



# The Marches Land Use Study

Prepared by TACP (UK) Ltd for  
The Marches Local Enterprise Partnership



[tacp.co.uk/marcheslanduse](http://tacp.co.uk/marcheslanduse)

# INTRODUCTION



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Senior Environmental Planner



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Project Manager  
Senior Environmental Planner

# TACP INTRODUCTION



## About Us

TACP (UK) Ltd is an awarding winning multi-disciplinary environmental consultancy based in Wales, established in 1906. TACP's established and cohesive team has strong leadership and a reputation for delivering pragmatic and innovative solutions to a range of technically complex and challenging projects across the public, private and third sectors.



Landscape Architecture



Ecology



Environmental Coordination



Environmental Planning and Assessment



Natural Resources Management



Landscape Management



Landscape Heritage



Data Analysis

Ecologists

Ecological Clerk of Works

Environmental Planners

Environmental Clerk of Works

Project Managers

Landscape Managers

Geotechnical Advisors

Landscape Architects

Graphic Designers

Arboriculture

Environmental Economics

Heritage

Archaeology

Noise & Vibration

Air Quality

Agriculture

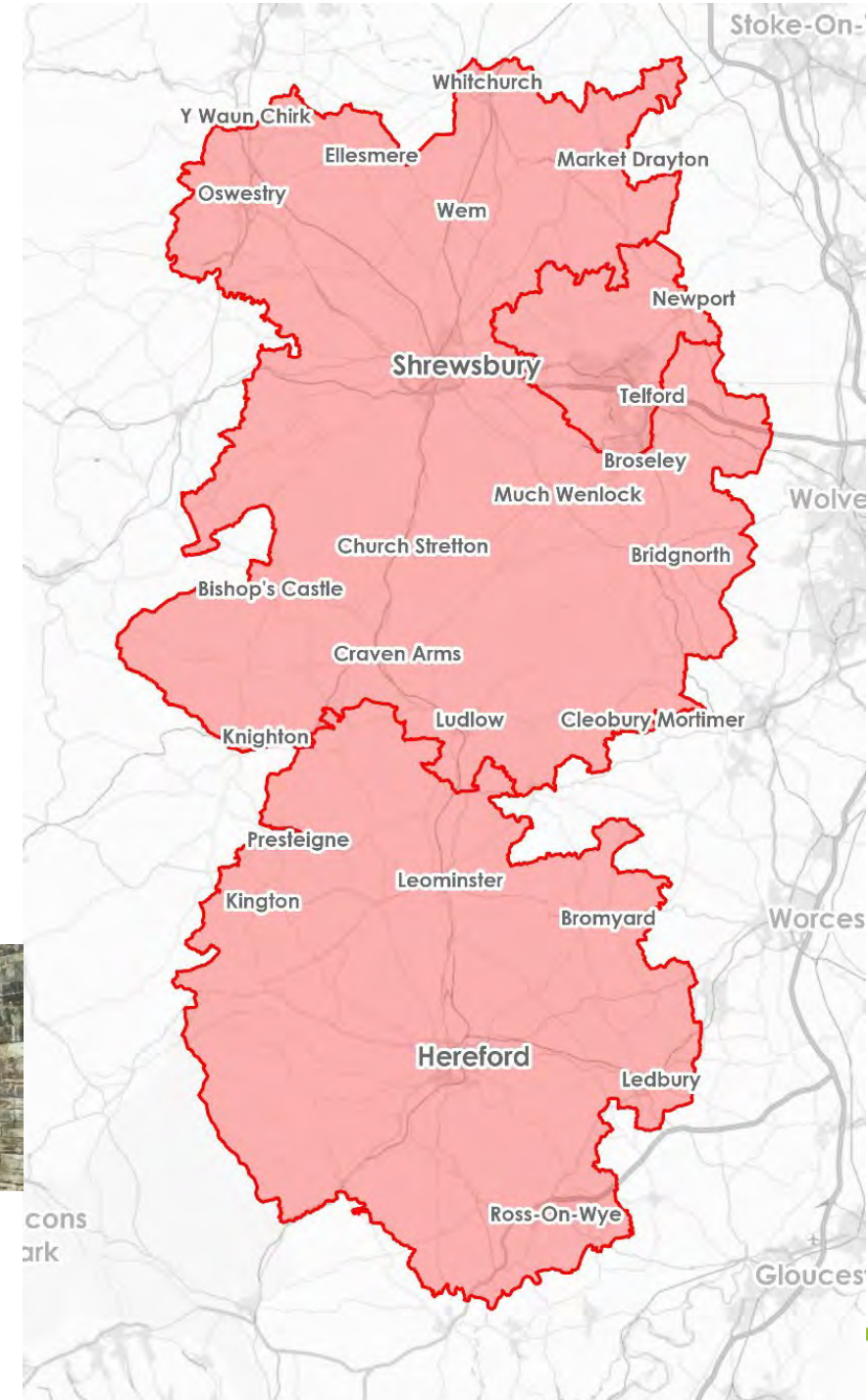
Tourism

Social Impacts

Health Impacts

# CONTEXT

- Shropshire, Herefordshire, and Telford and Wrekin
- Largely rural areas, predominantly agricultural land
- The Marches Local Enterprise Partnership:
  - Based in Shropshire, also covered Herefordshire and Telford and Wrekin
  - Working in collaboration with the Marches Nature Partnership
  - Supports local development of businesses including farmers, landowners and land managers





# OPPORTUNITY

- Mutual recognition of untapped potential
- Recognising an opportunity for Green Investment towards the Marches becoming the “green lungs” of West Midlands
- These opportunities are not confined to this area







# STUDY SCOPE

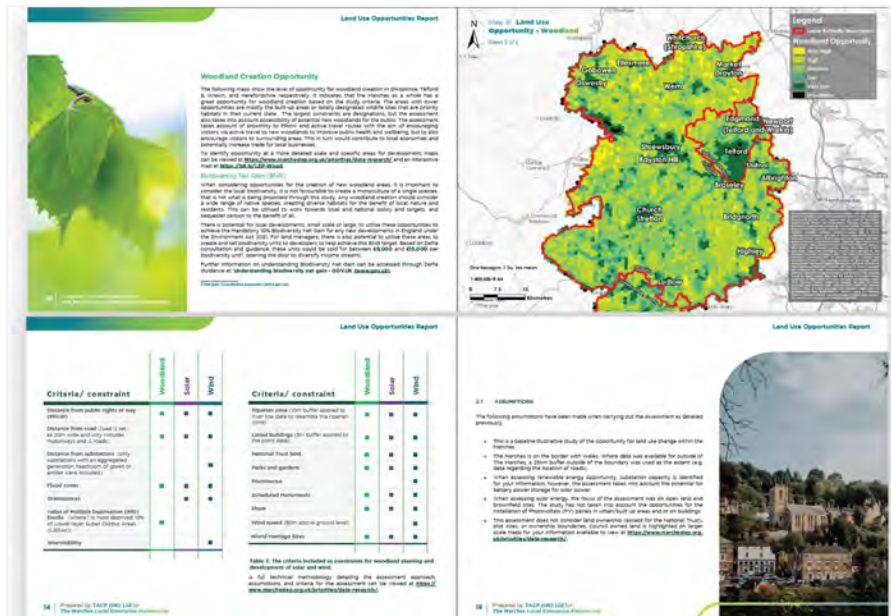
- 1 Identify current land use across the study area
- 2 Identify opportunities for renewable energy production
- 3 Identify opportunities for carbon sequestration, offsetting, and biodiversity credits
- 4 A focus on the rural environments

**Land Use Opportunities  
Report**

**Nature Based Investment  
Prospectus**

# OUTPUTS

- Baseline Study of Existing Land Use
- Land Use Opportunity Report and Funding Prospectus
  - Identify areas with greatest opportunity for Solar Energy generation, Wind Energy generation and Woodland Creation



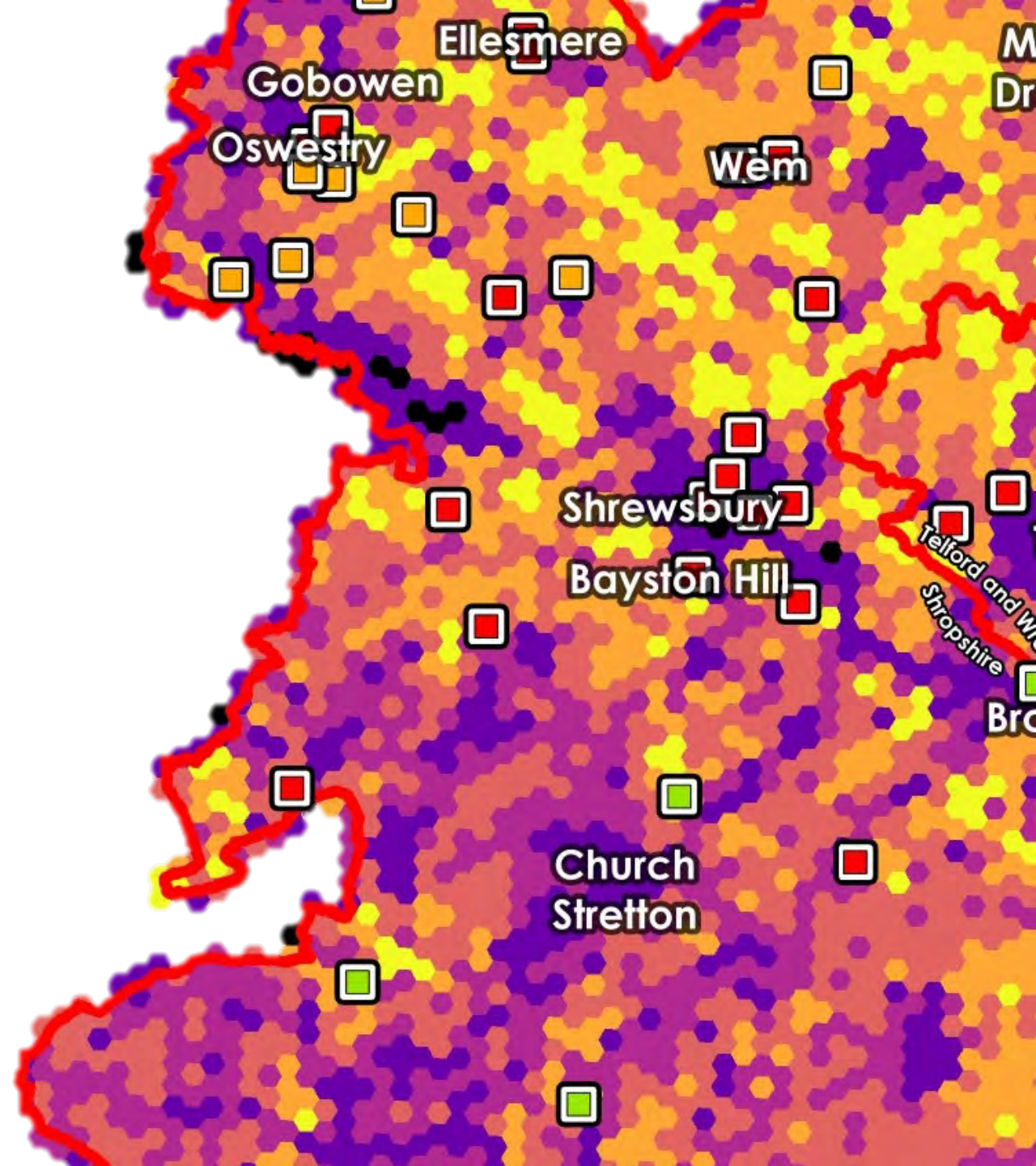
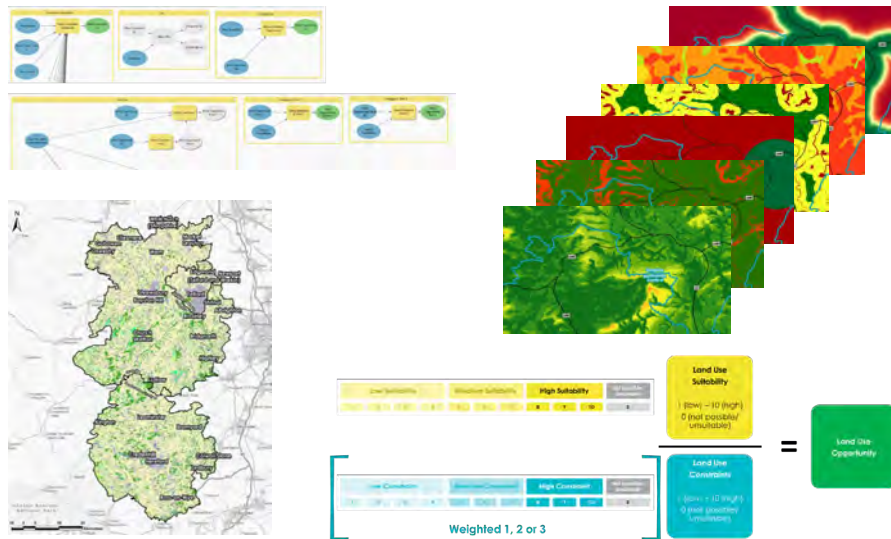
## The Marches Land Use Study Land Use Opportunities Report

Prepared by TACP (UK) Ltd for  
The Marches Local Enterprise Partnership



# OUTPUTS

- Repeatable and robust approach.
- Interactive Online Mapping
  - Available online using ArcGIS Web Apps



# THE PROCESS



STAGE 1: **CONSULTATION,  
CRITERIA AND TYPOLOGIES**



STAGE 2: **DATA SOURCES  
AND DATA COLLECTION**

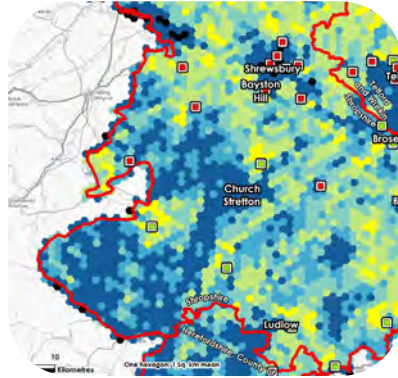


STAGE 3: **SUITABILITY AND  
CONSTRAINT SCORING**

# ANALYSIS PARAMETERS



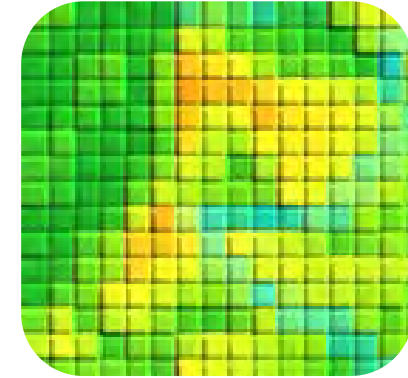
Study  
scale



Data  
boundary



Temporal  
resolution



Spatial  
resolution

# DEFINING CURRENT LAND USE

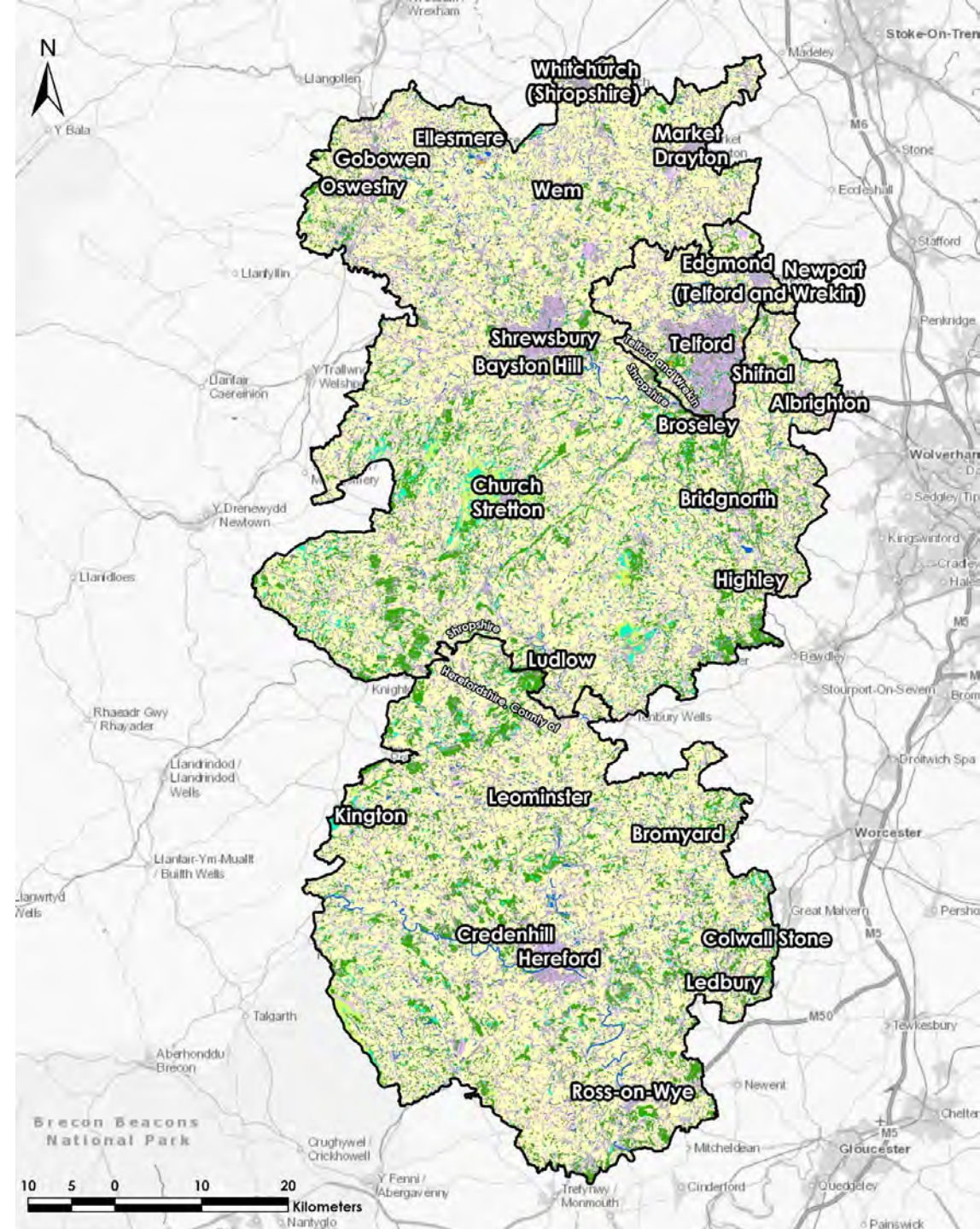
- Ordnance Survey MasterMap data
- Descriptive Term, Descriptive Group and Make
- Formed the **Secondary Typology** for the assessment of existing land use

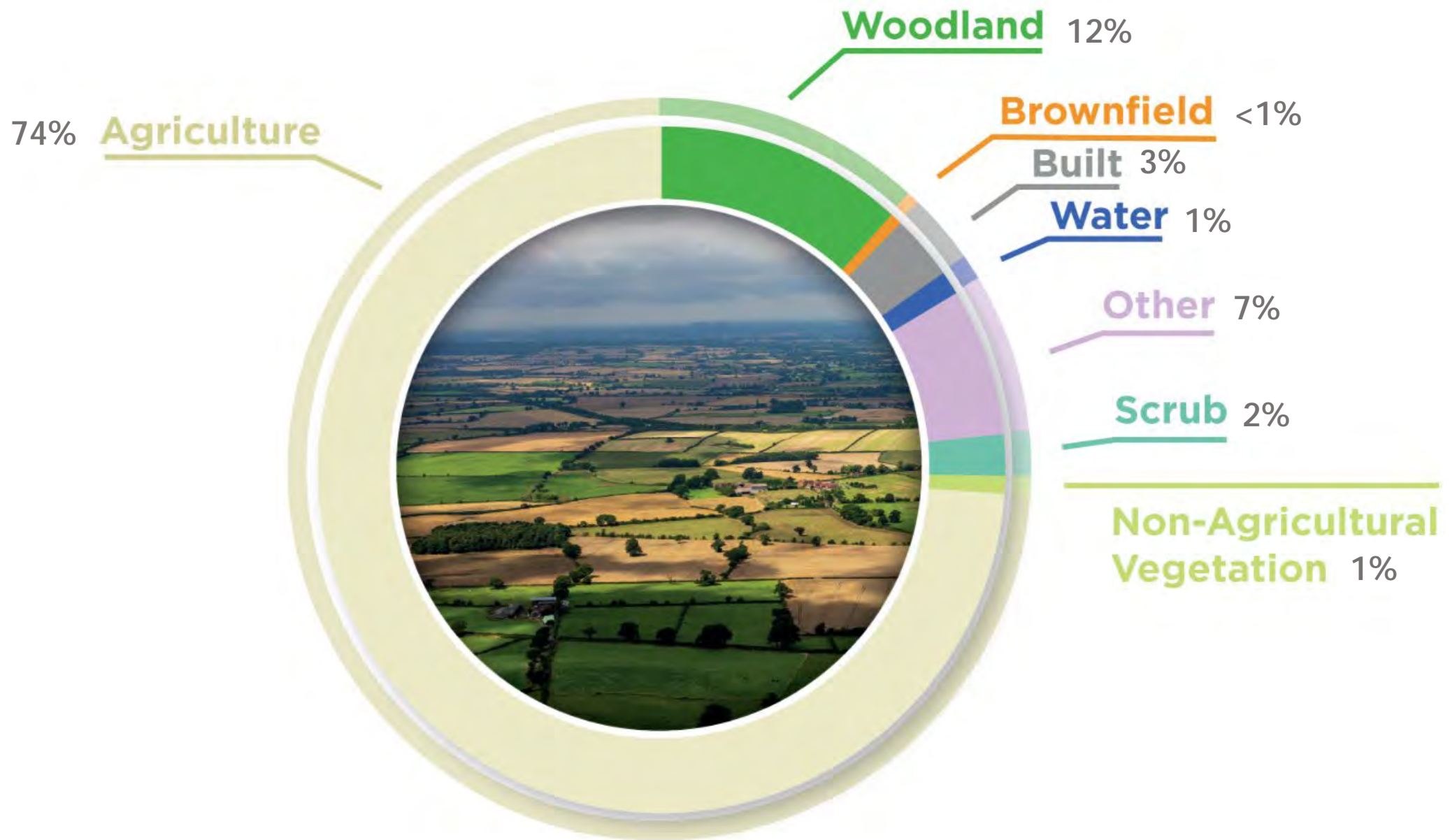




# LAND USE

Ordnance Survey MasterMap data was used in the analysis of existing land use





# SUITABILITY FOR LAND USE CHANGE

Suitability is the ease of land use change and how suitable an area is for this land use change to function

Land Use	Suitability score
Agriculture	10
Built	0
Water	0
Marsh	1
Rough grassland	10
Heath	9
Scrub	5
Rock	Minus 1 off suitability
Rock (Scattered) is dominant	Minus 1 off suitability
Coniferous trees are dominant	4
Non-coniferous trees anywhere in the list	2
Spoil heap suitable for Solar and Wind	10
Spoil heap with vegetation is suitable for Woodland, Solar and Wind	>2

# CONSTRAINTS

Riparian zone

Flood zones

Aspect

Slope

Intervisibility

Wind speed

Prominence

Distance from road

Distance from public rights of way

Distance from cycle paths

Distance from substations

Core habitat areas

Greenspaces

Agricultural land classification

Index of multiple deprivation

World heritage sites

Scheduled monuments

Parks and gardens

Battlefields

Conservation areas

Listed buildings

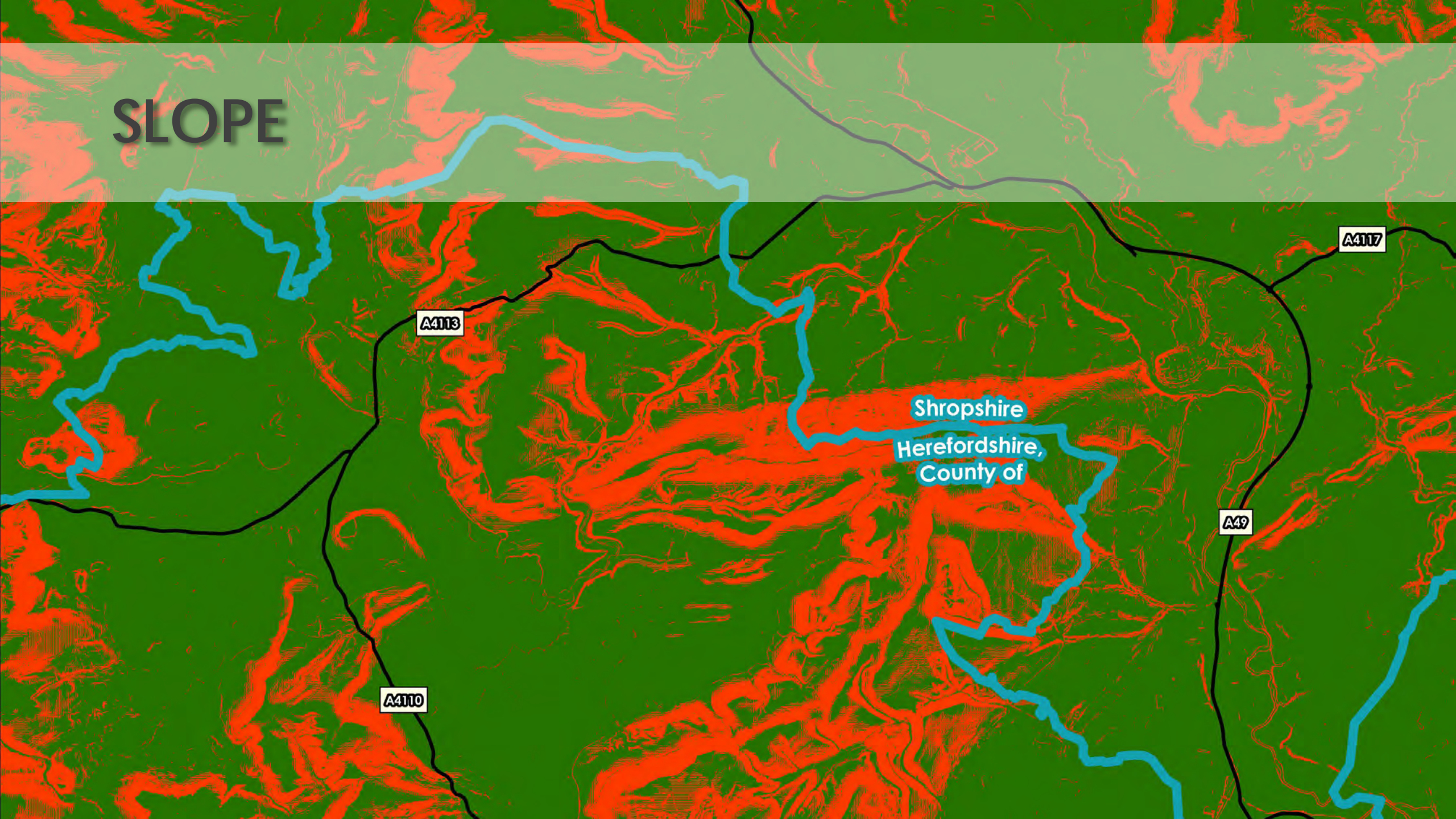
Certificates of immunity

National trust land

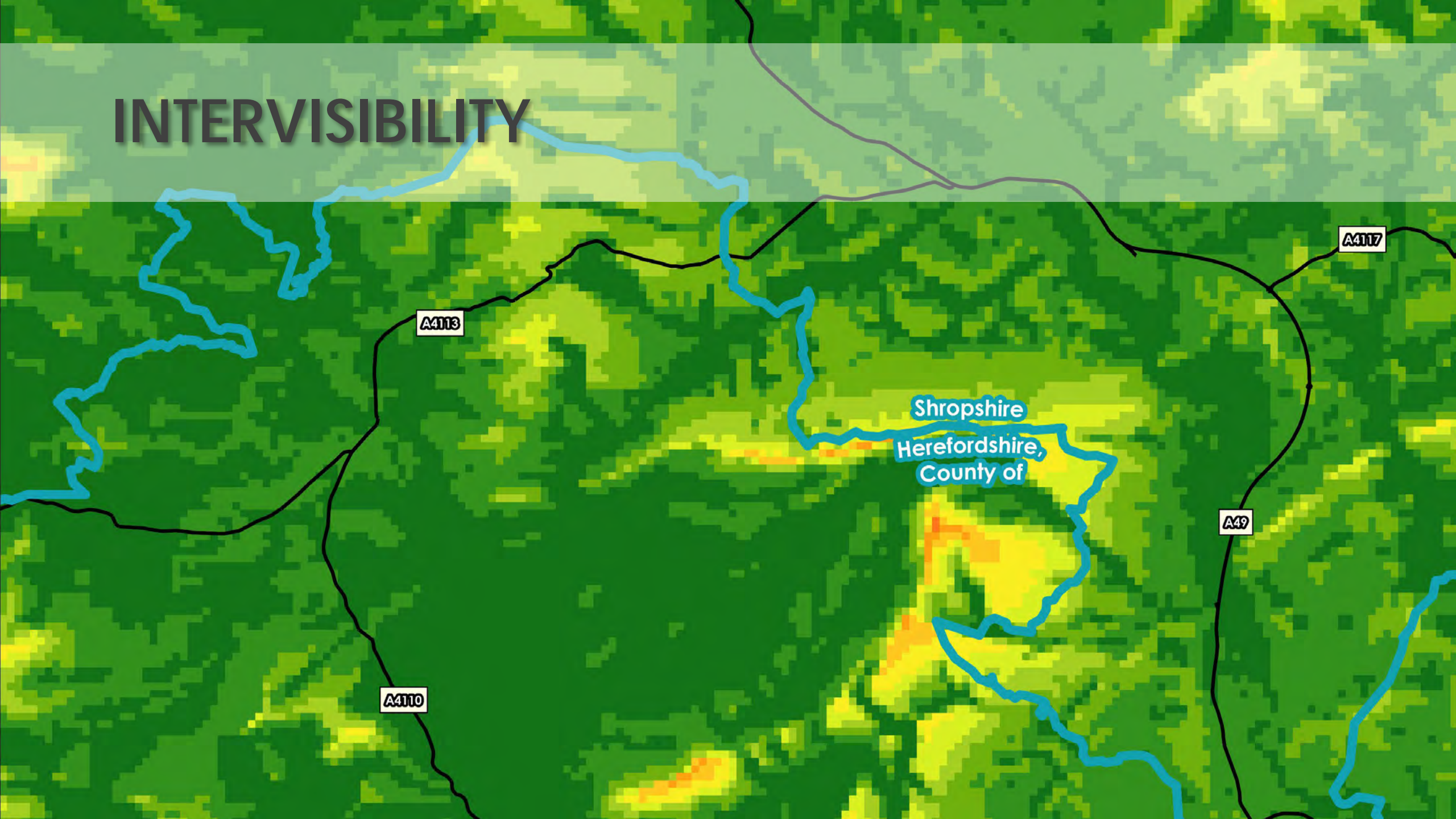
Areas of Outstanding Natural Beauty



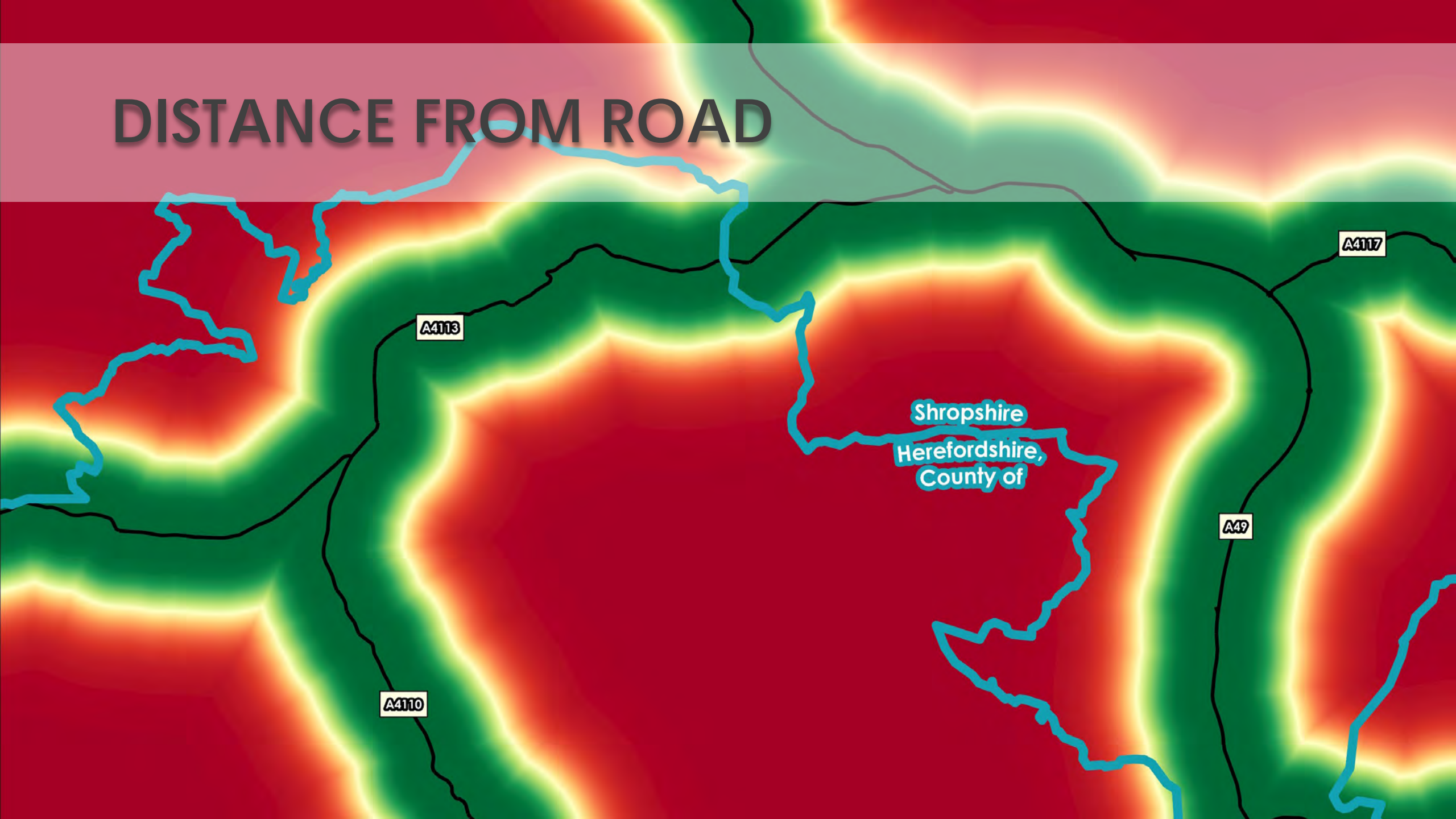
# SLOPE



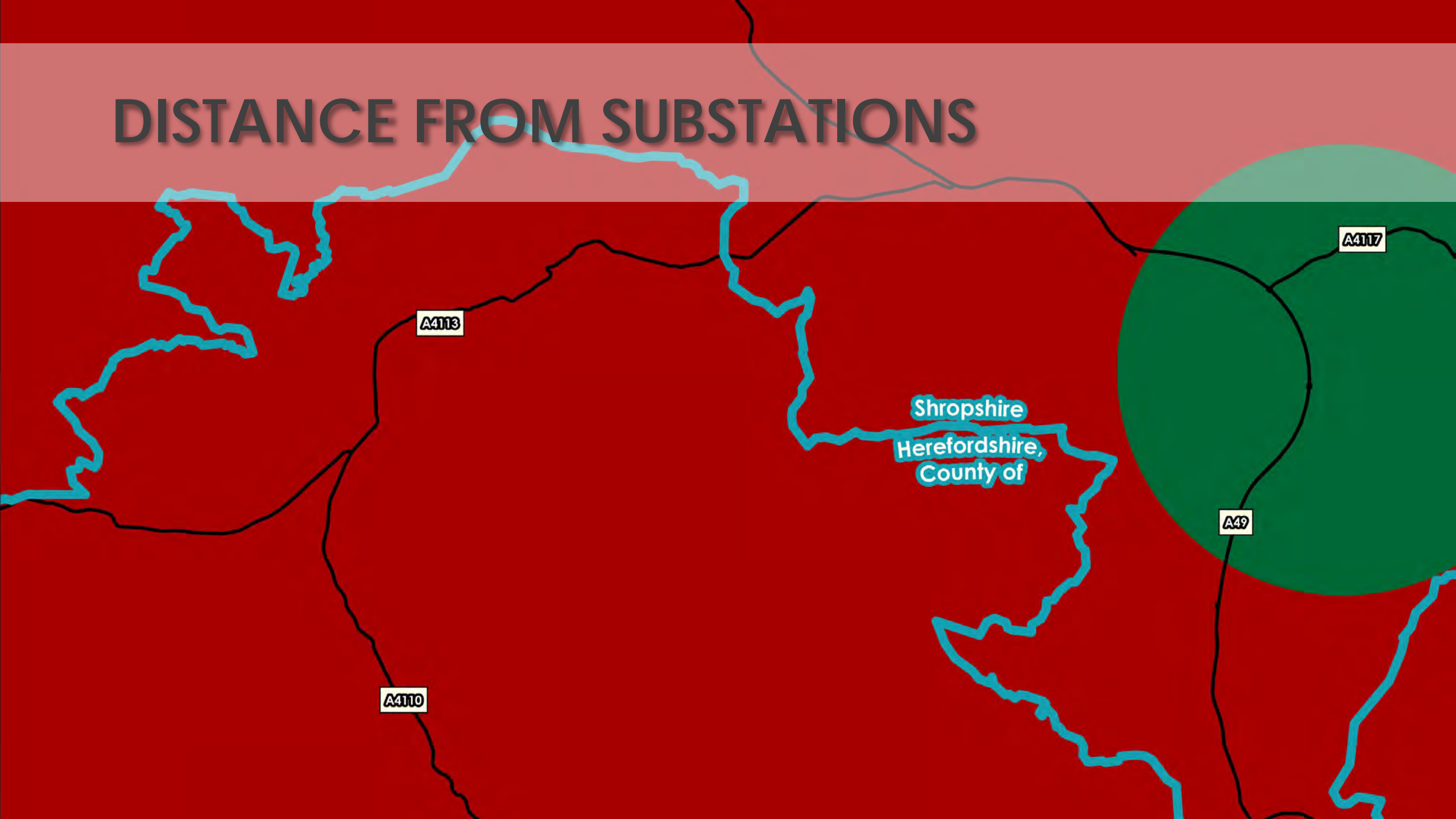
# INTERVISIBILITY



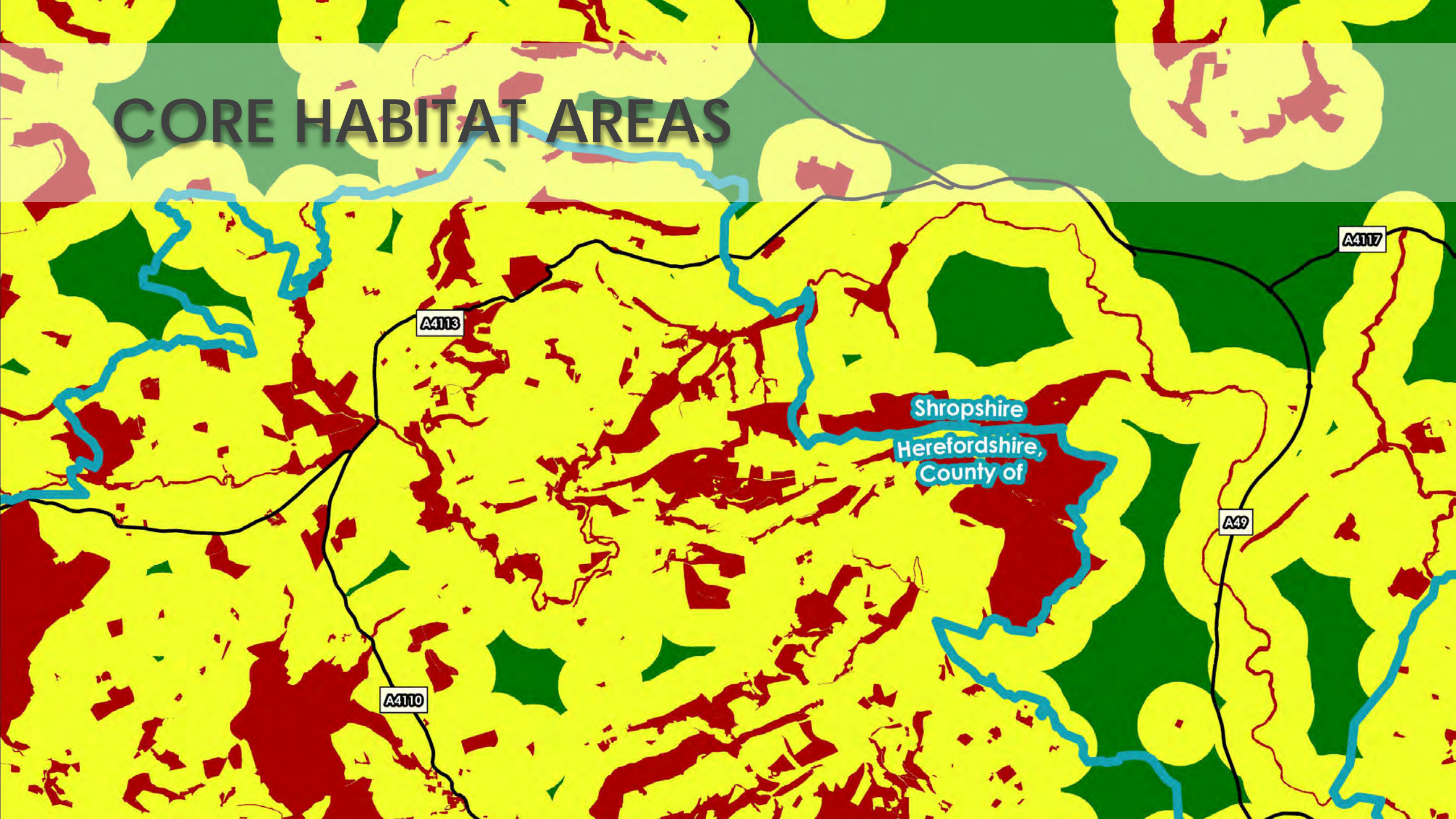
# DISTANCE FROM ROAD



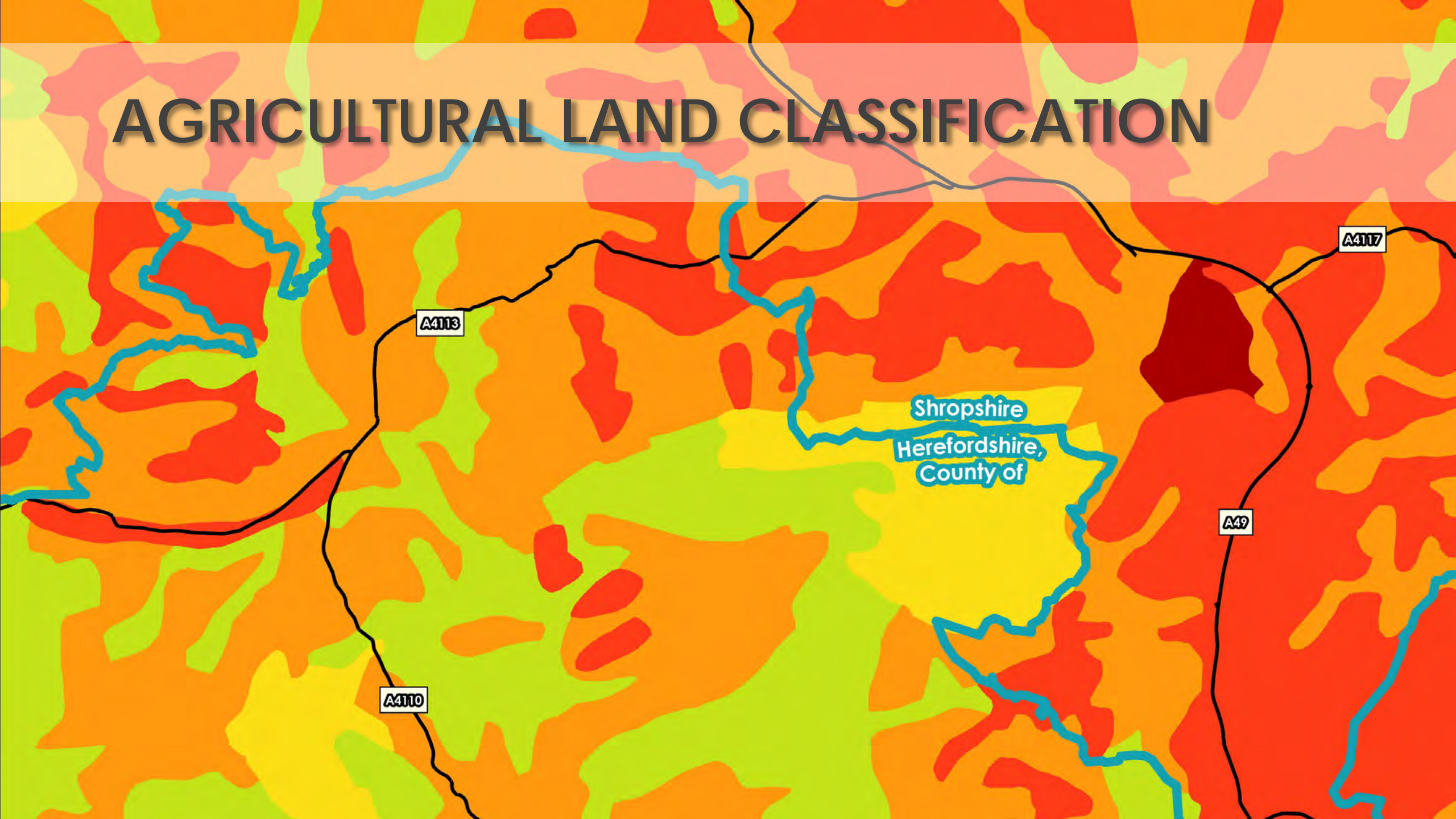
# DISTANCE FROM SUBSTATIONS



# CORE HABITAT AREAS



# AGRICULTURAL LAND CLASSIFICATION





## DATA SOURCES



# OPPORTUNITY

Low Suitability				Medium Suitability			High Suitability			Not possible/ Unsuitable
1	2	3	4	5	6	7	8	9	10	0

**Land Use  
Suitability**

1 (low) – 10 (high)  
0 (not possible/  
unsuitable)



# OPPORTUNITY

Low Suitability				Medium Suitability			High Suitability			Not possible/ Unsuitable
1	2	3	4	5	6	7	8	9	10	0

**Land Use Suitability**

1 (low) – 10 (high)  
0 (not possible/  
unsuitable)

Low Constraint				Medium Constraint			High Constraint			Not possible/ Unsuitable
1	2	3	4	5	6	7	8	9	10	0

Weighted 1, 2 or 3

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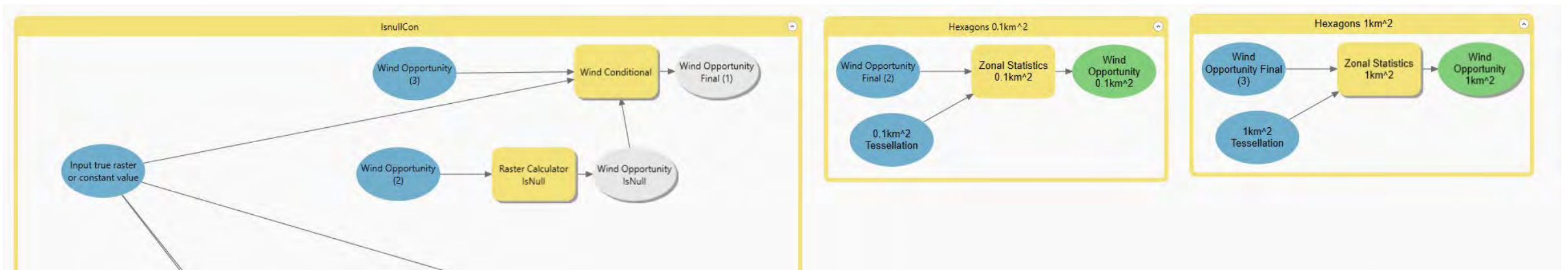
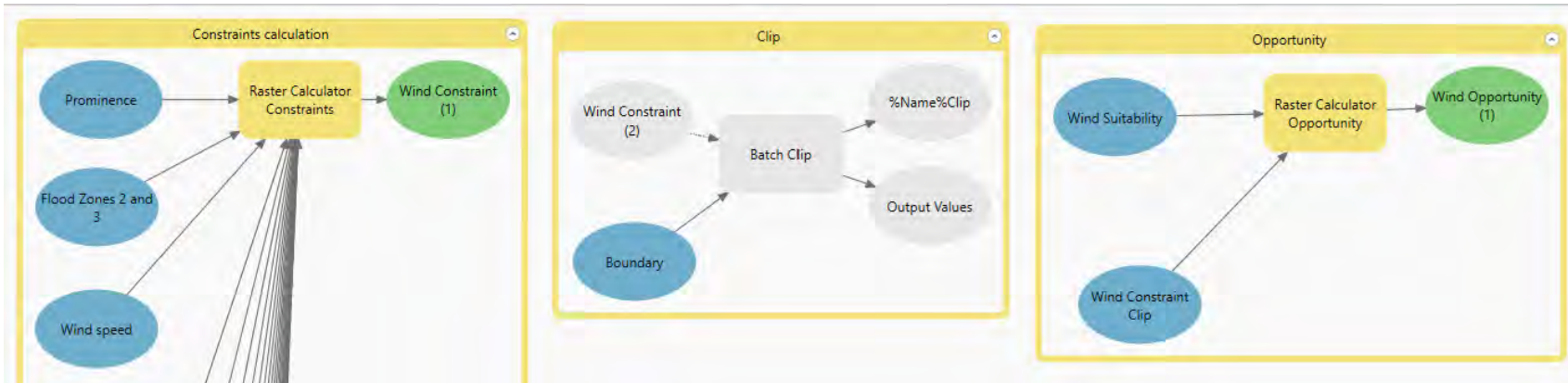
Weighted 1, 2 or 3

**Land Use Constraints**  
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0 (not possible/  
unsuitable)

=

**Land Use Opportunity**

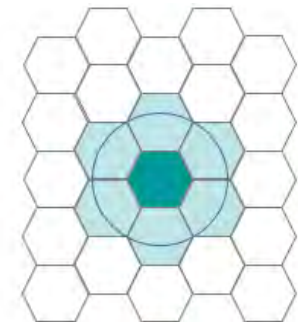
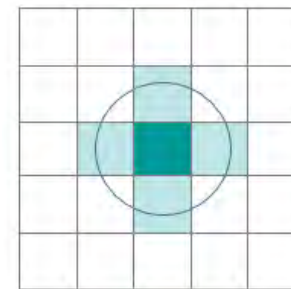
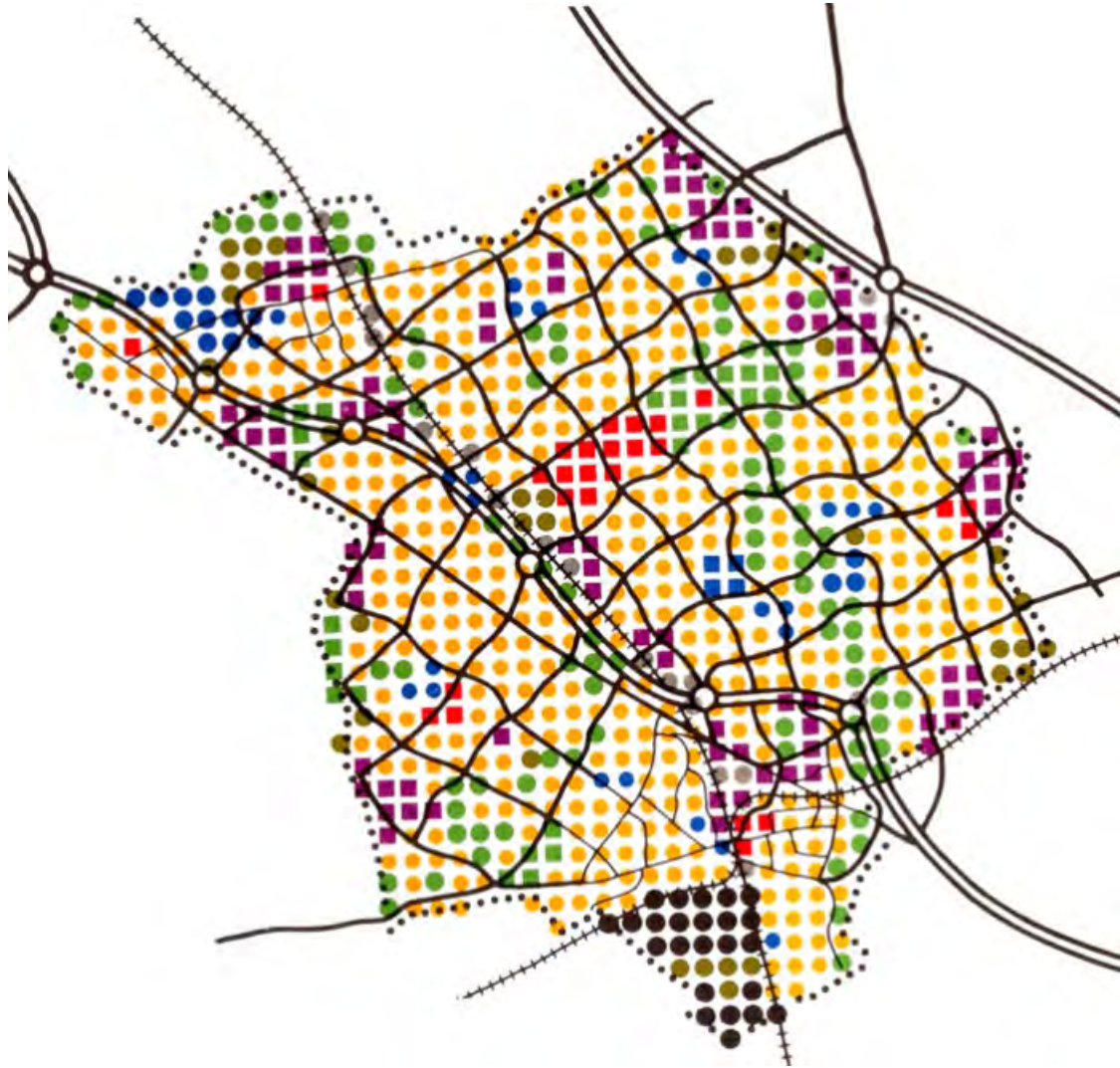
# MODEL BUILDER



# CARTOGRAPHY

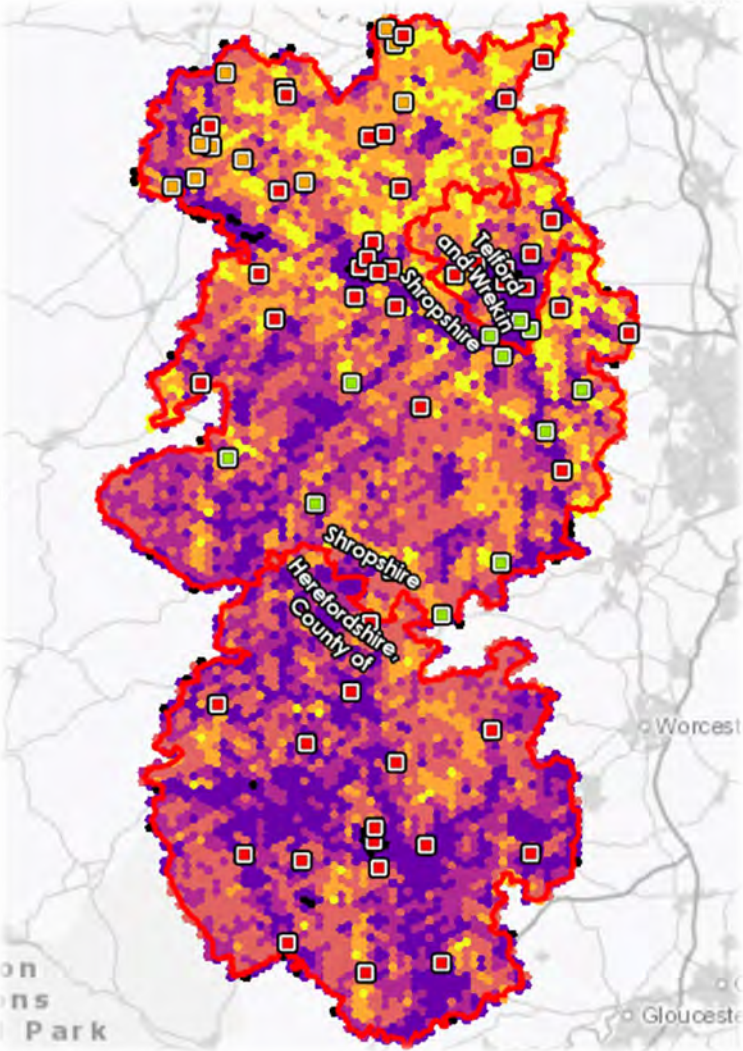
## Why Hexagons?

- The **most circular-shaped** polygon that can tessellate to form an **evenly spaced grid**
- Allows curves to be represented **more naturally and clearly**
- Hexagons **reduce sampling bias**

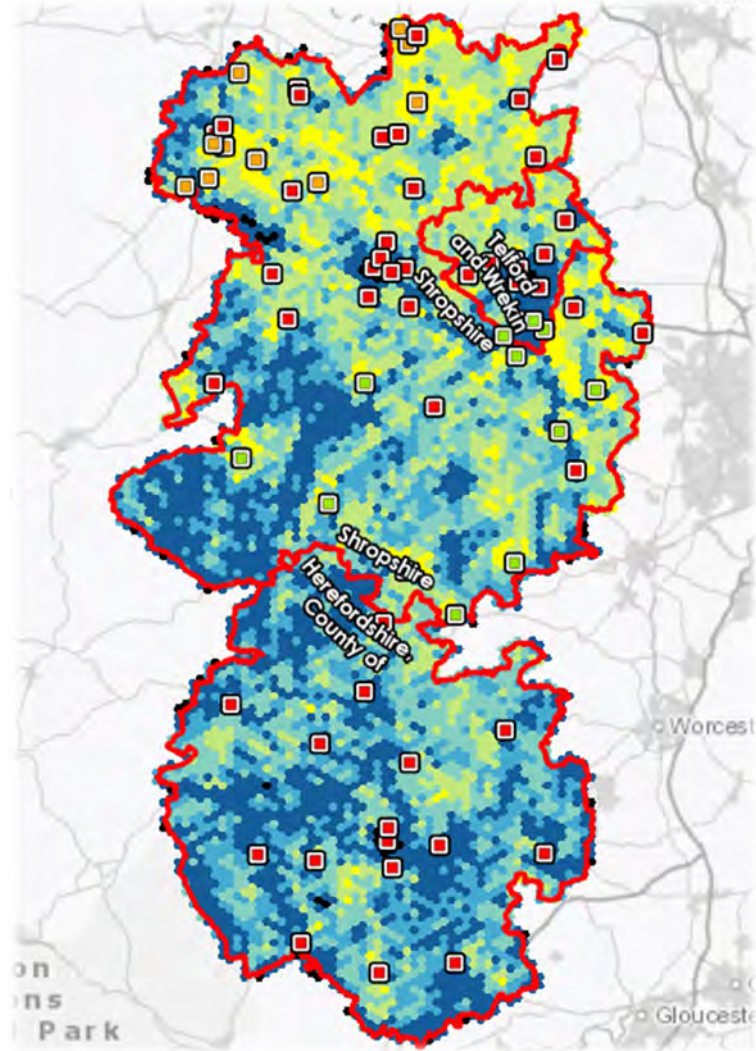


# OPPORTUNITY MAPS

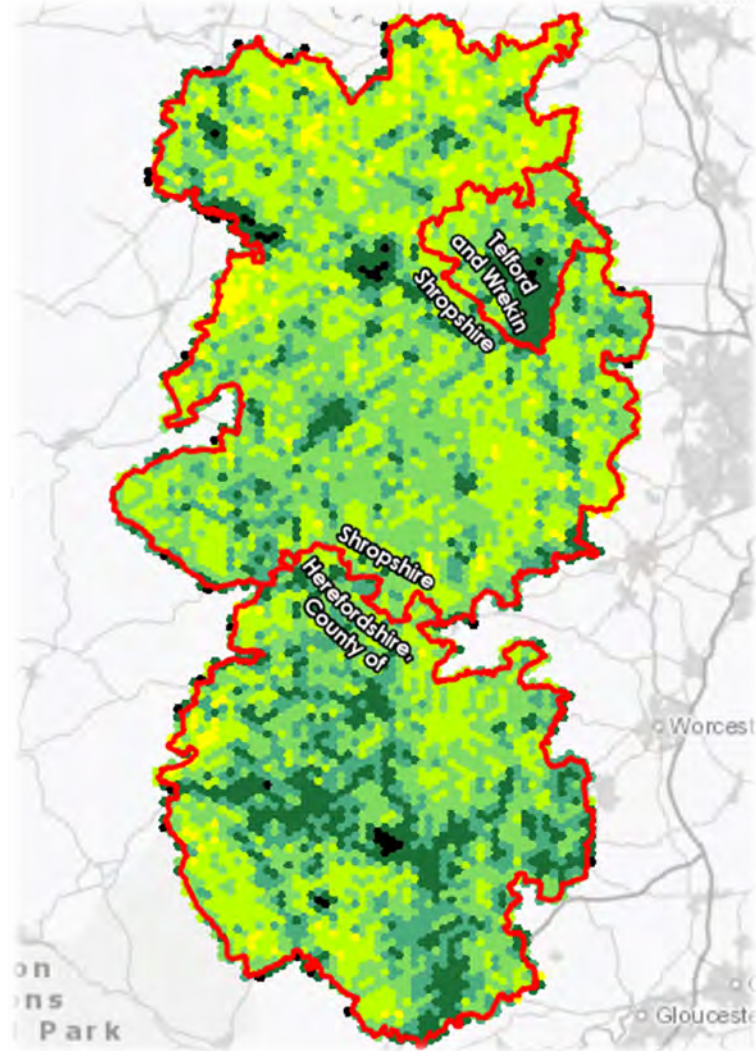
SOLAR



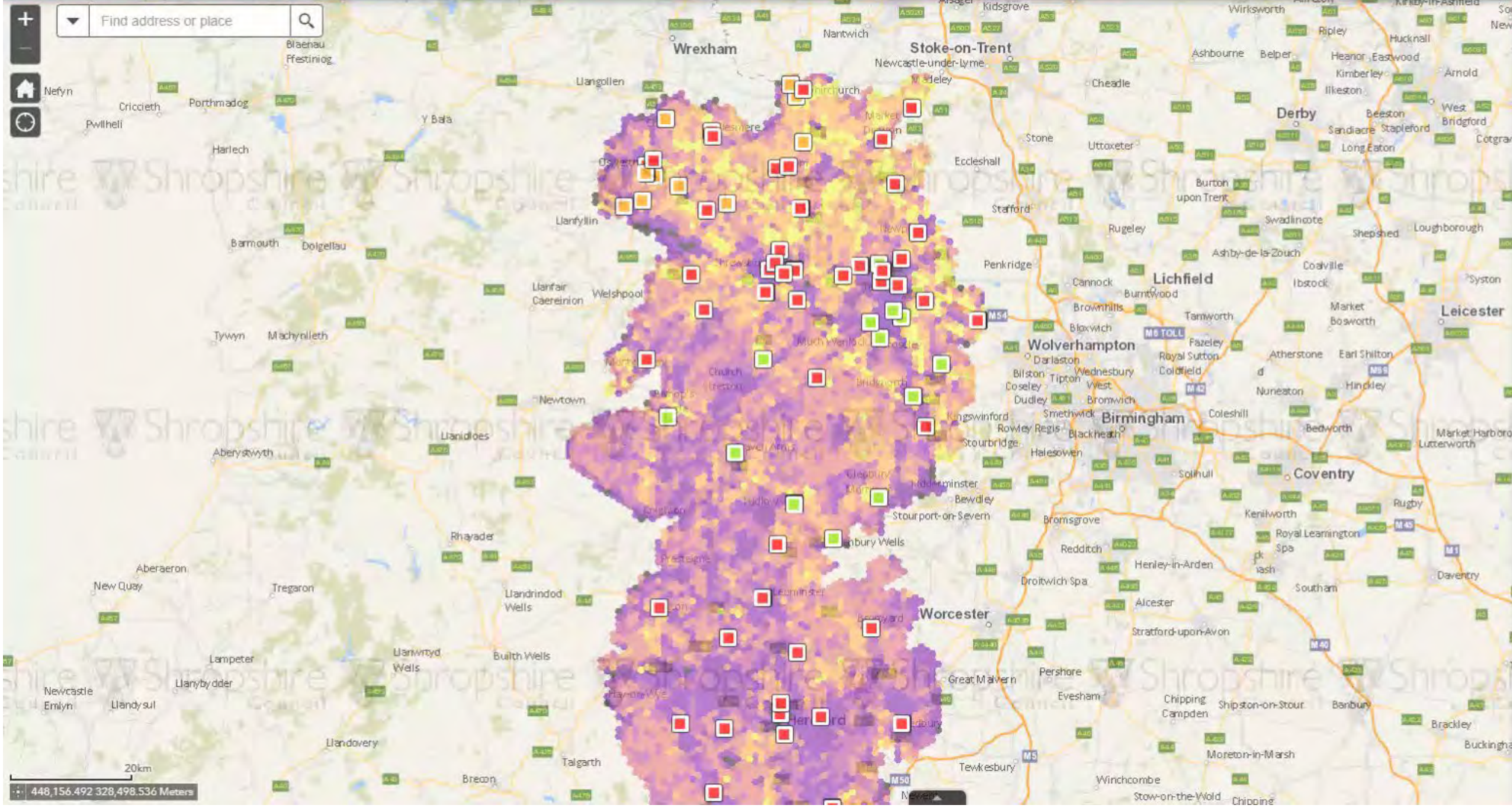
WIND



WOODLAND



# Solar Energy Creation Opportunities



### Legend

**Solar Energy generation opportunities**

National Grid substations:

- Green
- Amber
- Red

Solar PV - large scale

- Very High
- High
- Medium
- Low
- Very Low
- Unsuitable



## LEGACY

- A **launchpad** for future green investment and opportunity in the Marches
- Funding for a follow-up research project
- Fostering cross-boundary partnerships - **Marches Forward Partnership**
- A repeatable approach that can be added to and updated to suit the needs of the user





## FUTURE CONSIDERATIONS

- Building on **cross-border collaboration**
- Opportunity for a **UK-wide** analysis
- **Synergy** between datasets and data sharing
- **Time** for data cleaning, processing and analysing
- Online **interactive** analysis



# TACP

Scan for further  
information



[tacp.co.uk/marcheslanduse](http://tacp.co.uk/marcheslanduse)

FULL REPORT • TECHNICAL APPENDIX • WEB MAPS



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