

## Natural Resources

### SA Objective 16: To Maximise the Use of Previously Developed Urban Land

#### Indicator: The Proportion of New Houses Built or Converted on Previously Developed Land

In Wirral the proportion of new or converted dwellings built on previously developed land increased between 2000-2001 and 2011-2012. The annual proportion of development has remained over 90% since 2005-2006, peaking in 2008-2009 at 99.4%.

Percentage of New and Converted Dwellings Built on Previous Developed Land in Wirral 2000-2001 to 2011-2012	
2000 - 2001	79.8%
2001 - 2002	77.2%
2002 - 2003	82.9%
2003 - 2004	69.2%
2004 - 2005	72.9%
2005 - 2006	98.0%
2006 - 2007	98.0%
2007 - 2008	99.0%
2008 - 2009	99.4%
2009 - 2010	98.8%
2010 - 2011	93.0%
2011 - 2012	97.0%

#### Indicator: Proportion of New Commercial Development on Previously Developed Land

In Wirral the majority of new commercial development has been built on previously developed land between 2004-2005 and 2010-2011, with the exception of 2006-2007 and 2007-2008.

Percentage of Commercial Development on Previously Developed Land in Wirral 2004-2005 to 2010-2011							
	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Office B1 (a)	100%	100%	25%	100%	100%	100%	100%
Research and Development B1(b)	-	-	-	-	-	-	-
Light Industry B1 (c)	-	-	-	-	-	-	-
General Industry B2	100%	100%	50%	61%	100%	100%	100%
Storage and Distribution B8	-	-	100%	-	-	-	100%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>41%</b>	<b>70%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Indicator: Area and Number of Vacant and Underused Previously Developed Sites on the National Land Use Database**

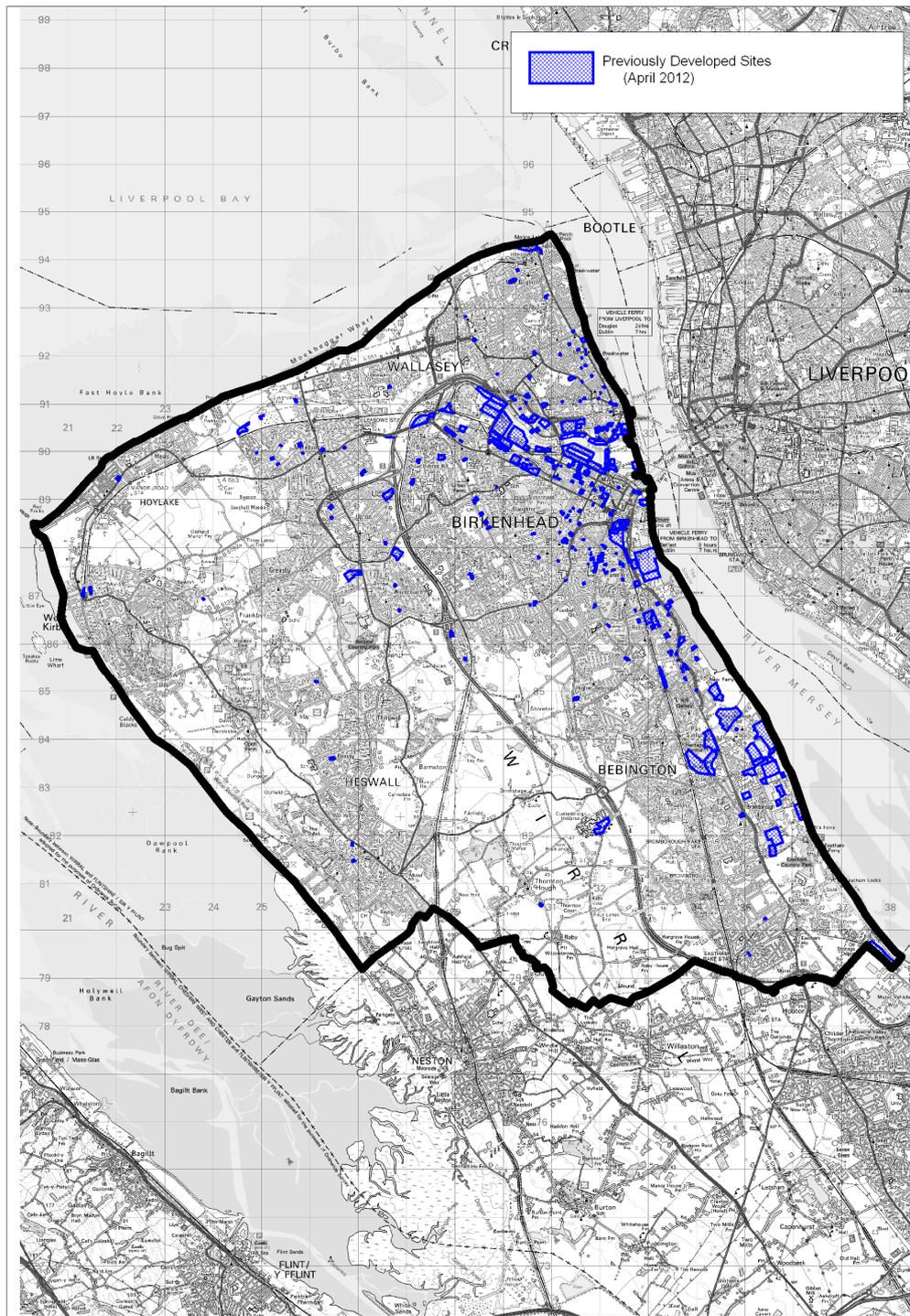
(Original SA Scoping Report July 2007 Indicator: Total area of land reclaimed and brought back into beneficial use for all land use purposes, including open space)

The original version of this indicator, identified in the July 2007 SA Scoping Report, was included in the original baseline review, but no data was presented. The indicator in this review has been revised to utilise the best available data relating to previously developed land.

The National Land Use Database of Previously Developed Land (NLUD-PDL) contains information on previously developed land and buildings in England that may be available for development. The Database is updated annually and the number of sites and total area of land in Wirral included has fallen between 2007 and 2012.

<b>Wirral Sites on the National Land Use Database 2006-2007 to 2011-2012</b>		
<b>Year</b>	<b>Number of sites included on the National Land Use Database</b>	<b>Area of Land (hectares)</b>
2006-2007	361	342
2007-2008	361	342
2008-2009	287	291
2009-2010	342	322
2010-2011	288	305
2011-2012	291	282

The map below illustrates the location of sites included on the National Land Use Database for 2011-2012.



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Source: National Land Use Database, 2012

## **SA Objective 17: To Minimise Reliance on Non-Renewable Energy Sources**

### **Indicator: Percentage of Energy Consumption from Renewable and Waste Sources**

(Original SA Scoping Report July 2007 Indicator: Average energy consumption per head)

The original version of this indicator, identified in the July 2007 SA Scoping Report and included in the original baseline review, has been expanded in this review to better reflect the amount of energy used from renewable and waste sources.

Wirral's estimated total energy consumption in 2009 was 5,910.5 GWh. This has fallen year on year from 2005. In 2009 the proportion of energy consumption in Wirral generated from renewable or waste sources was 0.04%. This is significantly less than the proportion in the North West (0.6%) and Great Britain (1.84%).

<b>Percentage of Total Energy Consumption Generated from Renewable Energy and Waste</b>					
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Wirral</b>	0.03%	0.03%	0.03%	0.04%	0.04%
<b>North West</b>	0.54%	0.47%	0.46%	0.49%	0.60%
<b>Great Britain</b>	1.03%	1.15%	1.34%	1.46%	1.84%

Source: DECC, Total Sub-National Final Energy Consumption, December 2011

### ***Indicator: Percentage of new homes achieving “good” or better score on the ECO homes rating scheme***

An amended version of this indicator has been moved to SA Objective 22 as this is considered to be a more suitable indicator of sustainable design.

### ***Indicator: Percentage of new non-residential buildings achieving “good” or better score on the BREEAM rating scheme***

An amended version of this indicator has been moved to SA Objective 22 as this is considered to be a more suitable indicator of sustainable design.

### ***Deleted Indicator: Number and type of renewable energy schemes and quantity of power generated***

The original version of this indicator, identified in the July 2007 SA Scoping Report, was used in the original baseline review. The indicator in this review has been deleted due to the lack of current available data and the effectiveness of the previous indicator related to the percentage of total energy consumption generated from renewable energy and waste.

## **SA Objective 18: To Promote Sustainable Drainage and Water Conservation**

### **Indicator: Proportion of Development Incorporating Sustainable Drainage Systems (SuDS)**

From April 2011, the Council gained additional responsibilities under the Flood and Water Management Act 2010 relating to the approval of proposed drainage systems in new developments and redevelopments, subject to certain thresholds and exemptions, having regard to minimum national standards. The Council, through the formation of a SuDS Approval Body (SAB), will approve the application for the drainage system and adopt and maintain it thereafter. It is expected that these powers will come into force in April 2013.

### **Indicator: Average Water Consumption per Capita/Household**

Until 2010-2011, each water company sent Ofwat detailed information about their performance each year. This annual data submission (or 'June return') was published to allow customers and stakeholders to understand each company's performance. From 2011-2012 onward Ofwat stopped collating the June return, but individual companies are still required to publish the data collected on their own website.

The data is not published by local authority area. United Utilities has four water resource zones. Wirral is part of the Integrated Zone which includes all of the north west of England with the exception of northern Cumbria. The table below shows the average water consumption per capita in households within the Integrated Zone and shows a fall in consumption between 2006 and 2012 in both measured (i.e. households with a water meter) and unmeasured households.

<b>Average Water Consumption per Capita in Households in the United Utilities Integrated Zone 2006 to 2012</b>		
<b>Year</b>	<b>Unmeasured households</b>	<b>Measured households</b>
2006	144.74	132.06
2007	143.52	122.05
2008	143.39	116.46
2009	143.43	111.43
2010	141.68	112.98
2011*	141.00	116.00
2012*	142.00	108.00

Source: Ofwat June Returns (2006-2009), <http://www.ofwat.gov.uk/publications#data>  
 United Utilities (2011/2012)  
[http://corporate.unitedutilities.com/documents/Annual Review of Water Resource Management Plan.pdf](http://corporate.unitedutilities.com/documents/Annual%20Review%20of%20Water%20Resource%20Management%20Plan.pdf)

## SA Objective 19: To Minimise Waste Generation and Maximise Recycling

### Indicator: Annual Volume and Proportion of Waste Sent to Landfill, Recycled and Composted

(Original SA Scoping Report July 2007 Indicators: Annual volume of waste arising by type and source; Proportion of municipal waste recycled and composted; and Annual volume of waste sent to landfill)

The original version of these separate indicators, identified in the July 2007 SA Scoping Report and included in the original baseline review, have now been combined into a single indicator in this review.

The overall level of waste generated in 2010-2011 stood at 132,538 tonnes, representing a reduction of almost 5 percent since 2004-2005. The proportion of waste sent to landfill in Wirral reduced significantly between 2004-2005 and 2010-2011, from over 125,000 tonnes to below 80,000 tonnes. Conversely, the proportion of municipal waste sent for recycling or composting increased during the same time period. In 2010-2011, 40 percent (53,370 tonnes) of waste was recycled or composted, compared to 10 percent (13,854 tonnes) in 2004-2005.

<b>Wirral Waste Sent to Landfill, Recycled and Composted</b>							
<b>2004-2005 to 2010-2011</b>							
<b>Waste arising (tonnes)</b>	<b>2004-2005</b>	<b>2005-2006</b>	<b>2006-2007</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>
<b>Landfill</b>	125,440	137,097	121,693	93,655	86,186	83,639	79,168
(Percentage of total arisings)	90%	89%	86%	68%	64%	64%	60%
<b>Recycled</b>	11,065	10,784	12,794	28,448	30,265	28,521	29,770
(Percentage of total arisings)	8%	7%	9%	21%	22%	22%	22%
<b>Composted</b>	2,789	6,175	7,095	14,727	18,879	19,483	23,600
(Percentage of total arisings)	2%	4%	5%	11%	14%	15%	18%
<b>Grand Total</b>	<b>139,294</b>	<b>154,056</b>	<b>141,582</b>	<b>136,830</b>	<b>135,330</b>	<b>131,643</b>	<b>132,538</b>

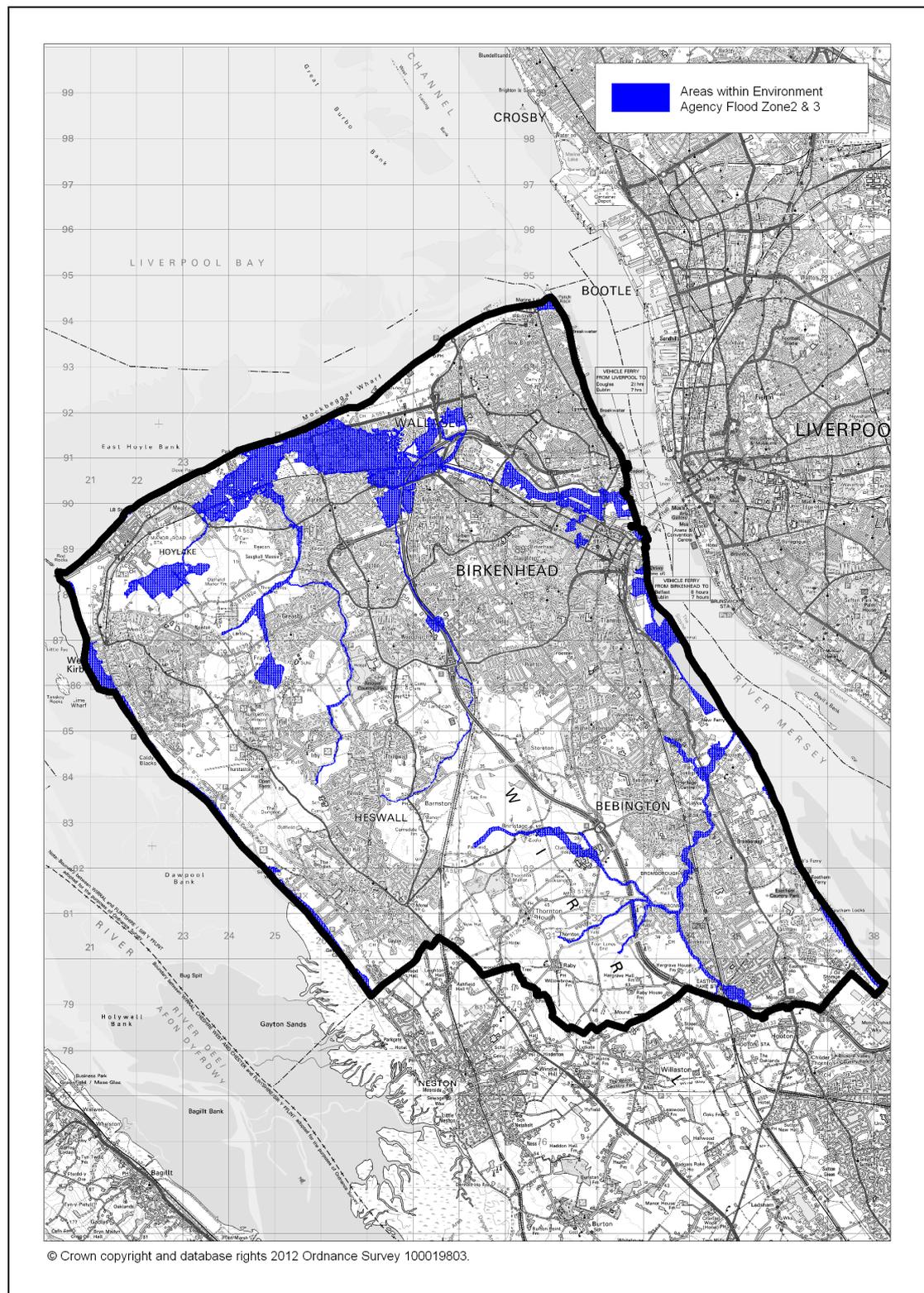
Source: DEFRA Local Authority Collected Waste for England – Annual Statistics

## SA Objective 20: To Minimise the Impact of Flooding and Other Natural Hazards Including Climate Change

### Indicator: Amount of Land Potentially Liable to Flooding

(Original SA Baseline Review Indicator: Number of households in flood risk areas)

The original version of this indicator was not identified in the July 2007 SA Scoping Report, but was included in the original baseline review. In this review the indicator has been amended in line with the available data for the area of land liable to flooding.



Source: Environment Agency, 2012

The Environment Agency (EA) is responsible for producing Flood Maps that identify the probability of tidal or fluvial (river) flooding. The Flood Maps identify three flood zones relating to the probability of flooding, as shown in the table below. A sequential approach is taken to site selection with development directed to Flood Zone 1 in the first instance. Proposals for development in Flood Zones 2 or 3 will need to be supported by evidence from a site specific Flood Risk Assessment.

<b>Environment Agency Flood Zones – Annual Probability of Flooding</b>	
<b>Flood Zone</b>	<b>Annual probability of flooding</b>
<b>1</b>	<1 in 1,000 (<0.1 %) from river or sea flooding
<b>2</b>	Between 1 in 1,000 (0.1%) and 1 in 100 (1%) for river flooding or between 1 in 1,000 (0.1%) and 1 in 200 (0.5%) for flooding from the sea
<b>3a</b>	> 1 in 100 (>1%) for river flooding and > 1 in 200 (>0.5%) for flooding from the sea
<b>3b</b>	Functional floodplain
<b>Note:</b> These Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences.	

Source: Planning Policy Statement 25: Development & Flood Risk Practice Guide, 2009

The Environment Agency continually updates the Flood Maps which can be viewed at:

<http://maps.environment-agency.gov.uk/wiyby/wiybyController?x=357683.0&y=355134.0&scale=1&layerGroups=default&ep=map&textonly=off&lang=e&topic=floodmap>

In Wirral the amount of land potentially liable to tidal and fluvial flooding (EA Flood Zones 2 & 3) in 2011-2012 is estimated to be 1,164 hectares, constituting 7.4% of the total Borough land area. The map below illustrates the areas within Flood Zones 2 & 3.

Data for groundwater reservoir and surface water flooding will be added as data becomes available.

#### **Indicator: Proportion of Completed New Development Sites in the Environment Agency Flood Zone 2 & 3**

(Original SA Scoping Report July 2007 Indicator: Proportion of new development in flood risk areas)

The original version of this indicator, identified in the July 2007 SA Scoping Report, identified new developments in flood risk areas. The indicator in this review has been amended to utilise the available data which relates to the probability of flooding rather than risk.

In 2004-2005 a total of 103 or 19.9% of new developments in Wirral were built in areas designated by the Environment Agency as falling within Flood Zones 2 or 3. In 2011-2012 there were no new developments built in Flood Zones 2 or 3.

<b>Development in Wirral in Areas Potentially Liable to Flooding 2004-2005 and 2011-2012</b>						
<b>Type of New Development</b>	<b>Number of New Developments</b>		<b>Number of New Developments Located within Flood Zone 2 &amp; 3 (includes partially located within zone)</b>		<b>% of New Developments Located within Flood Zone 2 &amp; 3</b>	
	<b>2004/05</b>	<b>2011/12</b>	<b>2004/05</b>	<b>2011/12</b>	<b>2004/05</b>	<b>2011/12</b>
<b>New/Converted Residential Units</b>	505	268	100	0	19.8%	0
<b>New Industrial/ Commercial Development Sites</b>	9	4	3	0	33.3%	0
<b>New Retail/ Office/ Leisure Development Sites</b>	4	14	0	0	0	0
<b>TOTAL</b>	518	286	103	0		

Source: Wirral Council AMRs

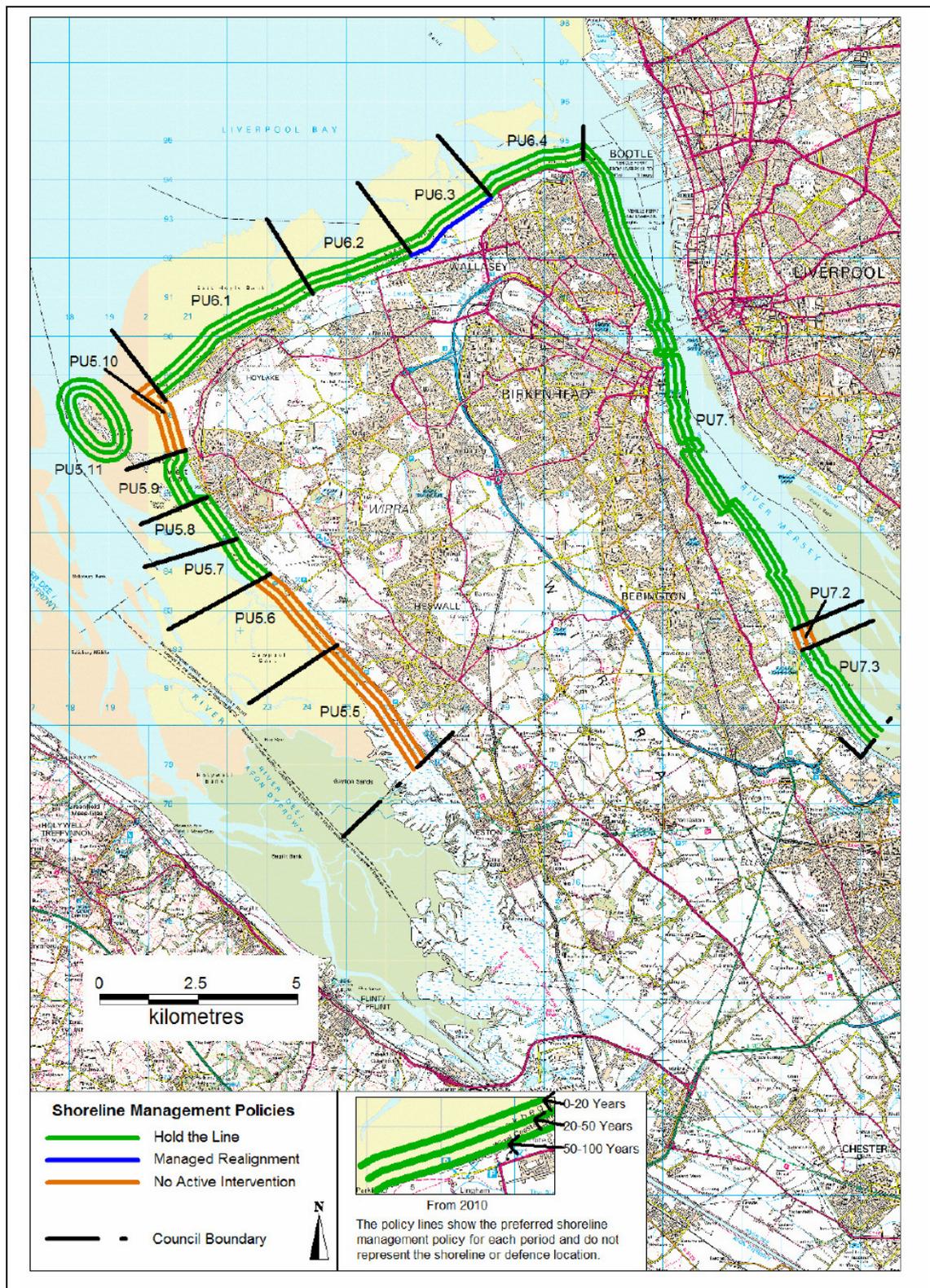
#### **Indicator: The Number of Planning Approvals Contrary to Environment Agency Advice**

Between 2004-2005 and 2011-2012, no planning applications were approved contrary to Environment Agency advice. In 2008-2009 the Environment Agency initially objected to three planning applications, but these concerns were addressed by the imposition of planning conditions or by the submission of a revised Flood Risk Assessment.

<b>Number of Planning Applications Subject to Objections by the Environment Agency</b>		
	<b>Objections based on flooding issues</b>	<b>Objections based on water quality issues</b>
<b>2004-2005</b>	0	0
<b>2005-2006</b>	0	0
<b>2006-2007</b>	0	0
<b>2007-2008</b>	0	0
<b>2008-2009</b>	3	0
<b>2009-2010</b>	0	0
<b>2010-2011</b>	0	0
<b>2011-2012</b>	0	0
<b>TOTAL</b>	3	0

Source: Wirral Council AMRs

## Indicator: Proportion of New Development in Areas at Risk of Coastal Erosion



Source: North West England and North Wales Shoreline Management Plan SMP2, 2011

A review of the North West England and North Wales Shoreline Management Plan, completed in 2011, divides Wirral's coastline into fourteen policy units, based on land use and coastal processes. Ten of the units have a policy of

'hold-the-line', where coastal defences will be maintained and upgraded as necessary over the next 20 years. The remaining four units, which include the coast from Gayton to Thurstaston Cliffs, between West Kirby and Hoylake and at Eastham, have a policy of 'No Active Intervention', which will involve no investment in coastal defences or operations.

Erosion is only predicted to occur at Thurstaston Cliffs (Unit 5.6) and Riverwood Road/Eastham Country Park to Eastham Ferry (Unit 7.2). The estimated rate of erosion at Thurstaston Cliffs is 2-10 metres over 20 years, 5-25 metres over 50 years and 10-50 metres over 100 years. Due to the natural rocky coastline at Eastham Country Park to Eastham Ferry, the estimated rate of erosion is expected to be negligible.

No (zero) new developments have been permitted within areas at risk of erosion.