



# The Climate Change Challenge

Friday 22<sup>nd</sup> October 2019

Richard Knox-Johnston

Chair

CPRE South East Region



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## 2008 in Kent

- Set up a Climate Change Forum
- Held a conference
- Examined the effect of Climate Change in Kent
- Supported local groups – Elham
- Tomorrow's Kent



# Tomorrow's Kent

The impacts of climate change  
on Kent and its countryside



[www.cprekent.org](http://www.cprekent.org)





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## What is CPRE doing now?

2019 – Set up working group to research and create a policies on climate change

- Energy
- Transport
- Land management
  - Agriculture
  - Forestry



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## Key issues

As a result of climate change the countryside will change considerably

- Extreme weather
- Exotic pests and diseases
- Land management
  - responding to new policies
  - wider economic signals

## Key Issues

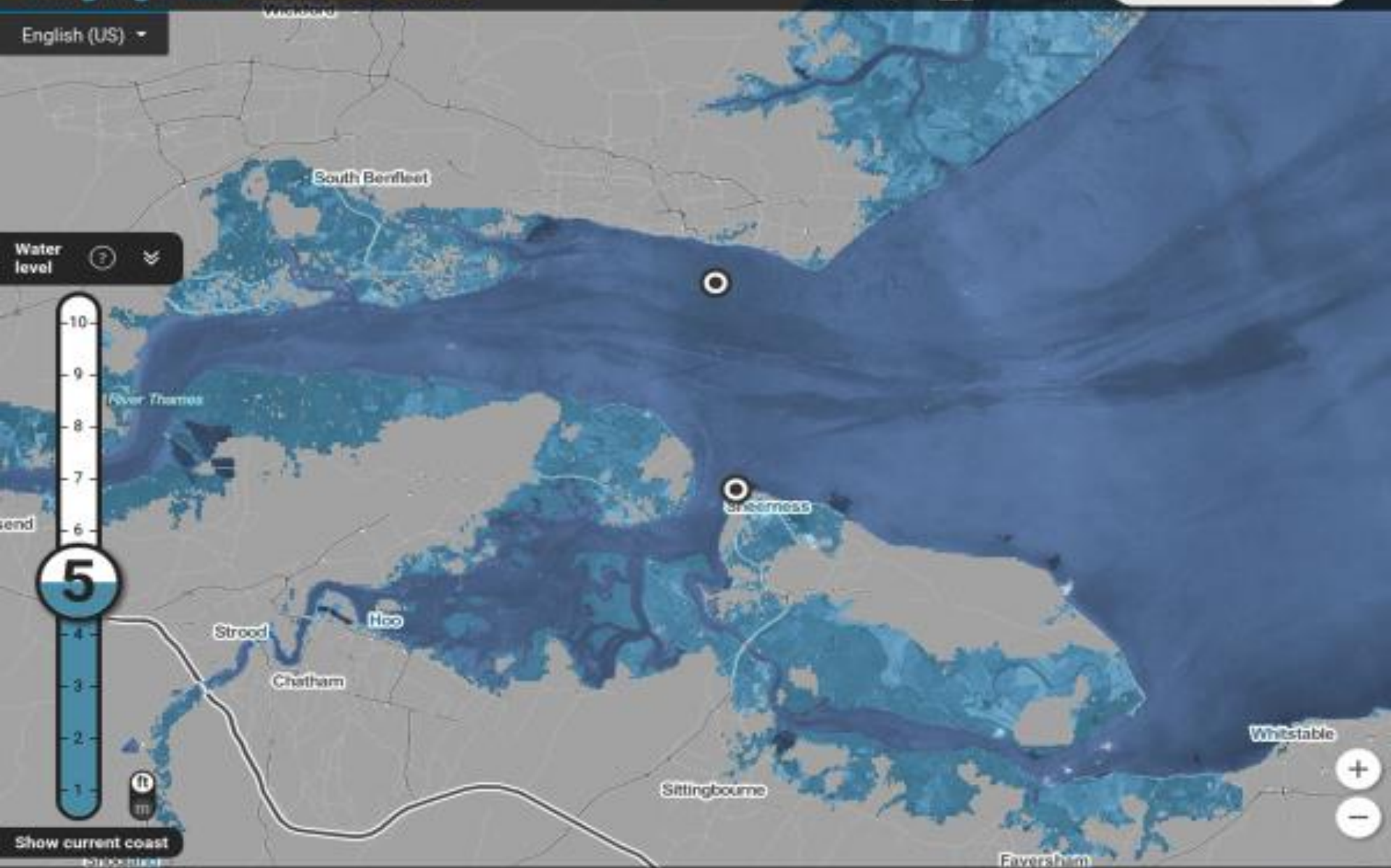
### Committee on Climate Change (CCC)

“Changes in land use and management will be essential to deliver deep cuts in Greenhouse Gas Emissions and increase our resilience to climate change impacts”.

“Action to reduce emissions and adapt to climate change in the land use sectors has not been a major priority in England to date”.

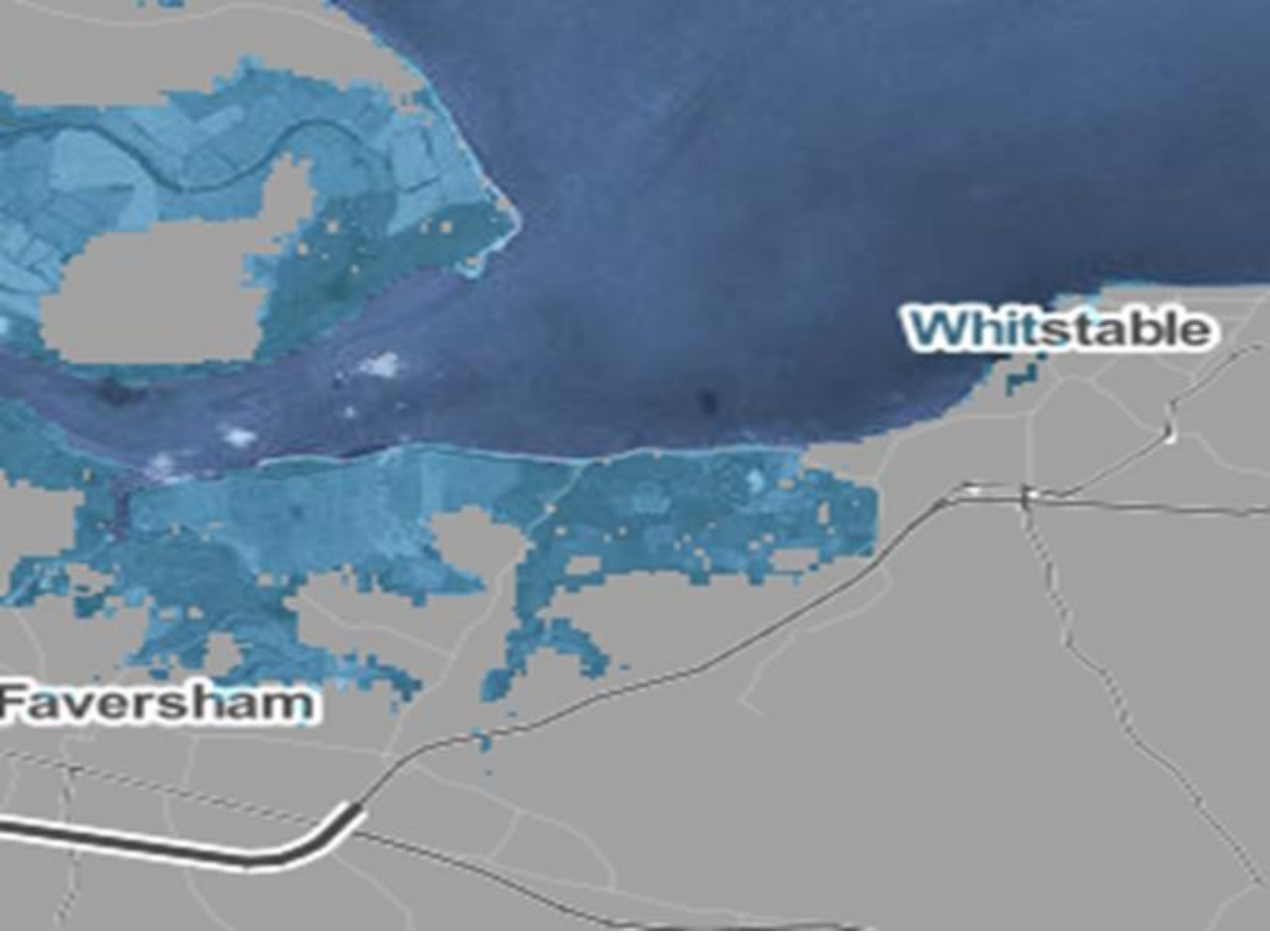
# Surging Seas RISK ZONE MAP

English (US) ▾



See projections [\(info\)](#)

This map may understate risk [?](#)



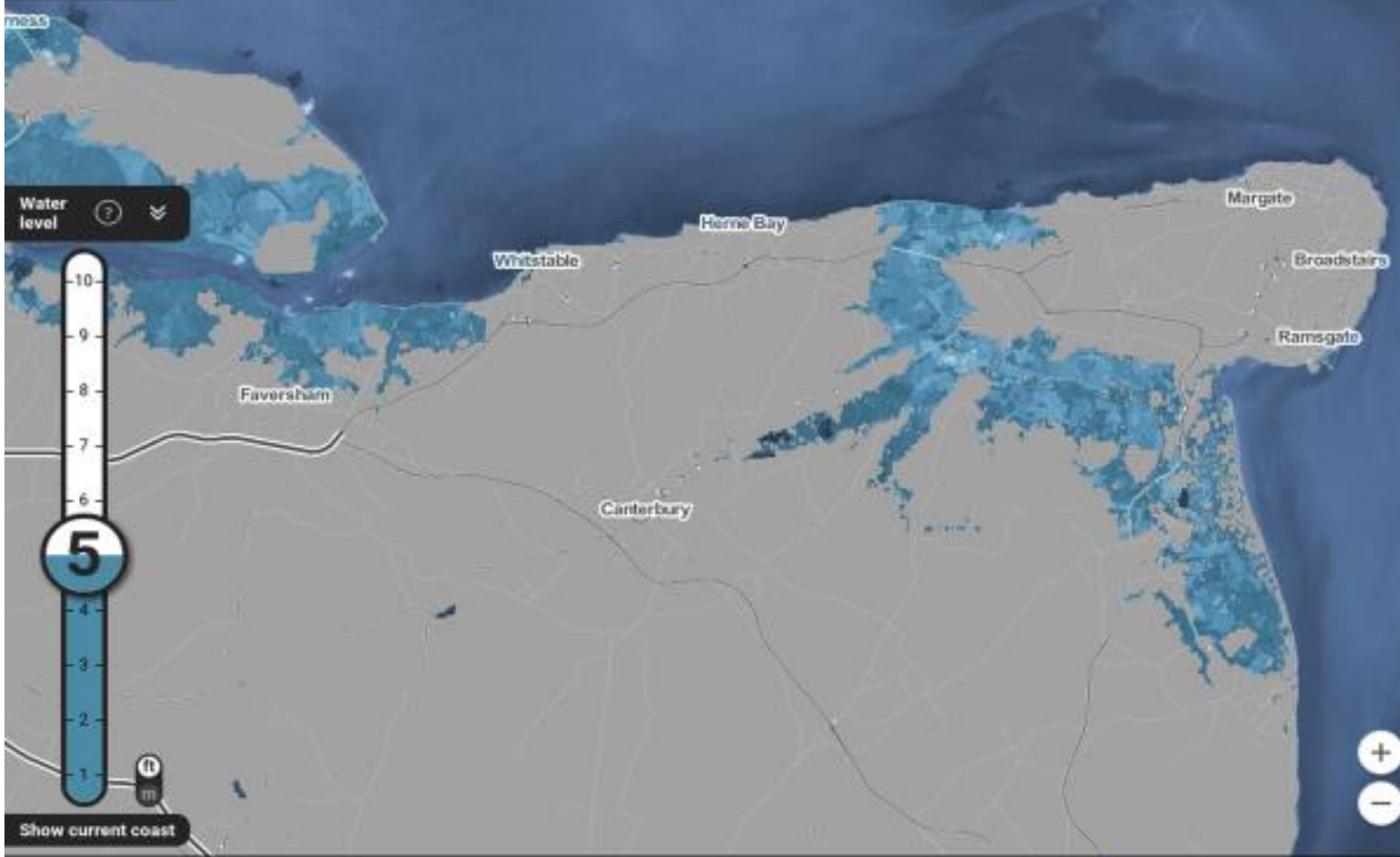
**Whitstable**

**Faversham**



# Surging Seas RISK ZONE MAP

English (US) ▾



Water level [?](#) [v](#)



ft  
m

Show current coast

See projections

This map may understate risk [?](#)



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## Key Issues

Actions that will be needed:

- Changes in the landscape
- Woodland creation
- Rewetting peatlands
- Coastal land management
  - managed realignment
  - saltmarsh
- Significant reduction of livestock numbers



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## Competition for land

- Water retention
- Carbon sequestration
- Recreation
- Health and wellbeing
- Food production – glasshouses and polytunnels
- Biofuels
- Development



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## Land strategy

- Finite resource
- Multiple functions
- Multiple demands
- No land strategy for England
- Is there one for Kent?

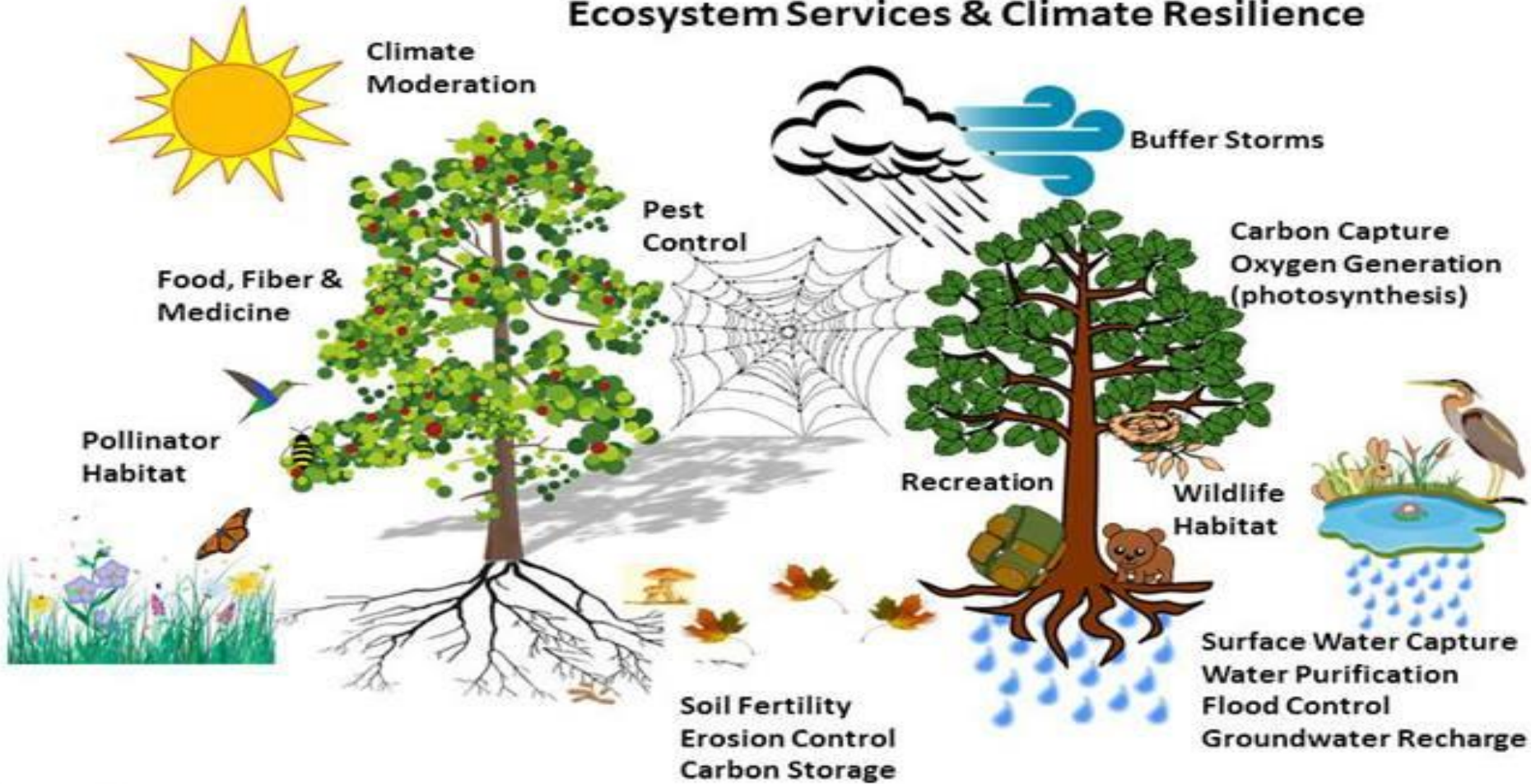


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## CPRE solutions

- Comprehensive long term land use strategy for England
- Land use strategies at every level of government
- Opportunity to create a more diverse countryside
  - more able to adapt to climate change
  - absorb and store carbon
  - provide ecosystem services

# Native Plant Communities Ecosystem Services & Climate Resilience





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## CPRE solution

### Diversification:

- Reward multi-functional use
- Create land use priorities for less land due to:
  - sea-level rise
  - enlarged rivers and flooding
  - water storage
- Development for housing and infrastructure
  - brownfield land
  - building on flood plains



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## CPRE solution

Changes in land use that supports:

- Enhancement of landscape character
- Nature
- Thriving communities
- Rural economies
- Climate mitigation and adaptation
- Harnessing natural processes





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## CPRE solution

Maintain existing carbon stores through effective management of:

- Permanent grassland
- Woodland and forests
- Hedgerows
- Wetlands
- Soil



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## CPRE solution

Increase carbon sequestration through:

- Restoration of peatland
- Plant new hedgerows
- Encourage natural regeneration
- Afforestation
- Incorporate trees and woods into farming systems
- Better soil management

**MOUNTAIN AND POLAR**

- Food
- Fiber
- Fresh water
- Erosion control
- Climate regulation
- Recreation and ecotourism
- Aesthetic values
- Spiritual values

**INLAND WATER**  
Rivers and other wetlands

- Fresh water
- Food
- Pollution control
- Flood regulation
- Sediment retention and transport
- Disease regulation
- Nutrient cycling
- Recreation and ecotourism
- Aesthetic values

**CULTIVATED**

- Food
- Fiber
- Fresh water
- Dyes
- Timber
- Pest regulation
- Biofuels
- Medicines
- Nutrient cycling
- Aesthetic values
- Cultural heritage

**COASTAL**

- Food
- Fiber
- Timber
- Fuel
- Climate regulation
- Waste processing
- Nutrient cycling
- Storm and wave protection
- Recreation and ecotourism
- Aesthetic values

**FOREST AND WOODLANDS**

- Food
- Timber
- Fresh water
- Fuelwood
- Flood regulation
- Disease regulation
- Carbon sequestration
- Local climate regulation
- Medicines
- Recreation
- Aesthetic values
- Spiritual values

**DRYLANDS**

- Food
- Fiber
- Fuelwood
- Local climate regulation
- Cultural heritage
- Recreation and ecotourism
- Spiritual values

**URBAN**  
Parks and gardens

- Air quality regulation
- Water regulation
- Local climate regulation
- Cultural heritage
- Recreation
- Education

**MARINE**

- Food
- Climate regulation
- Nutrient cycling
- Recreation

**ISLAND**

- Food
- Fresh water
- Recreation and ecotourism





# Demographic challenge





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# CPRE Research **onepoll.**

More likely to vote for party promoting countryside

- 50.35%

Green Belt

- 60.38%



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# CPRE Research onepoll.

More likely to vote for party promoting countryside

- 18-24 - 39.02% - GB – 46.88%
- 25-34 - 61.61% - GB – 70.86%
- 35-44 - 53.64% - GB – 63.38%
- 45-54 - 47.64% - GB – 57.95%
- 55+ - 35.22% - GB – 46.57%



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# CPRE Research onepoll.

## By Region

- S East – 48.00% - GB – 55.20%
- London – 66.04% - GB – 72.82%

# Carbon Capture & Storage







**capture**



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## CCS - CCapture

Removal of CO<sub>2</sub> from large scale sources:

- Anaerobic digestion
- Landfill
- Large producers of CO<sub>2</sub>
  - Drax Power station



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## Use CO<sub>2</sub> extracted

Purer useable methane:

- Renewable energy
  - electric generation
- Transport fuel
- Gas grid



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## How does it work?

- Re-useable solvent
- Captures CO<sub>2</sub> as it passes through the solvent
- Released as pure CO<sub>2</sub>
- Safe – long term storage
- Used in manufacturing processes



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## Cost?

- Re-useable
- Energy efficient
- Electricity generation
- Affordable
- Environmentally friendly



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## Will this solve the problem?

- Is a step in the right direction
- Sequesters a small volume of the CO<sub>2</sub>
- Still need to reduce high levels of CO<sub>2</sub>
- Not solved the challenge of long term storage
- Still need to take action to sequestrate
- Improve the science
- Now on the political agenda
- Media?
- Is this another blip?



# Questions?