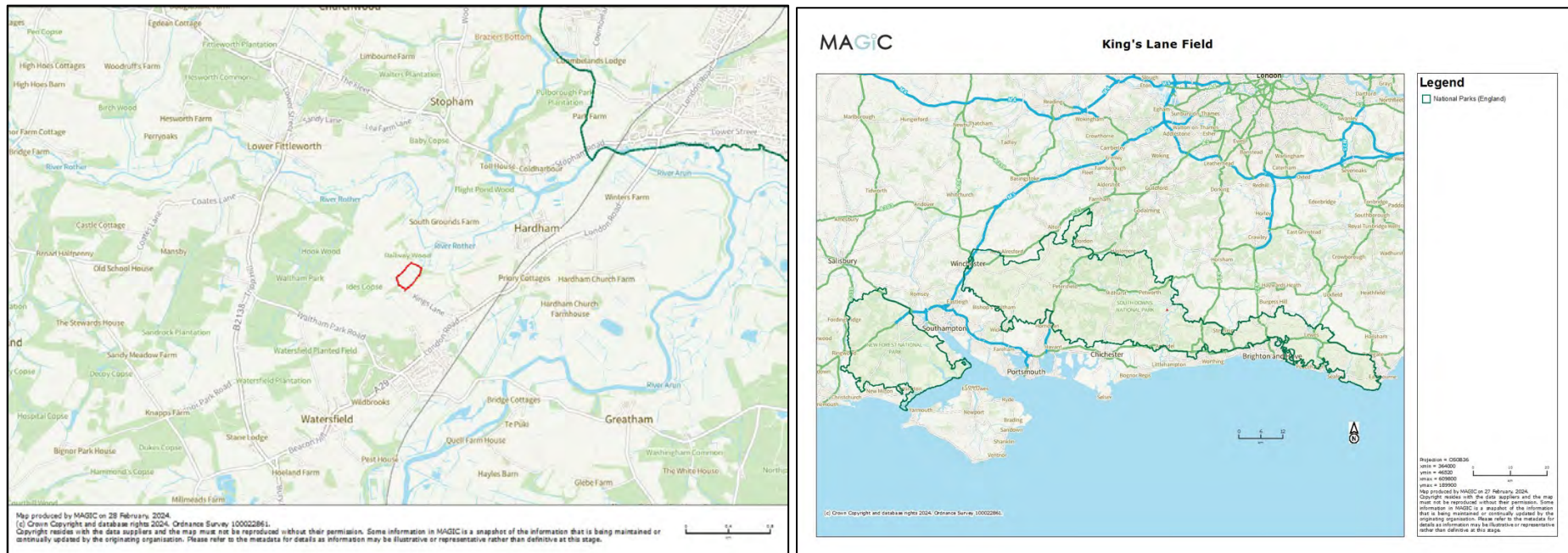


Figure 2.1 The site location in context to local landscape (left) and NP boundary (right)

2.2 Site Description

- The site is an approximately rectangular field currently used for horse grazing. It is accessed via a gated entrance off Kings Lane in the south corner of the site. The lane is a single-track cul-de-sac leading from the A29 London Road.
- The boundaries are fenced with hedge and tree boundary to the south and linear woodland to the northwest, northeast and southeast boundaries.
- A woodland corridor along a disused railway passes passed the north boundary providing connective habitat.
- Drainage ditches flow the NW and SE boundaries toward the disused railway corridor. The site is within the western Rother catchment, the river is 200m north of the site.



- The immediate area is predominantly grassland including horse grazing and equestrian estates with significant woodland and floodplain.

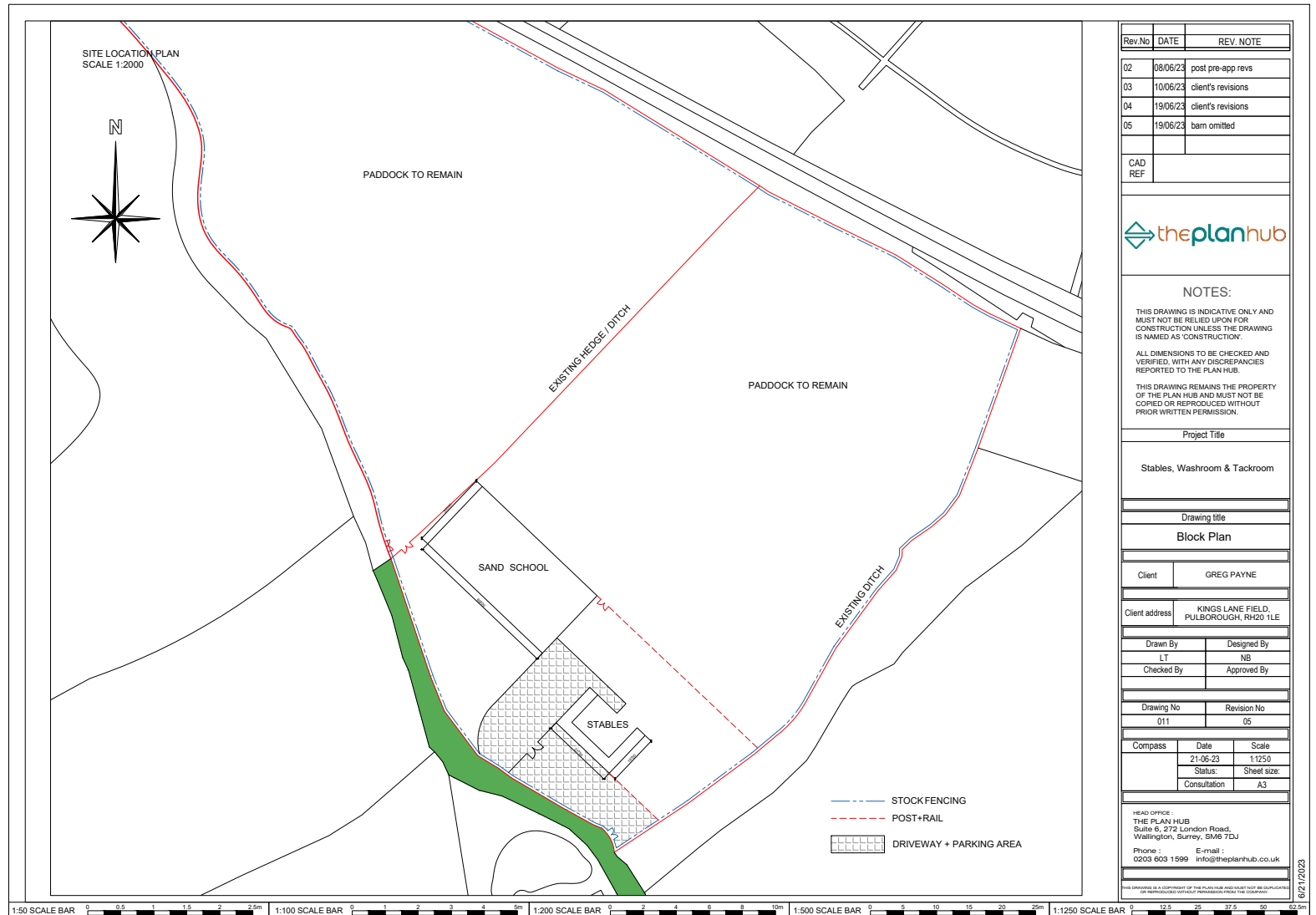
2.0 Application

Proposals

2.1 Block Plan

The Client proposes to provide equestrian facilities including a stable block, sand school, access and parking within a field currently used for equestrian purposes.

Figure 2.1 Block Plan



2.2 Landscape proposals

- Repors4Planning have provided a landscape enhancement and management scheme in support of the proposed equestrian development.
- The proposals include.
- the creation of a stable block and parking area
- flower rich grassland near to the south boundary.
- new fencing between equestrian compound and the retained field
- Drainage including storm water retention from the built areas to the existing drainage ditches.



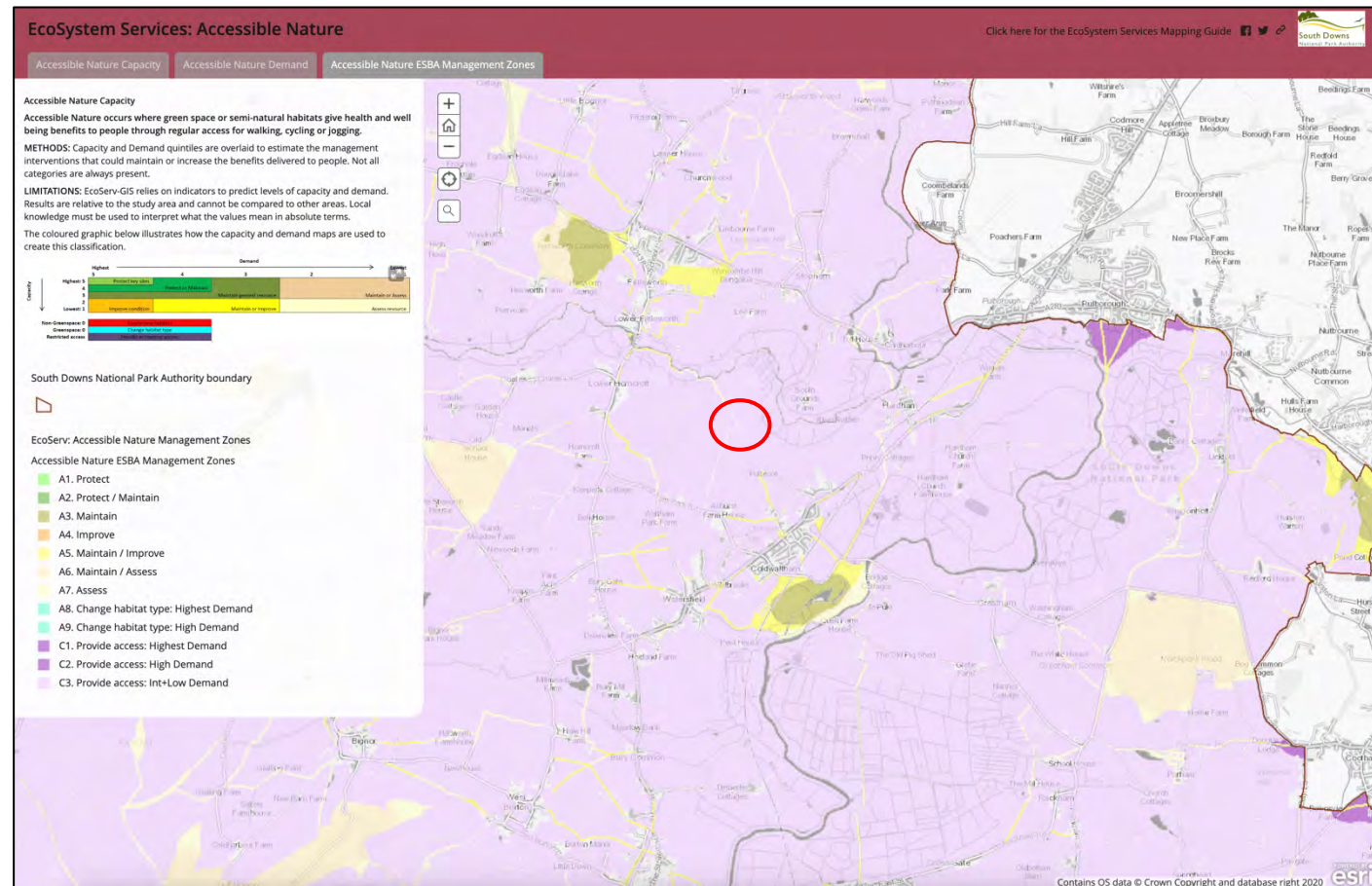
Figure 2.2 Landscape Enhancement and Management Scheme

3.0 Ecosystem Services Review

The SDNP GIS Ecosystems Services Database (<https://www.southdowns.gov.uk/planning-policy/south-downs-local-plan/policies-map/ecosystems-services-map/>) was investigated to ascertain existing conditions.

3.1 Accessible Nature

Accessible Nature occurs where green space or semi-natural habitats give health and well being benefits to people through regular access for walking, cycling or jogging. Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity. Investigation of the GIS mapping database found the site is situated in C3. Provide access: Int + Low Demand area.

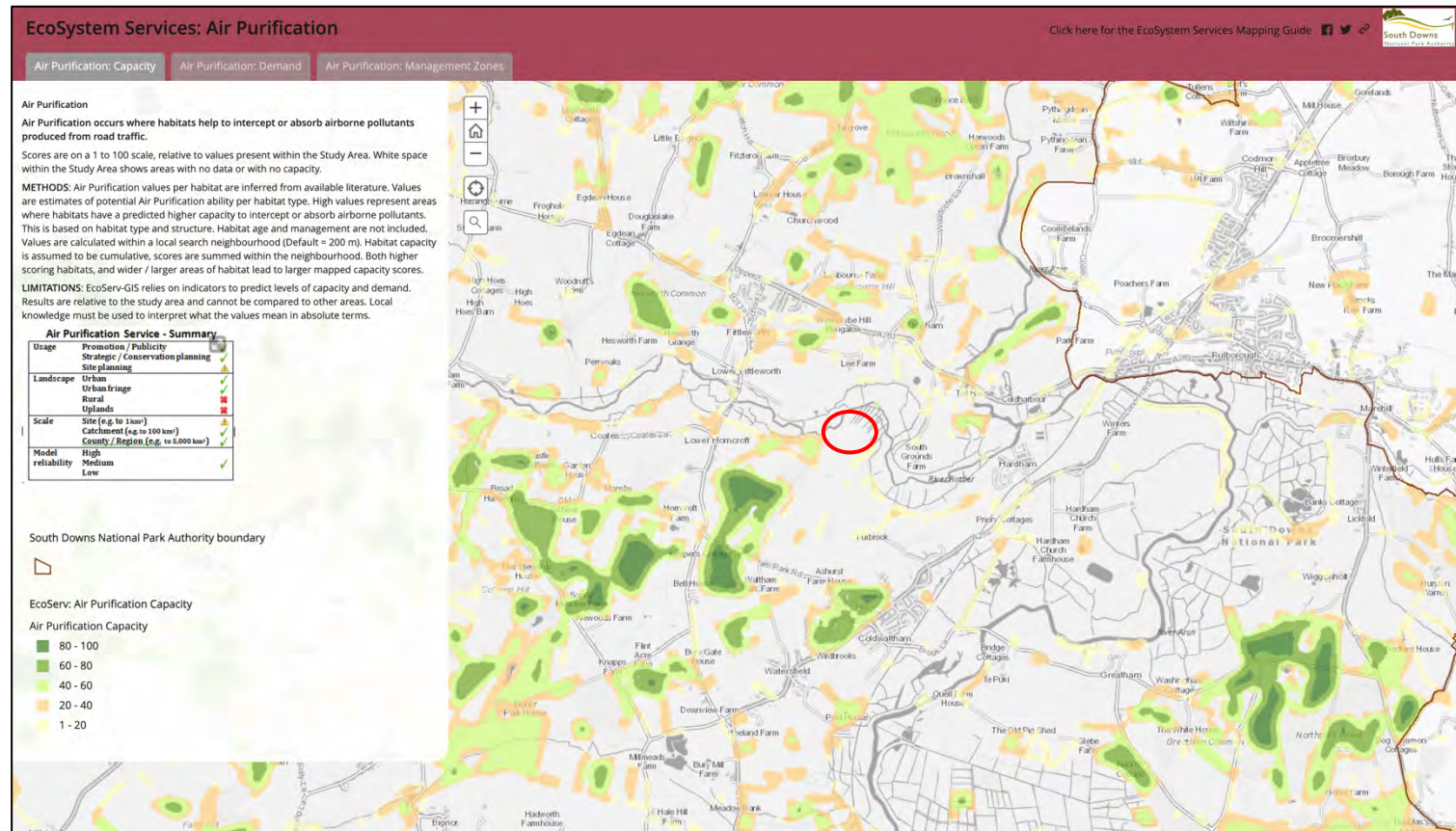




3.2 Ecosystem Services: Air Purification

Air Purification occurs where habitats help to intercept or absorb airborne pollutants produced from road traffic. Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity.

Investigation of the GIS mapping database found the site is situated in a white area where there is no data or no contribution. The site is predominantly grassland with negligible capacity for air purification. The adjacent woodland has been assessed and assigned 1-20% score.

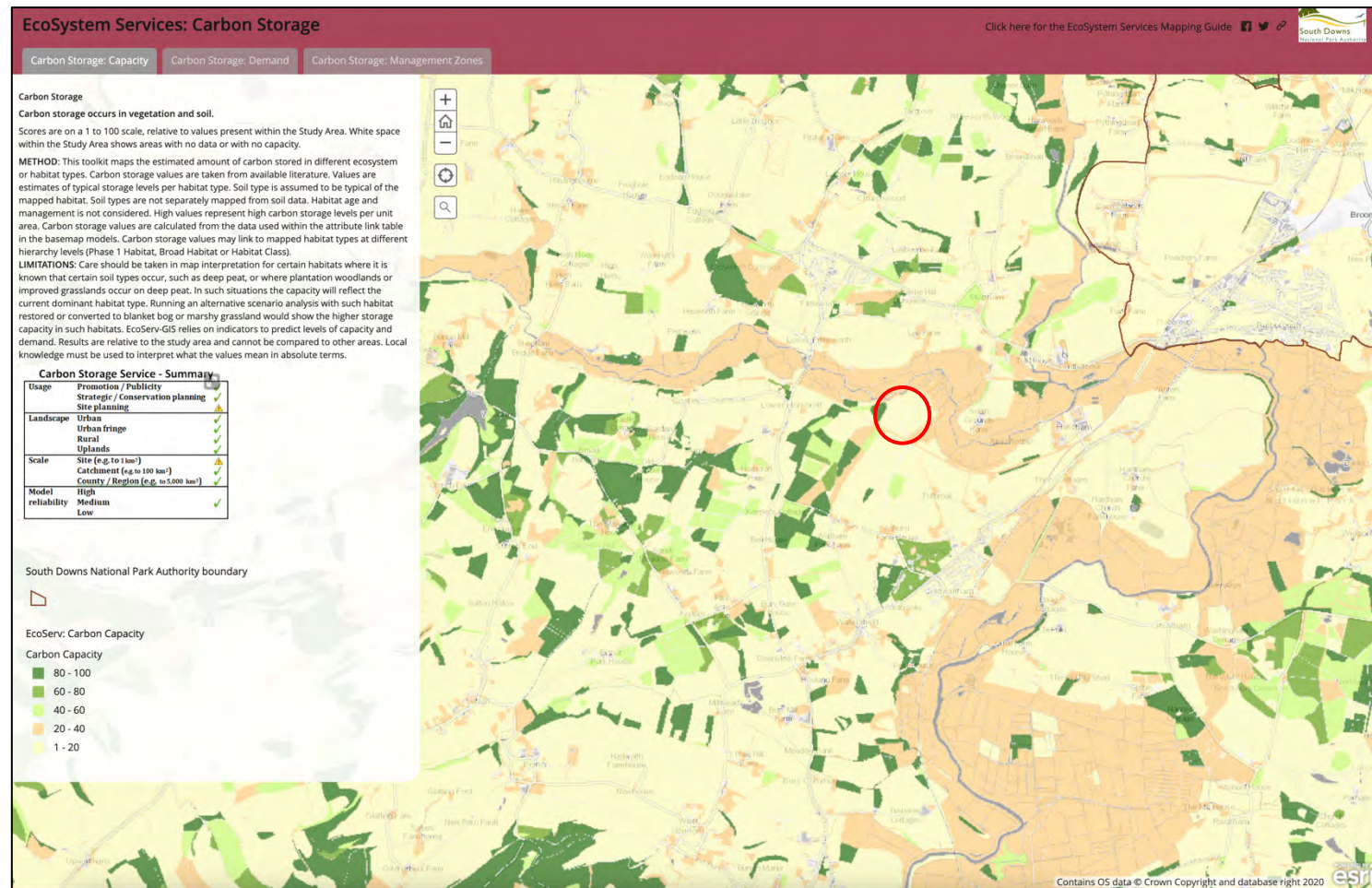




3.3 Ecosystem Services: Carbon Storage

Carbon storage occurs in vegetation and soil. Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity.

Investigation of the GIS mapping database found the site is situated in a 1-20 score area. The site is predominantly grassland with a relatively low capacity for carbon storage. The adjacent woodland has been assessed and assigned 20-40% score.

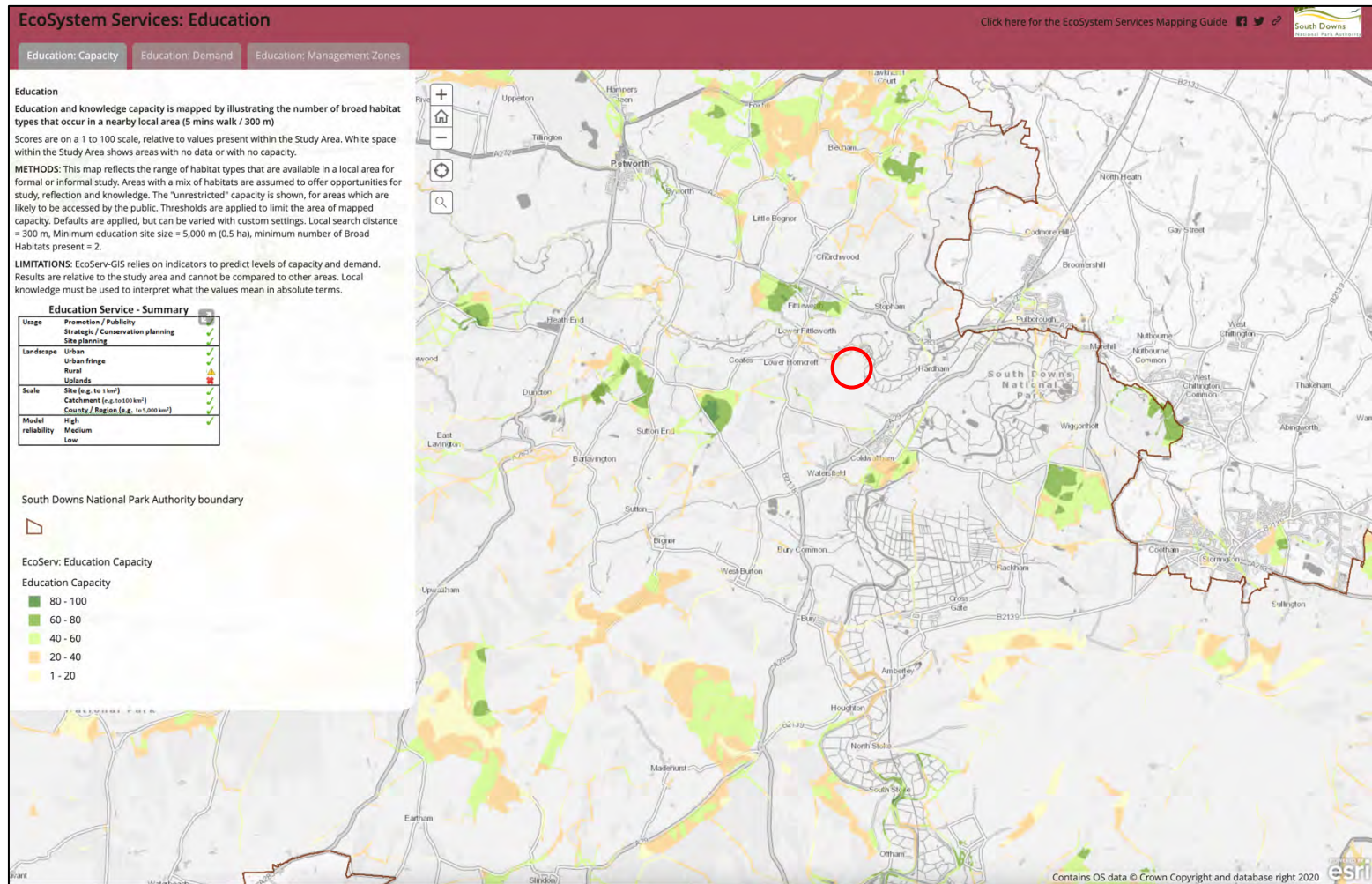




3.4 Ecosystem Services: Education

Education and knowledge capacity is mapped by illustrating the number of broad habitat types that occur in a nearby local area (5 mins walk / 300 m). Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity.

Investigation of the GIS mapping database found the site is situated in a white area where there is no data or no contribution.



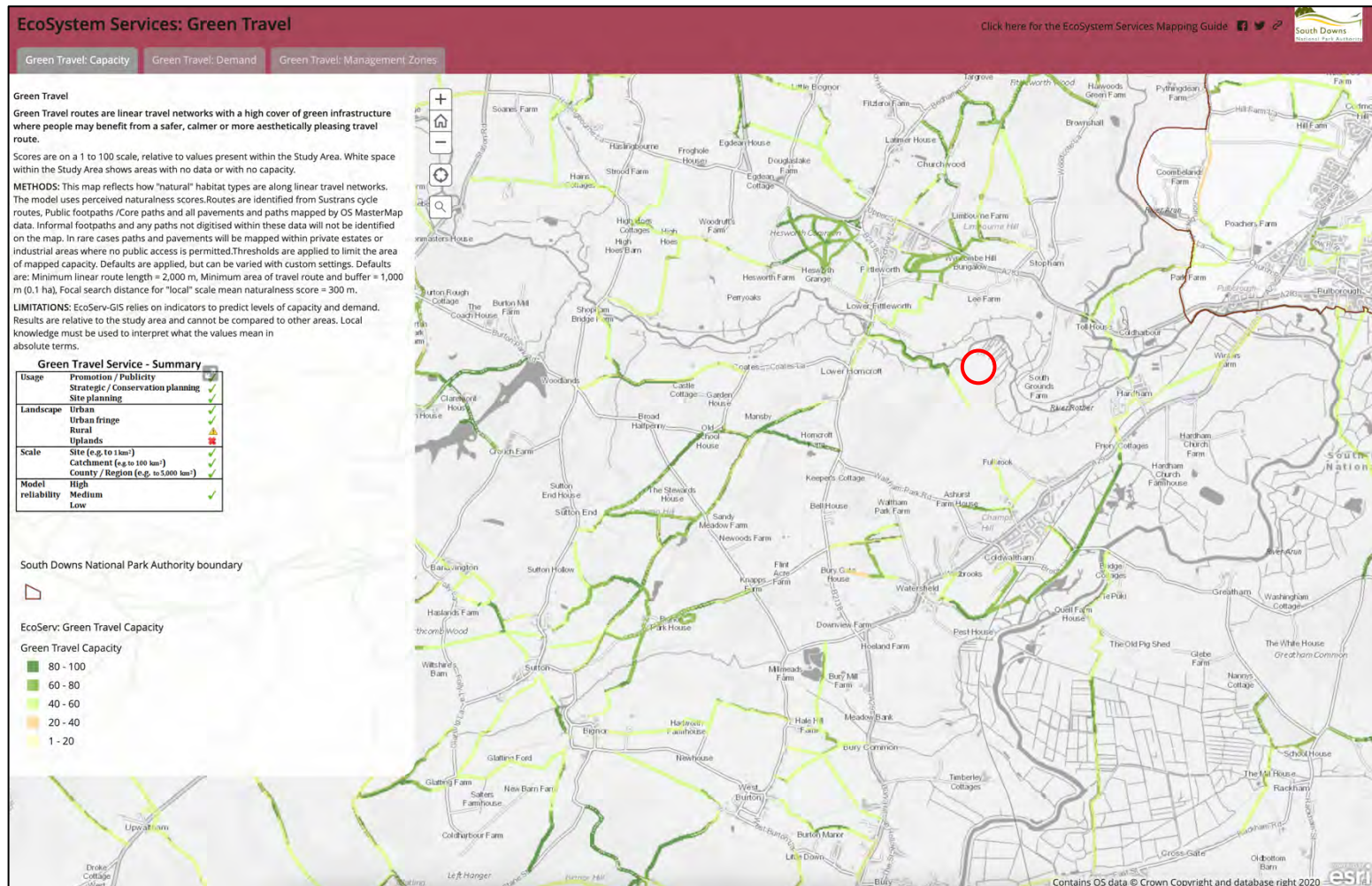


3.5 Ecosystem Services: Green Travel

Green Travel routes are linear travel networks with a high cover of green infrastructure where people may benefit from a safer, calmer or more aesthetically pleasing travel route. Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with

no capacity.

Investigation of the GIS mapping database found the site is situated in a white area where there is no data or no contribution.

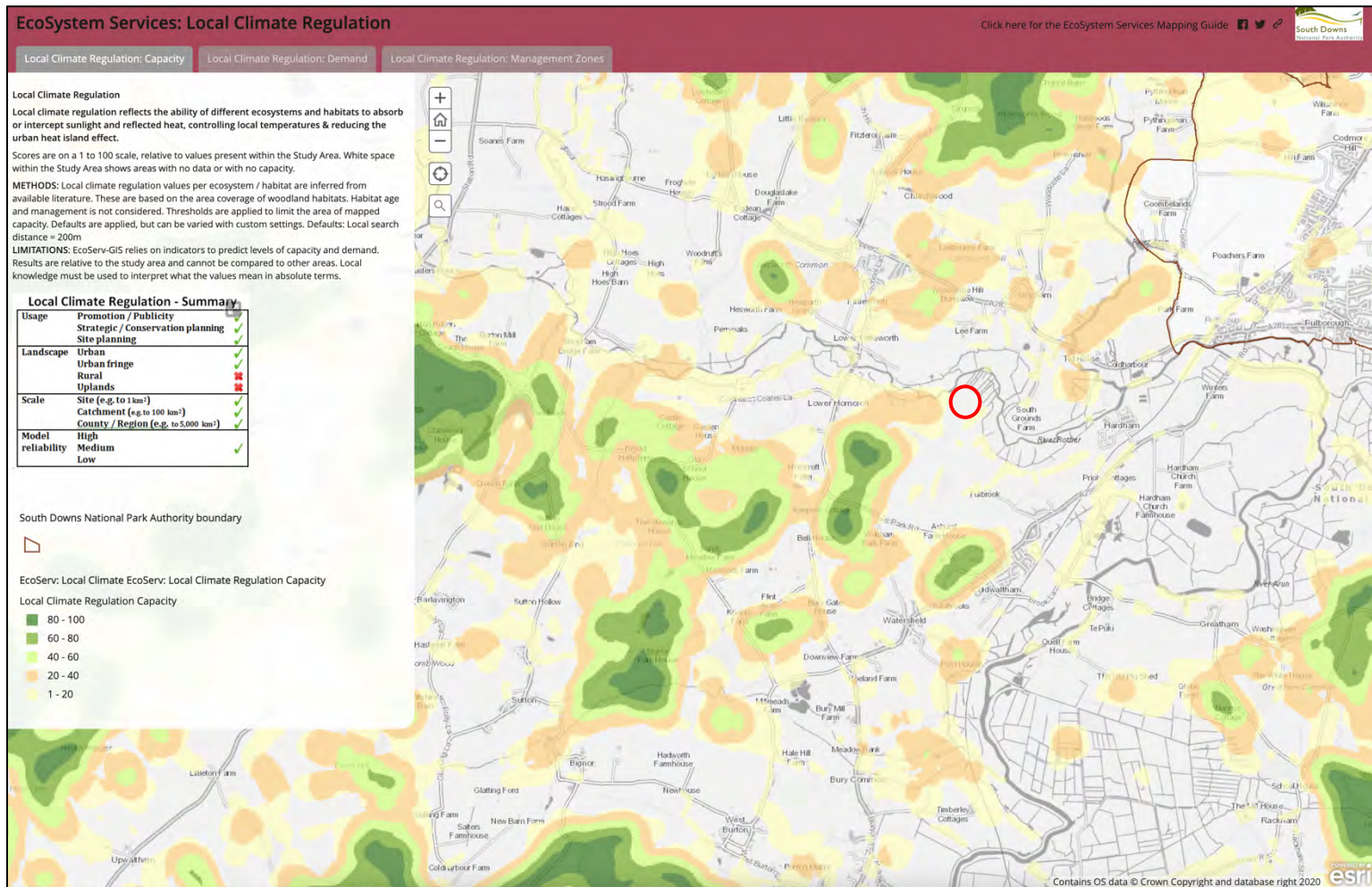




3.6 Ecosystem Services: Local Climate Regulation

Local climate regulation reflects the ability of different ecosystems and habitats to absorb or intercept sunlight and reflected heat, controlling local temperatures & reducing the urban heat island effect. Scores are on a 1 to 100 scale, relative to values present within the Study Area.

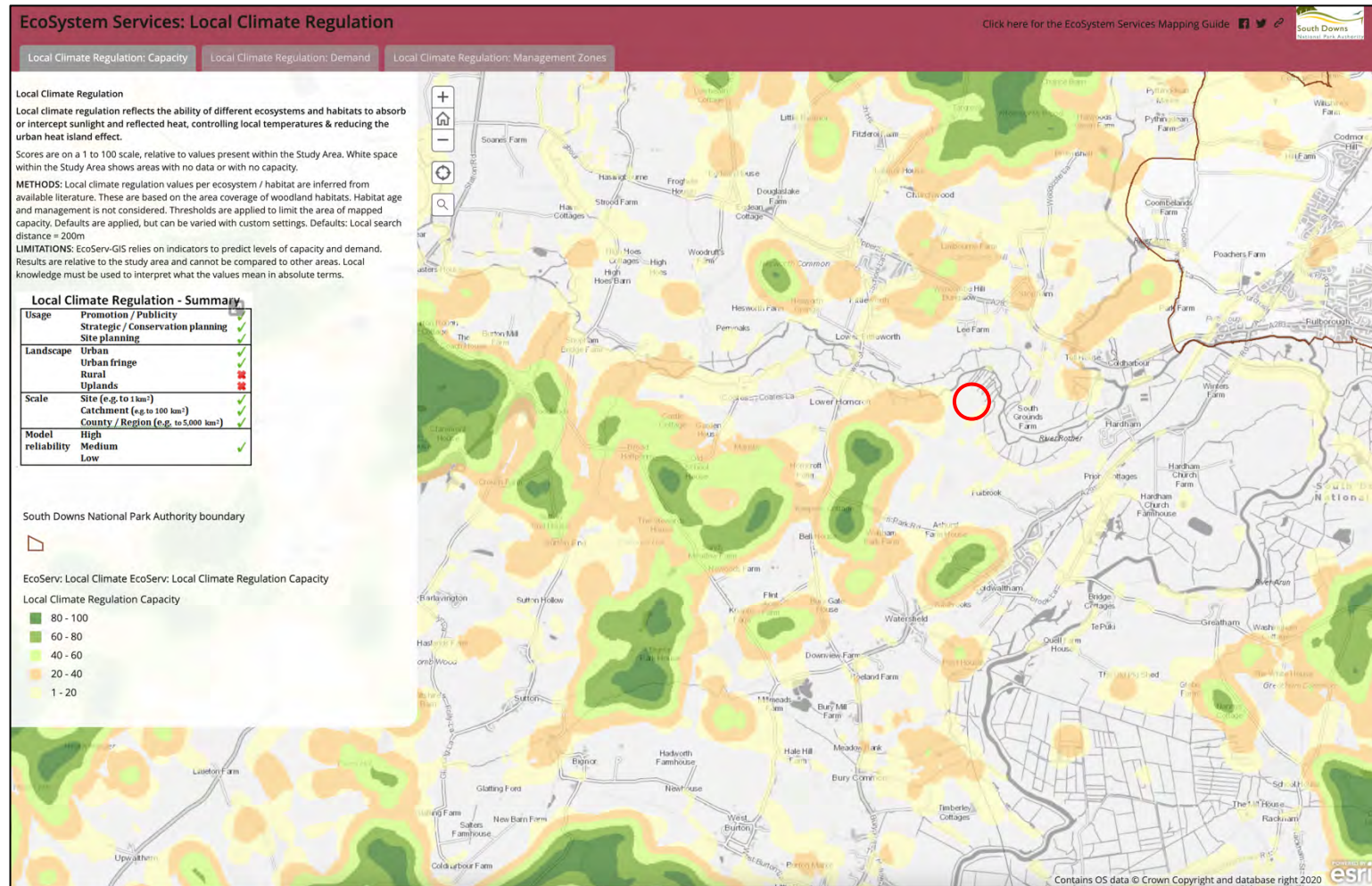
White space within the Study Area shows areas with no data or with no capacity. Investigation of the GIS mapping database found the site is situated in a white area where there is no data or no contribution.



3.7 Ecosystem Services: Noise Regulation

Noise regulation capacity reflects the ability of different ecosystems and habitats to absorb noise pollution. Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity.

Investigation of the GIS mapping database found the site is situated in a white area where there is no data or no contribution.



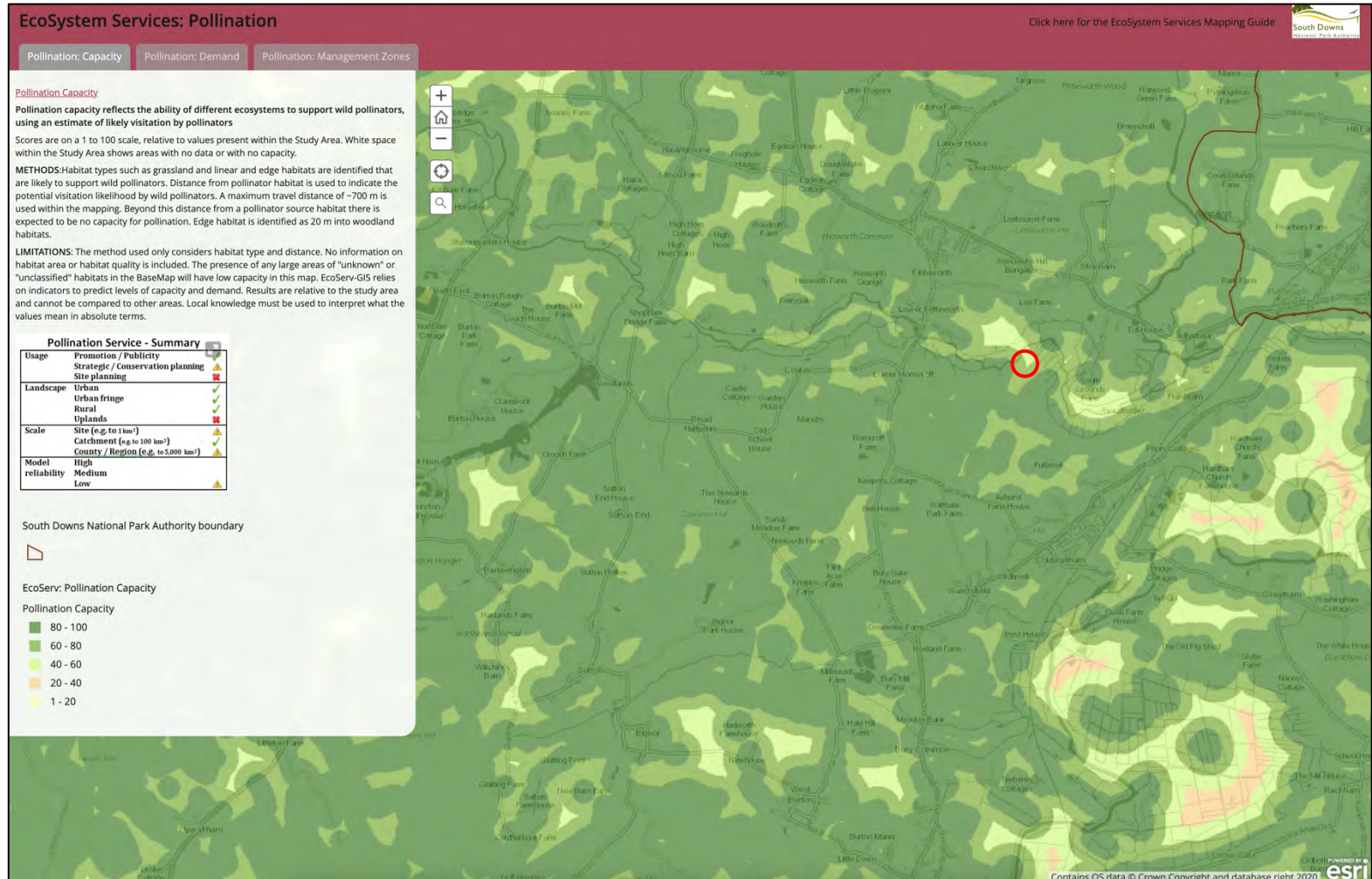


3.8 Ecosystem Services: Pollination Capacity

Pollination capacity reflects the ability of different ecosystems to support wild pollinators, using an estimate of likely visitation by pollinators.

Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity.

Investigation of the GIS mapping database found the site is situated on the boundary between 60-80 and 80-100 providing high or medium-high contribution. The site is intensively grazed and is unlikely to attain its potential as a resource for pollinators.

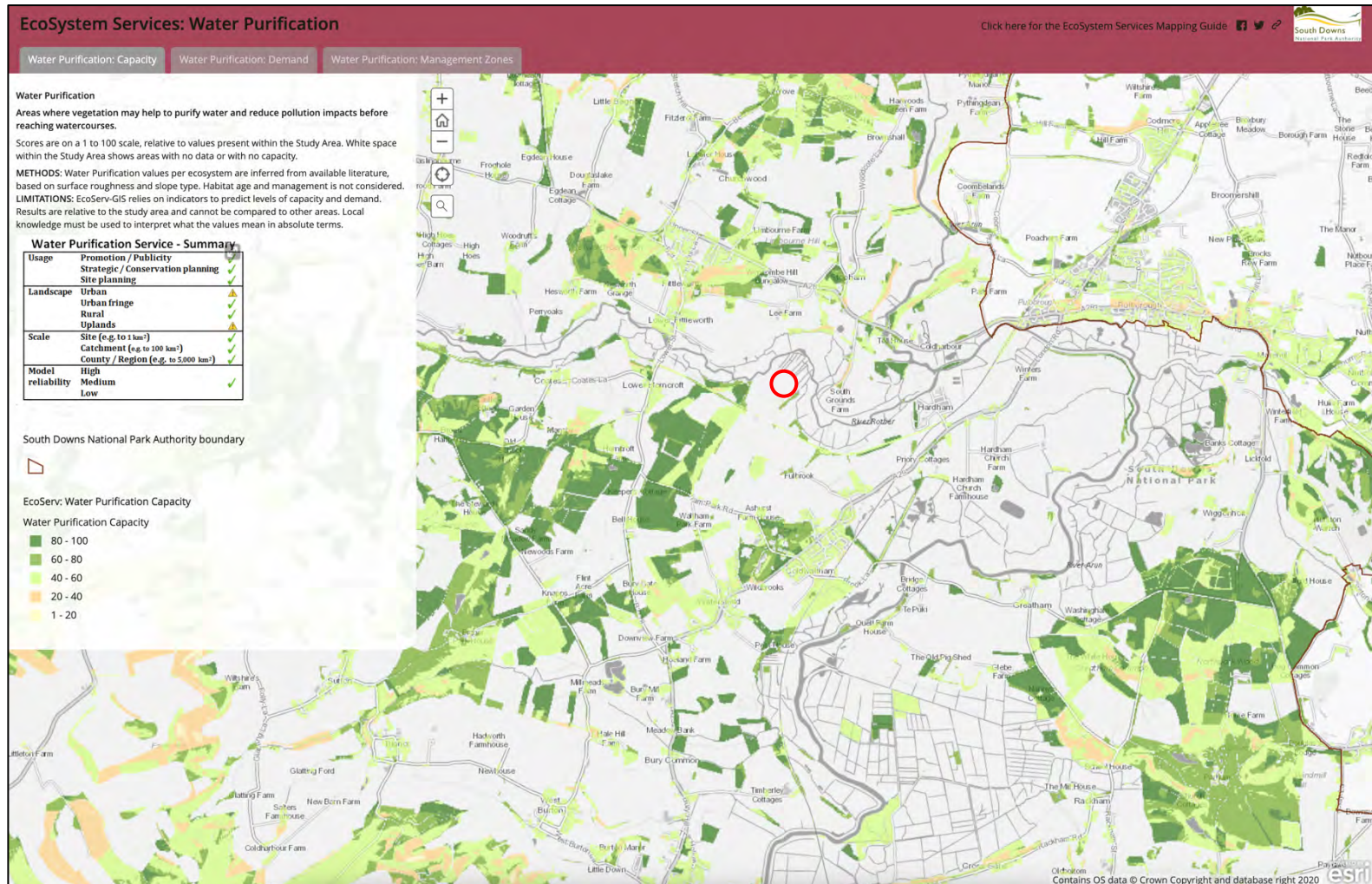




3.9 Ecosystem Services: Water Purification

Areas where vegetation may help to purify water and reduce pollution impacts before reaching watercourses. Scores are on a 1 to 100 scale, relative to values present within the Study Area. White space within the Study Area shows areas with no data or with no capacity.

Investigation of the GIS mapping database found the site is situated in a white area where there is no data or no contribution.



3.10 Summary of Existing onsite Ecosystem Services

The investigation of online mapping found the site provides no or negligible contribution to all ecosystem services except accessible nature (low), carbon storage (low) and pollination (high or moderately high) see summary table below.

3.10 Table of existing ecosystem services onsite

Ecosystem service	Onsite value
Accessible Nature	<i>C3. Provide access: Int + Low Demand area</i>
Air Purification	The site is predominantly grassland with negligible capacity for air purification
Carbon Storage	1-20 score area. The site is predominantly grassland with a relatively low capacity for carbon storage.
Education	there is no data or no contribution.
Green Travel	there is no data or no contribution.
Local Climate Regulation	there is no data or no contribution.
Noise Regulation	there is no data or no contribution.
Pollination	on the boundary between 60-80 and 80-100 providing high or medium-high contribution.
Water Purification	there is no data or no contribution.



4.0 Impact Assessment of Proposed Development and net Change in onsite Ecosystem Services.

The proposed development will result in no net change for three ecosystem services and a minor positive impact on six. No net negative impacts are likely to result from the proposed development, see table 4.0 below.

4.0 Table of ecosystem services contribution onsite

Ecosystem service	Onsite value	Changes due to development	Net change
Accessible Nature	C3. Provide access: Int + Low Demand area	Increase in access due to new equestrian facilities	Minor positive
Air Purification	The site is predominantly grassland with negligible capacity for air purification	Parts of grassland allowed to grow long. Loss of some grassland to hard standing and building. Planting of new hedge and increased density of existing hedge	Negligible negative and low positive with negligible positive change
Carbon Storage	1-20 score area. The site is predominantly grassland with a relatively low capacity for carbon storage.	Parts of grassland allowed to grow long and form thatch to increase organic matter within the soil. Planting of new hedge and increased density of existing hedge. Loss of some grassland to hard standing and building. Manure managed sustainably	Negligible negative and low positive with negligible positive change
Education	there is no data or no contribution.	Flower rich grassland increases habitat value. Equestrian centre increases opportunities for education	Negligible positive
Green Travel	there is no data or no contribution.	No new routes provided. Increase in use of existing by horse riders	Negligible positive



Local Climate Regulation	there is no data or no contribution.	Increased sward length for part of the site. Increase in hard surfacing and sand school surface.	Negligible negative and positive with no measurable net change
Noise Regulation	there is no data or no contribution.	No loss or introduction of noise absorbing green infrastructure	No change
Pollination	on the boundary between 60-80 and 80-100 providing high or medium-high contribution.	Loss of an area of intensively grazed grassland to building and hard/artificial surfaces. Introduction of flower rich grassland areas managed for wildlife, sympathetic management of existing hedges and creation of new mixed native hedge.	Low positive, negligible negative
Water Purification	there is no data or no contribution.	Loss of grassed areas with building and sand school storm water piped to existing open ditches. Silt chambers within the drainage system provide purification function.	No net change

Conclusion

The proposed development will result in a positive impact for 6 of the 9 ecosystem services with a neutral impact on three. The development will therefore have a positive impact on the ecosystem services of the site.