



# VALUING NATURE

## Session A Communicating Nature's Value

Jonathan Porter, Countryside

# Communicating Nature's Value

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Adam Dutton, Royal Society for the Protection of Birds

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Euan Hall, Land Trust

Natalie Ganpatsingh, Intelligent Health



**tcpa**

## Making the case for green infrastructure

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Supporters include: Land Trust, Landscape Institute, Arup, Groundwork UK, Canal & Rivers Trust, National Trust...





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## Making the case for nature

Facts and figures are great

But also use:

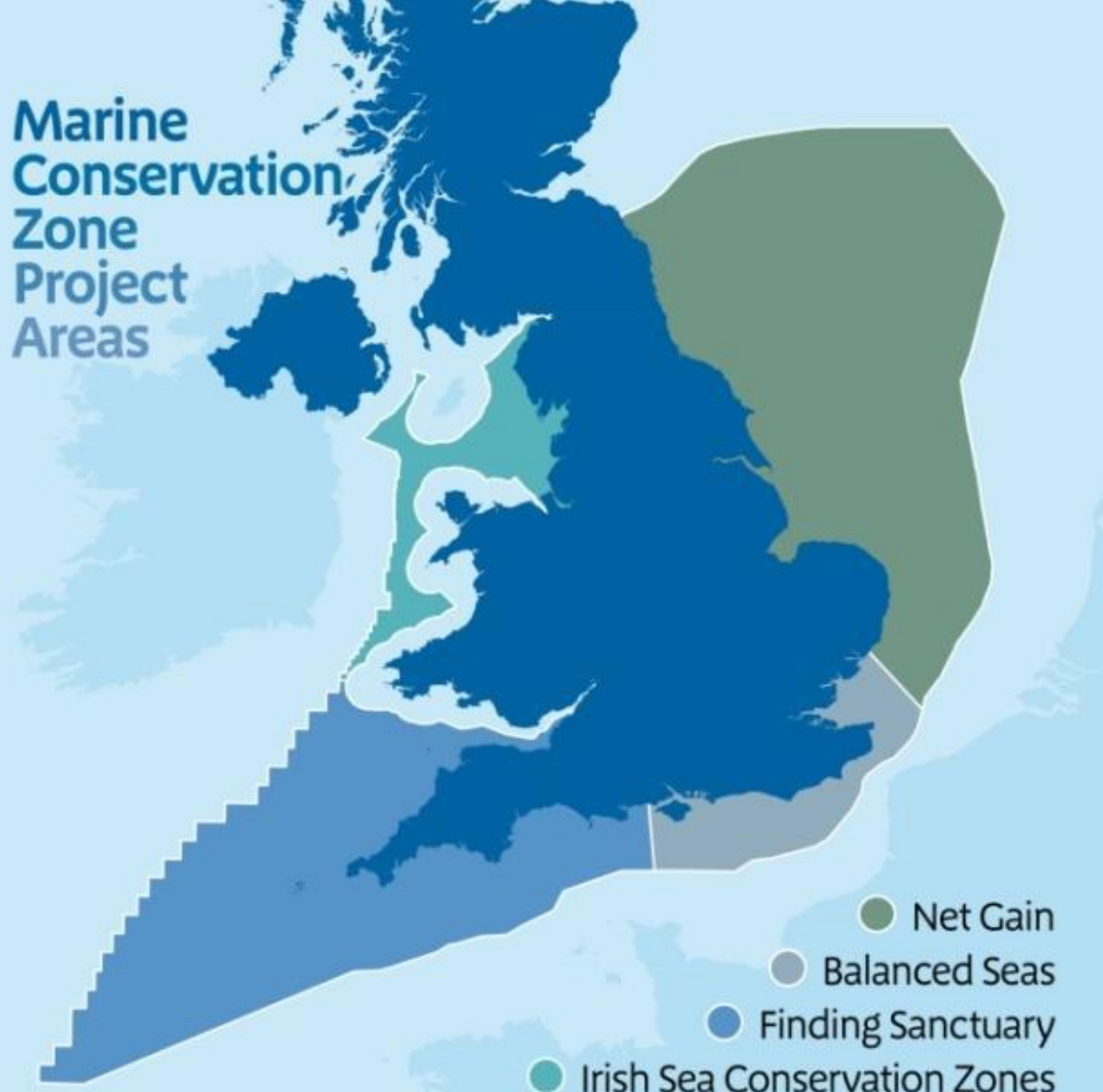
- **People** (we pay attention)
- **Pictures** (paint 1,000 words etc)
- **Stories** (stick in the mind).





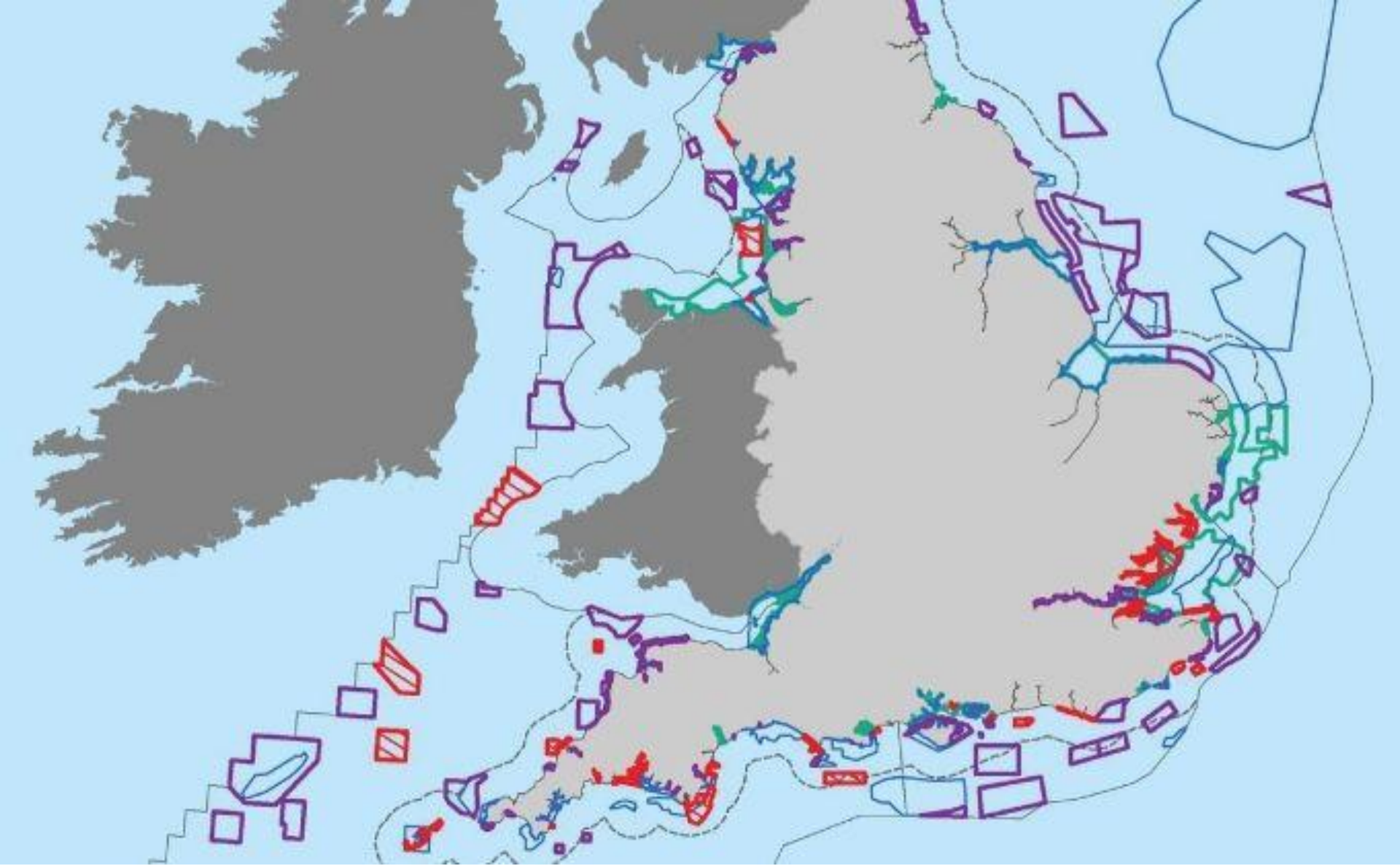
# Summarising Complexity

# Marine Conservation Zone Project Areas



- Net Gain
- Balanced Seas
- Finding Sanctuary
- Irish Sea Conservation Zones





<b>Title:</b> Designation of the second tranche of Marine Conservation Zones in waters for which the Secretary of State has responsibility (English inshore, English, Welsh and Northern Irish offshore)  <b>IA No:</b> Defra 1810  <b>Lead department or agency:</b> Department for Environment, Food and Rural Affairs  <b>Other departments or agencies:</b>	<b>Impact Assessment (IA)</b>		
	<b>Date:</b> [08 <sup>th</sup> October 2014]		
	<b>Stage:</b> Consultation		
	<b>Source of intervention:</b> Domestic		
	<b>Type of measure:</b> Secondary Legislation		
<b>Contact for enquiries:</b> MCZ Consultation Inbox <a href="mailto:mcz@defra.qsi.gov.uk">mcz@defra.qsi.gov.uk</a>			

<b>Summary: Intervention and Options</b>	<b>RPC Opinion:</b> Green
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Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as Two-Out?
£-31.87m	£-3.40m	£0.18m	Yes   IN

**What is the problem under consideration? Why is government intervention necessary?**  
 A biologically diverse marine environment is of high value to society and there is evidence that the quality of the UK marine environment has declined over recent decades. Market failure in the marine environment occurs because no monetary price is attached to many goods and services it provides and market mechanisms cannot ensure that actions are fully paid for by users. In such a case, individuals do not have an economic incentive to contribute effort to secure their continued existence. It is necessary therefore for government to intervene and designate sites that will protect nationally representative, rare and threatened and/or valuable species and habitats and deliver a network of Marine Conservation Zones for significant and long term benefits to both users and non-users.

**What are the policy objectives and the intended effects?**  
 The Government aims to have 'clean, healthy, safe, productive and biologically diverse oceans and seas'. Contributing to an ecologically coherent network of Marine Protected Areas (MPAs) is an essential part of the strategy to achieve this. Marine Conservation Zones (MCZs - a type of MPA) are an essential component of the network. The Government has a legal duty to designate MCZs under the Marine and Coastal Access Act 2009 (MCAA) in order that those sites (taken together with other UK conservation sites) contribute to the achievement of a marine conservation network. The designation of MCZs will help deliver the Government's aim of a well-managed network of MPAs that is understood and supported.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
 Option 0 or the "do nothing option" for which no further zones would be designated. This is not a viable policy option because section 123 of the MCAA places a legal obligation on Government to contribute to the creation of a network of marine protected areas including MCZs.  
 Option 1 (preferred) – designating the 2<sup>nd</sup> tranche of 23 MCZs and some additional features in the 1<sup>st</sup> tranche in 2015, identified to fill big ecological gaps in the network and with sufficient supporting evidence (both ecological and economic), thus making a further contribution to the English component of an effective and well-managed network of MPAs as required by MCAA. This option balances ecological benefits of designation with the socioeconomic implications to deliver a proportionate and cost-effective contribution to the MPA network. The phased, evidence based approach undertaken to designate MCZs was announced by Ministers in 2011.

**Will the policy be reviewed? It will be reviewed. If applicable, set review date:** 2018

Does implementation go beyond minimum EU requirements?			N/A		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)	Traded: N/A		Non-traded: N/A		

*I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.*

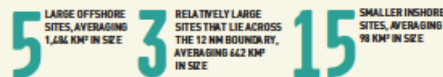




# RECOMMENDED MARINE CONSERVATION ZONES - 2nd Tranche

## THE SITES

THE 23 rMCZs INCLUDE:



They range from the tiny Utopia rMCZ in the Solent of less than 3 km<sup>2</sup>, to the vast Fulmar rMCZ, covering almost 2,500 km<sup>2</sup> of the North Sea.

rMCZ	SITE NO	AREA (KM <sup>2</sup> )	NL FEATURES	OFFSHORE/INSHORE
Coquet to St. Mary	1	188	15	In
Farnes East	2	945	9	In/Off
Fulmar	3	2,437	5	Off
Runswick Bay	4	68	12	In
Holderness Inshore	5	309	8	In
Cromer Shoal Chalk Beds	6	320	10	In
The Swale Estuary	7	51	13	In
Dover to Deal	8	10	13	In
Dover to Folkstone	9	20	20	In
Offshore Brighton	10	862	4	Off
Offshore Overfalls	11	593	4	In/Off
Utopia	12	3	6	In
The Needles	13	11	15	In
Western Channel	14	1,614	2	Off
Mounts Bay	15	12	10	In
Land's End (Runnel Stone)	16	20	10	In
North West of Jones Bank	17	464	6	Off
Greater Haig Fras	18	2,041	8	Off
Newquay and the Gannel	19	9	13	In
Hartland Point to Tintagel	20	20	14	In
Bidford to Foreland Point	21	104	21	In
West of Walney	22	388	4	In/Off
Altonby Bay	23	39	11	In



### CONTEXT

Although not often visible, the seas around our coast are home to some of the best marine wildlife in Europe, with a wide diversity of underwater landscapes, habitats and species. The marine environment is also essential to our social, economic and environmental well-being providing many goods and services including food, building materials, recreation, transport, oil, gas, renewable energy, potential carbon capture and pollution control.

However, at present our seas and their wildlife are being damaged by many human activities. The Marine and Coastal Access Act requires that a network of MPAs, including examples of all features of UK waters, is created to help improve the health of the marine environment. A network of well managed MPAs will allow damaged marine ecosystems to recover, and protect those that are healthy, more effectively than would individual, unrelated protected sites. If designated as MCZs, these 23 sites would form part of the network, helping to fulfil this obligation, and resulting in many benefits.

## ESTIMATED BENEFITS AND COSTS PER YEAR



## FEATURES PROPOSED FOR PROTECTION

Offshore and inshore/offshore rMCZs would protect a small number of features (average 5/site) mainly broad scale habitats e.g. Western Channel rMCZ would protect 2. Inshore sites would protect more features (average 12/site) due to the diversity of shallower waters e.g. Bidford to Foreland Point would protect 21. Five rMCZs protect geological features, such as the subtidal part of Spurn Head, and the Haig Fras rock complex.



## IMPORTANCE OF THESE rMCZs WITHIN THE MPA NETWORK

The 23 rMCZs address the big ecological gaps within the network of MPAs that has been designated so far, including species and habitats not yet protected in a region and those where only a very small proportion is protected e.g. Offshore Brighton would protect circulatorial rock in deep waters which is a current gap. Other sites will protect rare and vulnerable features, such as Mounts Bay rMCZ and the Needles rMCZ (both would protect the beautiful stalked jellyfishes), and Dover to Deal rMCZ (would protect roseworm reef, found only in Kent). If designated these sites will double the area protected as MCZs to a total of c. 20,000 km<sup>2</sup>.

The features proposed for protection in the rMCZs support numerous associated plants, animals and ecological processes that will also benefit from designation. Thus, the subtidal broad scale habitats to be protected in Coquet St Mary's rMCZ create productive feeding and breeding areas for grey seals, harbour porpoises, white-beaked dolphins, and 1000s of seabirds, including 90% of the entire UK Roseate tern population, England's rarest seabird.

## COSTS TO BUSINESS OVERVIEW

### UK COMMERCIAL FISHERIES

In 10 of the rMCZs, management will potentially result in costs to the fishing industry, if certain gear types can no longer be used, or if fishing is prohibited in parts of a site because it damages a feature. The exact impact on fishing is unknown until management is implemented, but there is little overlap between rMCZs and core fishing grounds. The best estimate cost (£28,000/yr) is based on a range of management scenarios and assumes that static gears will be less affected than bottom abrading mobile gears.

### OIL AND GAS

The best estimate cost to the sector (£49,000/yr) is based on cost of assessing impact of oil, gas and CCS developments on protected features. Figures were provided by the industry and cover external consent costs and internal company staff time.

### AGGREGATES

To obtain a licence for extraction within 1 km of an MCZ, the sector has to assess the potential impact on protected features (estimated cost of £28,000/application). For 2 rMCZs, there may be about 8 licence applications over 20 years, which gives the figure of c. £11,000/yr.

## BENEFITS TO PEOPLE FROM DESIGNATION OF THE 23 rMCZs

### NON-USE AND BEQUEST VALUES

**HIGH CONFIDENCE THAT THERE WILL BE A BENEFIT BUT LOW CONFIDENCE IN THE SCALE**

Some people like places, habitats and even species to be protected even if they do not use them i.e. there is a "non-use" value. The non-use value, to divers and anglers, of protecting the 23 sites is estimated at £211m over a 20 yr period or about £10m/yr.

### RESEARCH AND EDUCATION

**RELATIVELY HIGH CONFIDENCE**

Research and monitoring within designated sites will increase our understanding of marine ecosystems and how they are useful to us.

### FISH AND SHELL FISH FOR HUMAN CONSUMPTION

**FAIRLY HIGH CONFIDENCE FOR SHELLFISH, VERY LOW CONFIDENCE FOR FISH**

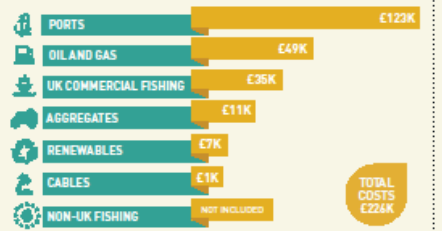
Intertidal sediments, coastal saltmarsh, infralittoral rock, mud habitats in deep water and seagrass beds are important fish habitats. These features would be protected in several tranche 2 MCZs. Once these sites are managed, fish populations are expected to increase both within and outside the boundaries, benefiting commercial fishers and recreational anglers.

### GAS AND CLIMATE REGULATION

**MEDIUM CONFIDENCE**

Intertidal mud, coastal salt marshes and saline reed beds, mud in deep waters and seagrass beds are all efficient sequestrators of carbon and thus contribute to gas and climate regulation. These features are protected in several tranche 2 MCZs which may result in a net increase in the rate of carbon sequestration.

## COST TO BUSINESS PER YEAR



### ENVIRONMENTAL RESILIENCE

**MEDIUM CONFIDENCE**

Rising sea temperatures and sea levels, greater storm frequency, increasing numbers of severe storm surges, and changes in the timing of plankton production, composition and distribution, all of which are a result of climate change, will damage ecosystems. Protected sites with healthy diverse ecosystems will be more resilient to such threats, in the same way as healthy humans tend to be more resistant to stress and disease.

### NATURAL HAZARD PROTECTION

**LOW CONFIDENCE**

Mudflats, intertidal wetlands, estuaries and coral reefs are habitats that help to protect the coastline by preventing erosion and flooding. These features will be protected in several tranche 2 MCZs and their improvement through protection might possibly strengthen coastline protection.

### REGULATION OF POLLUTION (NUTRIENT RECYCLING)

**LOW CONFIDENCE**

Subtidal sediments are known to act as pollution sinks and salt marshes and seagrass beds are also thought to be good regulators of pollution. These features will be protected in several tranche 2 MCZs and if they improve in condition this may increase their capacity to process waste.

## PUBLIC SECTOR INVESTMENT PER YEAR

**ECOLOGICAL SURVEYS** £1.2M

**MANAGEMENT** £751k

**NATIONAL DEFENCE** £2k

**TOTAL COSTS** £1.924M

## PUBLIC SECTOR INVESTMENT OVERVIEW

### ECOLOGICAL MONITORING

The SNCBs monitor the condition of the MCZ features in order to report on success of protection (Natural England for inshore sites, JMCZ for offshore sites). The SNCBs have provided cost estimates for ecological surveys that total £1,171,000/yr for all 23 sites.

### MANAGEMENT

The best estimate cost covers the management needed in the 10 MCZs where fishing may need regulation by the MMD and IFCA's. Costs cover enforcement and surveillance and do not take account of possible cost savings through single measures for several MCZs.

### NATIONAL DEFENCE

The best estimate of costs (£2,000/yr) is based on the work required by the Ministry of Defence to use its guidance on reducing impacts of military activities on MCZs and in adjusting electronic charts after designation to consider MCZs.

## SECTORS THAT WILL NOT BE IMPACTED BY TRANCHE 2

### WIND RENEWABLES

Many developments have now been consented and the Crown Estate anticipates there will be no extra costs as a result of future MCZ designations.

### RECREATION

Recreational activities will generally not prevent the achievement of MCZ conservation objectives. The exception is anchoring which may need regulation where it might damage features such as sea grass beds. The Needles rMCZ is the only site affected but stakeholder information indicates little overlap between anchoring and seagrass, and management could possibly be on a voluntary basis.

### COASTAL DEVELOPMENT

The 23 rMCZs will not impact on known future developments as these are not sufficiently close to the proposed sites or expected to interfere with site conservation objectives.

### ARCHAEOLOGY

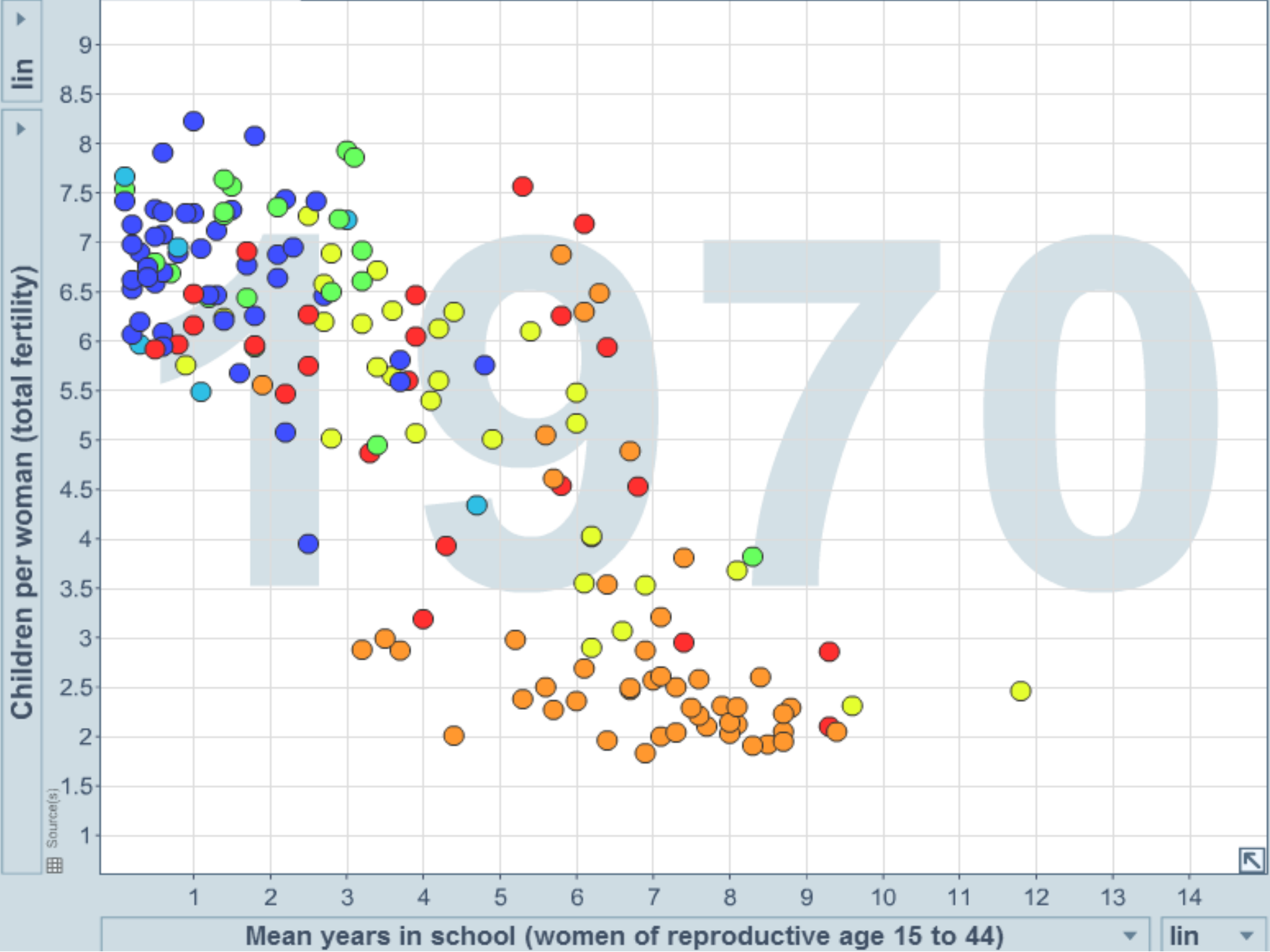
License applications to English Heritage and the MMD for archaeological work in MCZs will require an assessment of the impact on protected broad-scale habitats. But the footprint of such activity is very small compared to the area covered by broad-scale habitats and additional costs to this sector are expected to be minimal.

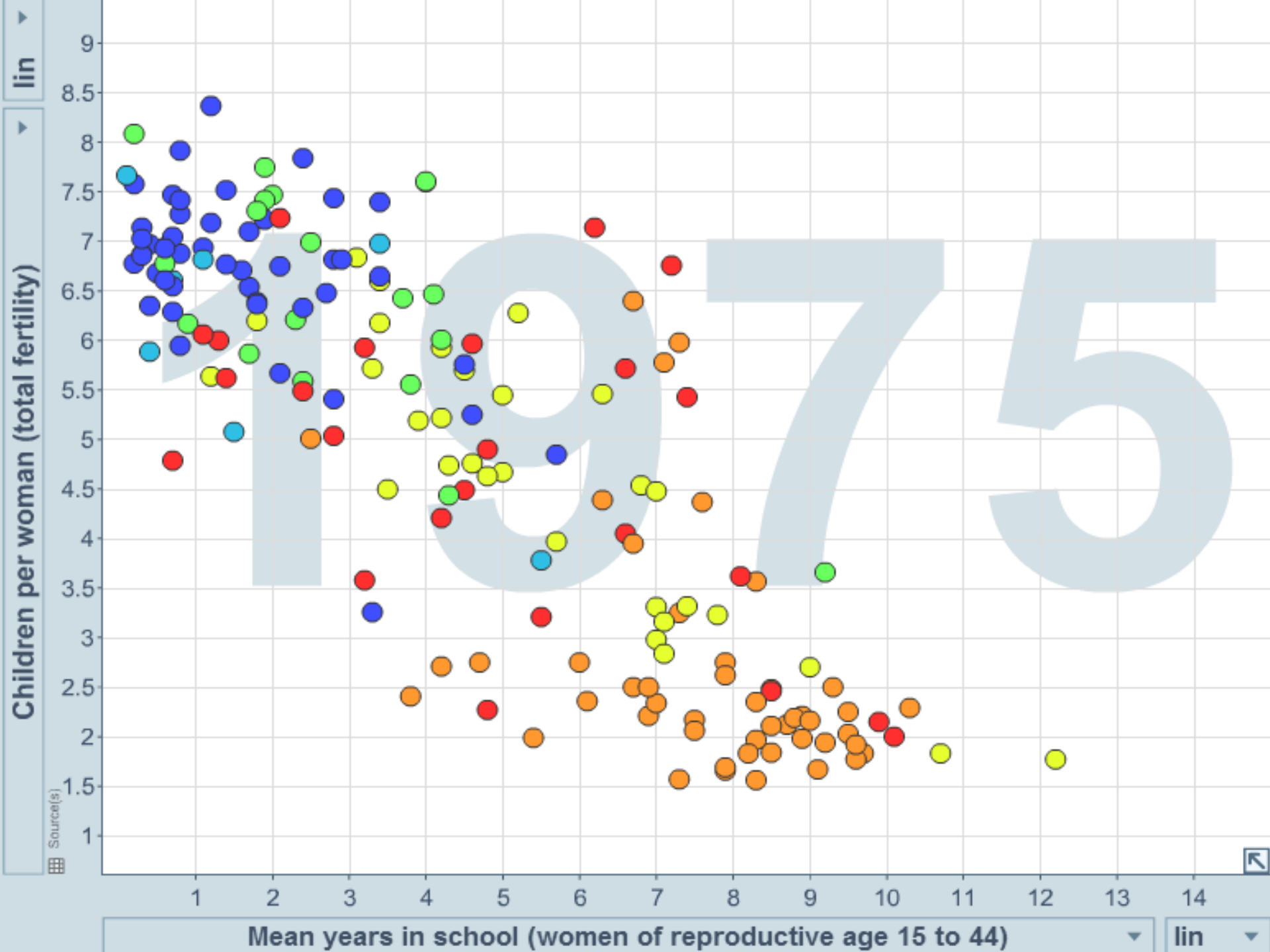
### AQUACULTURE

There are no aquaculture sites close to the rMCZs except in the Swale Estuary, where there are small scale private oyster and mussel operations that do not require licence applications.

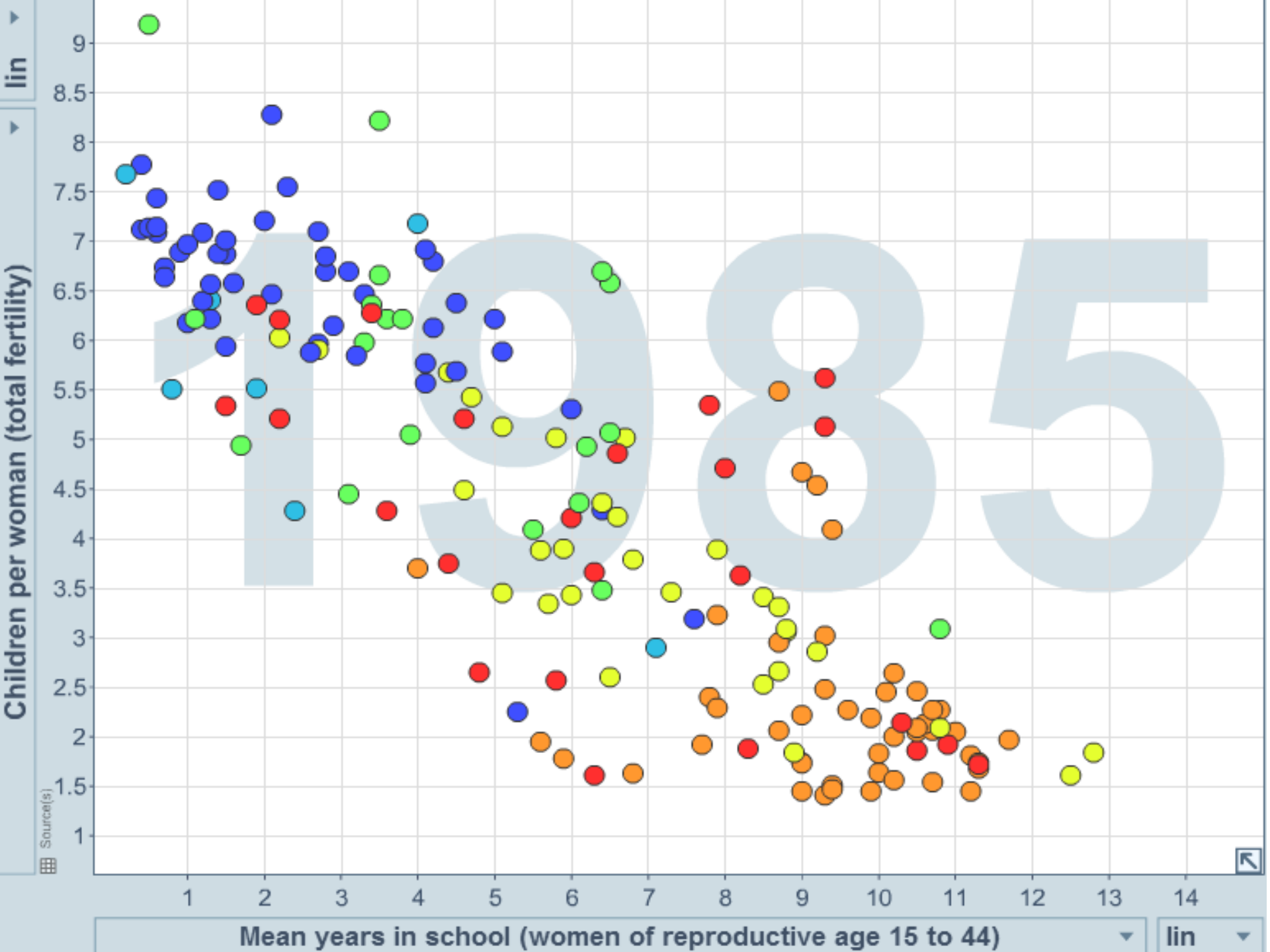
### THE MARINE SOCIO-ECONOMICS PROJECT (MSEP)

www.msep-project.net have developed a 'Trilographic Impact Assessment' (IA) for the Marine Conservation Zone (MCZ) process. The MSEP partners (New Economics Foundation, Marine Conservation Society, RSPB, the Wildlife Trusts and WWF) have used costs and benefits of protecting sites from the Defra consultation documents and relevant studies, and presented these in a visual way to make the trade-offs clearer than a simple Cost-Benefit Analysis (CBA) could achieve on the summary page of an Impact Assessment (IA), June 2015.

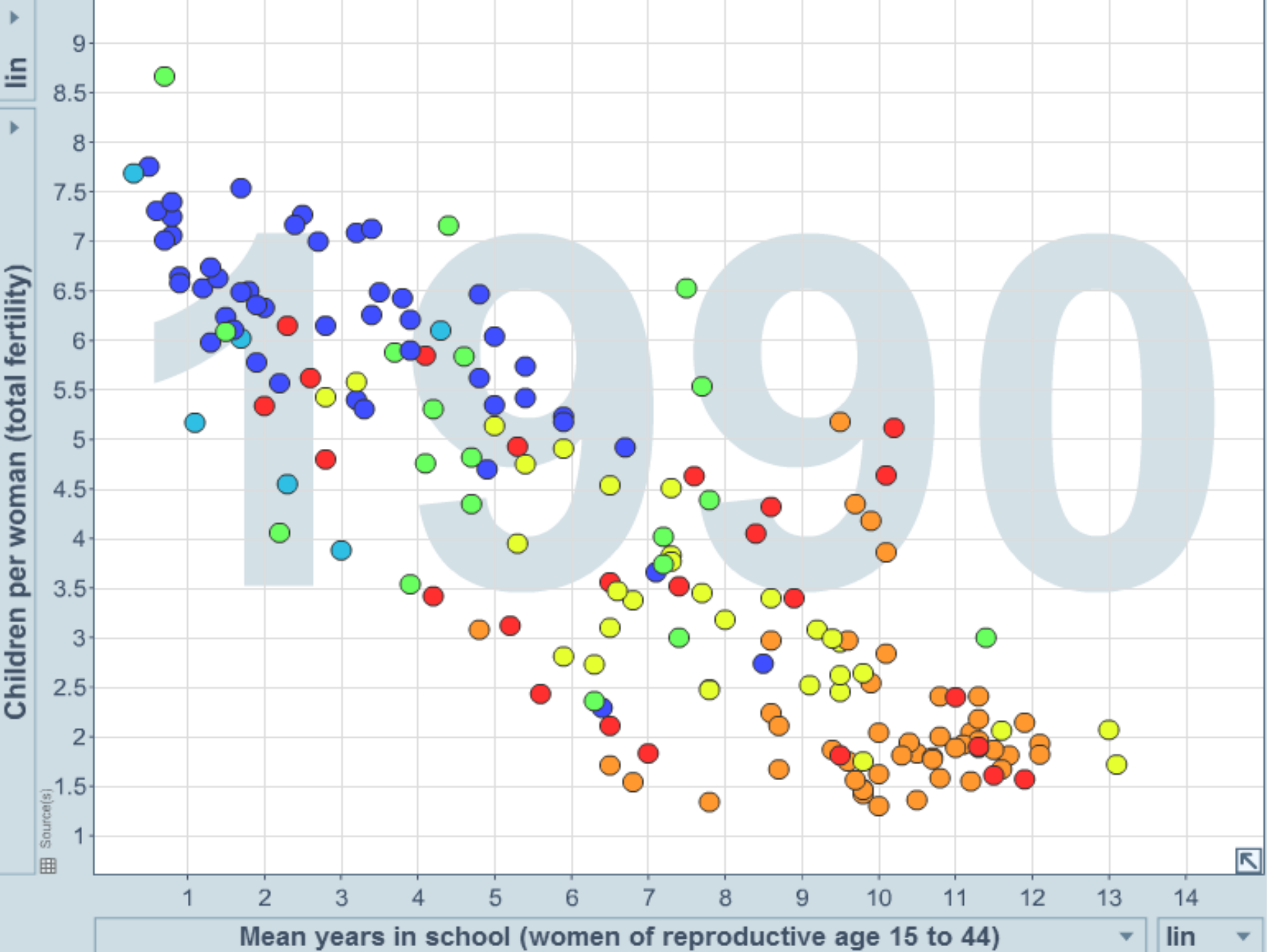


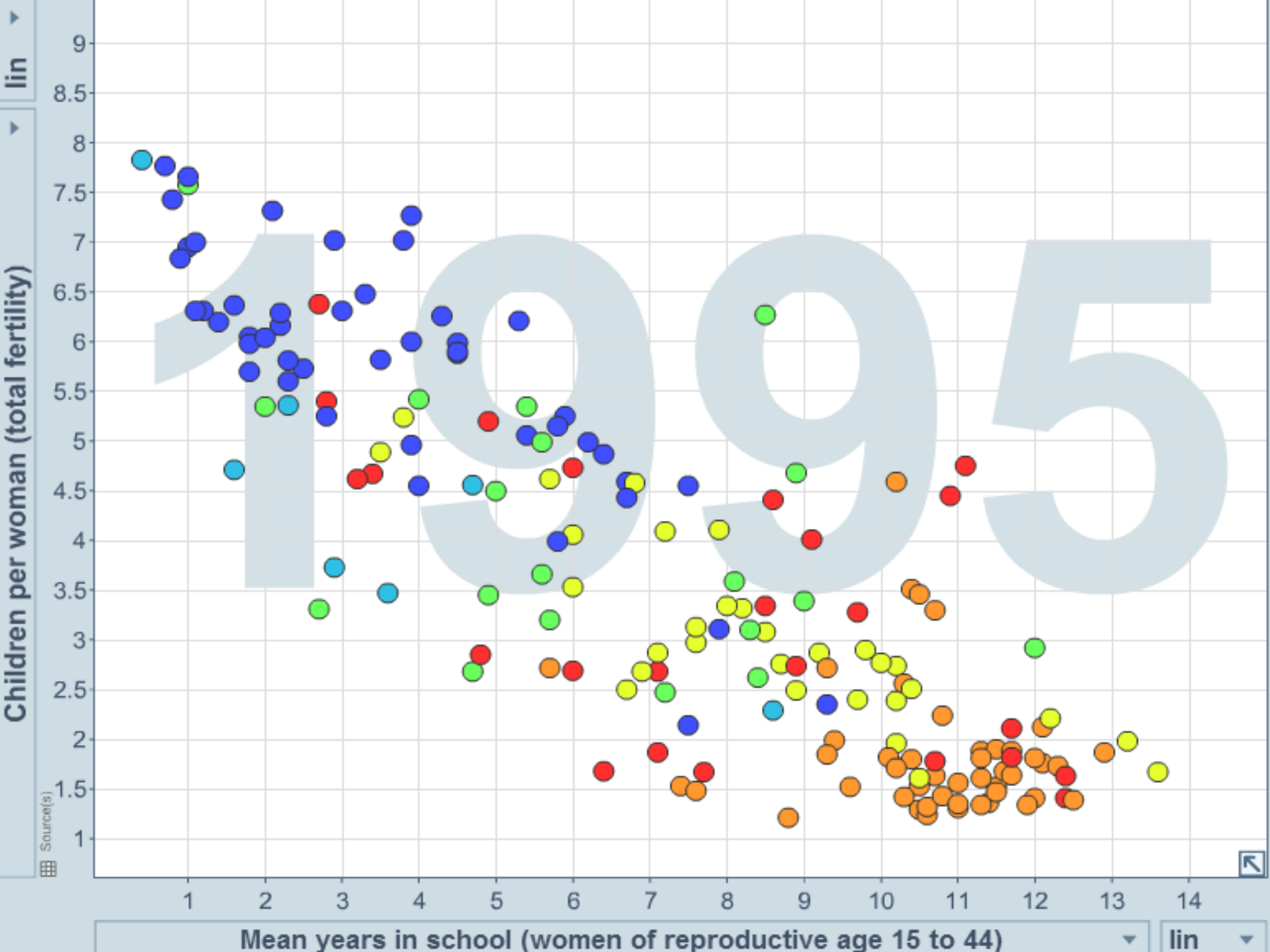


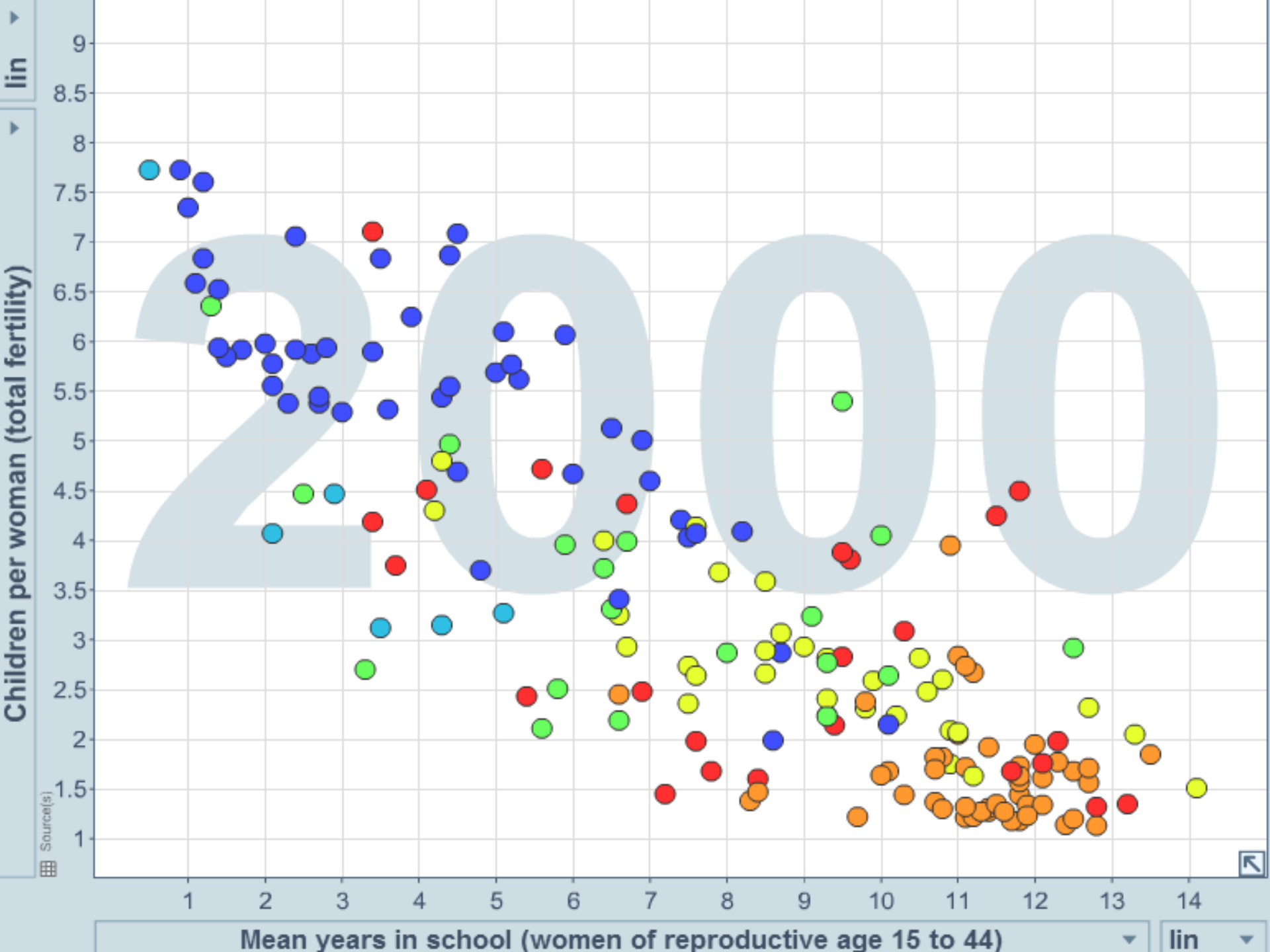


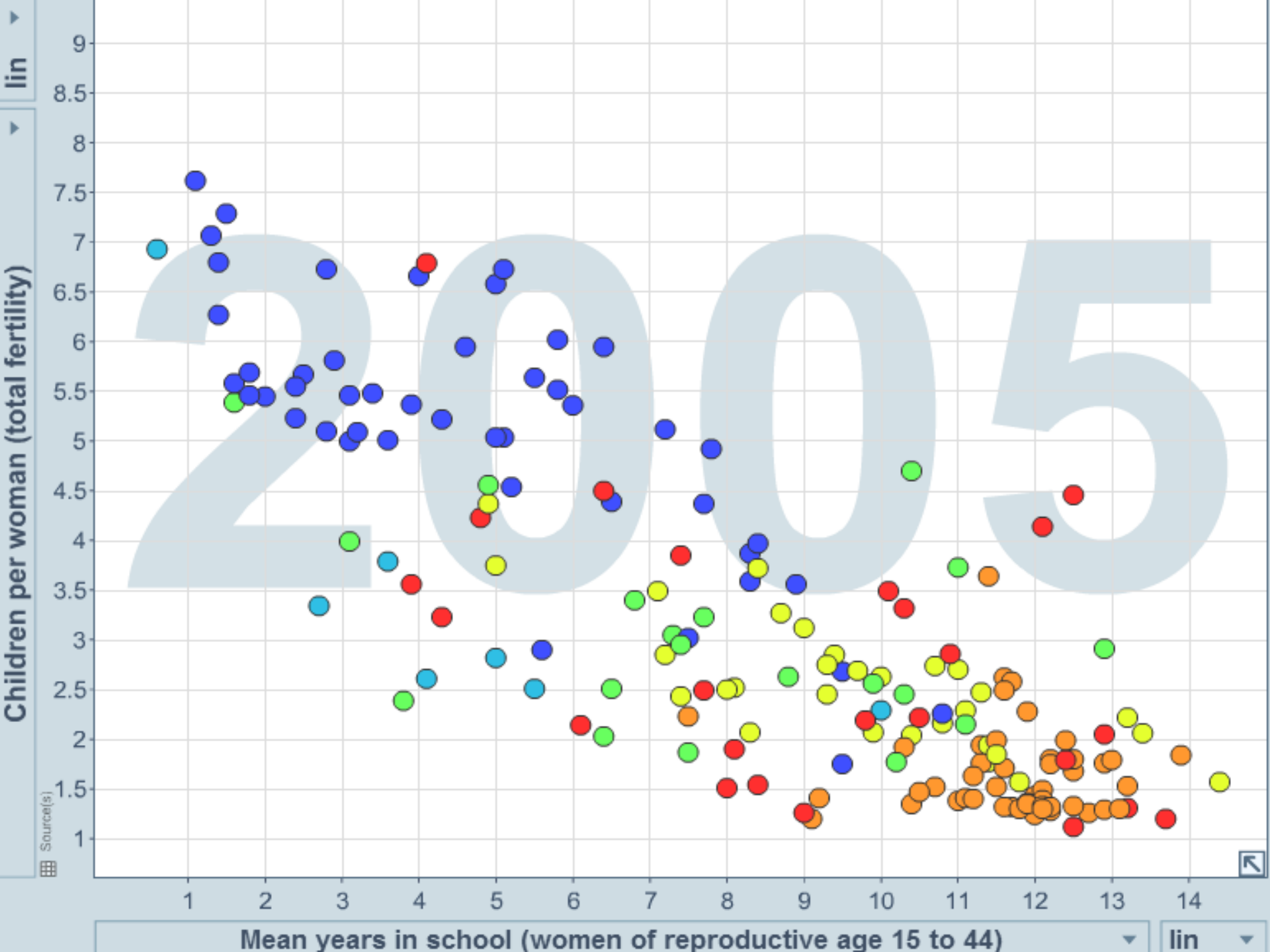


















Congratulations! You have hit the UK's 80% emissions target. To share your pathway with go to 'Finish & Share'.

Demand Supply Other

Domestic transport behaviour 2

Shift to zero emission transport 3

Choice of fuel cells or batteries 2

International aviation 2

International shipping 2

Among zero emission cars, 80% use batteries and 20% use fuel cells by 2050

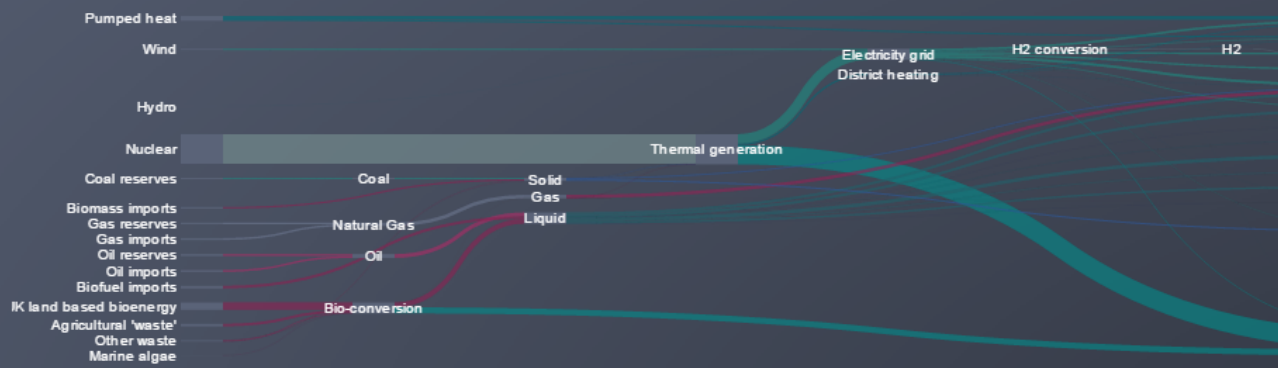
← View all pathway actions



## Flows

This is an energy flow chart. Each box on the right is a way we use energy. Each box on the left is a place we get energy. In between goes through. The height of each line is proportional to the amount of energy

VIEW FULLSCREEN





# Summarising Complexity















## WILD FLOWERS

DOWN HERE INSIDE

Please help us to let them grow happily by keeping to the paths. Thank you.

The High, Bristol Environment





# Euan Hall, Chief Executive, the Land Trust

