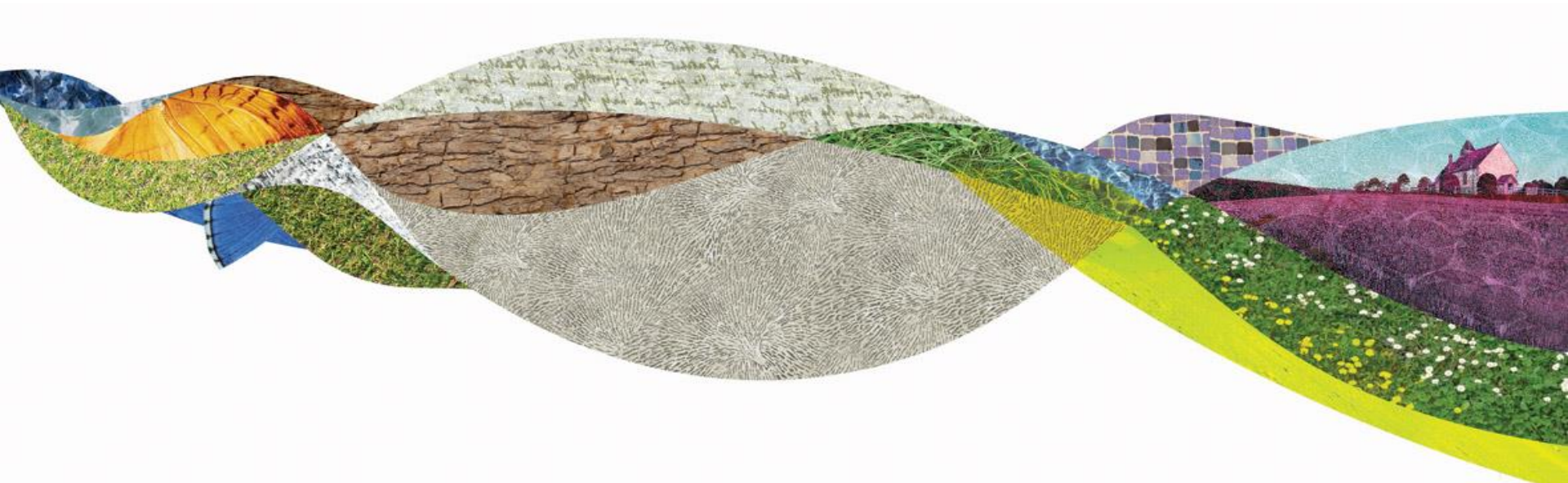


The South Downs Landscape and Biodiversity Strategy

The development of the action plan and how it will inform and drive delivery of projects on the ground.

Chris Fairbrother & Jeremy Burgess
Landscape & Biodiversity Strategy Leads – Chalk/Water



Priority Ecosystem Services.

Priority Ecosystem Service	Associated Ecosystem Service benefits being delivered
<u>Pollination*</u>	Genetic diversity, Food production and other provisioning, supporting and cultural services.
<u>Water Quality*</u>	Water cycling, water flow and flood attenuation and other regulating, provisioning and cultural services
Soil Quality	Nutrient cycling, Food production and other provisioning, supporting and cultural services.
Carbon Stocks.	Timber production, energy, flood attenuation, biodiversity and other regulating, supporting and cultural services
Air Quality	Climate regulation, Green Infrastructure, biodiversity and other regulating, supporting and cultural services.
Biodiversity	Habitat connectivity, genetic diversity and other provisioning, supporting and cultural services.



Strategic Outcomes for Pollination

P1 - Land management practices are supporting pollinators and natural pest regulation.*

P2 - An increase in planting of more resistant crop species has helped to reduce pesticide use.

P3 - Pollination services have increased resilience to climate change.

P4 - Habitat connectivity and the permeability of the landscape to pollinators has been improved.*



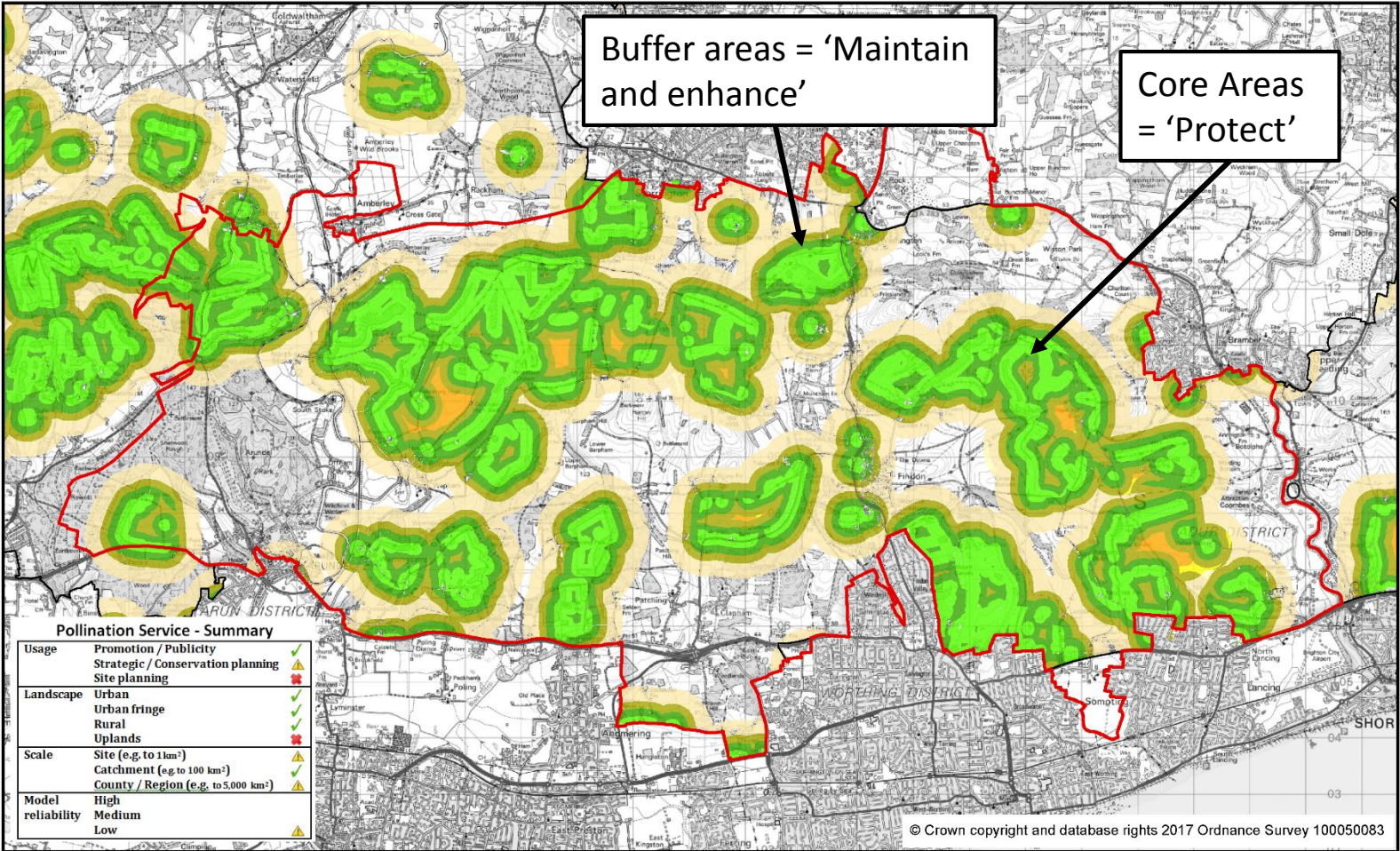
Evidence base – The ‘Where’

- *Habitat connectivity mapping;*
- *EcoServ mapping highlights ‘management zones’ for Pollination Services;*
- *Together they highlight where we might work to achieve the best benefit for wild pollinators;*
- *Provide us with a starting point for discussions with farmers and land managers.*





Pollination Management Zones



Pollination Service - Summary

Usage	Promotion / Publicity Strategic / Conservation planning Site planning	✓ ✓ ✓
Landscape	Urban Urban fringe Rural Uplands	✓ ✓ ✓ ✓
Scale	Site (e.g. to 1km ²) Catchment (e.g. to 100 km ²) County / Region (e.g. to 5,000 km ²)	✓ ✓ ✓
Model reliability	High Medium Low	✓ ✓ ✓

Suggested Management

- Arun to Adur Cluster
- SDNPA boundary
- A1: Protect
- A2: Protect / Maintain
- A3: Maintain
- A4: Improve
- A5: Maintain / Improve
- A6: Maintain / Assess
- A7: Assess
- A8: Change habitat type: Highest Demand
- A9: Change habitat type: High Demand
- B1: Create: Highest Demand
- B2: Create: High Demand

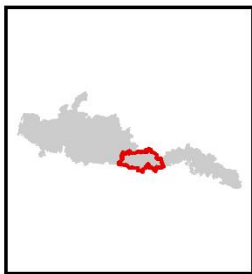
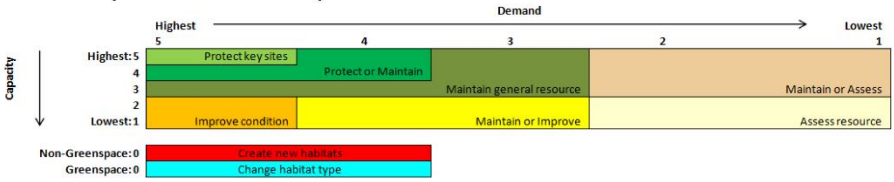
The coloured graphic below the map illustrates how the capacity and demand maps are used to create this classification.

EcoServ-GIS models executed by Sussex Biodiversity Record Centre (hosted by Sussex Wildlife Trust).

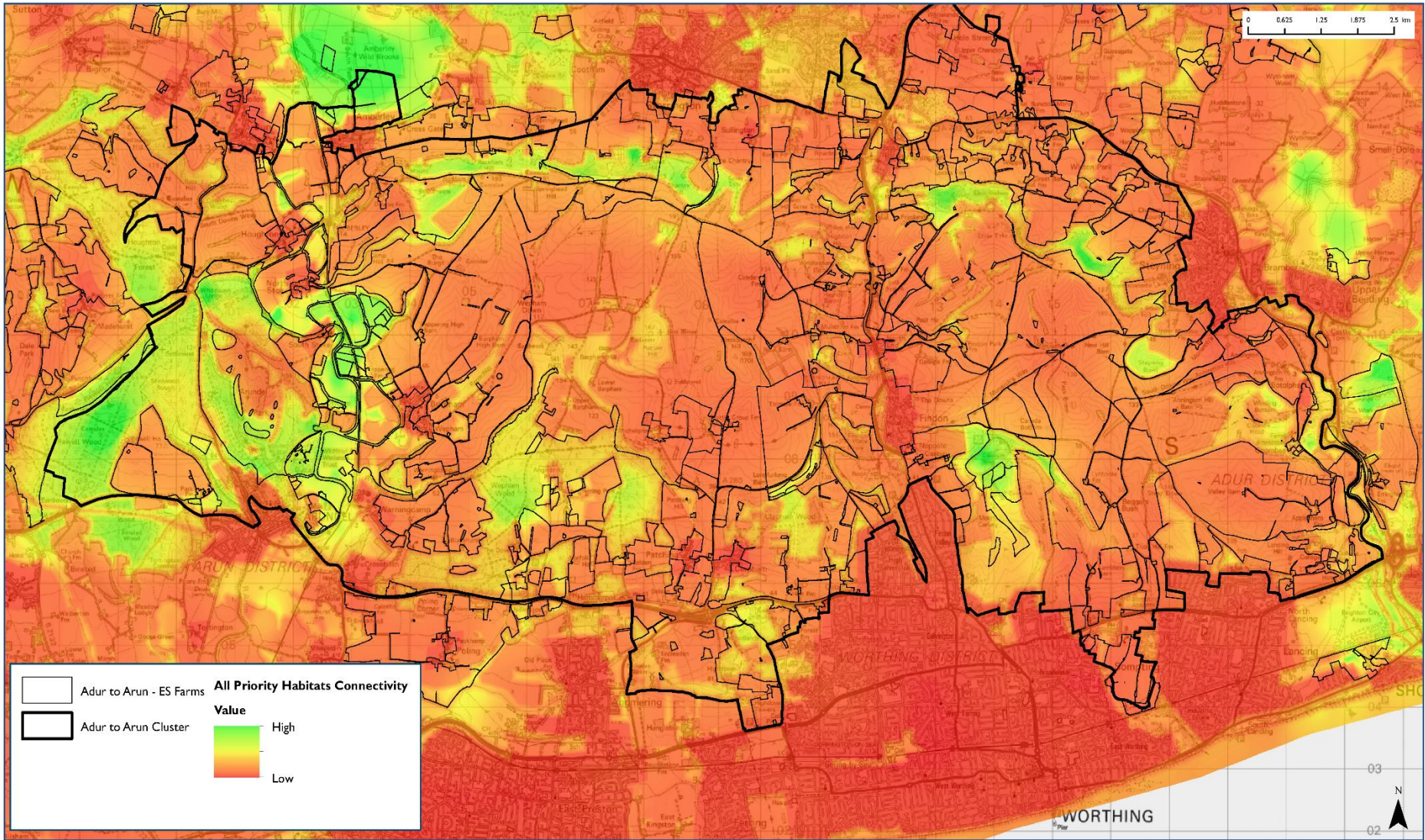
Areas where crops in farmland, allotments or orchards are likely to benefit from wild pollinators from nearby semi-habitats.

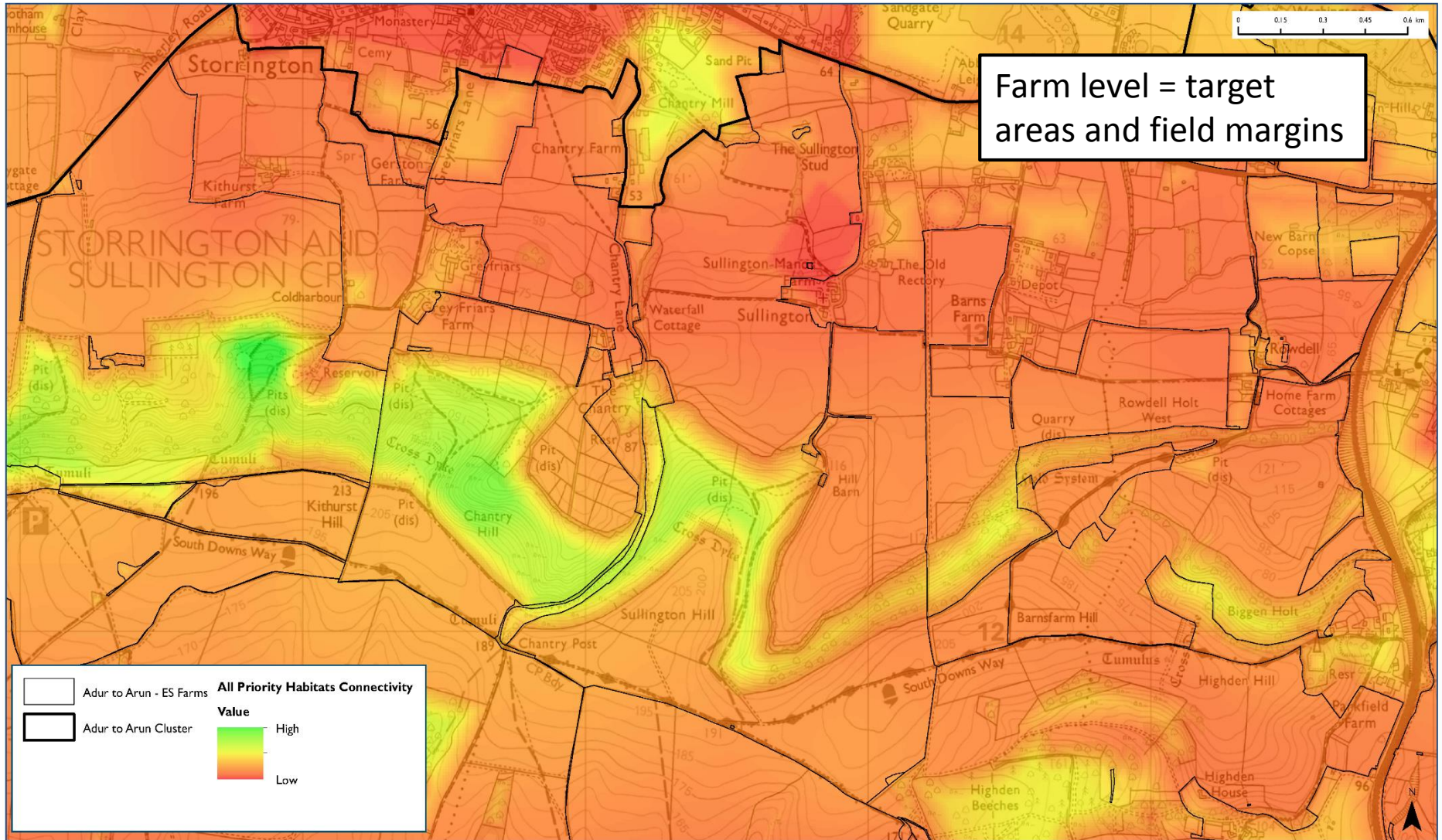
METHODS: Capacity and Demand quintiles are overlaid to estimate the management interventions that could maintain or increase the benefits delivered to people. Not all categories are always present.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



Habitat Connectivity Adur to Arun Cluster





The Action Plan – Project delivery on the ground.

P1. Land management practices are supporting pollinators and natural pest regulation	Actions	Scope	Delivery Mechanisms	Delivery Partners	Link to Local Plan Policies	Link to climate change adaptation plan	Timescales	Progress
<p>Also contributes to strategic outcomes P4, B1 and B2.</p>	<p>Carry out a baseline survey of pollination services and habitat connectivity for the Arun to Adur cluster area. Identify opportunity areas to target advice and delivery.</p>	<p>Arun to Adur farm cluster, Central area.</p>	<p>Farm cluster. Influencing partners. Staff. PES.</p>	<p>SDNPA, Buglife, Natural England, Sussex University, Kew Gardens, Farmers and landowners.</p>	<p>SD2, SD9, SD48</p>	<p>Species diversity</p>	<p>Year 1</p>	
	<p>Development of pilot Pollination project for the 'Arun to Adur' Farm Cluster. Focus on improving hedgerows and field margins to support wild pollinators and increase pollination services for the wider landscape.</p>	<p>Arun to Adur farm cluster, Central area.</p>	<p>Farm cluster. Influencing partners. Staff. PES.</p>	<p>SDNPA, Buglife, Natural England, Sussex University, Kew Gardens, Farmers and landowners.</p>	<p>SD2, SD9, SD48</p>		<p>Year 2 to 5</p>	



Strategic Outcomes for Water quality and water Cycling

W1 -The hydrological connection between rivers, open water and wetlands has been restored, delivering a wide range of environmental benefits.

W2 - Water quality and infiltration have been improved through good soil and land management practices, reducing excessive nutrient and sediment loads.*

W3 - Rates of surface run-off have been reduced, reducing diffuse pollution, ensuring good levels of base flow and delivering enhanced flood storage.*

W4 -Natural channel morphologies have been established, making water bodies more resilient to climate change impacts and improving their function.

W5 - Chalk streams and headwaters have been protected and enhanced to improve their chemical and biological status.



Evidence base – The ‘Where’

- *Water Framework directive condition*
- *South Downs Collaborative Nitrate Modelling*
- *A-Star and Smart sediment reports*
- *Habitat connectivity and Ecoserv mapping*
- *Geological Karst feature mapping*
- *Together they highlight where we might work to achieve the best benefit for Water quality and provide us with a starting point for discussions with farmers and land managers.*



The Action Plan – Project delivery on the ground.

W2 Water quality is improved through good soil and land management activities.	Actions	Scope	Delivery Mechanisms	Delivery Partners	Link to Local Plan Policies	Link to climate change adaptation plan	Timescales	Progress
<p>Also contributes to Outcomes W3, S1, S2, S3 AND B1</p>	<p>Trial and Promote land management interventions to increase infiltration and reduce run off of sediment and diffuse pollution.</p>	<p>All catchments across SDNP</p>	<p>Farm clusters. PES and new markets. Influencing. Staff and volunteer involvement ChaMP project.</p>	<p>Land managers Water companies. Catchment partnership Rivers trusts. Wildlife trusts. EA. NE (CSF).</p>	<p>SD2, SD9, SD17, SD49</p>	<p>Rivers and large water bodies</p>	<p>Year 1 to 5</p>	
	<p>Using a pilot surface water catchment and a pilot groundwater catchment identify and map ecosystem services. Seek to assess Natural Capital and trial PES scheme.</p>	<p>Western Rother and Portsmouth Water chalk block.</p>	<p>CPES project Farm clusters Strategic staff. Influencing</p>	<p>Land managers. Water companies. University of Chichester. Rivers trust. CSF EA</p>	<p>SD2, SD9, SD17 SD49</p>	<p>Rivers and large water bodies</p>	<p>Year 1 to 3</p>	



Any Questions?

