



Dwelling Level Housing Stock Modelling for North Somerset

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Introduction

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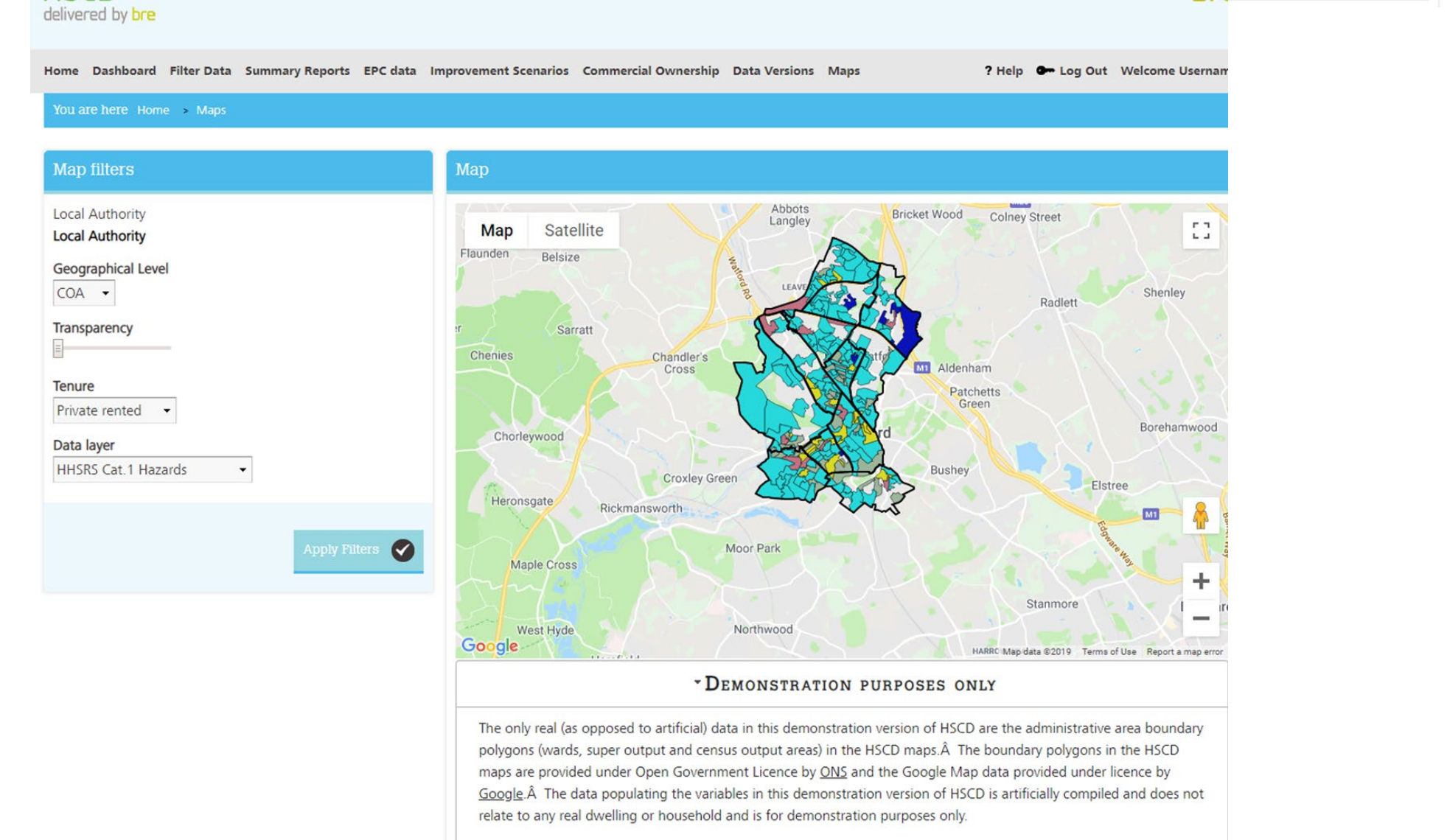
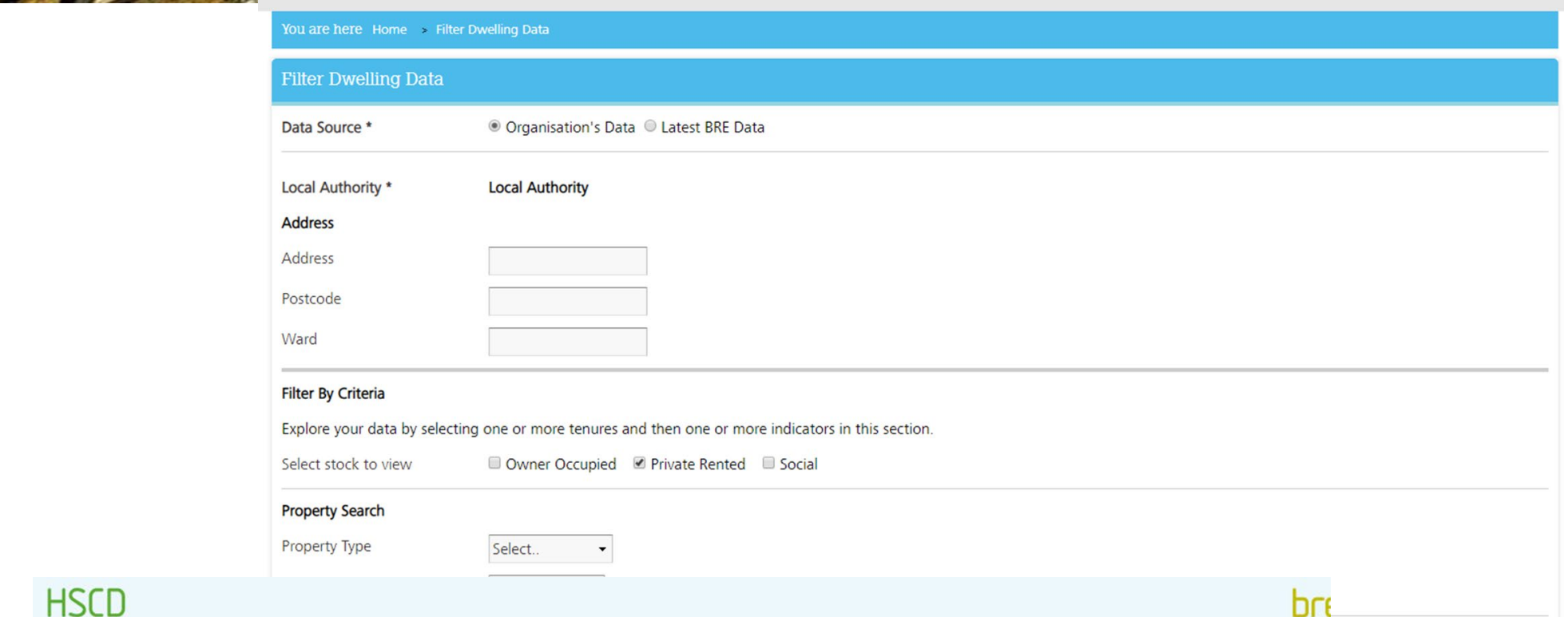
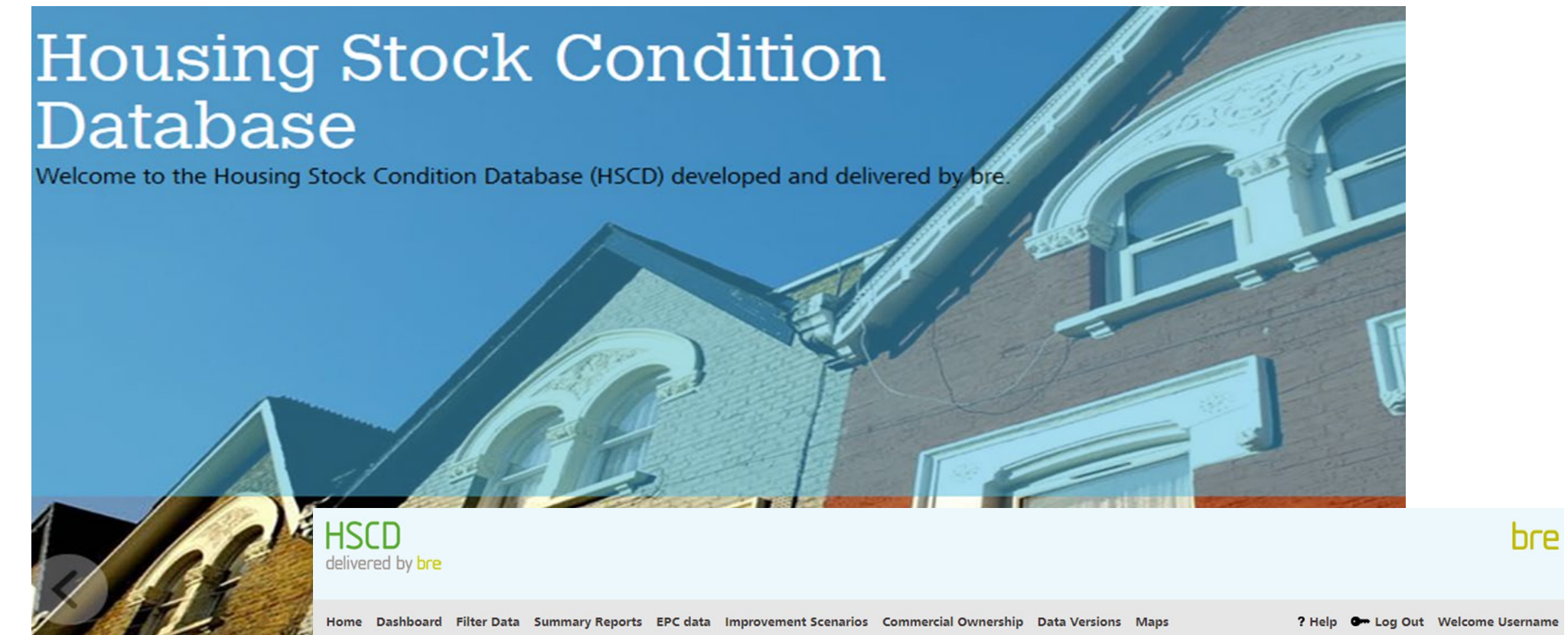
BRE Stock Modelling

- Dwelling level housing stock models developed by BRE for many years
- Data-driven approach to inform housing strategies

Team of data analysts, statisticians, GIS specialists, data scientists

- Stock models utilise Experian dwelling level data on dwelling and social characteristics
- Use English Housing Survey data to understand the relationship between housing standards, dwelling and social characteristics
- Include other data sources such as Xoserve, OS MasterMap, EPCs

HSCD online data delivery tool – dwelling level - view, analyse, explore data, interactive maps



North Somerset's Housing Stock Model

- Project commissioned and delivered in 2022
- Produce a dwelling level housing stock model for North Somerset Council to help inform a targeted intervention approach to improve housing
- Integrate local data using Local Land and Property Gazetteer (LLPG) data, benefits data, Tenancy Deposit Scheme (TDS) data, HMO data and Enforcement Records, provided by North Somerset Council and Energy Performance Certificate (EPC) data.
- Model provides data on housing standards variables and energy efficiency variables
- Private sector focus

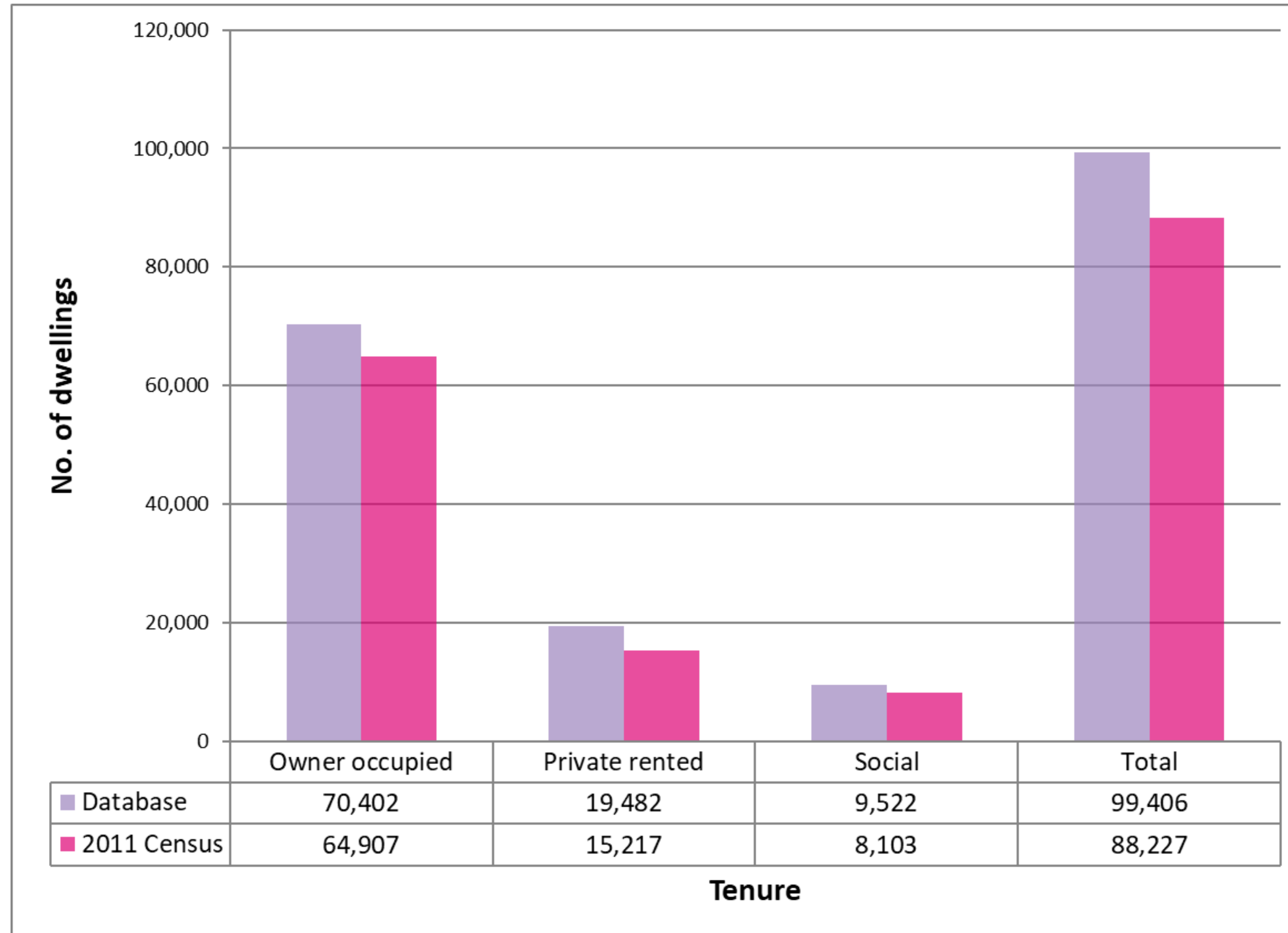
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Summary of model results – housing standards variables

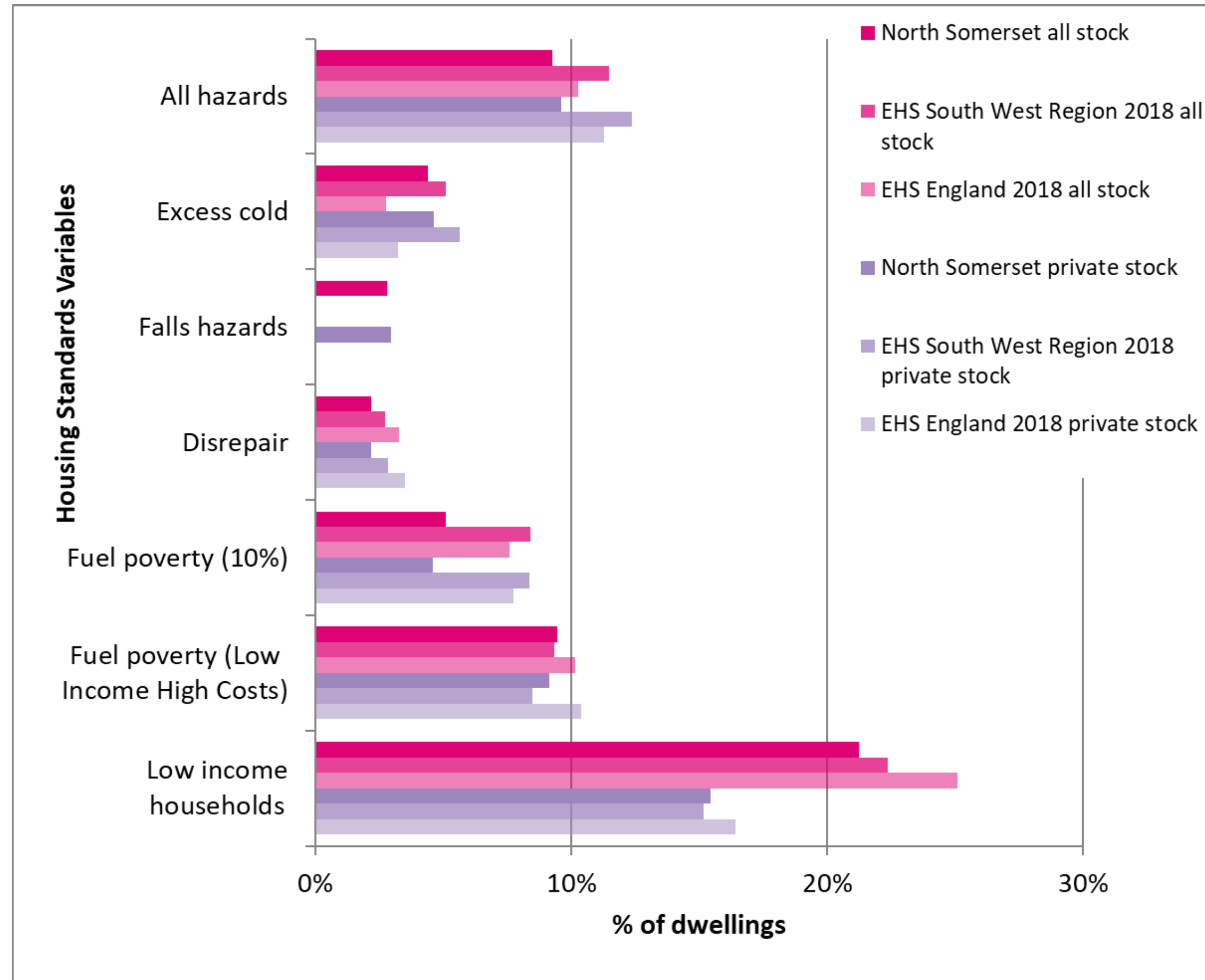
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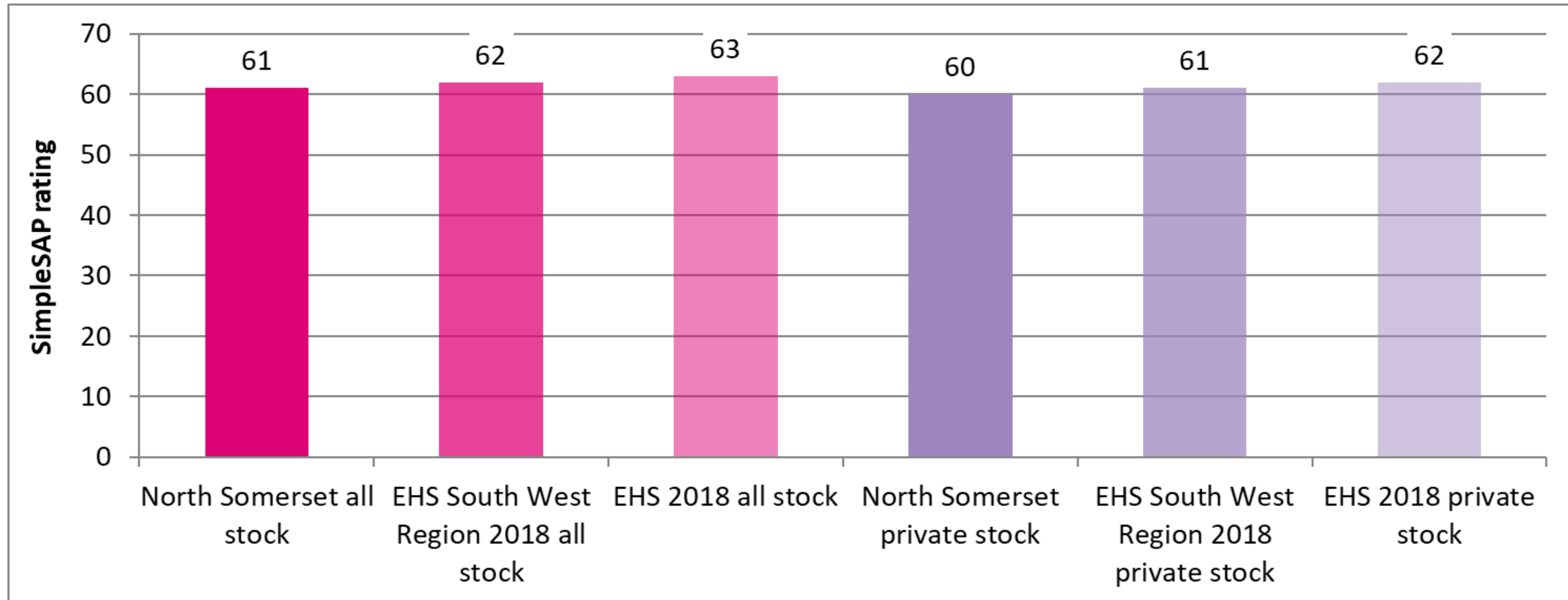
Tenure split – comparison of BRE Housing Stock Model outputs with 2011 Census figures for North Somerset



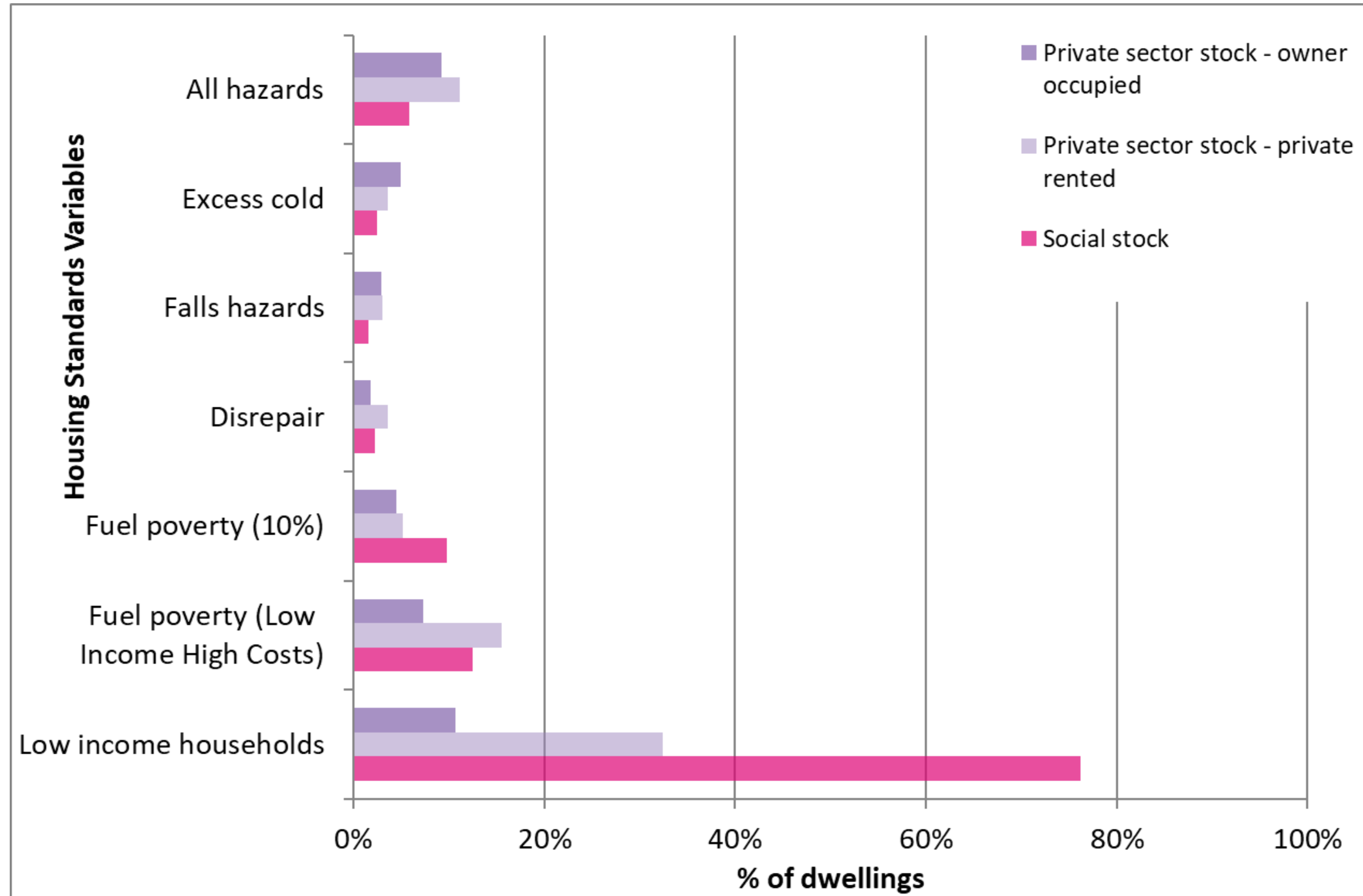
Estimates of the percentage of dwellings with the presence of each of the criteria in North Somerset compared to regional and England figures



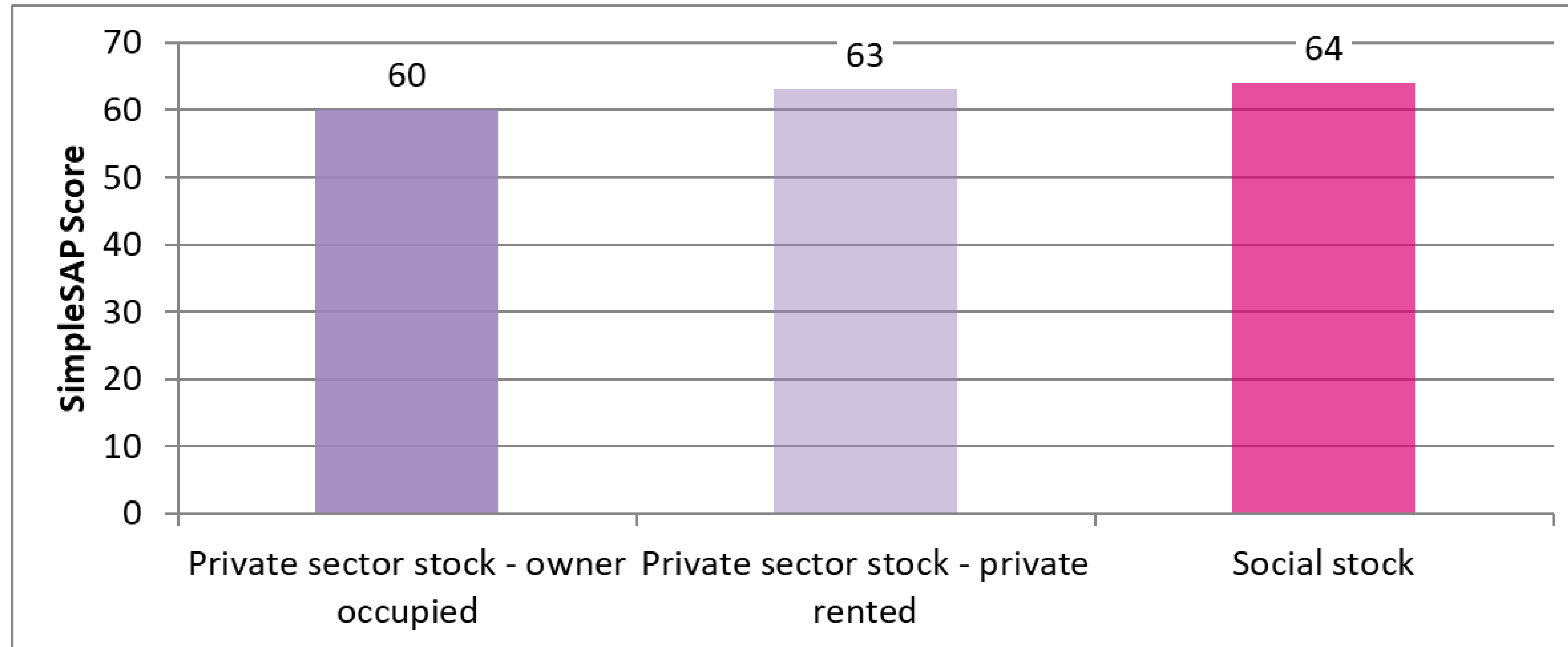
Estimated Average SimpleSAP Ratings



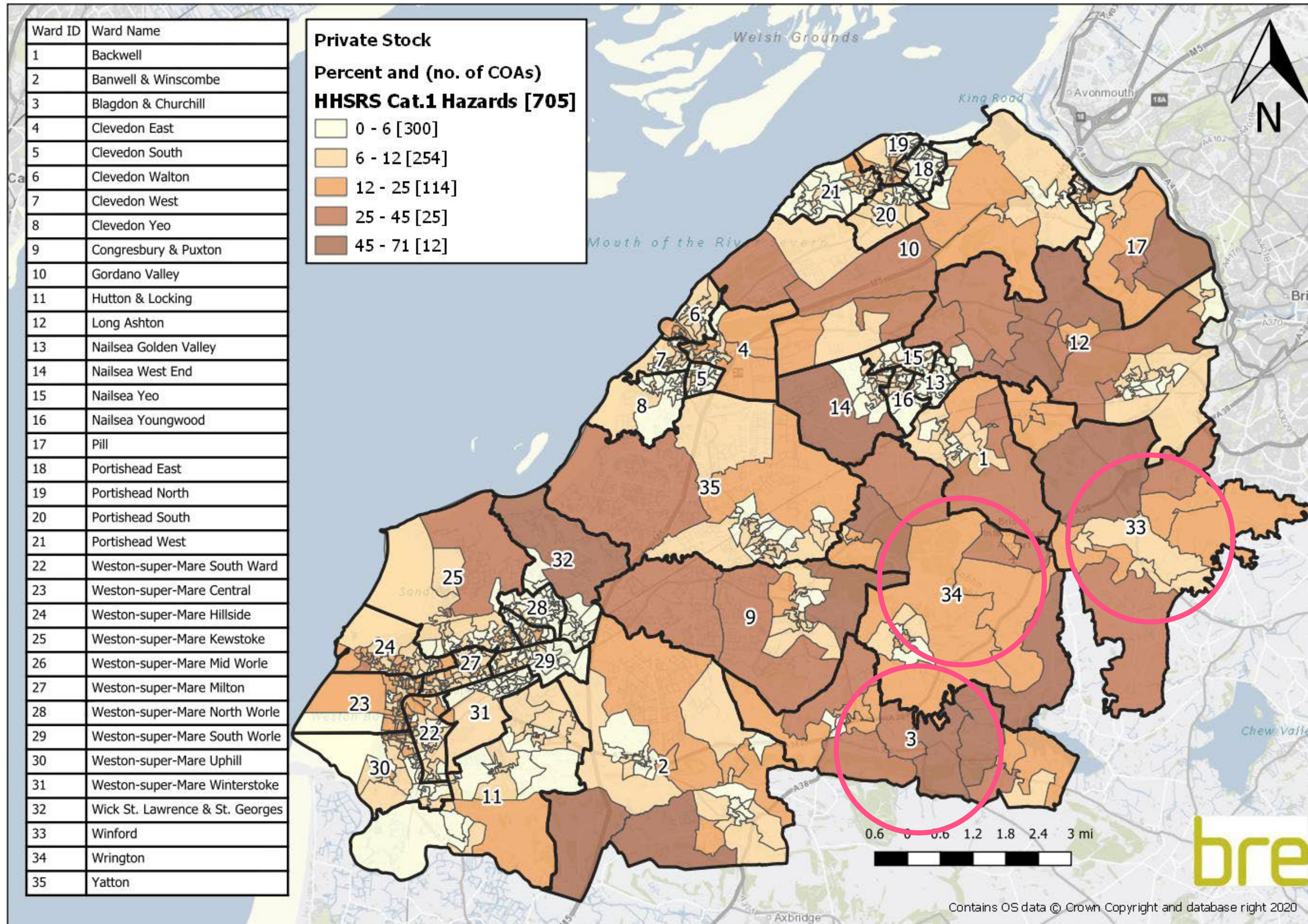
Estimates of the percentage of dwellings with the presence of each of the Housing Standards Variables by tenure



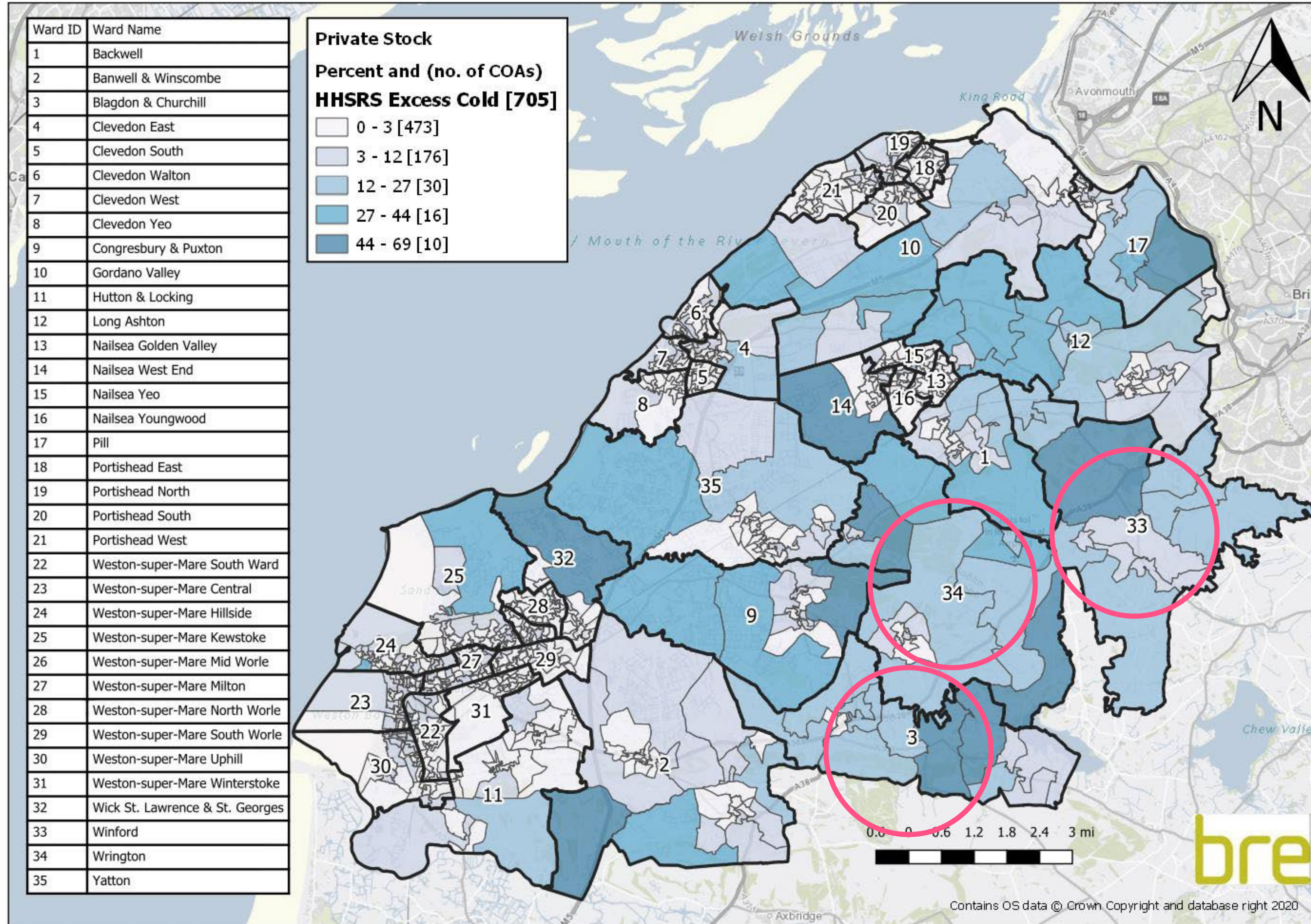
Estimated Average SimpleSAP Ratings by Tenure



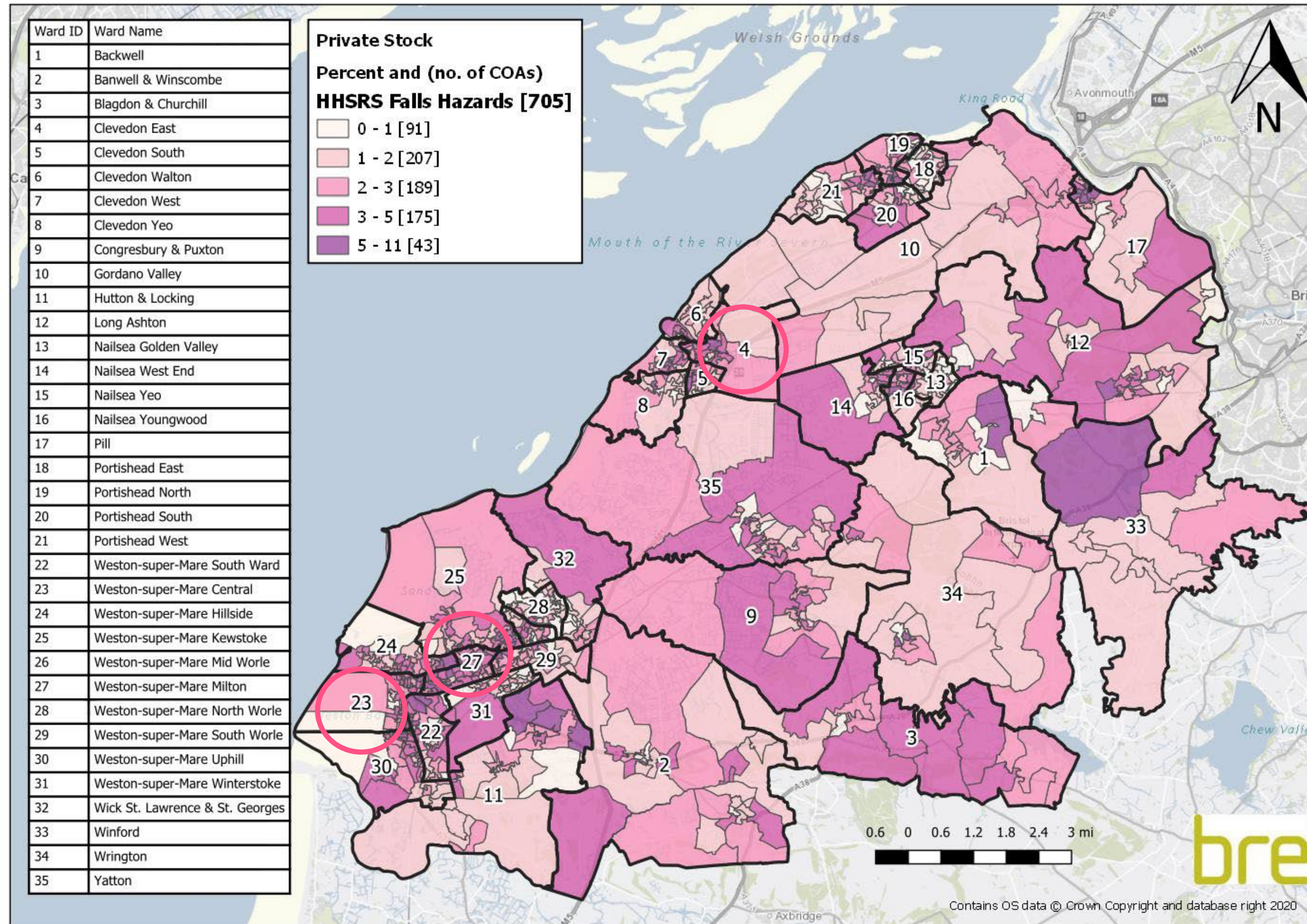
Estimated percentage of private sector dwellings in North Somerset with the presence of a **HHSRS category 1 hazard** – highest in Blagdon and Churchill, Winford and Wrington



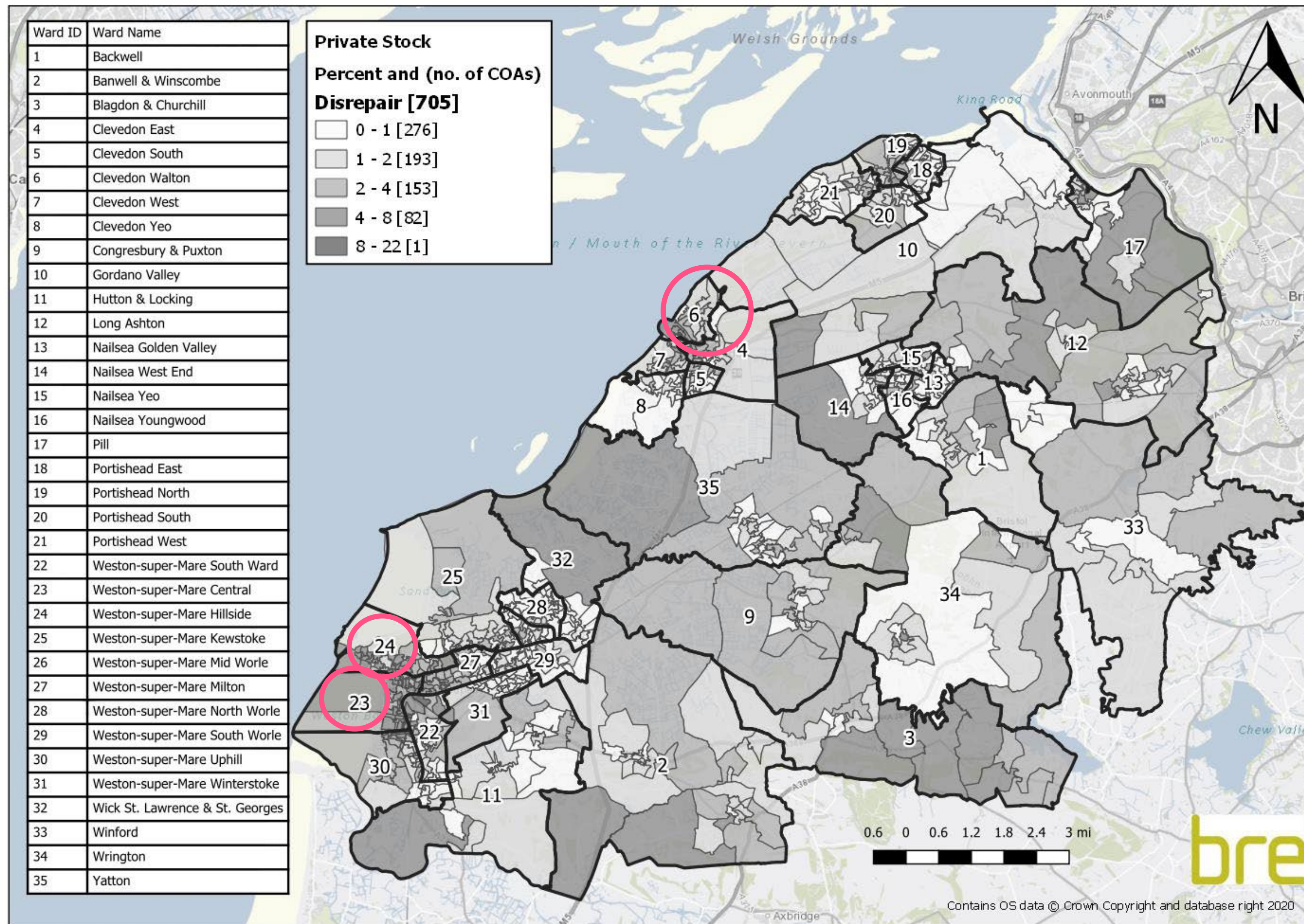
Estimated percentage of private sector dwellings in North Somerset with the presence of a **HHSRS** category 1 hazard for excess cold – highest in Blagdon and Churchill, Winford and Wrington



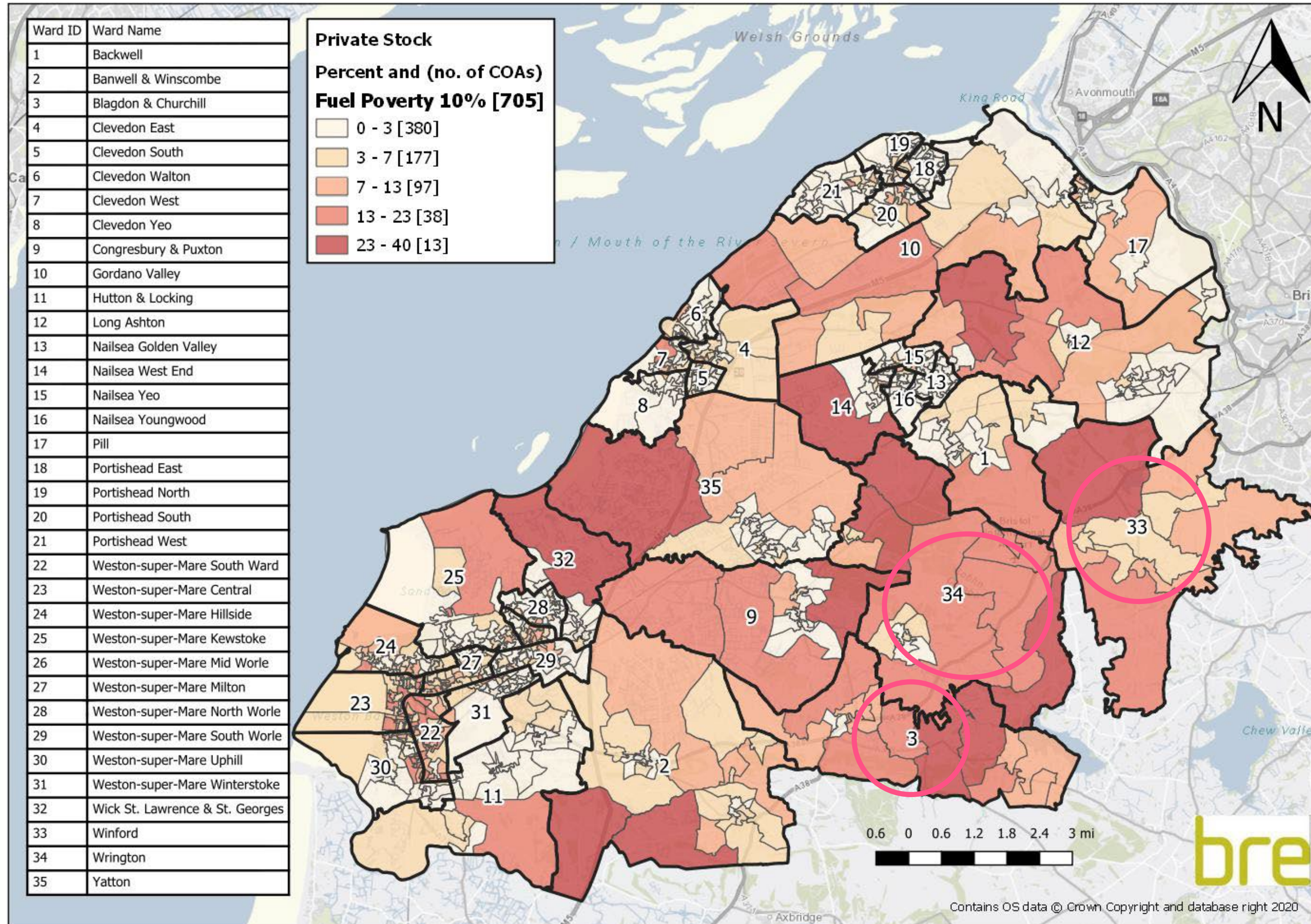
Estimated percentage of private sector dwellings in North Somerset with the presence of a **HHSRS category 1 hazard for falls** – highest in Weston-super-Mare Milton, Clevedon East and Weston-super-Mare Central



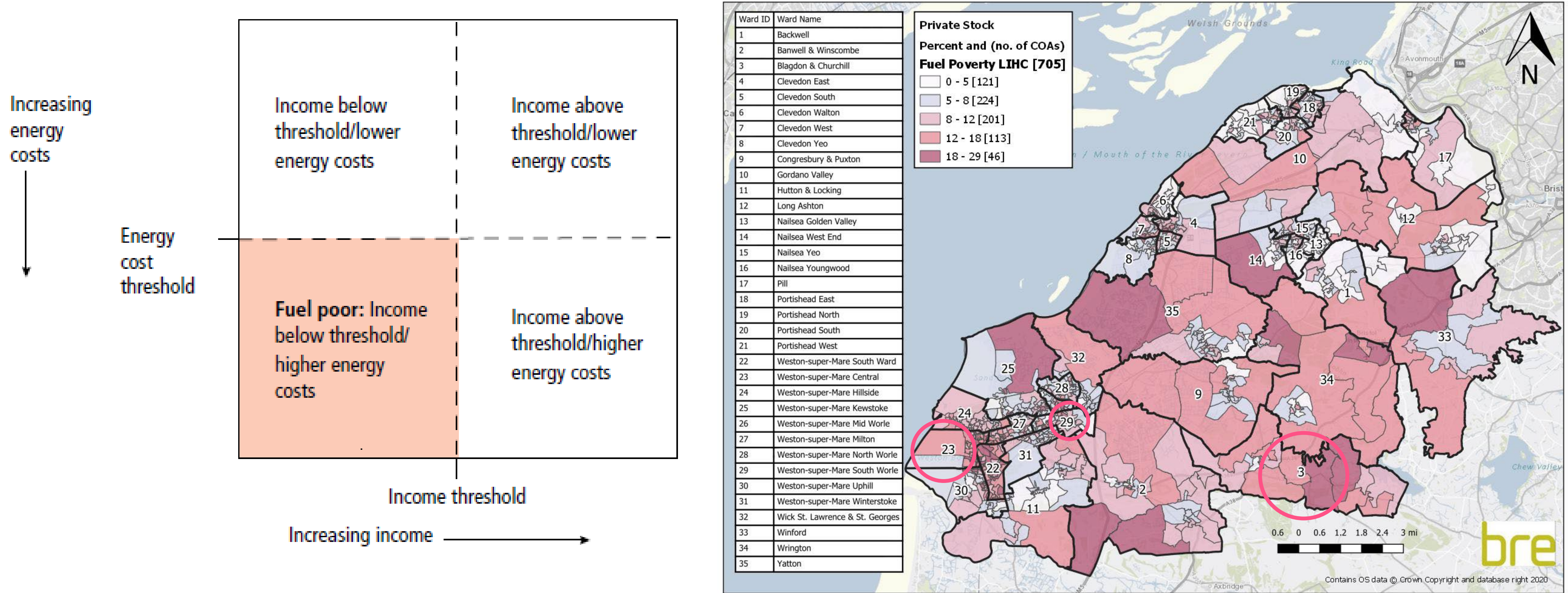
Estimated percentage of private sector dwellings in North Somerset in **disrepair**—highest in Weston-super-Mare Central, Weston-super-Mare Hillside and Clevedon Walton



Estimated percentage of private sector dwellings in North Somerset in **Fuel Poverty (10%)** – highest in Blagdon and Churchill, Winford and Wrington

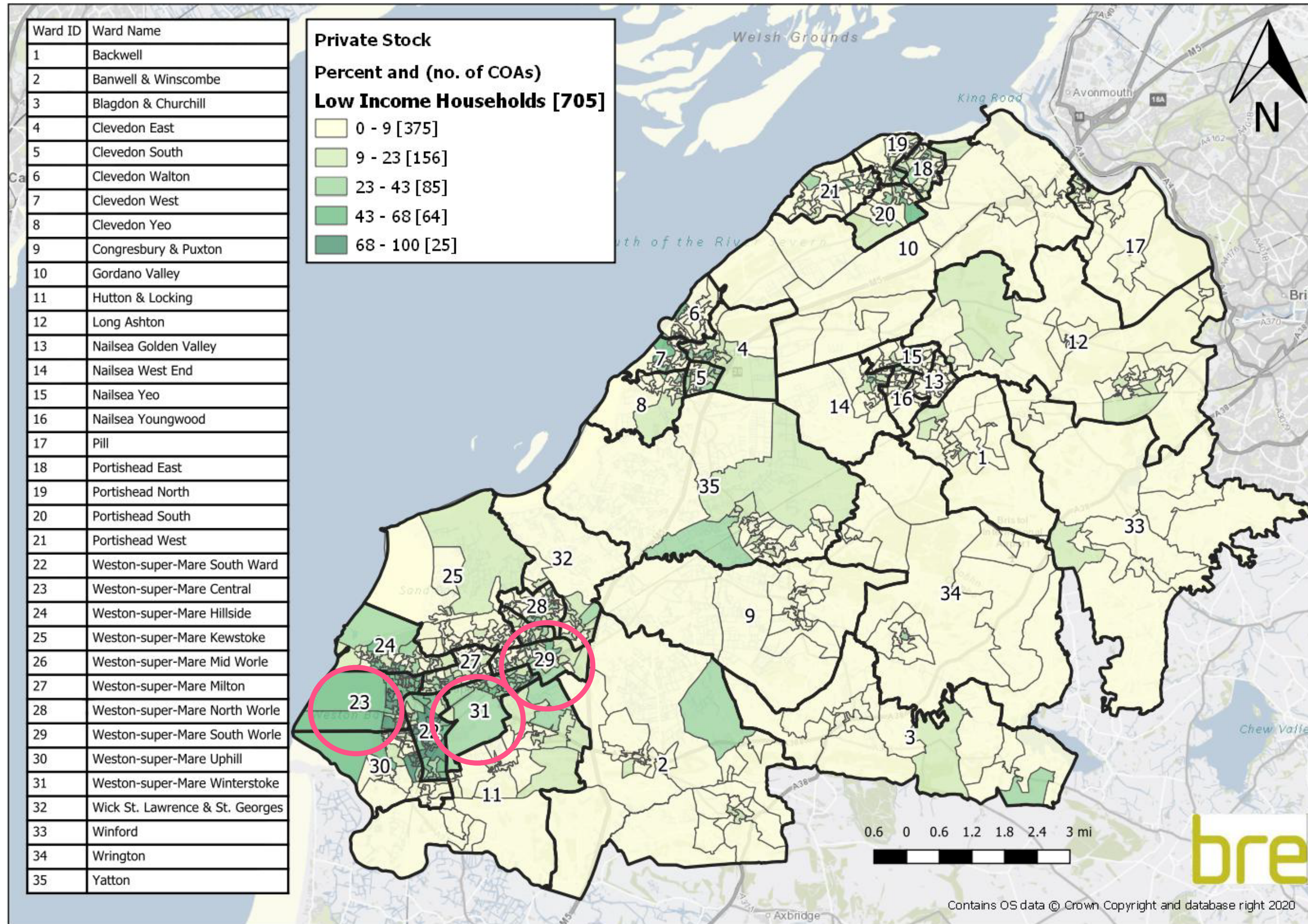


Estimated Low Income High Costs Fuel Poverty – highest in Weston-super-Mare South Worle, Weston-super-Mare Central and Blagdon and Churchill

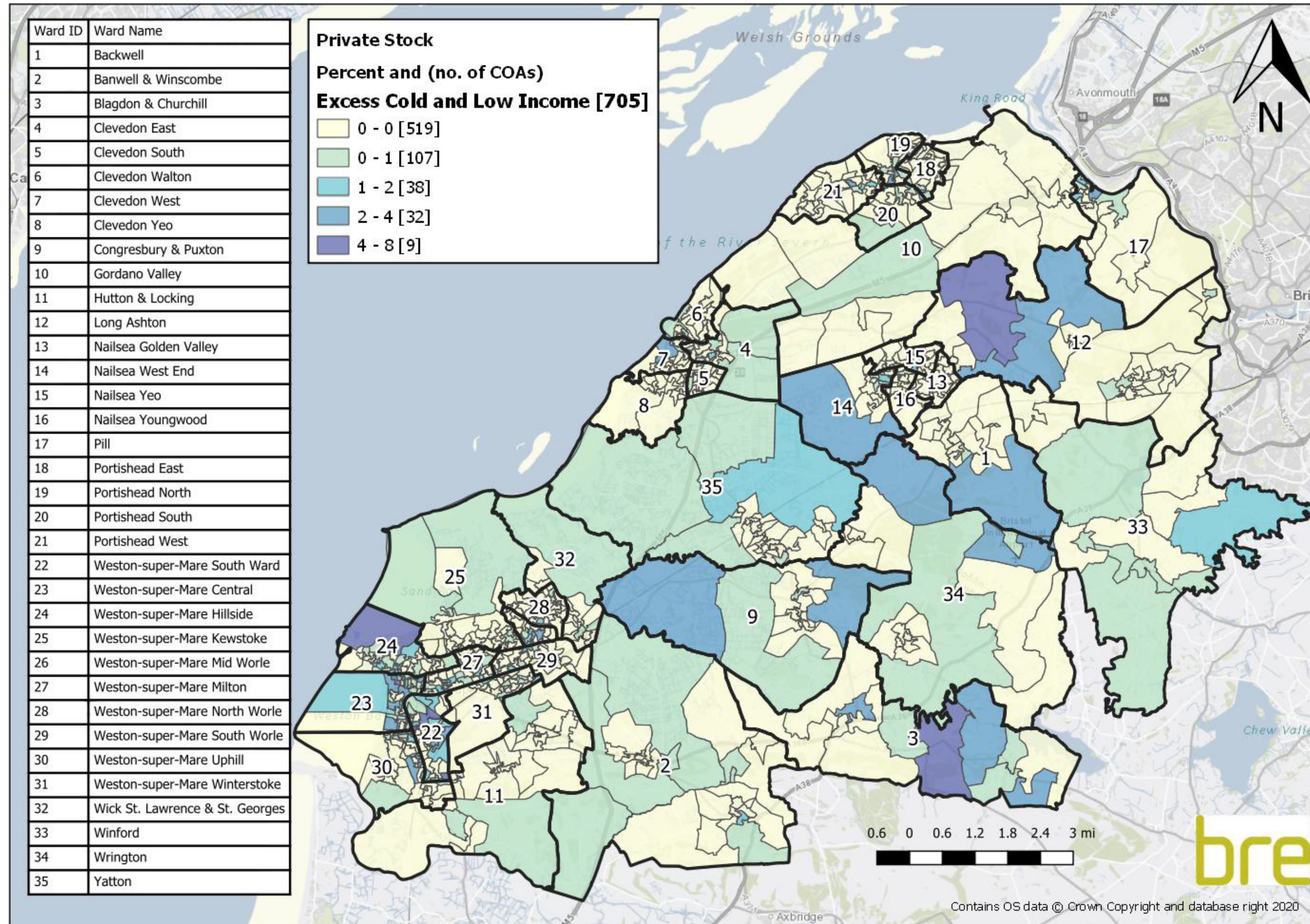


Hills J, Getting the measure of fuel poverty – Final Report of the Fuel Poverty Review, London: LSE, 2012

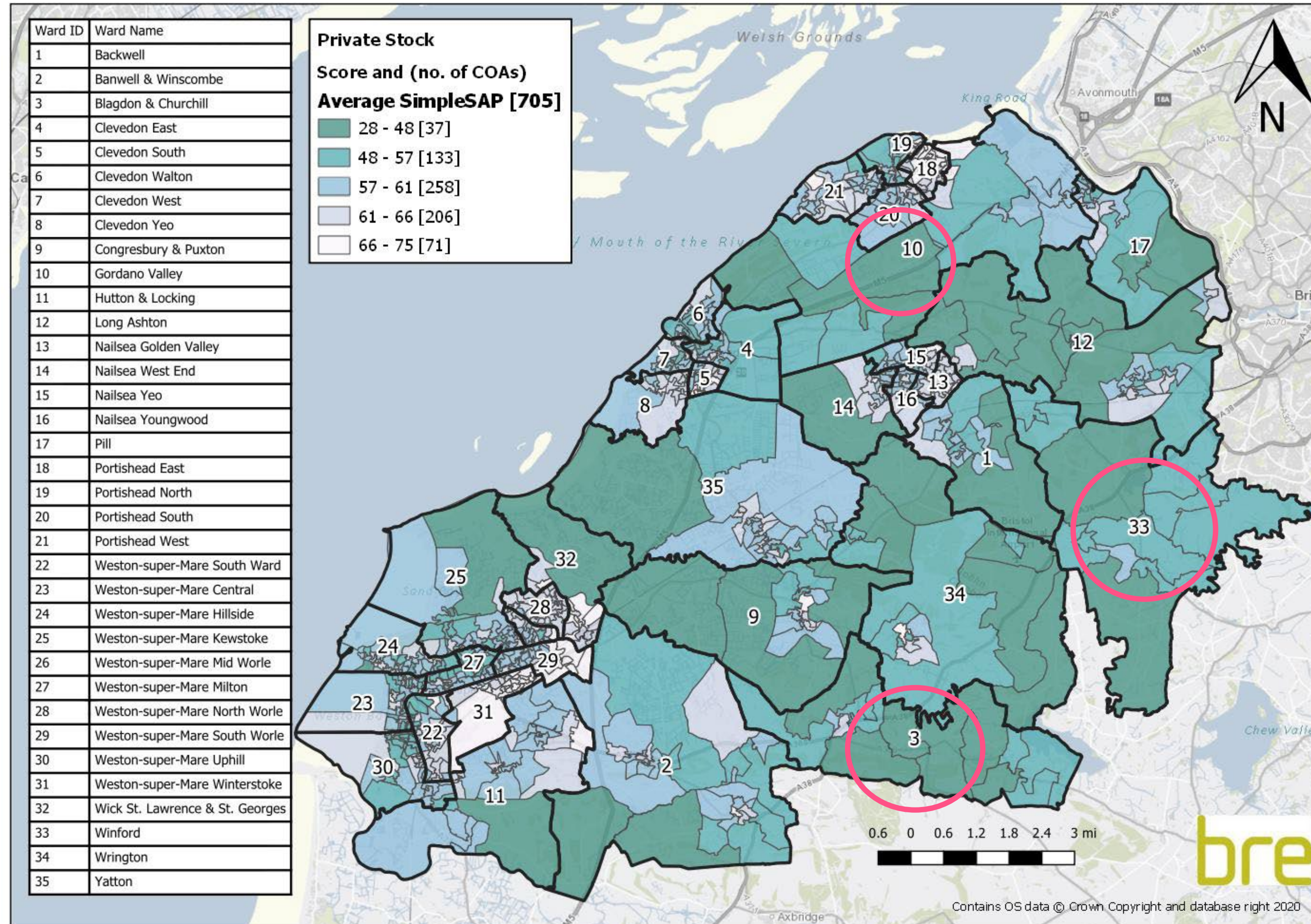
Estimated percentage of private sector dwellings occupied by low income households - highest in Weston-super-Mare Central, Weston-super-Mare South Worle and Weston-super-Mare Winterstoke

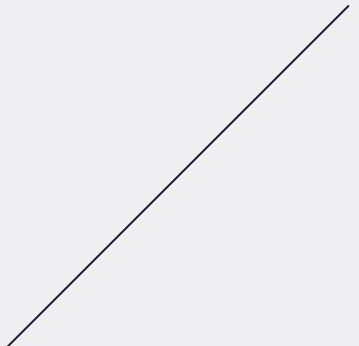


Estimated percentage of private sector dwellings with both the presence of a HHSRS category 1 hazard for **excess cold** and occupied by **low income households**



Estimated **Average SimpleSAP** ratings per dwelling in North Somerset private sector stock – lowest in Blagdon and Churchill, Winford and Gordano Valley



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Summary of Model Results - Energy Efficiency Variables

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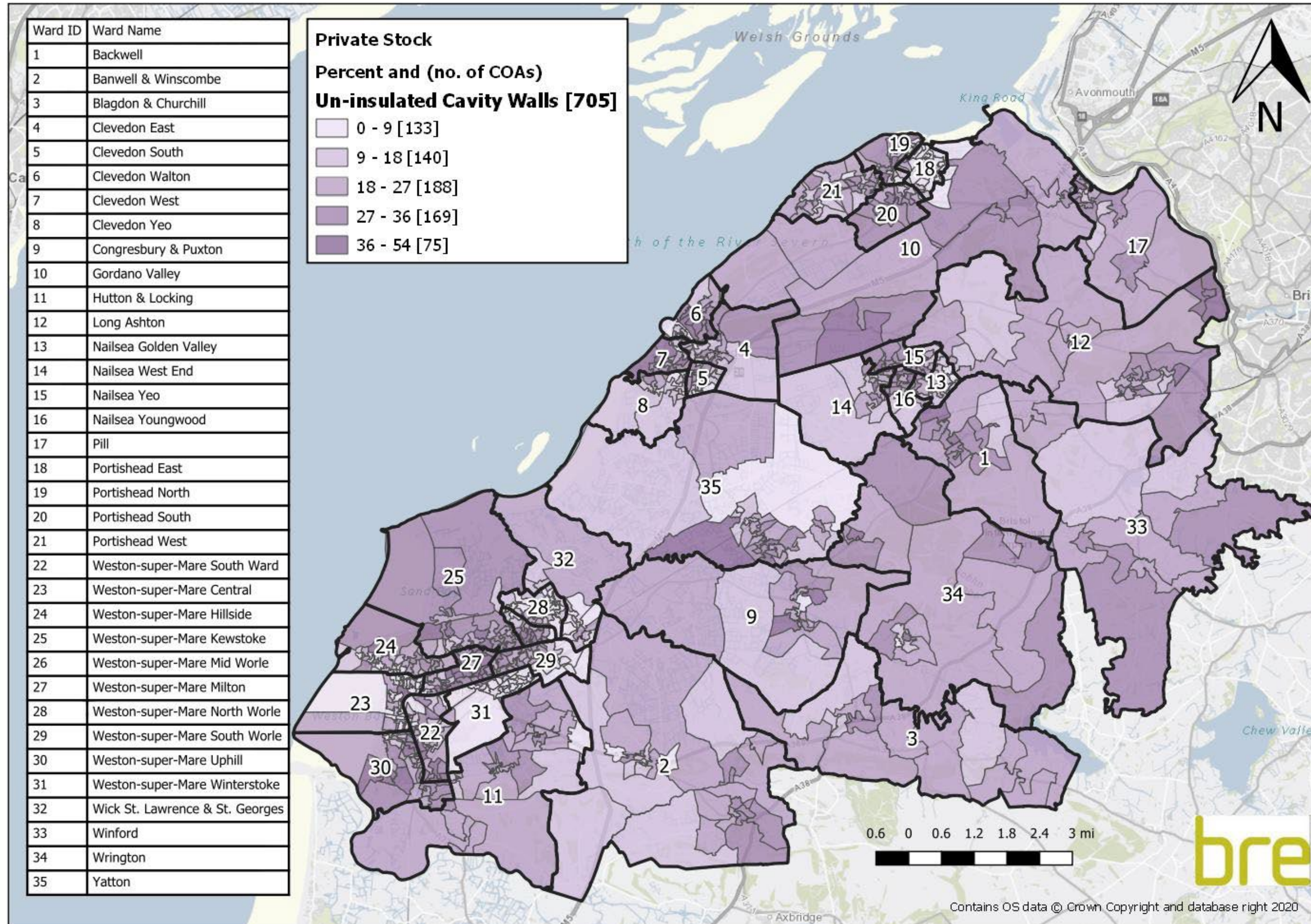
Estimates of the numbers and percentage of dwellings for each of the energy efficiency variables for walls assessed for the private sector stock in North Somerset and compared to the South West of England region and national figure (EHS 2018)

Variable		Private stock		2018 EHS Regional (private stock)	2018 EHS England (private stock)
		No.	%	%	%
No. of private sector dwellings		89,884	-	-	-
Wall type	Solid	18,101	20%	29%	31%
	Insulated cavity	51,105	57%	44%	45%
	Un-insulated cavity	18,916	21%	23%	22%
% of cavity walls only that are uninsulated		-	27%	34%	32%

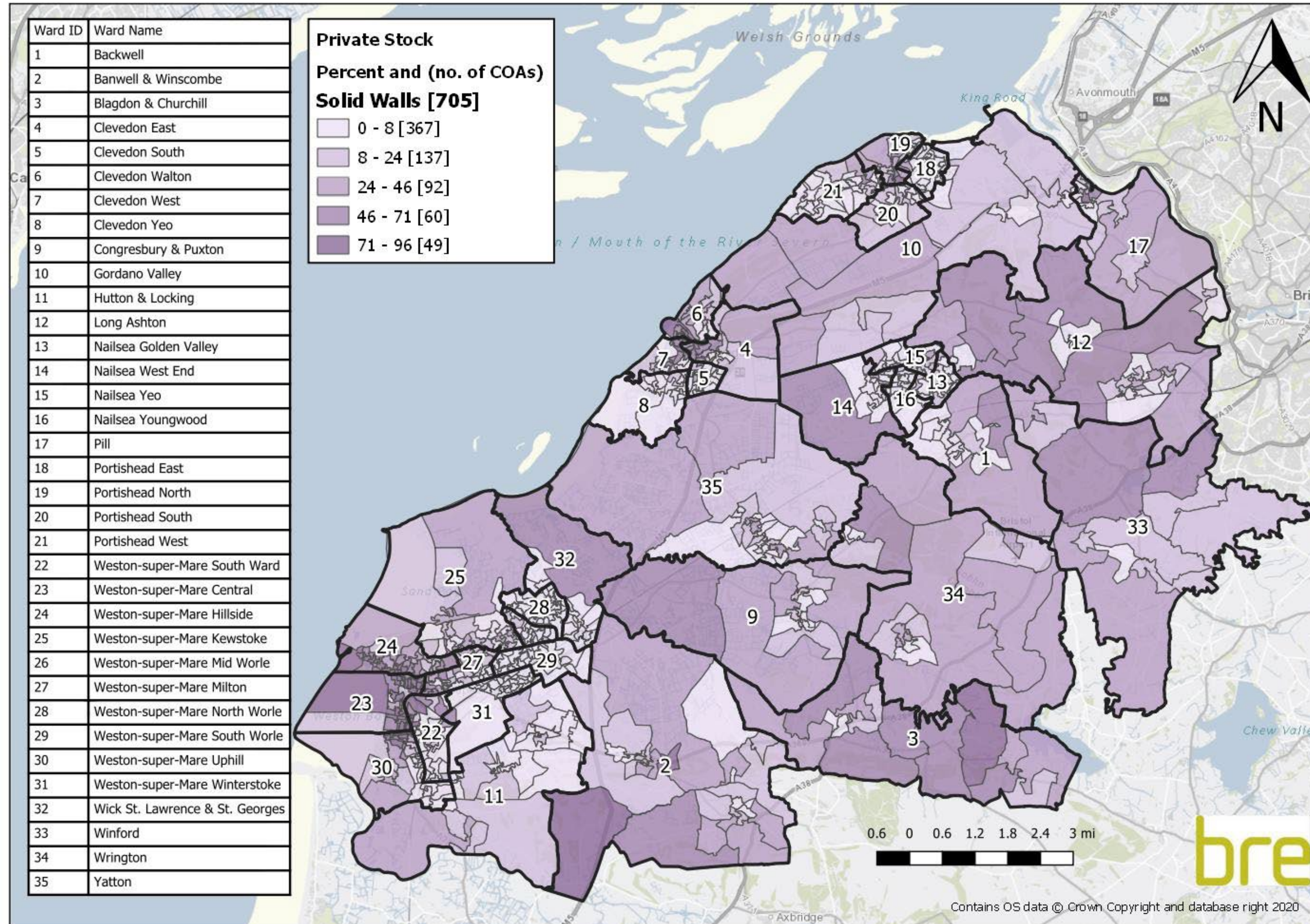
Estimates of the numbers and percentage of dwellings for each of the energy efficiency variables for lofts assessed for the private sector stock in North Somerset and compared to the South West of England region and national figure (EHS 2018)

Variable		Private stock		2018 EHS Regional (private stock)	2018 EHS England (private stock)
		No.	%	%	%
No. of private sector dwellings		89,884	-	-	-
Level of loft insulation	No loft	13,559	15%	7%	9%
	No insulation	4,006	4%	3%	3%
	50mm	7,022	8%	6%	6%
	100mm	15,018	17%	22%	25%
	150mm	10,436	12%	19%	19%
	200mm	14,806	16%	15%	14%
	250+mm	25,037	28%	27%	24%
Less than 100mm		11,028	12%	9%	9%

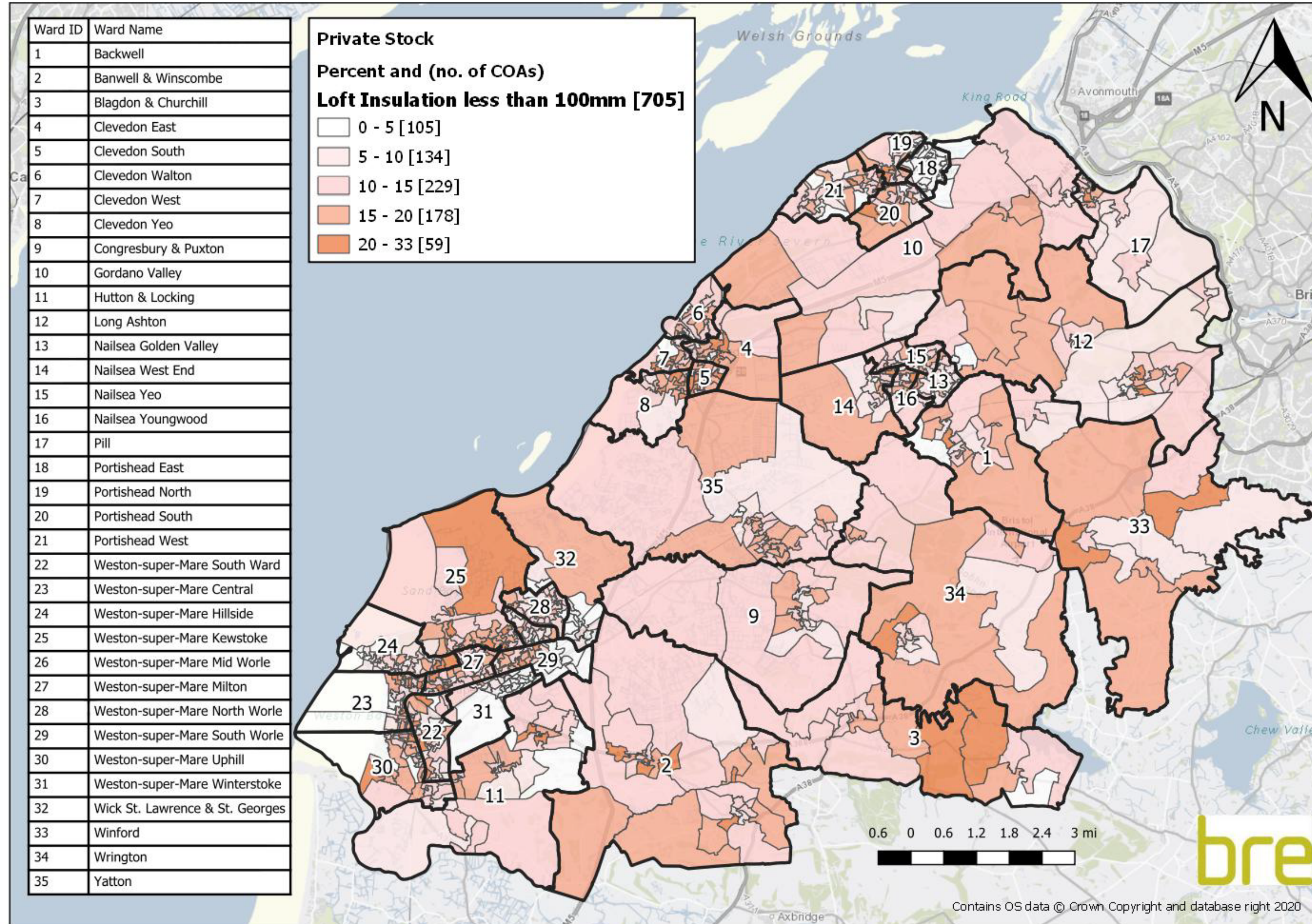
Energy efficiency variables – estimated percentage of private sector dwellings in North Somerset with un-insulated cavity walls



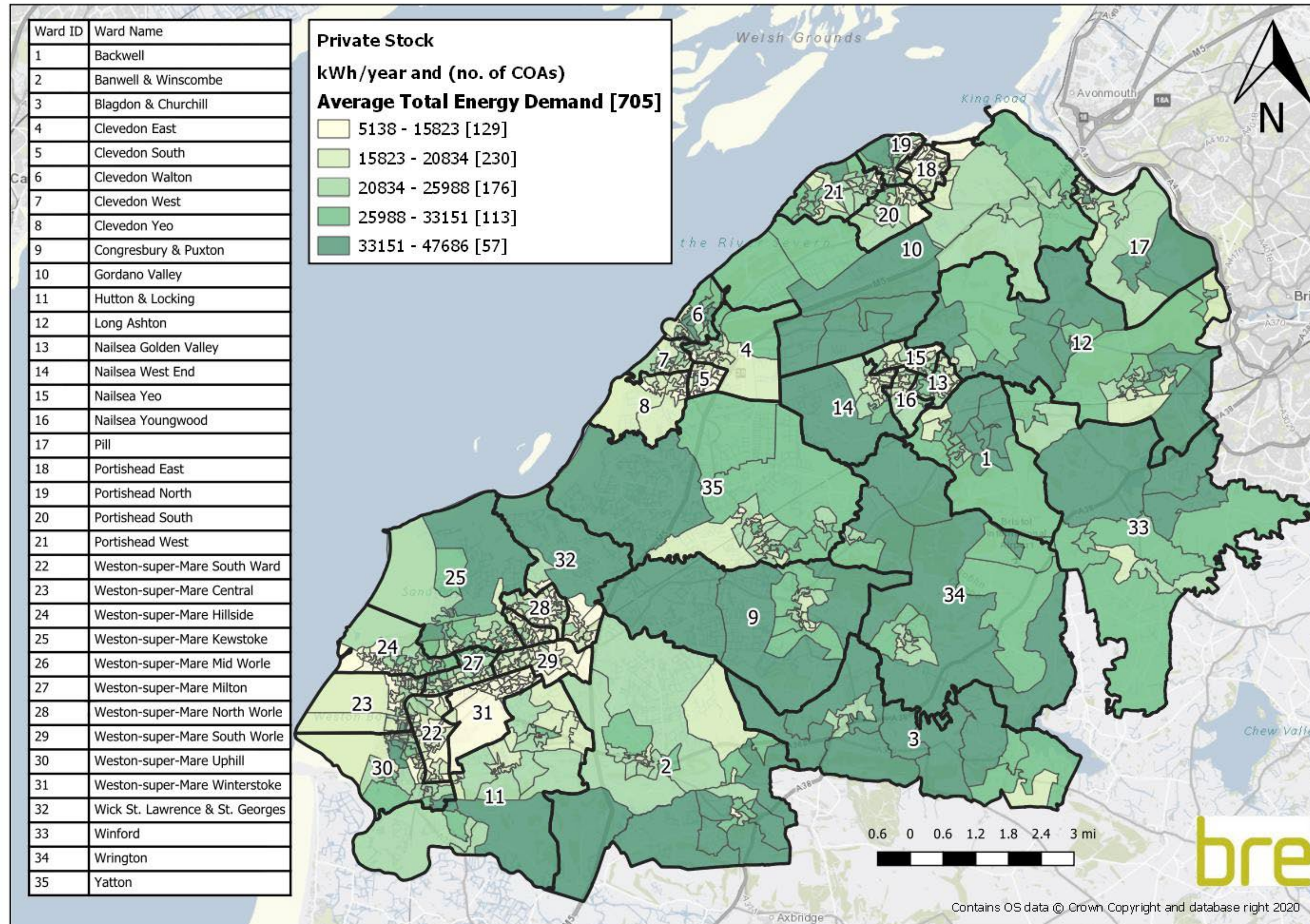
Energy efficiency variables – estimated percentage of private sector dwellings in North Somerset with solid walls



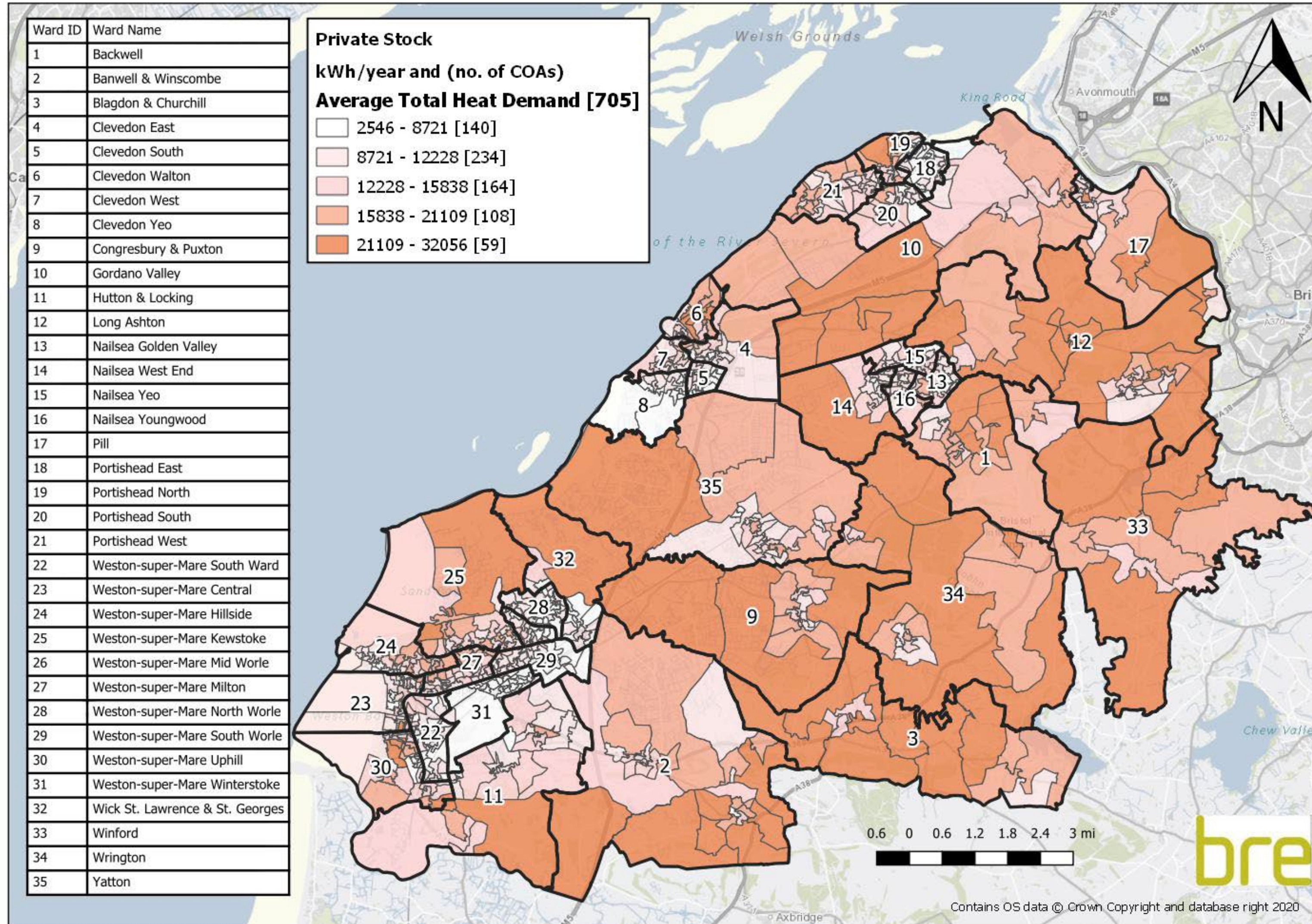
Energy efficiency variables – estimated percentage of private sector dwellings in North Somerset with less than 100mm or no loft insulation



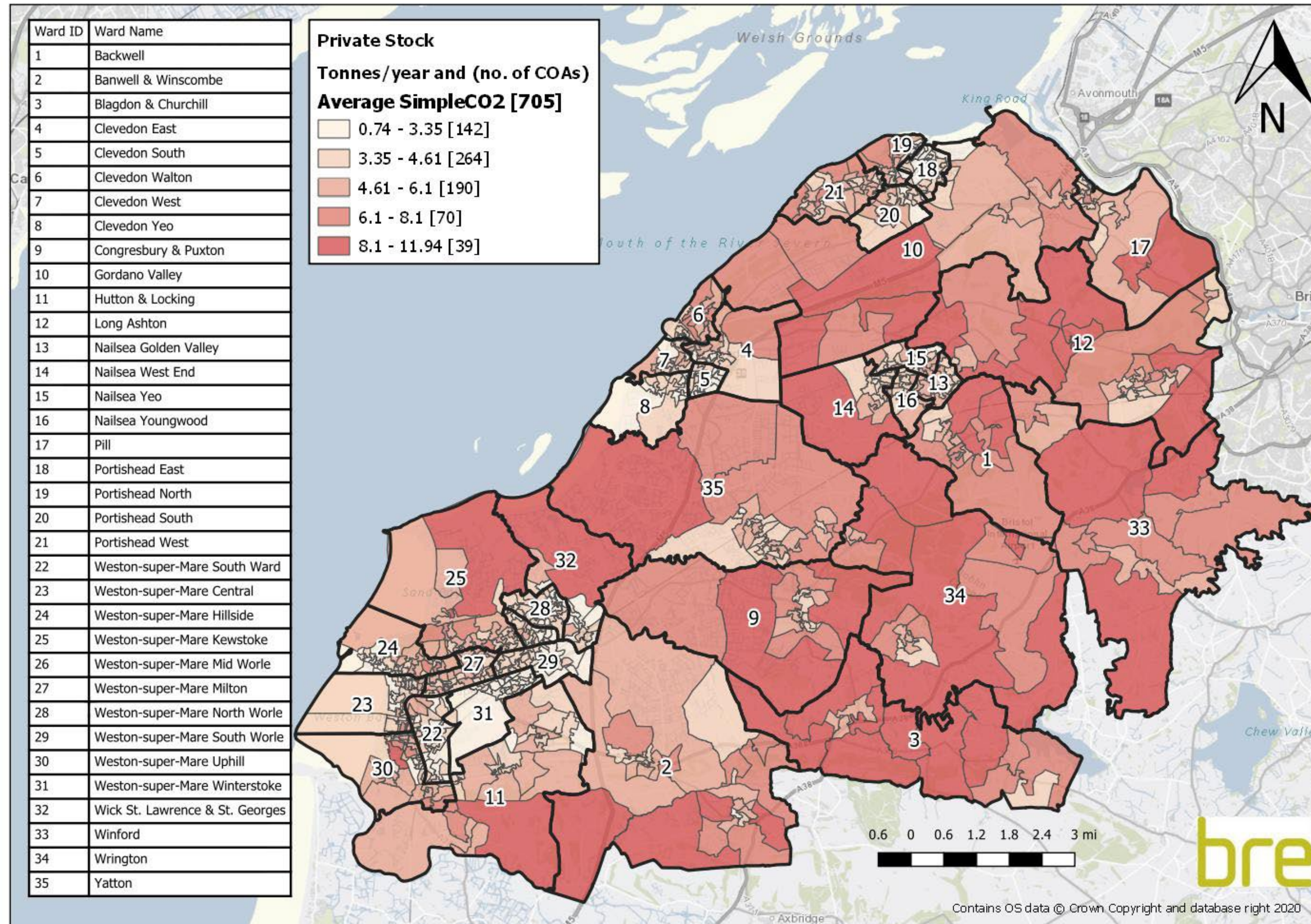
Estimated average total energy demand (kWh/year) – private sector stock



Estimated average total heat demand (kWh/year) – private sector stock



Estimated average Simple CO₂ (tonnes/year) – private sector stock



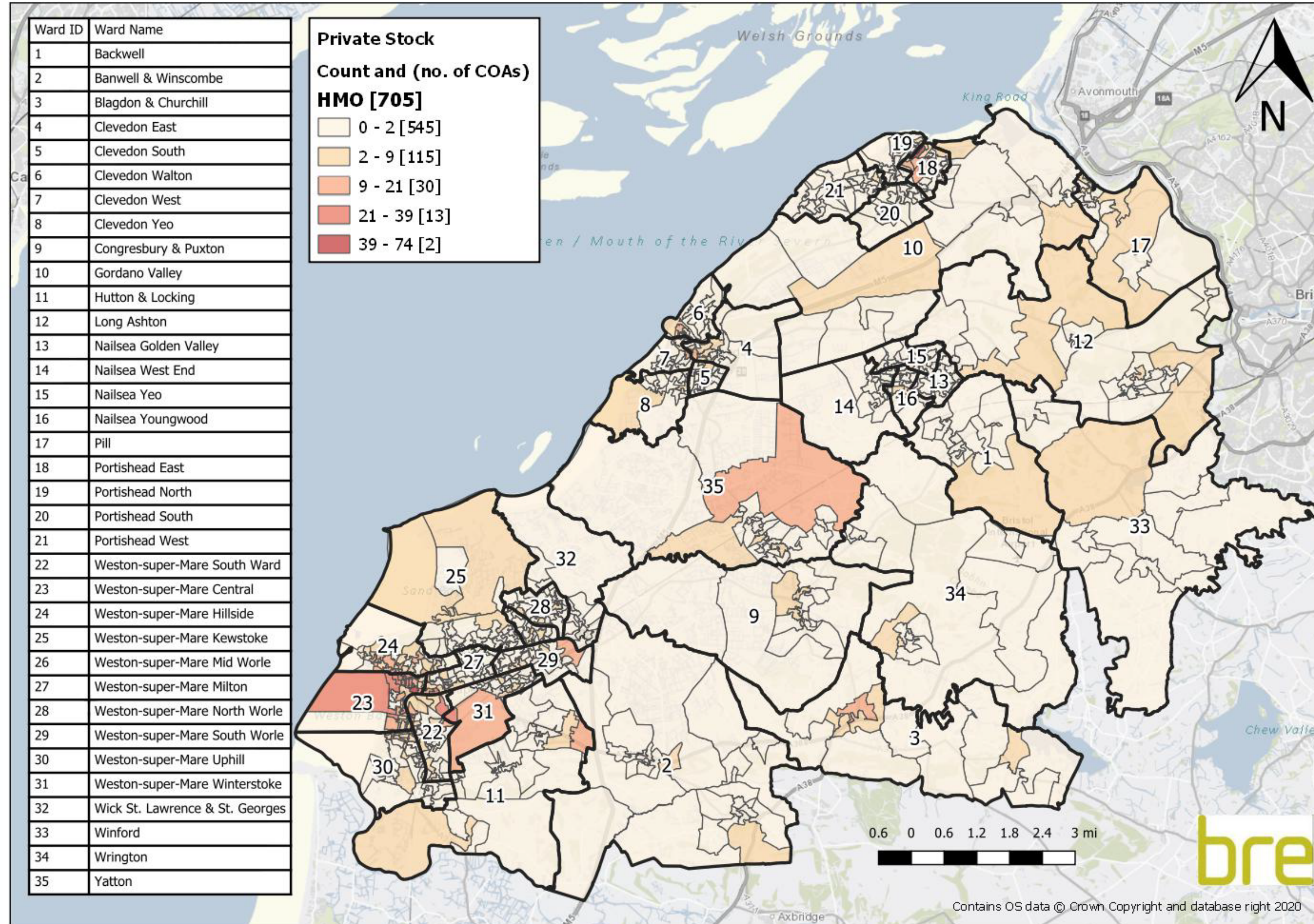
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Private Rented Sector Analysis

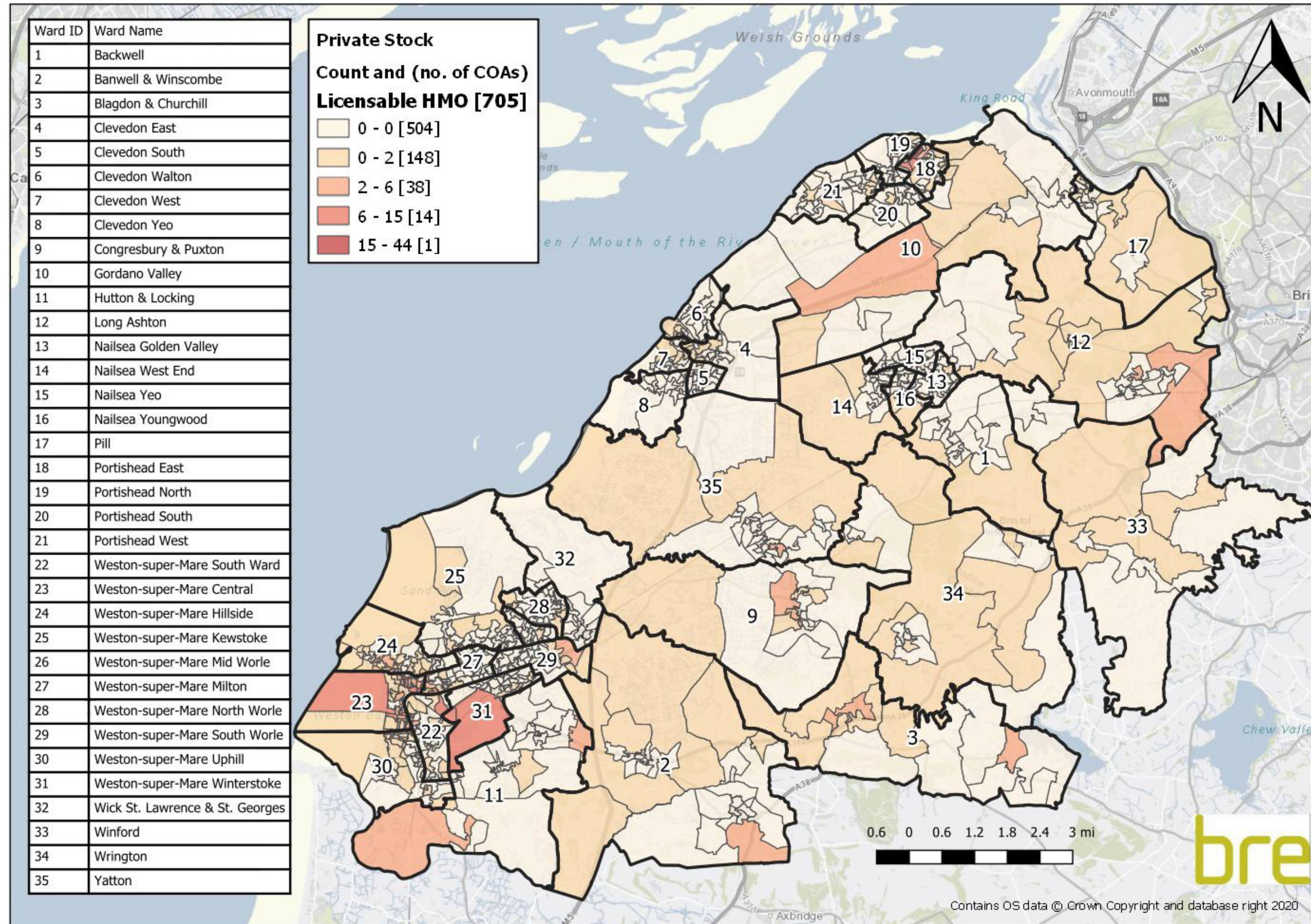
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HMOs

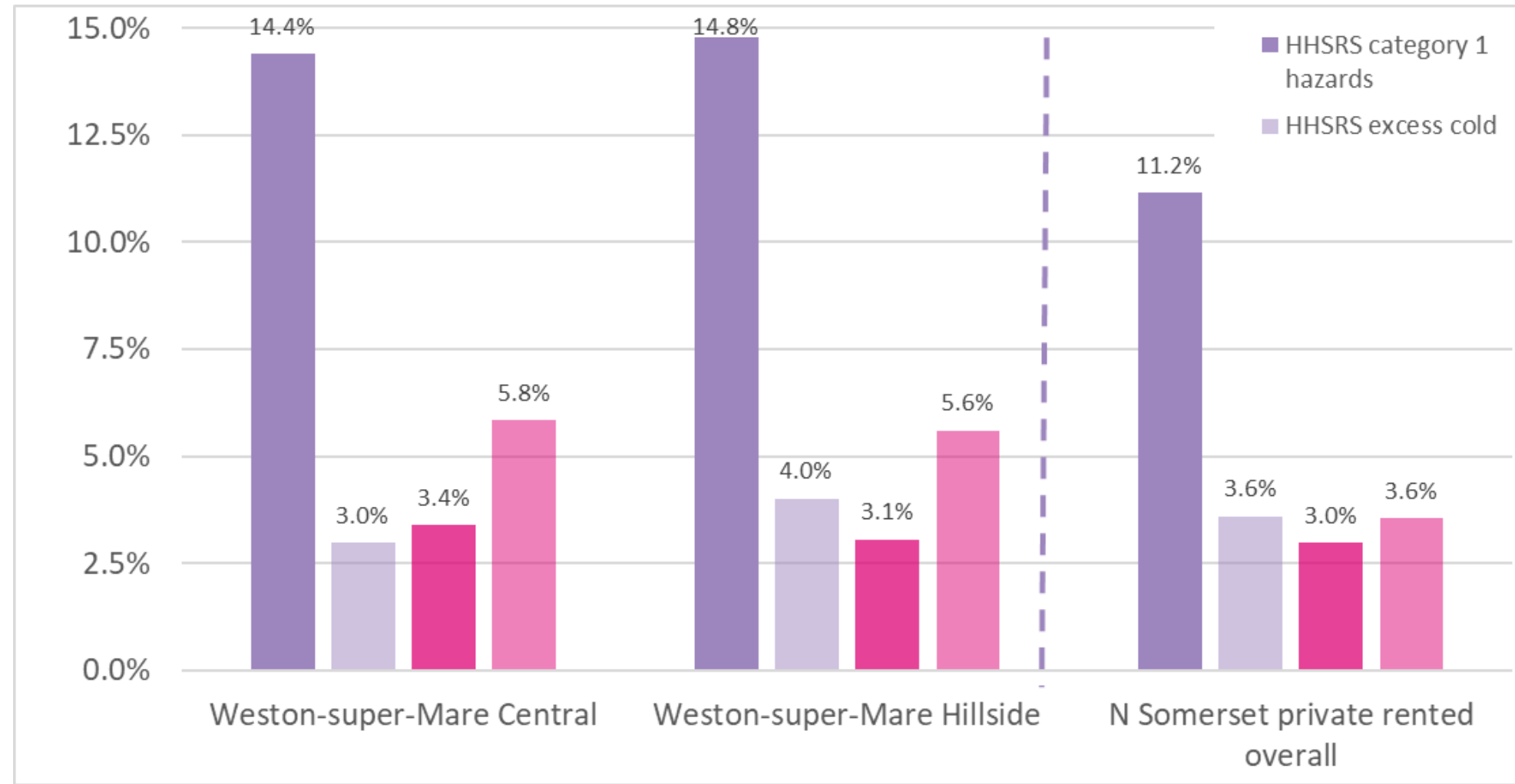


Licensable HMOs

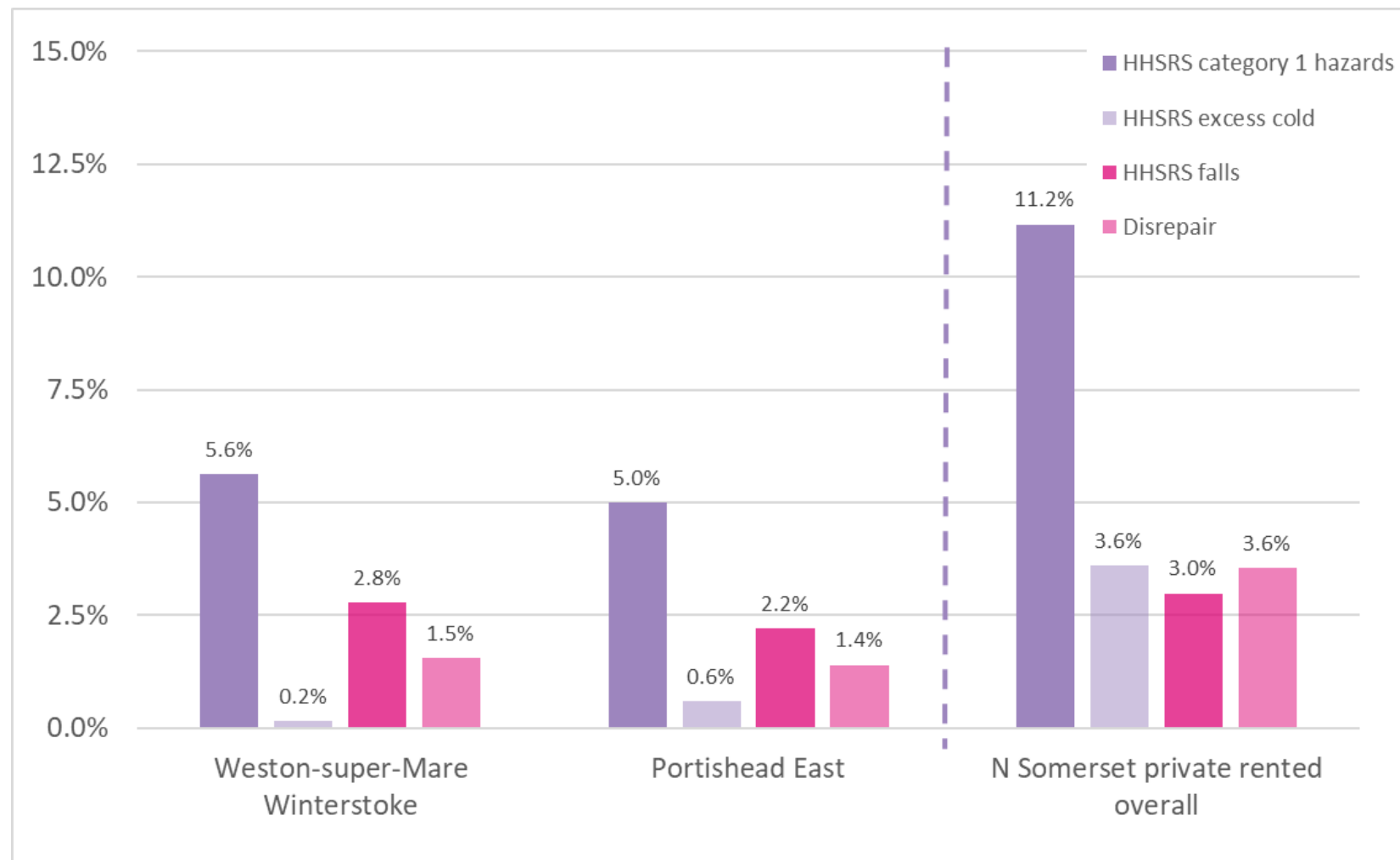


PRS Housing Standards Variables

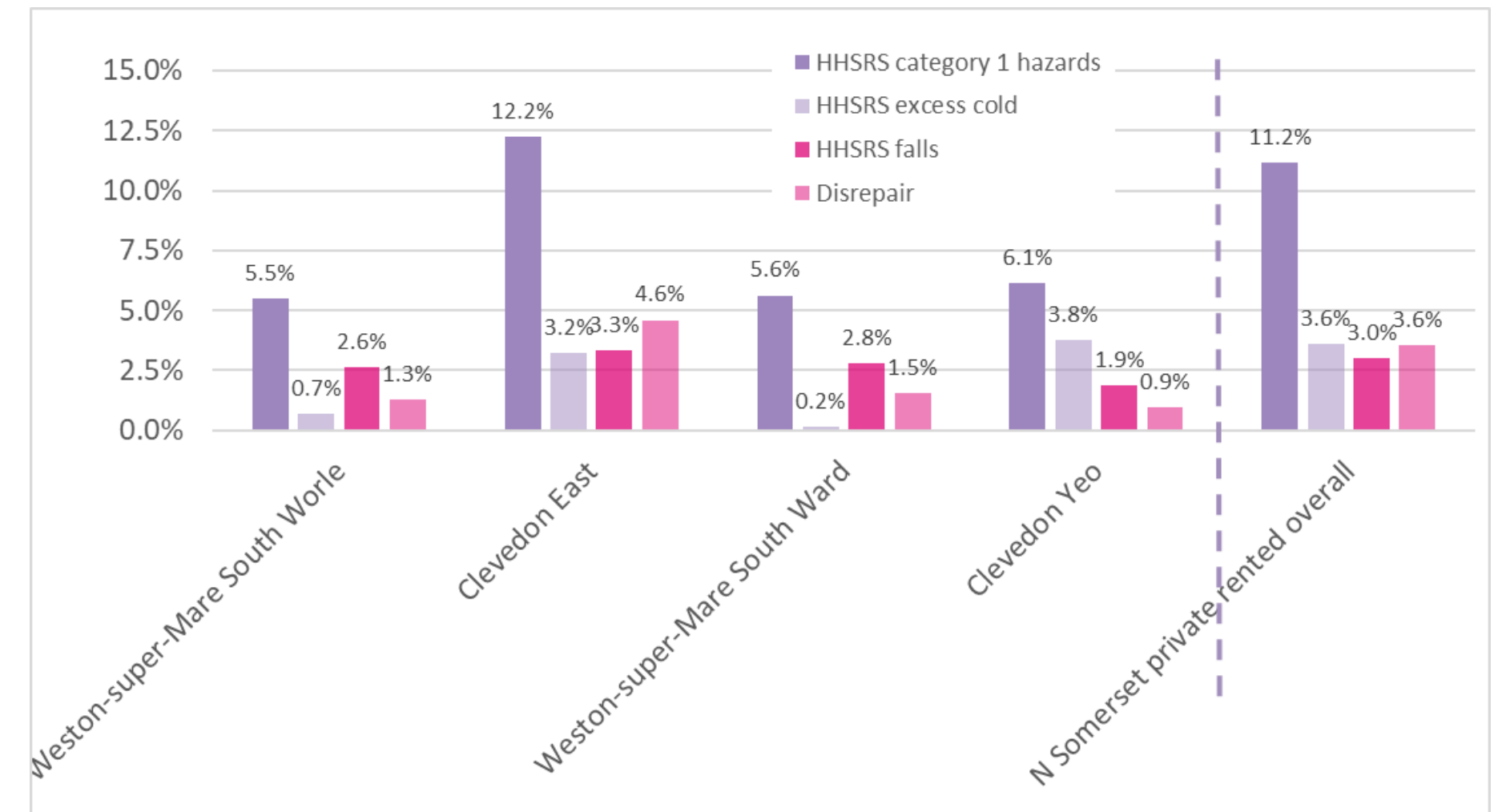
PRS over 36%



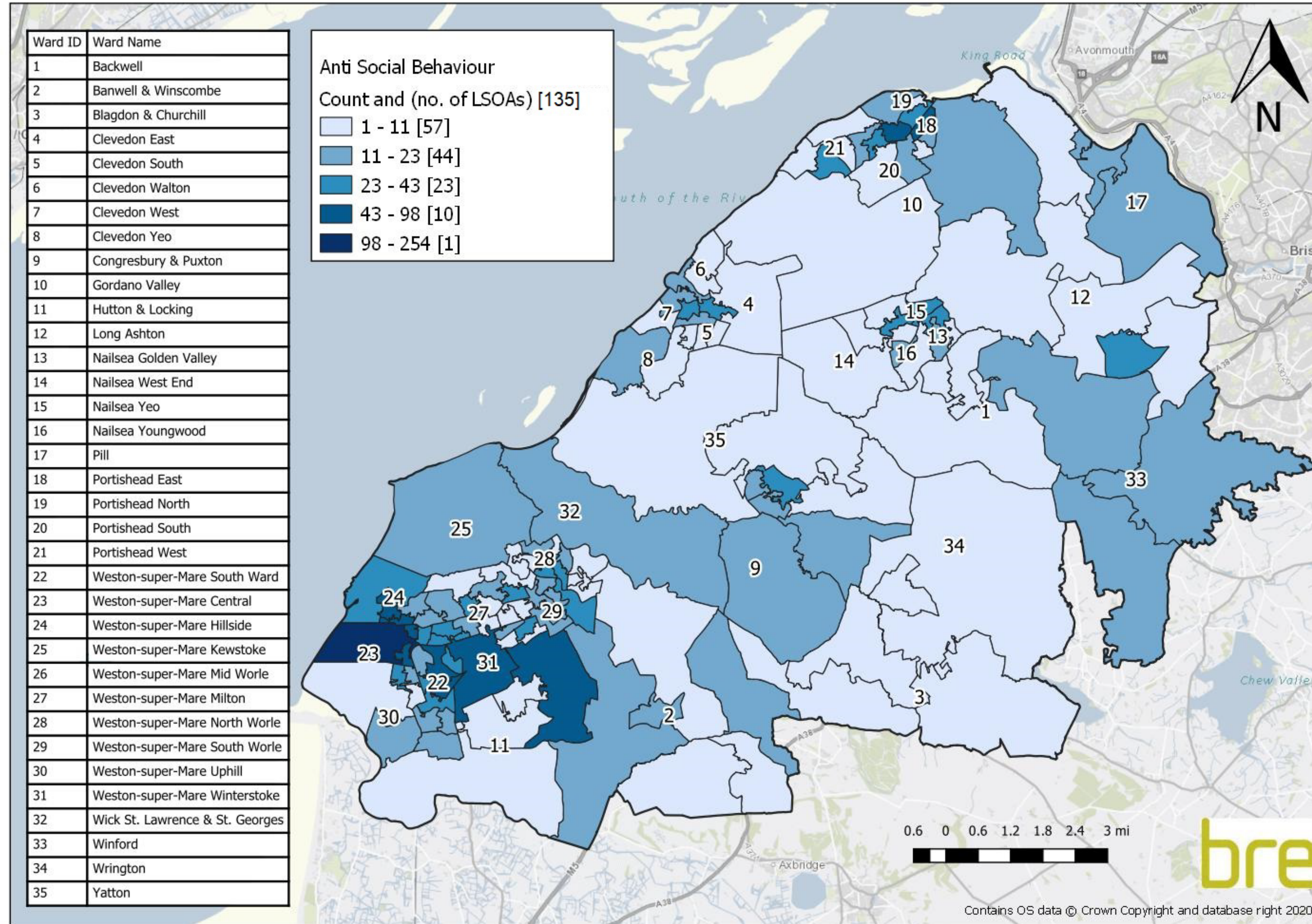
PRS 25 - 36%



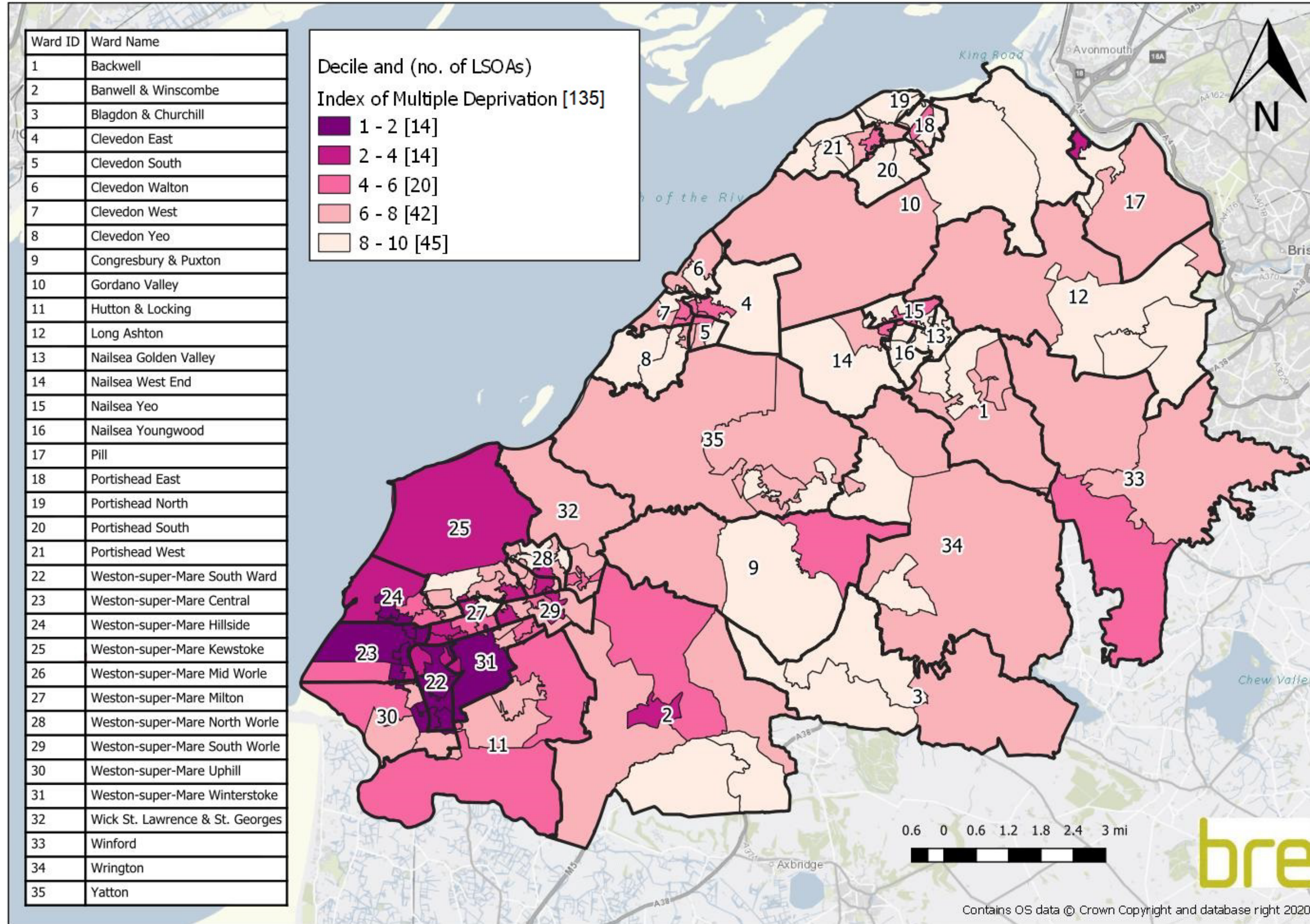
PRS 19 - 24%



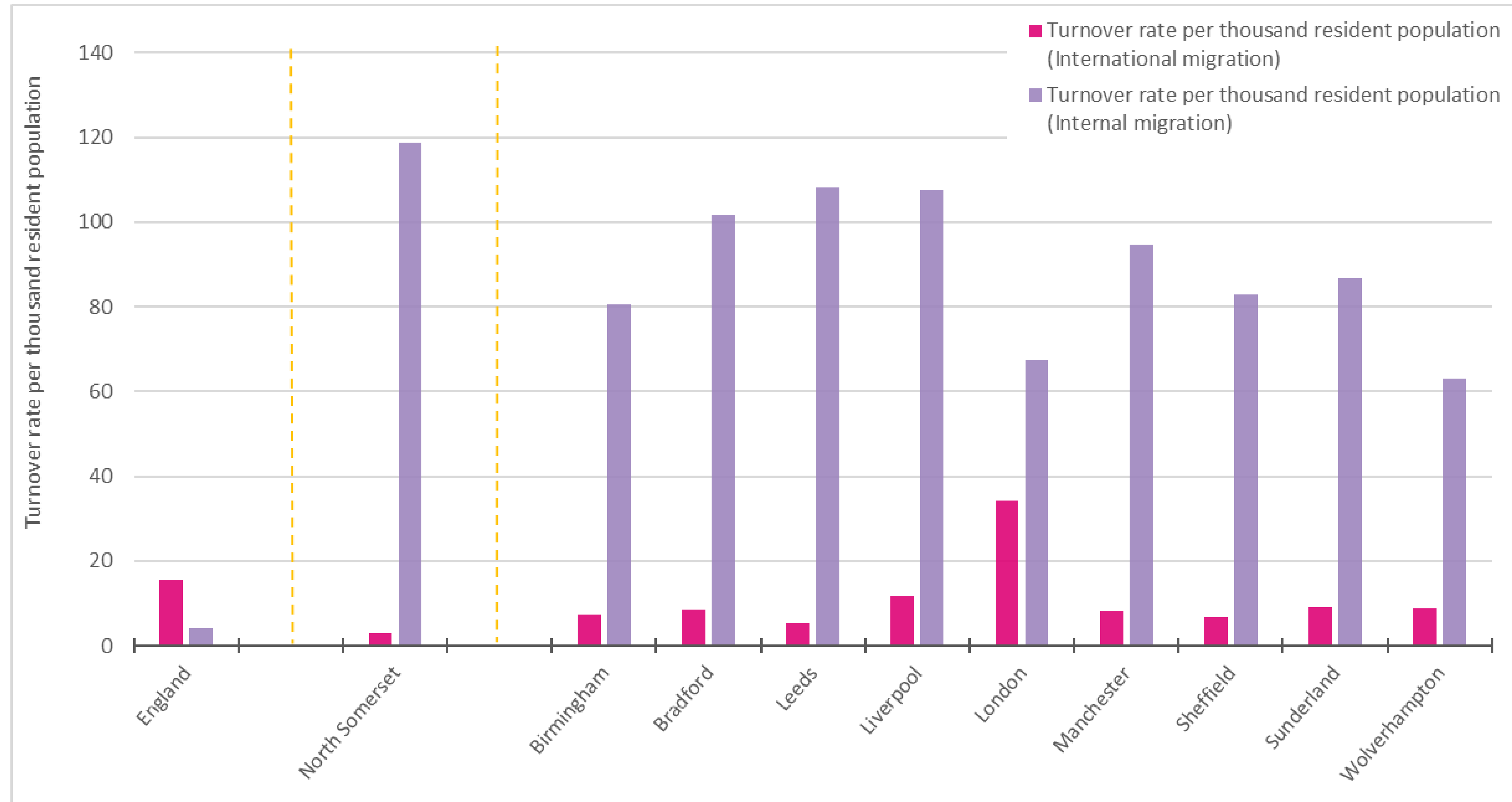
Anti Social Behaviour (ASB)



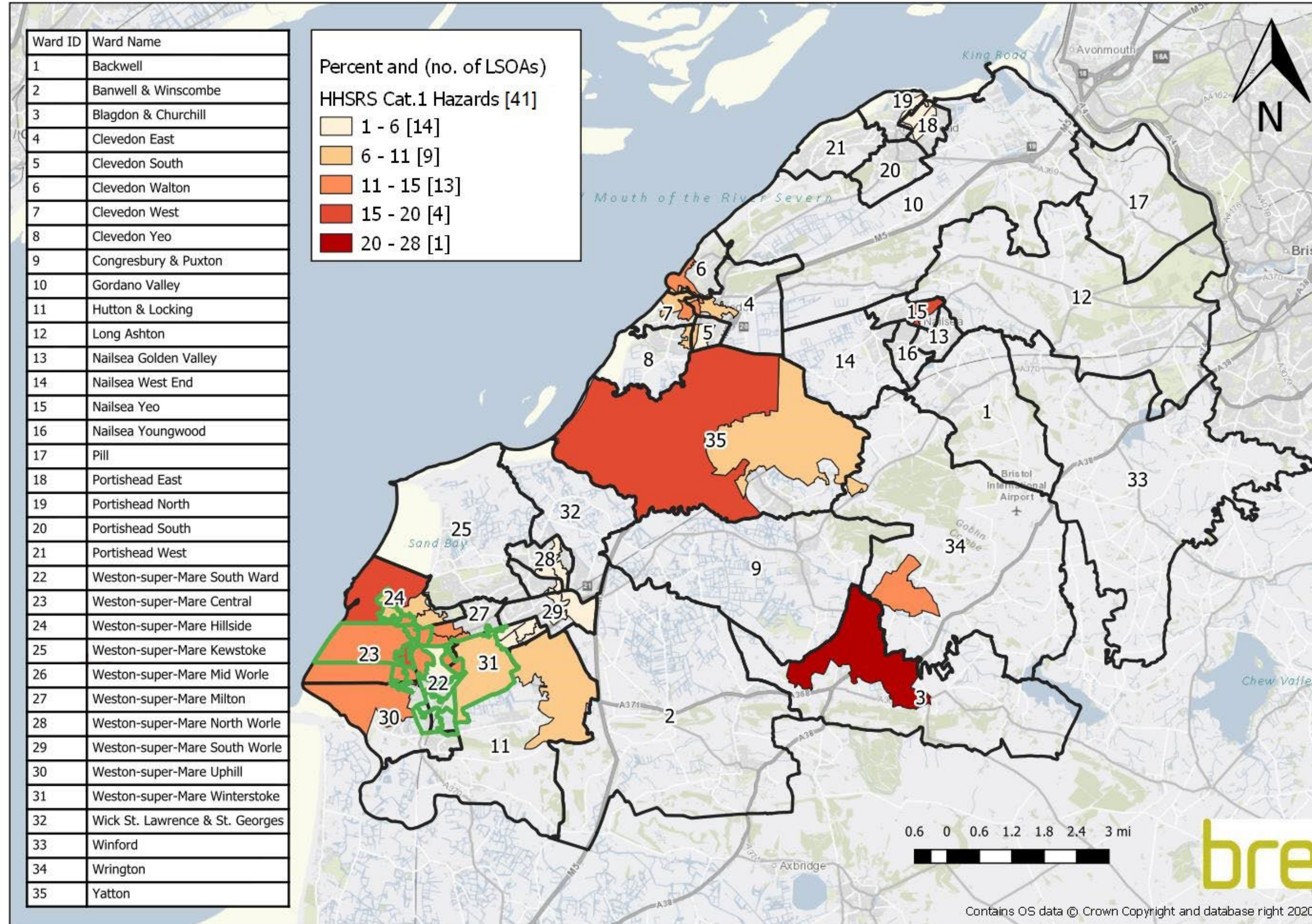
Distribution of Deprivation (DLUHC, 2019)



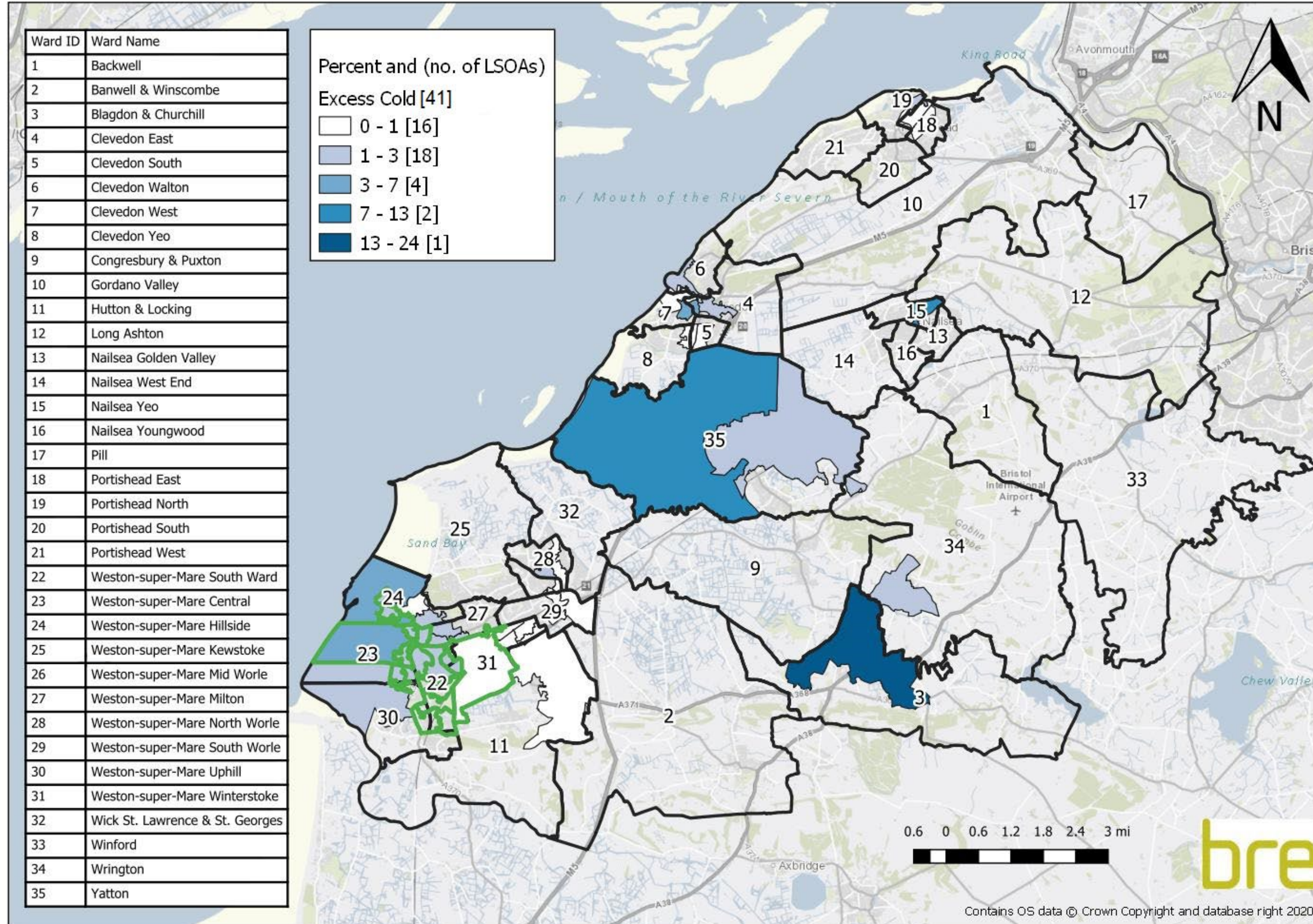
Migration (ONS data, mid-2019 to mid-2020)



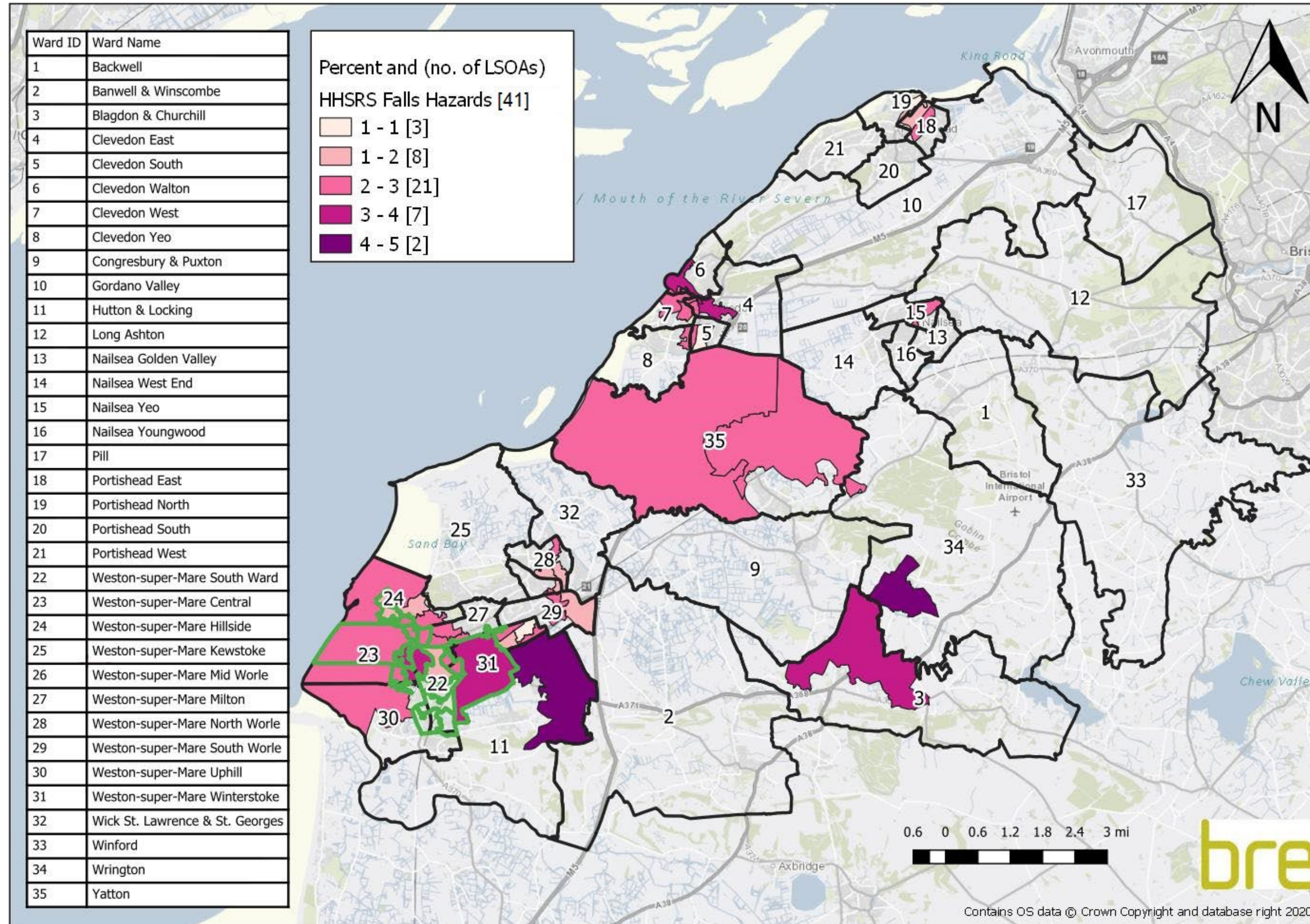
Distribution of category 1 HHSRS hazards where the proportion of private rented stock is above the national average



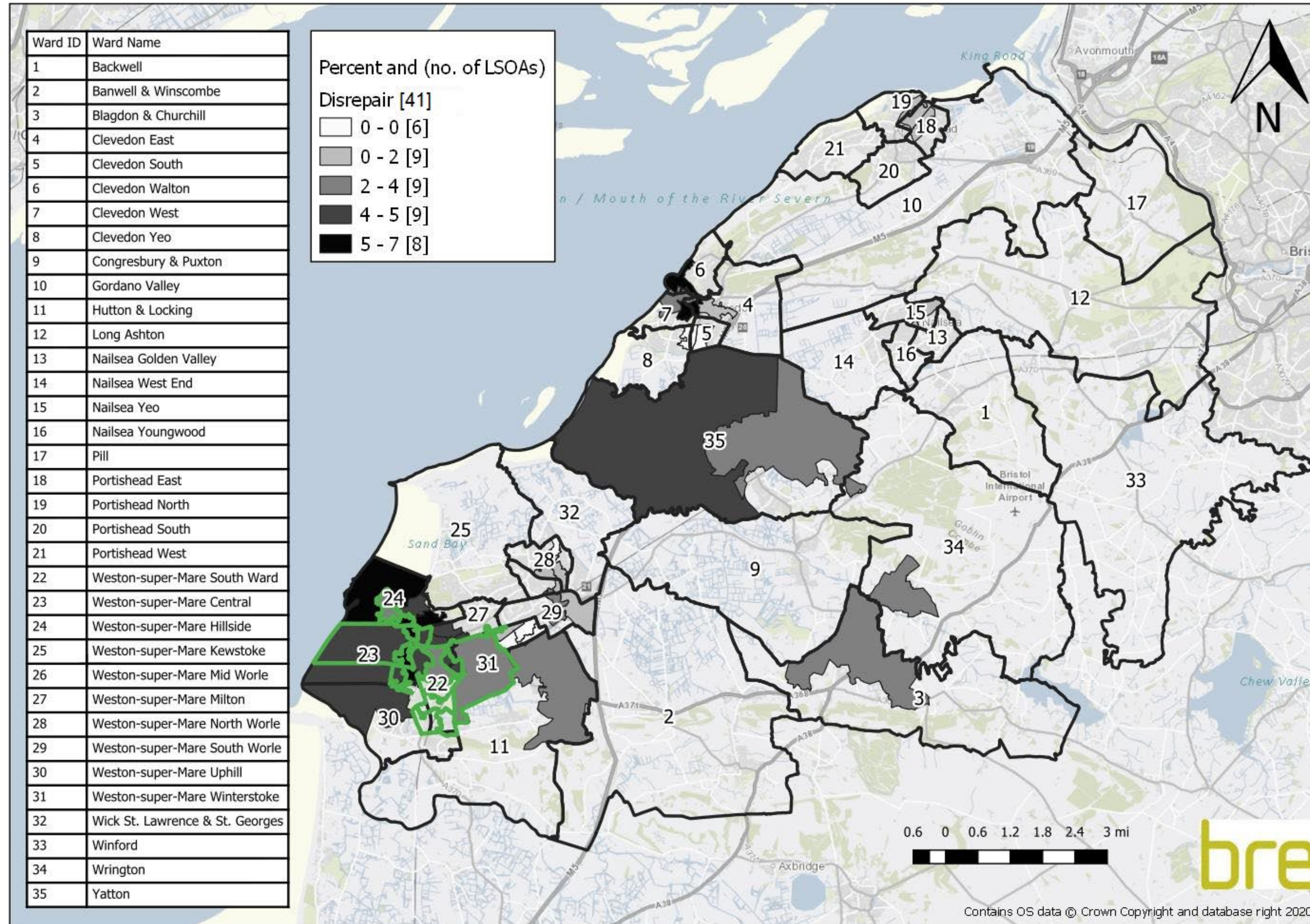
Distribution of excess cold hazards where the proportion of private rented stock is above the national average

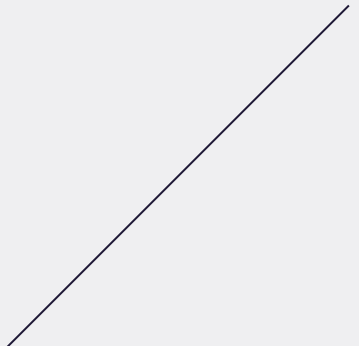


Distribution of fall hazards where the proportion of private rented stock is above the national average



Distribution of dwellings in disrepair where the proportion of private rented stock is above the national average



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Conclusion

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Key Results 1

– Housing stock in North Somerset compared to the EHS England average is mixed, the model indicates that:

- North Somerset has lower levels of all hazards (9% compared to 10%)
- Disrepair (2% compared to 3%)
- Fuel poverty 10% definition (5% compared to 8%)
- Fuel poverty LIHC definition (9% compared to 10%),

- But higher levels for excess cold (4% compared to 3%)
- Low income households (21% compared to 25%).

Key Results 2

- 8,644 dwellings in the private sector estimated to have category 1 Housing Health and Safety Rating System (HHSRS) hazards. This equates to just below 10% of properties.
- 2,175 dwellings in the private rented sector have category 1 HHSRS hazards. (11%)
- Estimated **average SimpleSAP rating** for all private sector dwellings in North Somerset is 60, which is worse than both England (62) and South West (61). For owner occupied stock the figure is 60 and for private rented stock it is 63.

Starting Points / Potential Next Steps

- Proactive strategies are often the most productive at identifying vulnerable people living in poor housing
- Report and accompanying HSCD database provide data for identification of particular areas to focus on to improve the housing stock, e.g.
 - category 1 hazards and fuel poverty in the private rented sector
 - excess cold in the owner occupied sector
- Programmes designed to tackle disrepair, e.g.
 - group repair schemes
 - regeneration or enforcement interventions
- Energy efficiency improvement strategies, e.g.
 - wards with the poorest average SimpleSAP rating such as Blagdon and Churchill or Winford



／ Thank you.

／ 5.0