



2019

STATE OF THE ENVIRONMENT REPORT
EAST RENFREWSHIRE COUNCIL



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INTRODUCTION

1

This report provides a range of environment data focused on **9 environmental topics**. Each subject has a range of objectives, aimed at providing a means to identify trends in data and ultimately assess whether there are any positive or negative environmental trends.

The intention is for this report to form the foundation of **strategic environmental assessments** undertaken for the Local Development Plan 2 and any supporting documents. However, given the wide range in topics covered it may also prove useful for strategic environmental assessments being undertaken by other sections of the Council.

The start of each subject chapter provides the objectives which are being assessed along with a quick glance guide showing if the **trends in data** indicate a positive, negative or neutral impact.

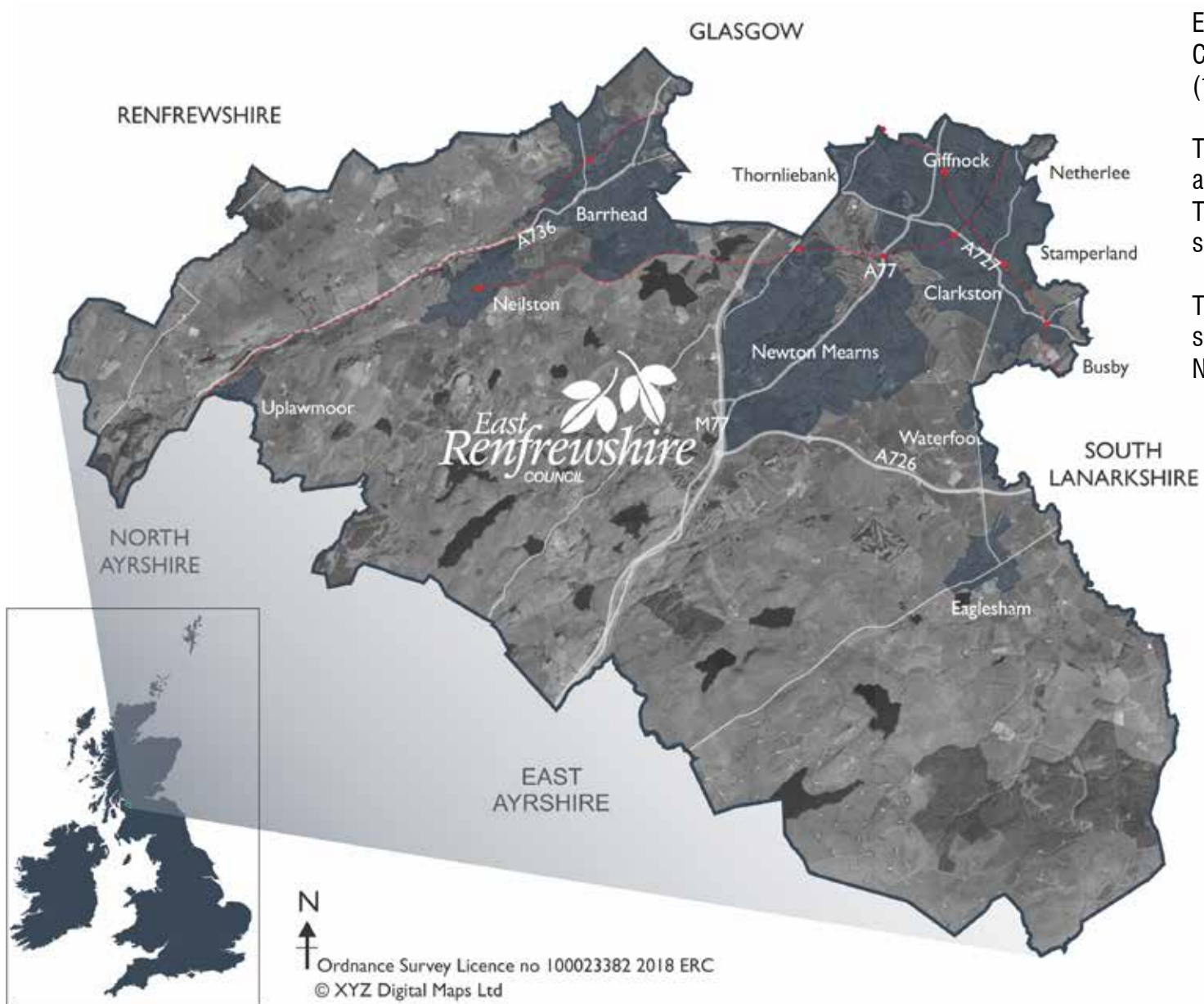
Map of East Renfrewshire

The East Renfrewshire Area

East Renfrewshire is situated to the south of the City of Glasgow. It covers an areas of **67 sq miles** (174 sq Km).

The north of the area comprises the **urban** areas of Giffnock, Newton Mearns, Clarkston, Thornliebank and Barrhead. Each of these settlements has a distinctive character.

There is also an extensive **rural** hinterland to the south, within which, the villages of Uplawmoor, Neilston, Waterfoot and Eaglesham area located.



SEA OBJECTIVES

2



Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Air Quality / Climatic Factors				
1	Maintain and improve air quality and reduce emissions of key pollutants	Is the LDP2 likely to significantly help protect the environment from pollution, including by avoiding potential pollution development in sensitive locations, or is it likely to increase the risk of pollution?	Air quality in East Renfrewshire is generally of good quality. There has been no need to designate any air quality monitoring areas within the boundary of the authority. The volume of CO2 from road transport has seen a reduction from 2011 - 2013 (note time lag in results being published). East Renfrewshire has a large number of existing wind turbines. The number of applications for wind energy is decreasing as suitable available land decreases.	ERC Air Quality Updating and Screening Assessment 2015 ERC 2017 Air Quality Annual Progress Report
2	Reduce greenhouse gas emissions	Is the LDP2 likely to significantly help reduce greenhouse gases and/or energy consumption or increase it?		National Atmospheric Emissions Inventory
3	Reduce energy use and ensure sustainable use of energy	Is the LDP2 likely to significantly help facilitate renewable energy in appropriate locations or deter its development.		ERC Development Management Register SPG Renewable Energy
Biodiversity, Flora and Fauna				
4	Protect, enhance and where necessary restore (specified) species and habitats	Is the LDP2 likely to significantly help to protect species especially protected by law or species identified in national or local BAPs, or to protect, enhance or restore designated nature conservation sites and/or habitats which are identified in national or local BAPs, or is it likely to have a significant effect on them?	The need to protect and conserve designated nature conservation sites. The need to give further consideration to the protection, enhancement and management of woodland/forestry and the green network in the interests of promoting and enhanced landscape and improving biodiversity. The need to promote and increase biodiversity. The need to continue to promote the regeneration of the urban area and reduce the loss of land in the greenbelt.	SSSI LNR LBS TPO Ancient Woodland ERC Projects
5	Ensure sustainable use of agricultural and forestry resources	Is the LDP2 likely to affect prime agricultural land or impact on deciduous woodlands?		Ancient Woodland Woodland Inventory
6	Ensure groundwater dependent terrestrial ecosystems (GWDTE) are not adversely affected	Is the LDP2 likely to impact upon GWDTE?		Scottish Wetland Inventory

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Cultural Heritage				
7	Protect, enhance and where appropriate restore archaeological sites and the historic environment.	Is the LDP2 likely to significantly affect the integrity of any designated sites of their setting?	The need to protect areas of high conservation and landscape value. The need to conserve the built environment and reduce the number of listed buildings at risk.	Scheduled Monuments (Historic Scotland) Gardens and Designed Landscapes (Historic Scotland)
8	Protect, enhance and where necessary restore the built environment and regenerate degraded environments	Is the LDP2 likely to make a significant contribution to the regeneration/restoration of derelict, contaminated or otherwise degraded environments or is it likely to increase the area or degradation of such land?	The need to protect, restore and enhance areas of high conservation value and to ensure that development does not adversely affect such areas. Encourage the re-use of vacant and derelict land.	Conservation and Article 4 Areas (ERC) Listed Buildings (Historic Scotland) Buildings at risk register (www.buildingsatrisk.org.uk) Vacant and Derelict Land Survey (ERC)

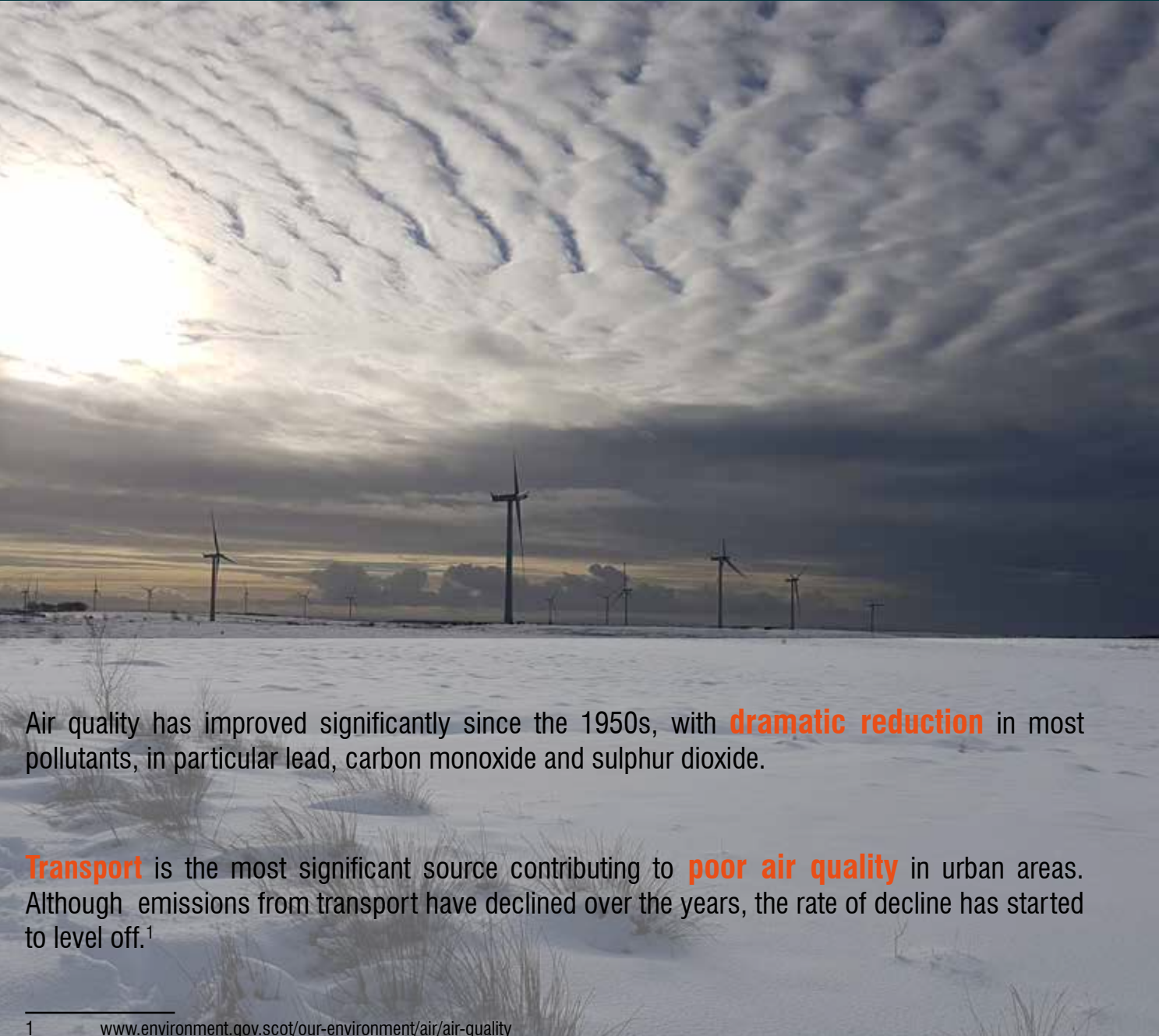
Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source	
Landscape					
9	Protect, enhance and create green spaces important for recreation and biodiversity.	Is the LDP2 likely to significantly help protect, enhance or create, or is it likely to significantly destroy greenspaces important for recreation and biodiversity or diminish their enjoyment?		Local Development Plan - D3 Greenbelt and countryside around towns - D4 Green Network -D5 protection of urban greenspace Green space Matt/Paul Green Network and Environmental Management SPG Rural Development Guidance SPG	
10	Protect, enhance and where necessary restore the natural landscape.	Is the LDP2 likely to significantly help protect, enhance or restore, or is it likely to significantly damage or diminish landscape character, local distinctiveness or scenic value or the enjoyment and understanding of the landscape?		The need to protect urban greenspace, under pressure from development, in particularly from residential development. The need to protect areas and sites of natural landscape and conservation value under pressure from development in particular from residential development.	Local Development Plan -D3 Greenbelt and countryside around towns -D4 Green network -D5 Protection of urban greenspace Green space Matt/Paul Green Network and Environmental Management SPG Rural Development Guidance SPG
11	Promote adequate protection of infrastructure, property, material resources and land.	Is the LDP2 likely to significantly affect property or land?		Conservation and article 4 areas Landscape Character Assessment	
12	Promote sustainable use of material resources.	Is the LDP2 likely to result in the use of material resources that cannot be replaced or sustainably sourced?		Housing Land Audit Vacant and derelict land survey	
13	Promote sustainable use of land including use of brownfield land.	Is the LDP2 likely to encourage the re-use of brownfield land?		Housing land audit Vacant and derelict land survey	

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Population and Human Health				
14	Provide environmental conditions promoting human health and well-being (including increasing opportunities for indoor and outdoor recreation).	Is the LDP2 likely to encourage an increase in outdoor access through new development being located near or within open countryside? Is the LDP2 likely to increase area/sport facilities such as kick about areas? Is the LDP likely to cater for increasing demand for affordable housing?		Audit Scotland LDP projects SPG Affordable Housing
15	Minimise any detrimental impact of activity on Human Health.	Is the LDP2 likely to introduce both construction and human activity into areas otherwise quiet and/or rural in nature?		SPG Renewable Energy SPG Rural Development Guidance SPG Householder Design Guide SPG Daylight and Sunlight Deign Guide
Soil and Geology				
16	Maintain and improve soil quality and prevent any further degradation of soils.	Is the LDP2 likely to significantly help protect soils or encourage the sustainable use of soils, or to have adverse effects on soils?	The need to protect geological features of merit. The need to improve water and soil quality. The need to reduce the area of contaminated land and secure the appropriate end use of affected sites.	Areas of potentially contaminated land database Radon - BGS
17	Protect, enhance and where necessary restore geological features.	Does the LDP2 take into account the influence of landform, geomorphology and geology or is it likely to significantly exacerbate risks?		SSSIs - SNH
18	Protect and prevent impact on carbon rich soils (e.g. peat)	Is the LDP2 likely to protect areas of carbon rich soils?		Carbon rich soils - SEPA

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Transport				
19	Reduce the need to travel.	Is the LDP2 likely to significantly help reduce the need to travel or reduce the journey length or is it likely to significantly increase travel?	The need to reduce travel by private car and encourage travel by more sustainable modes including walking, cycling and public transport.	Census SPT
20	Promote sustainable transport modes.	Is the LDP2 likely to significantly help to encourage walking, cycling, or the use of public transport or is it likely to deter them?		Census SPT - John cycle corridors etc
Waste				
21	Reduce waste and promote the sustainable use of waste including recycling and composting.	Is the LDP2 likely to significantly help reduce waste or is it likely to increase waste arising?	There is a need to reduce high levels of waste production and for the demand for landfill.	Waste team ERC
22	Prevent or reduce the volume of waste peat or forestry waste.	Is the LDP2 likely to significantly help to reduce the volume of waste peat or forestry waste?	Consideration also needs to be given to waste arising from carbon stores such as peat and forestry.	Carbon rich soils - SEPA National Forestry Inventory Ancient Woodland Inventory
Water				
23	Protect and enhance the state of the water environment.	Is the LDP2 likely to significantly help to protect or enhance the water environment, for example reducing the risk of water being polluted?	The need to improve water quality and reduce pollution. The need to reduce development on the flood plain. The need to reduce the number of flooding events and the number of properties affected by flooding.	SEPA Scottish Water
24	Ensure sustainable use of water resources.	Is the LDP2 likely to significantly help conserve or protect water resources?		SEPA Scottish Water
25	Safeguard the functional floodplain and manage and reduce flood risk.	Is the LDP2 likely to increase the likelihood of flooding or the requirement for flood defence works, or is it likely to have significant adverse effects on the water environment?		SEPA ERC Scottish Water

AIR QUALITY / CLIMATIC FACTORS

3



Air quality has improved significantly since the 1950s, with **dramatic reduction** in most pollutants, in particular lead, carbon monoxide and sulphur dioxide.

Transport is the most significant source contributing to **poor air quality** in urban areas. Although emissions from transport have declined over the years, the rate of decline has started to level off.¹

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Air Quality / Climatic Factors				
1	Maintain and improve air quality and reduce emissions of key pollutants	Is the LDP2 likely to significantly help protect the environment from pollution, including by avoiding potential pollution development in sensitive locations, or is it likely to increase the risk of pollution?	Air quality in East Renfrewshire is generally of good quality. There has been no need to designate any air quality monitoring areas within the boundary of the authority. The volume of CO2 from road transport has seen a reduction from 2011 - 2013 (note time lag in results being published). East Renfrewshire has a large number of existing wind turbines. The number of applications for wind energy is decreasing as suitable available land decreases.	ERC Air Quality Updating and Screening Assessment 2015 ERC 2017 Air Quality Annual Progress Report
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3	Reduce energy use and ensure sustainable use of energy	Is the LDP2 likely to significantly help facilitate renewable energy in appropriate locations or deter its development.		ERC Development Management Register SPG Renewable Energy



The level of air pollution in East Renfrewshire is low.



Measures are being put in place to reduce greenhouse gas emissions and East Renfrewshire hosts a number of windfarms. Studies into district heating have been made which could make further carbon dioxide savings. Further work to encourage residents to travel by sustainable means is also underway which will also benefit the environment.



East Renfrewshire has produced supplementary planning guidance to support and guide renewable technologies. The Council has also installed new boilers in the Eastwood HQ and replaced storage heaters with air source heat pumps at Thornliebank and Busby primary schools as well as replacing the lighting with a low energy alternative. This will reduce the amount of energy consumed in these buildings.

Air Quality Monitoring

Local authorities must review and assess a range of pollutants that are set out within the Air Quality Strategy, declare as Air Quality Management Areas (AQMAs) any areas where standards are not being met, and put in place an action plan to reduce pollution levels. At present, 14 local authorities in Scotland have declared a cumulative total of 38 AQMAs. This is an increase in previous years designated AQMAs where 12 local authorities had designated 32 AQMAs.

Most AQMAs have been declared due to emissions from traffic¹.

Air quality in East Renfrewshire is generally good. There are no major industrial or commercial sources of air pollutants within the area and road traffic is therefore the main source of local air pollution. Whilst there have been no AQMAs declared in East Renfrewshire the council has implemented schemes to improve local air quality and increase public awareness of the steps we can all take to minimise our impact on the environment. The Council has expanded vehicle idling enforcement schemes around local schools, as well as carrying out a number of days of roadside emissions testing in conjunction with Police Scotland.²

¹ www.environment.scotland.gov.uk/get-informed/air/air-quality/

² 2017 Updating and Screening Assessment for East Renfrewshire Council

Air Quality objectives included in Regulations for the purpose of LAQM in Scotland

Pollutant	Air Quality Objective		Date to be Achieved
	Concentration	Measured as	
Benzene	16.25 µg/m ³	Running annual mean	31.12.2003
	3.25 µg/m ³	Running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m ³	Running 8-hour mean	31.12.2003
Lead	0.5 µg/m ³	Annual mean	31.12.2004
	0.25 µg/m ³	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m ³	Annual mean	31.12.2005
Particles (PM10) (gravimetric)	50 µg/m ³ , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 µg/m ³ (Scotland)	Annual mean	31.12.2010
Particles (PM2.5)	25 µg/m ³	Annual mean	2020
	12 µg/m ³ (Scotland limit)	Annual Mean	2010
Sulphur dioxide	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

Nitrogen Dioxide (NO₂)

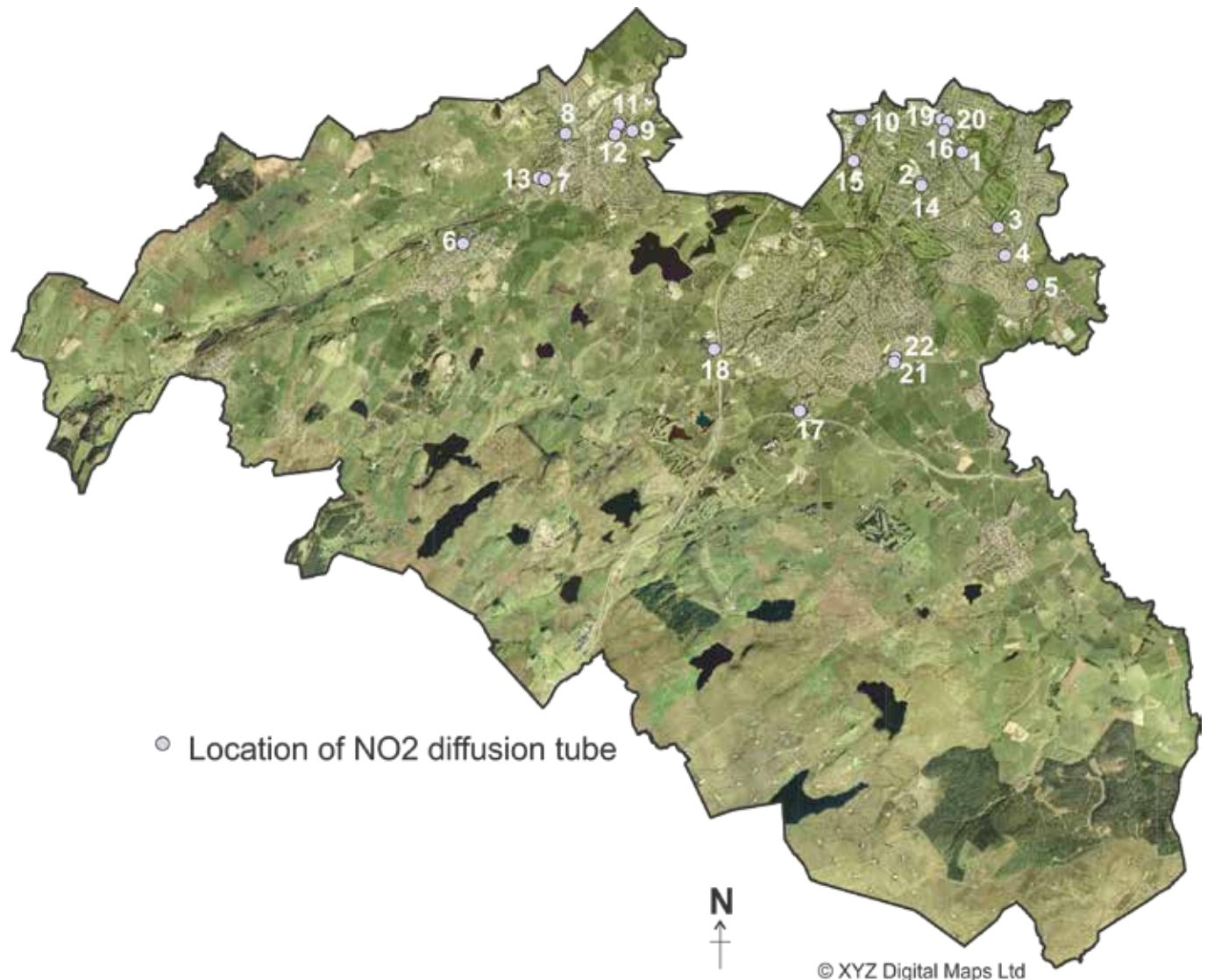
ERC Monitoring Locations for Nitrogen Dioxide

“Nitrogen Dioxide is a brown gas, with the chemical formula NO₂. It is released into the atmosphere when fuels are burned (for example, petrol or diesel in a car engine, or natural gas in a domestic central heating boiler or power station). NO₂ can affect our health. There is evidence that high levels of it can inflame the airways in our lungs and, over a long period of time, affect how well our lungs work. People with asthma are particularly affected. NO₂ can also affect vegetation.”¹ East Renfrewshire undertook non-automatic (passive) monitoring of NO₂ at 22 sites during

Local Monitoring

East Renfrewshire Council undertook non-automatic (passive) monitoring of NO₂ at 22 sites during 2016 using diffusion tubes. All 22 sites were within the annual mean objective of 40 µg/m³.

Although there was a slight upturn in nitrogen dioxide levels in 2016 compared to the previous calendar year, there has been a downward trend over the last five years.



1 Nitrogen Dioxide in the United Kingdom, Defra

Annual Mean Concentration of NO2 per site ($\mu\text{g}/\text{m}^3$)

Site	Location	Area	Site Type	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
1	Huntly Drive	Giffnock	Roadside	14	13.4	9.9	13.3	14.8	18.3	13.2	18.5	14.2	12.8	11.8
2	Eastwoodmains Road	Giffock	Kerbside	26.4	21	25.1	30.2	24	31.4	28.5	36.5	25.8	41	37.3
3	Clarkston Toll	Clarkston	Roadside	23	32.7	32.1	36.7	34.6	31.1	26.6	36.6	25.7	34.4	33
4	Sheddens Roundabout	Clarkston	Kerbside	24.6	23.5	20.6	25	28.6	30.6	24.7	34.7	23.2	28.9	24.6
5	Riverside Terrace	Busby	Kerbside	17.3	16.2	14.8	25.9	37	19.1	17.9	34.8	19	19.8	18
6	Main Street	Neilson	Kerbside	12	17.8	12.9	21.6	17.1	18.2	15.2	21.1	13.7	17.7	16
7	Kelburn Street, Neilson Road	Barrhead	Kerbside	18.8	25.5	16.8	29.3	30.9	37.5	41.4	45.1	38.1	47.7	42.1
8	Cross Arthurlie Street	Barrhead	Kerbside	16.2	21.7	21.5	33.5	24.2	32.4	25.9	31.6	23.2	38.6	30.5
9	Darnley Road	Barrhead	Kerbside	19	20	13.5	21	18.5	18.2	16.8	25.4	16.1	18.2	18.3
10	Main Street	Thornliebank	Kerbside	28	21.7	19.4	29.2	29.6	27.4	26.6	32	23.7	24.2	23.8
11	Main Street (North)	Barrhead	Roadside	17	25.6	15.1	16.3	21.5	23.8	17.4	24.1	17.9	19.9	18.8
12	Main Street (South)	Barrhead	Roadside		18.6	17.9			33	24.7	29.4	22.4	27.5	
13	Lochlibo Road @ W.Arthurlie		Kerbside	30.8	24.1	27.9	33.5	37	36.4	31.2	38.9	28		
14	Eastwoodmains Road, Mains Avenue	Giffnock	Kerbside	25.2	28.2	18.9	26.6	32.1	28.5	21.6	27.4	20		
15	Rouken Glen Road	Giffnock	Kerbside	25.3	28.9	26.4	36.4	30.9	28.9	30.5	40.1	36.4		
16	195 Fenwick Road	Giffnock	Kerbside	19.8	15.1	27								
17	Mearns Kirk Nursing Home	Newton Mearns	Roadside	14.5	27.3	13	16.5	18	13.2	19.3	13.3			
18	Brodick Place	Newton Mearns	Roadside	37	20.2	17.3	20.2	22	23.7	20	25.6	15.8		
19	Burnfield Road	Thornliebank	Roadside	23	20	28.4	20.4	25.6	26.3	20.2				
20	Braidholm Road	Giffnock	Roadside	23	24.9	15.2	25.4	22.1	24.5	18.2				
21	Mearns Castle High School Sports		Kerbside	13.4	13.1	8.9								
22	Mearns Castle High School Entrance		Kerbside	11.6	12.9	8.2								

PM10 Particles

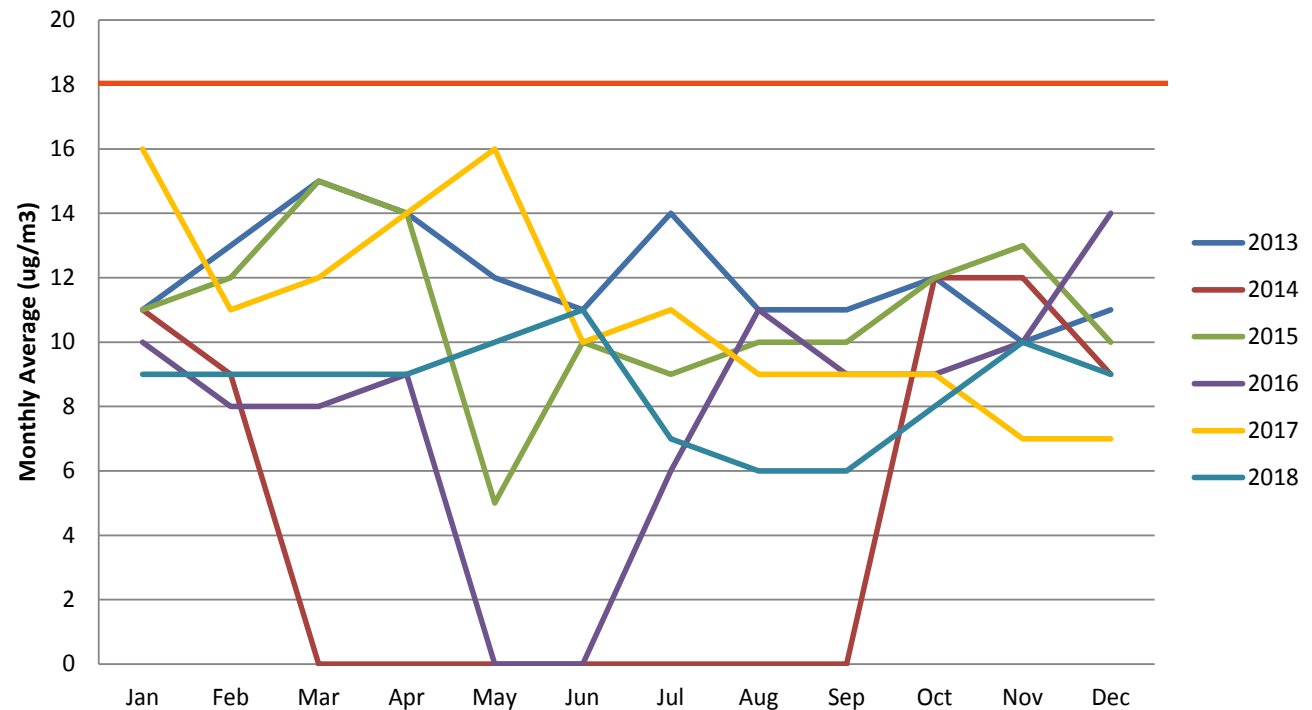
East Renfrewshire does not currently monitor PM10. Monitoring was undertaken at Sheddens Roundabout until mid-2014, when the monitor failed. Monitoring up until that time had indicated that there was no likelihood to meet the hourly or annual mean objective for PM10.

The closest air quality monitoring station is located at Waulkmill Glen sited within Glasgow City Council boundary. Monitoring results of PM10 from this location has resulted in the site being ranked as 2 on the Scottish Air Quality index, which is considered to be low levels¹.

Monthly Average PM10 Concentrations (µg/m³)

	2013	2014	2015	2016	2017	2018
Jan	11	11	11	10	16	9
Feb	13	9	12	8	11	9
Mar	15	-	15	8	12	9
Apr	14	-	14	9	14	9
May	12	-	5	-	16	10
Jun	11	-	10	-	10	11
Jul	14	-	9	6	11	7
Aug	11	-	10	9	9	6
Sep	11	-	10	9	9	6
Oct	12	12	12	9	9	8
Nov	10	12	13	10	7	10
Dec	11	9	10	14	7	9

PM10 Concentration at Waulkmill Glen Monitoring point



1 www.scottishairquality.co.uk

Smoke Control Areas

Smoke Control Areas

The former Enforce District Council areas of Barrhead, Neilston and Uplawmoor are designated as a Smoke Control Area. Smoke Control Areas were introduced by legislation in the 1950s and 1960s as a result of the heavy smog which affected many parts of the country.

Within a Smoke Control Area it is an offence to cause the emission of smoke or burn any “unauthorised” fuel. This applies to residential properties, as well as commercial/industrial operations. Any fuel being used in a Smoke Control Area must be specifically authorised for use, unless it is being used in an “exempt” appliance i.e. one which has been proved to capable of burning fuels and exempt appliances are specified with Statutory Instruments made by the Government. This includes wood-burning stoves and similar appliances.



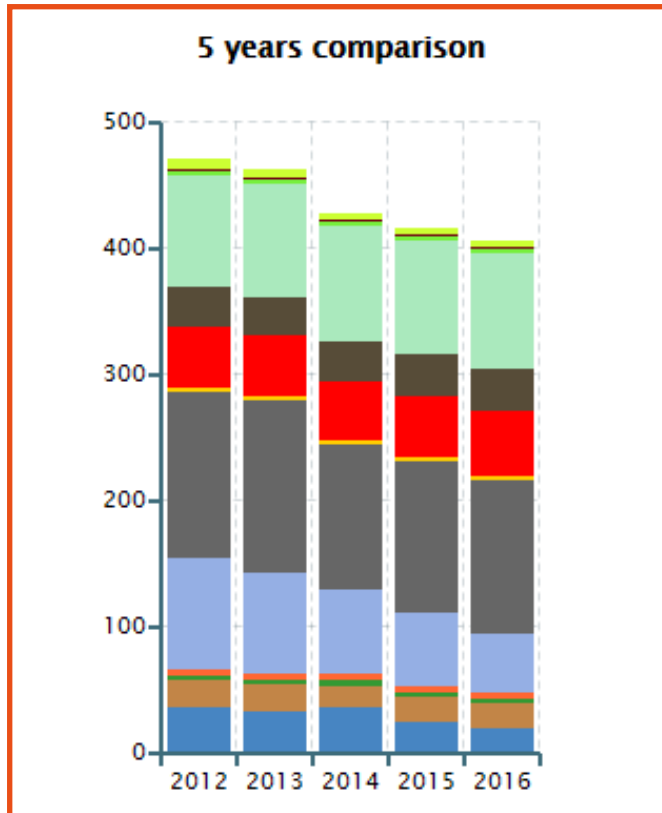
Carbon Dioxide (CO₂)

The National Atmospheric Emissions Inventory have produced an interactive map showing CO₂ totals by local authority area¹. East Renfrewshire is consistently in the lower group of carbon dioxide producers. The total CO₂ for all sectors is given as 424 Co₂ (kt) in 2016. A breakdown of the sector totals is given in the table below. No update for this is available on the website.

Land use, land-use change and forestry (LULUCF) is defined by the United Nations Climate Change Secretariat as “A greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land use change and forestry activities”. The LULUCF value given for East Renfrewshire in 2016 was 5 CO₂ (kt). This value has decreased from 2009 -2016.

Sustainability Labelling

On the 1st May 2011 Sustainability labelling was introduced to the Scottish Building Standards through the Building Standards (Scotland) Act. Applicable to all new buildings the principles build upon the degree of sustainability already embedded within the regulations. The Scottish Government have now set standards so that all new buildings must be a minimum of a Silver standard and make efforts to achieve Gold and Platinum status. This applies to both domestic and non-domestic buildings.



Sector Totals of CO₂ (Kt)

Sector Name	2016	2015	2014	2013	2012	2011	2010
Industry & Commercial Electricity	19	27	36	34	37	55	58
Industry & Commercial Gas	20	19	18	22	21	20	24
Large Industrial Installations	0	0	0	0	0	0	0
Industrial & Commercial Other Fuels	4	3	2	2	3	2	3
Agricultural Combustion	5	5	5	5	5	5	5
Domestic Electricity	46	57	67	80	88	84	88
Domestic Gas	123	119	114	138	134	122	146
Domestic Other Fuels	3	3	3	3	3	3	4
Road Transport (A roads)	50	49	47	45	46	50	51
Road Transport (Motorways)	34	33	31	32	31	32	32
Road Transport (Minor Roads)	92	90	92	82	82	85	87
Diesel Railways	4	4	4	4	4	4	5
Transport Other	1	1	1	1	0	0	1
LULUCF Net Emissions	5	14	15	21	22	23	24
Total for all sectors	407	424	435	469	476	485	528

1 <http://naei.beis.gov.uk/data/local-authority-co2-map>

Renewable Energy

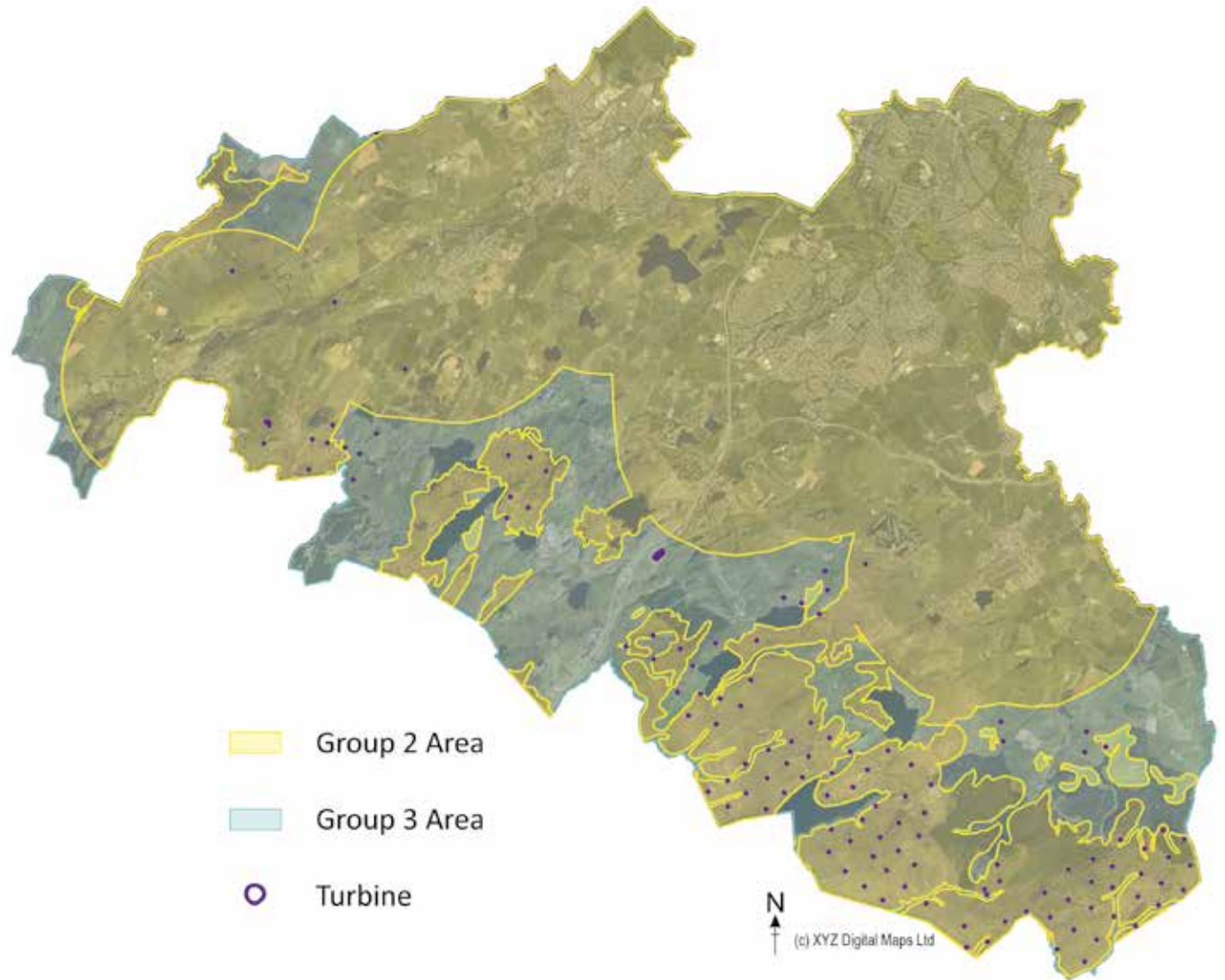
Spatial Framework for Wind Energy and known Turbine Locations

East Renfrewshire has prepared and adopted supplementary planning guidance (SPG) for renewable energy. The SPG primarily focuses on onshore wind energy and supplements policy E1 of the Local Development Plan, providing a spatial framework for onshore wind development.

The Spatial Framework given in the Renewable Energy Supplementary Planning Guidance is shown alongside known Wind Turbine Locations.

According to the RenewableUK Wind Energy Database¹, East Renfrewshire has 195 turbines (above 100kw in size) with a combined capacity of 466.23 MW.

East Renfrewshire continues to support renewable energy application where they are considered to be in a suitable location in line with the new spatial strategy.

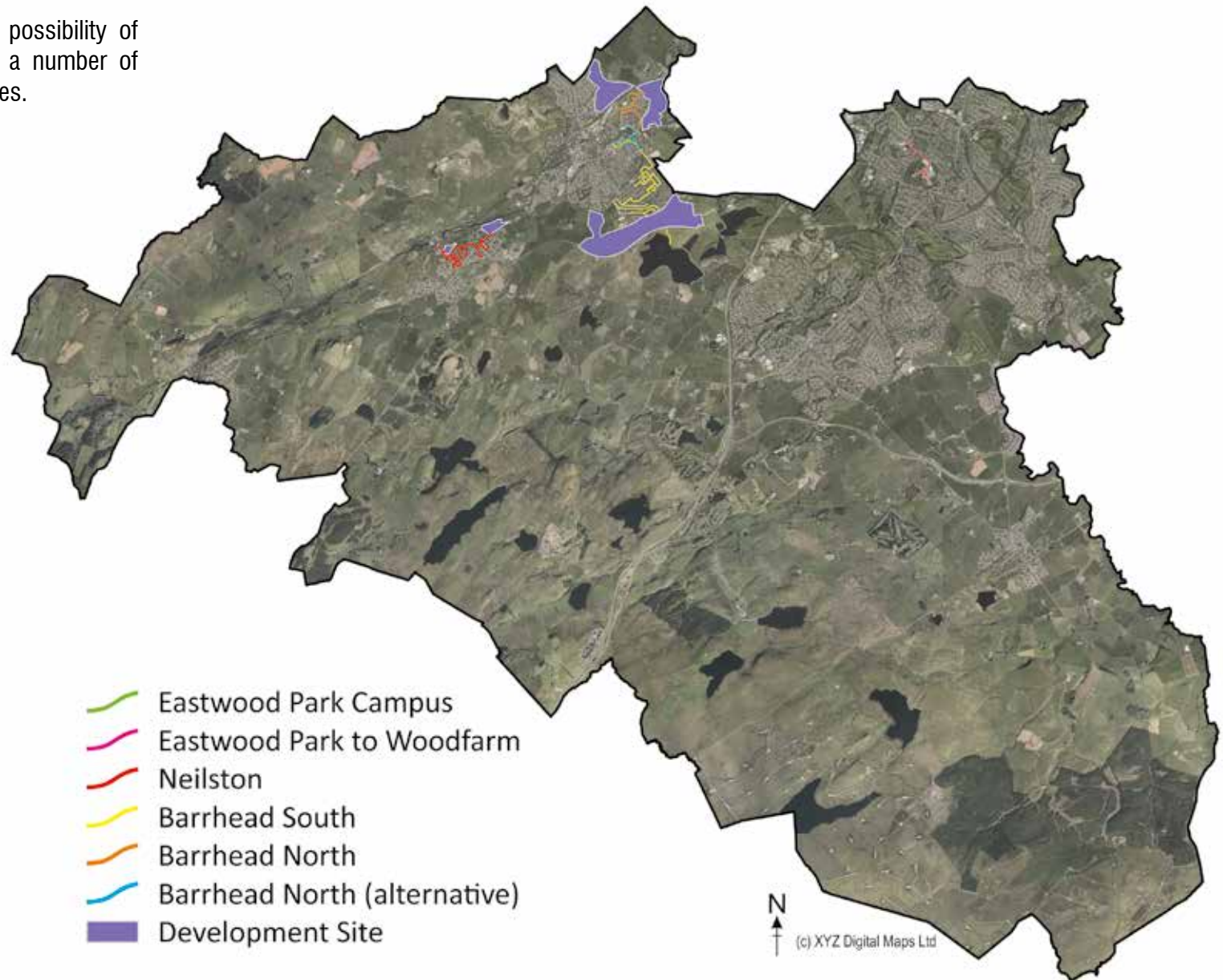


¹ www.renewableuk.com

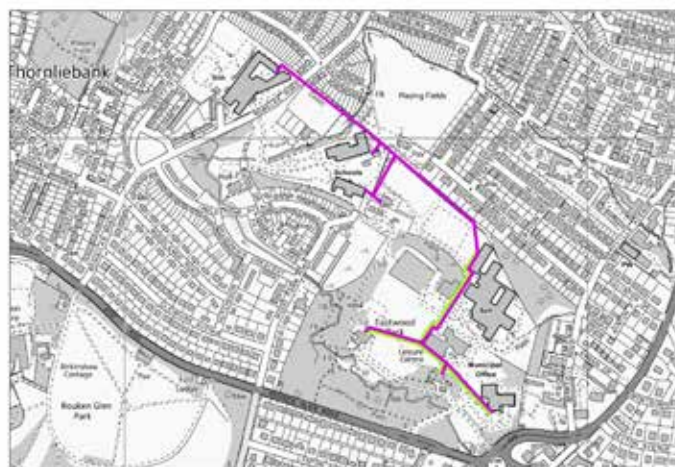
District Heating

Opportunity Assessment Areas for District Heating

East Renfrewshire has considered the possibility of installing a District Heating System in a number of locations as shown in the following figures.



Eastwood/Woodfarm District Heating Opportunity



Ordnance Survey Licence number 100023382 2018. East Renfrewshire Council

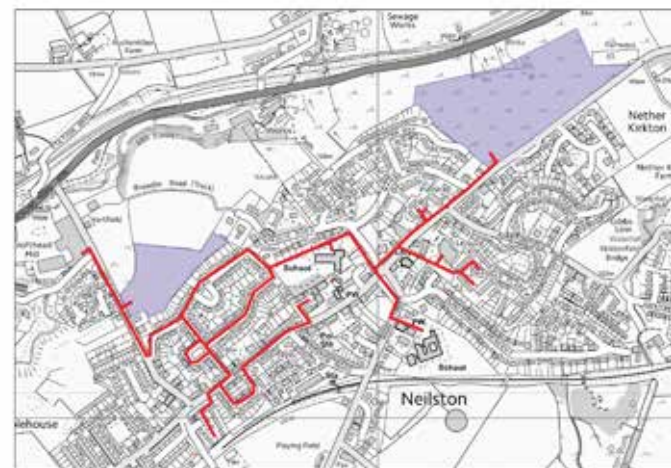
This opportunity area is based around the municipal buildings on the Eastwood Park campus. The high heat loads of St Ninians secondary school and Eastwood leisure centre provide a significant anchor for the smaller office and recreational loads. The campus includes a large area of open ground which may provide a possible location for an energy centre should the pre-existing boiler rooms of the proposed connections not be suitable. For the most part, the pipework could allow a “soft dig” route through turfed areas, however it would be necessary to cross the road providing access to the campus. Heat demand data for St Ninian’s High School was not available and is therefore modelled based on benchmarked data for Williamwood High School, a building of which it shares many characteristics.

- New Gas Engine CHP 0.5 MW - Annual CO₂ Savings: 700 tCO₂
- Generic 0.5 MW biomass boiler - Annual CO₂ Savings: 900 tCO₂
- 1MWh gas boiler - Annual CO₂ Savings: 200 tCO₂

Extending the opportunity to include Woodfarm Secondary School and community centre as well as Our Lady of the Missions Primary and Glenwood Nursery (Pink Route).

- New Gas Engine CHP 0.75 MW - Annual CO₂ Savings: 900 tCO₂
- Generic 0.75 MW biomass boiler - Annual CO₂ Savings: 1400 tCO₂
- 1.6MWh gas boiler - Annual CO₂ Savings: 300 tCO₂

Neilston District Heating Opportunity



Ordnance Survey Licence number 100023382 2018. East Renfrewshire Council

This opportunity area focuses on the area of high density social housing in west Neilston. The network extends to Neilston Primary School, St Thomas Primary and Neilston Leisure Centre. A number of new housing development sites identified in the Local Development Plan lend themselves as possible connections. These sites would provide a total of 293 additional domestic connections. The “Clyde Leather Works” tannery presents an opportunity for heat recovery, further investigation of the industrial process here would be required. The area of Crofthead Industrial Estate may represent an opportunity for further industrial connections however the existing buildings on the site should be assessed for suitability.

- New Gas Engine CHP 1.35 MW - Annual CO₂ Savings: 1500 tCO₂
- Generic 2.25 MW biomass boiler - Annual CO₂ Savings: 2000 tCO₂

Barrhead North District Heating Opportunity



This opportunity area focuses on Barrhead North and the master planned areas around Glasgow Road and former Shanks industrial site. The opportunity includes residential connections in the areas of Dunterlie, East Arthurlie and Dovecothall which show a high percentage of socially tenured properties. Possible public sector buildings include Barrhead Sports Centre, Health and Social Centre, St John's Primary and Carlibar Primary

- New Gas Engine CHP 2 MW - Annual CO2 Savings: 2100 tCO2
- Generic 3 MW biomass boiler - Annual CO2 Savings: 2600 tCO2
- New Gas Engine CHP 0.85 MW - Annual CO2 Savings: 700 tCO2 (blue route)
- Generic 1.5 MW biomass boiler - Annual CO2 Savings: 1400 tCO2 (blue route)

Barrhead South District Heating Opportunity



This opportunity area focuses on Barrhead South and the area of high density social housing around Auchenback. The master planned areas M2.2 presents the opportunity to connect approximately 1050 homes, 450 of which are to be phased by 2025. Further connections in the master planned area might include community leisure facilities as commercial/employment units, however only residential units have been included in the study area. Public sector connections in the area include St Luke's High School, St Mark's Primary School and Auchenback Primary School. The scheme extends to the south to benefit from possible heat recovery from Balgray reservoir and connection to the new planned Dams to Darnley visitor centre.

- New Gas Engine CHP 4 MW - Annual CO2 Savings: 4200 tCO2
- Generic 6 MW biomass boiler - Annual CO2 Savings: 5100 tCO2
- New WSHP 3 MW - Annual CO2 Savings: 2900 tCO2




BIODIVERSITY, FLORA & FAUNA

4



Biodiversity boosts ecosystem productivity where each species has an important role to play. For example, green plants remove carbon dioxide and release oxygen into the atmosphere resulting in a direct link to **combating climate change**. The individual components that contribute to the diversity of an ecosystem can be subject to a number of pressures and threats, globally and locally. Such threats include pollution, fragmentation, land use and changes in climate.

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Biodiversity, Flora and Fauna				
4	Protect, enhance and where necessary restore (specified) species and habitats	Is the LDP2 likely to significantly help to protect species especially protected by law or species identified in national or local BAPs, or to protect, enhance or restore designated nature conservation sites and/or habitats which are identified in national or local BAPs, or is it likely to have a significant effect on them?	The need to protect and conserve designated nature conservation sites. The need to give further consideration to the protection, enhancement and management of woodland/forestry and the green network in the interests of promoting and enhanced landscape and improving biodiversity.	SSSI LNR LBS TPO Ancient Woodland ERC Projects
5	Ensure sustainable use of agricultural and forestry resources	Is the LDP2 likely to affect prime agricultural land or impact on deciduous woodlands?	The need to promote and increase biodiversity. The need to continue to promote the regeneration of the urban area and reduce the loss of land in the greenbelt.	Ancient Woodland Woodland Inventory
6	Ensure groundwater dependent terrestrial ecosystems (GWDTE) are not adversely affected	Is the LDP2 likely to impact upon GWDTE?		Scottish Wetland Inventory

- 4  There is evidence of work to improve SSSIs and habitat restoration within the authority. Further work could be done to progress the Habitat Action Plans and monitor the effectiveness of LBS designation.
- 5  There is not enough data to draw a conclusion as the the sustainable use of forestry and agricultural resources.
- 6  This is a relatively new dataset and objective. There is not enough historical data or monitoring to draw a conclusion as the whether the objective is being met.

East Renfrewshire's Designated Sites

With its ample green areas East Renfrewshire is rich in biodiversity. Within the authority area there are:

- 7 designations covering 6 sites of Special Scientific Interest
- 1 Local Nature Reserve
- 108 Local Biodiversity Sites
- 68 Tree Preservation Order Areas



Local Biodiversity Action Plan Partnership

East Renfrewshire is one of three Councils forming a Local Biodiversity Action Plan partnership. The partnership has produced a Local Biodiversity Action Plan which identified priorities to deliver projects designed to maintain the diversity of wildlife across the three Councils. Twenty Three separate Action Plans were drawn up and are listed below. Unfortunately, budget cuts have resulted in the loss of the Biodiversity Officer who was leading the project. This has had a direct impact on the progress of the Action Plans. However the partnership still remains in place and biodiversity enhancement work continues.

Habitat Action Plans (HAPs):

- Dwarf Shrub Heath
- Mires
- Unimproved Grasslands
- Rivers and Streams
- Standing Waters
- Broad-leaved and Mixed Woodland
- Urban Area
- Scrub

Species Action Plan (SAPs)

- Butterfly Orchids (Greater and Lesser)
- Common Juniper
- Spignel
- Atlantic salmon
- Waxcap mushroom
- Hen Harrier
- Brown Hare
- Lesser Whitethroat
- Otter
- Common Pipistrelle/Soprano Pipistrelle Bat
- Aspen
- Green Hairstreak Butterfly
- House Sparrow
- Mountain Hare
- Water Vole

Sites of Special Scientific Interest (SSSI)

A SSSI is an area of land and/or water that Scottish Natural Heritage (SNH) considers to be special for its plants, animals, habitats, its rocks or landforms, or a combination of such natural features.

The purpose of a SSSI designation is to safeguard and represent the diversity and geographic range of the natural features of Scotland, Great Britain and the EU member states.

Sites are designated under the Nature Conservation (Scotland) Act 2004 and are therefore protected by law.

There are 1,423 SSSIs in Scotland covering just over 1,011,000 hectares.¹ There are 7 designations covering 6 sites in East Renfrewshire.

The number and area of SSSIs has not declined over the years indicating that the protection afforded to these areas is being upheld through the planning process. However, while 5 of the designations are considered to be in a favourable condition, 2 of the designations are in an unfavourable condition:

- Cart and Kittoch Valleys

This was identified as being in unfavourable declining condition during an assessment in 2003. The assessment identified invasive non-native species impeding regeneration of native species. To address the issue a woodland management plan was drafted and local Forestry Commission Woodland Officers were to take it forward to enable the site to gain favourable status in the future. The site was assessed again in 2014 where it was noted that there was not change and the site was still in an unfavourable condition.

It should be noted that the majority of the Cart and Kittoch Valley SSSI lies within Glasgow City Council boundary. However, a portion of the SSSI within East Renfrewshire is owned by the Council.

- Loch Libo

Assessed in 2010 the fresh water habitat was identified to have invasive non-native Canadian pondweed. The site is owned but the Scottish Wildlife Trust.

Sites of Scientific Interest in East Renfrewshire

SSSI	Feature Category	Feature	Site Condition	Assessment Date
Boylestone Quarry	Mineralogy	Mineralogy of Scotland	Favourable Maintained	12/03/2008
Brother and Little Lochs	Standing open water and canals	Oligotrophic Loch	Favourable Maintained	07/06/2010
	Byiogytes	Varnished hook-moss (<i>Hamatocaulis vernicosus</i>)		15/01/2013
Cart and Kittoch Valleys	Broad-leaved, mixed and yew woodland	upland mixed ash woodland	Unfavourable No Change	03/03/2014
Loch Libo	Standing open water and canals	Eutrophic Loch	Unfavourable Declining	05/06/2010
Rouken Glen	Stratigraphy	Lower Carboniferous [Dinantain-Namurian (part)]	Favourable Maintained	08/02/2008
Waulkmill Glen	Stratigraphy	Lower Carboniferous [Dinantain - Namurian (part)]	Favourable Maintained	26/04/2000

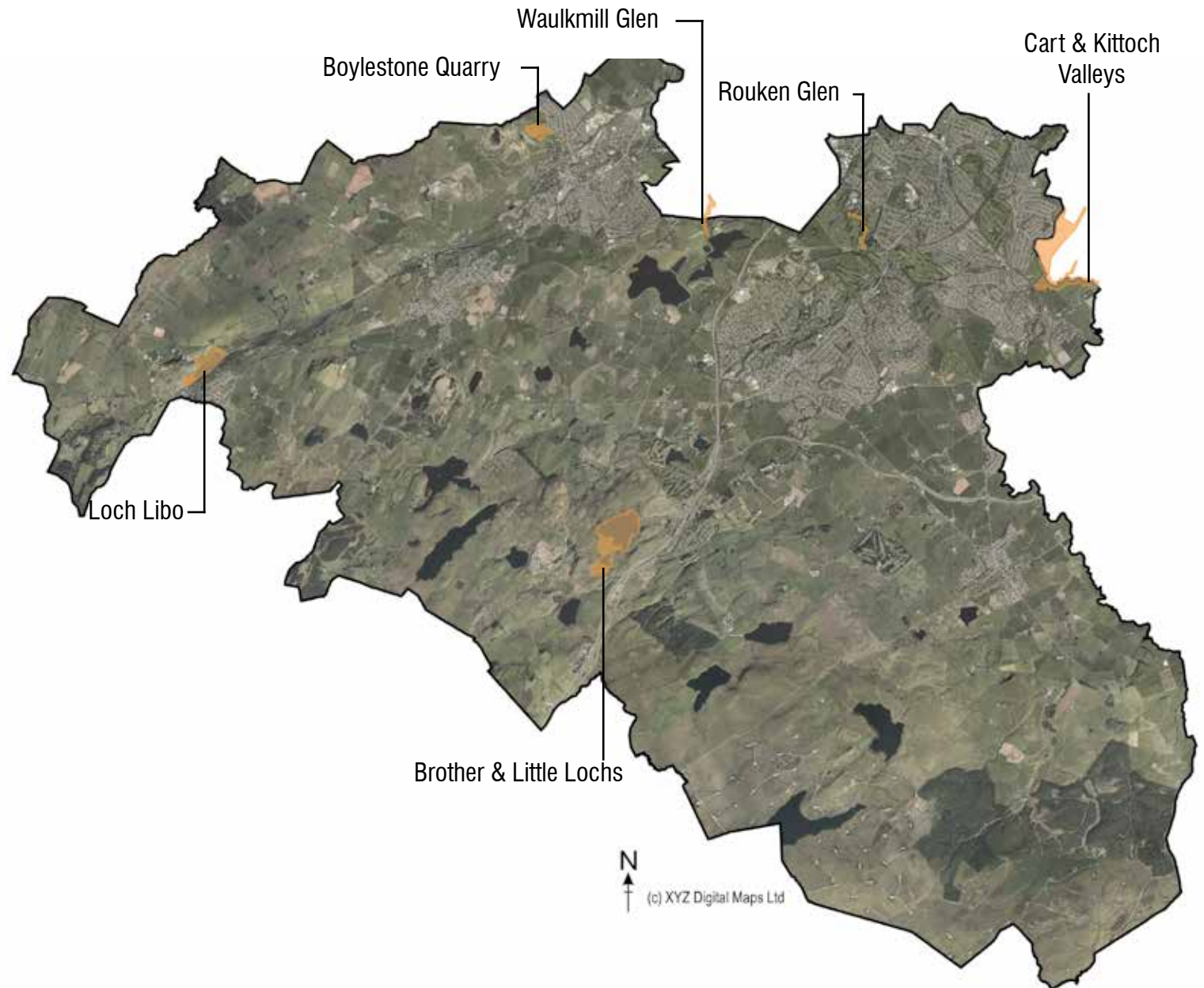
¹ July 2018 www.snh.gov.uk

Site Improvements

Work was undertaken in 2014 to clear vegetation from the rock faces at Rouken Glen SSSI. The exposures show the fossil-rich Orchard Beds.

This work, which was funded by the National Lottery Heritage Fund was carried out in collaboration with the Scottish Natural Heritage and Geologists from the University of Glasgow. The work will help the preservation of the important stratigraphy. A management plan is in place and details a range of future work.

Sites of Special Scientific Interest (SSSIs)



Local Biodiversity Sites (LBS)

The last review of Local Biodiversity Sites in the area was undertaken in 2012 and was contracted to Biodiversity Solutions. The results of the review identified:

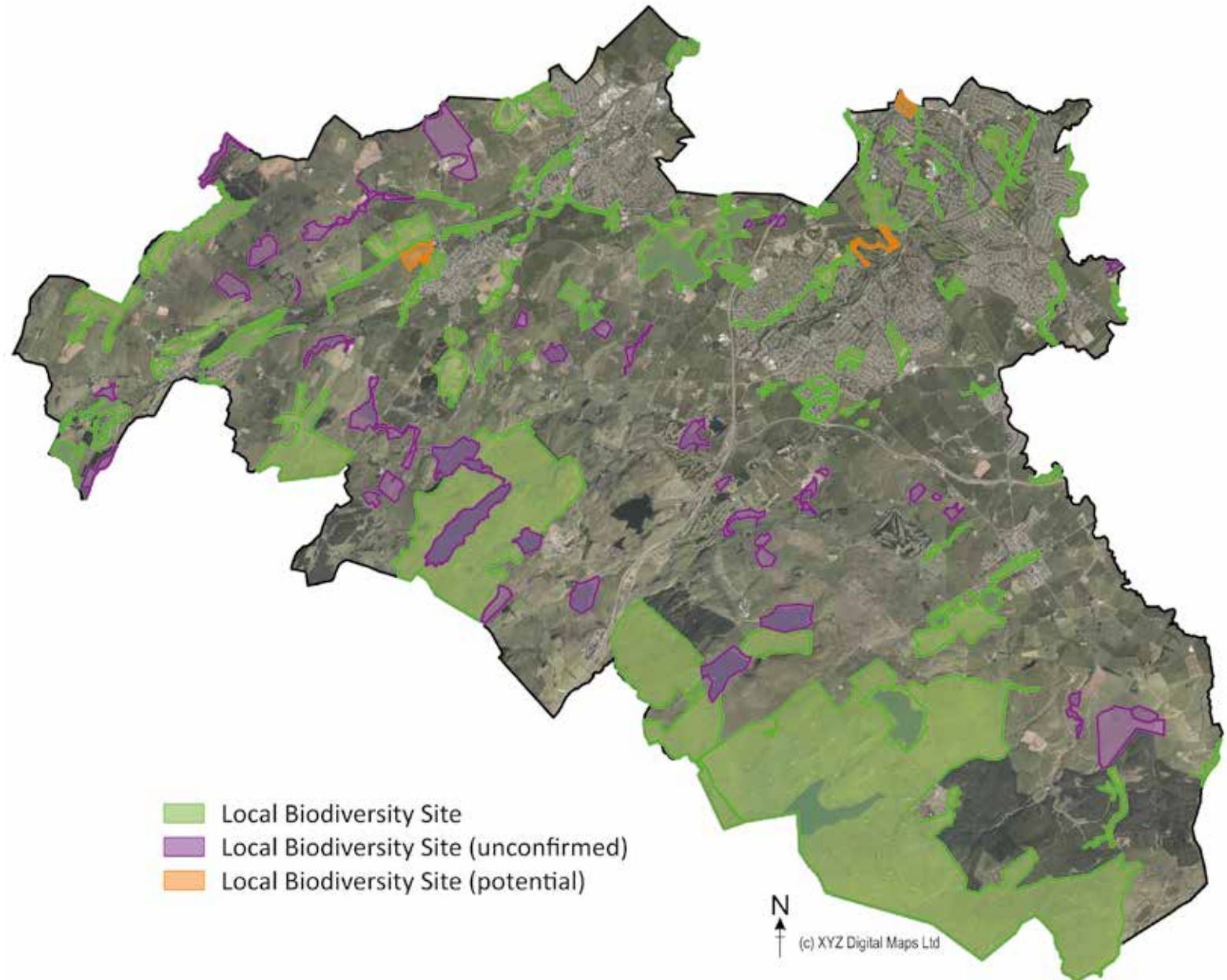
- 72 designated Local Biodiversity Sites (1179 Ha)
- 36 unconfirmed Local Biodiversity Sites (552 Ha)
- 3 potential Local Biodiversity Sites (23 Ha)

Unconfirmed Local Biodiversity Sites are sites which were previously designated as Sites of Interest to Nature Conservation (SINC) but were not resurveyed in 2012.

Local Biodiversity Sites are not afforded the same legal protection as SSSIs and Table 8 lists the LBS that have been identified as being affected by, or potentially affected by development.

The Local Biodiversity sites form part of the wider green network and enhancement is undertaken where possible and as opportunities arise.

Local Biodiversity Sites (LBS)



Local Biodiversity Sites at risk from development

LBS Ref	LBS Name
4	Aurs Glen
5	Balgray Reservoir
9	Blackhouse to Doneran Marshes
21	Capelrig Road
27	Commure Dam
29	Cowdon Burn Corridor
32	Crookfur Playing Fields
39	Eastwood Park
40	Fairways Brae
41	Faside House
44	Floak Bridge
50	Glanderston Wood
61	Humbie Road Grassland
63	Kittoch Hill
68	Spiersbridge Disused Railway
71	Levern Water - Neilston

Annual survey work should be undertaken to assess the boundaries of the Local Biodiversity Sites and make adjustments where development has resulted in the loss of LBS area.

The survey recommended that site surveys be undertaken at the 3 sites identified as potential local biodiversity sites as well as the 36 unconfirmed sites.

Where recommendations were given for the confirmed Local Biodiversity Sites these are noted in the Table.

Recommended Enhancement for Local Biodiversity Sites

LBS	LBS Name	Recommendations
4	Aurs Glen	A very varied site worth more detailed survey throughout the year and wildlife management planting.
5	Balgray Reservoir	The WeBS data on the birds seen on this reservoir should be incorporated into the Site Assessment.
11	Boyleston Quarry & Harelaw Brae	A varied and extensive area linking to SINC's in Glasgow and should be surveyed throughout the year and consideration given to conservation management across the Council border
13	Brock Burn Wood	The site is part of the country Park and is managed in line with the Park's Management Plan.
14	Broomburn Drive	An urban site which could be enhanced for wildlife through modifying park management.
18	Caldwell House Woods	Needs a Phase1/2 survey. The site could benefit considerably from woodland management specifically for wildlife
19	Caldwell Law	The grasslands need more detailed survey early in the year. There may be some prospect of improving the wildlife interest of the area
21	Capelrig Road	An urban site, this is a large area and a number of initiatives, such as tree planting, have been taken to modify the site. Could be further modified to increase the value of the site for wildlife.
29	Cowdon Burn Corridor	An important corridor & would justify further survey early in the year to establish the extent of the locally rare plants & the extent of the vegetation succession. Steep slopes & presence of the railway line and main road limit what can be done.
31	Craig of Neilston & Craig Wood	Bird records for the site should be collected.
33	Dickman's Glen	More plant survey work would be appropriate as the lack of grazing since the surrounding conifers were planted will be changing the species present and the continued presence of the rare plants could be confirmed. There is no obvious management required.
35	Dunwan Dam	Bird records for the site should be collated.
37	Eaglesham Common	Although not a very wildlife rich site the range of habitats present and the number of associated plants present does indicate that the site could be easily enhanced for wildlife and used for educational purposes.

LBS	LBS Name	Recommendations
39	Eastwood Park	The ideal site for wildlife orientated educational use with lots of potential to enhance the habitats through various changes in the management regimes
40	Fairways Brae	The dense, developing scrub may well be changing the character of this site although the slope and soils in the areas supporting the dry heath may be at lesser risk. Management of the whole habitat corridor may identify the exact role for this section
41	Faside House	The site is too small. Too isolated and too species poor to justify either further survey or wildlife management
45	Foreside	The slope at the south-west end of the site is developing into woodland & forms an important part of the range of habitats in the network as a whole & should be managed as such
46	Garret Law to Picketlaw	The site is large and has many subtly different types of grassland and fen with the change of geology, slope and aspect. Further plant survey work through the year, including a detailed look at the bryophytes, would clarify the full range of habitats (and species) present and their distribution.
47	Gateside	This is a rich site for plants and would clearly benefit from the fence, surrounding slope of grassland and woodland, being repaired and grazing levels controlled
48	Giffnock Scrub	Because of its size the site lends itself to being positively managed for wildlife although until the quarry area safety problem is solved it would be impractical to do very much. Meanwhile special permission should be obtained for more botanical survey work to be done in the fenced off area to see what habitats are present.
50	Glanderston Wood	The scale of the wood lends itself to positive wildlife management but the attitude of the owner is not known.
52	Greenbank House	This site is being sensitively managed and monitored with wildlife in mind. Further data exists on other species groups found on the site and this data should be collated and added to the site assessment.
54	Harelaw Reservoir & Burn	The site is changing following the site being drained but the presence, abundance and distribution of the rare plants would be a valuable monitoring task
57	Hartley Hill	The site left to develop might benefit from light grazing to maintain the grassland communities or without grazing would move towards woodland

LBS	LBS Name	Recommendations
58	High Dam	A species rich site. A more detailed survey of the site to map the abundance and distribution of the wetland plants would be a very useful step in monitoring the site. The WeBS bird data needs to be added to the site assessment
61	Humbie Road Grasslands	Betony was not found in the 2012 survey but a detailed search should be undertaken to establish if it is still there.
62	Killoch Glen	The small site has had several locally rare plants recorded from it and a more detailed survey would be important to establish the presence of these species, their abundance and distribution so they can be safeguarded in the future.
64	Kirkton Burn	A mixture of habitats would benefit from some sensible management and possible extension.
65	Kittoch Water Woods	Could be safeguarded by fencing off the woods from cattle extending the line already put up by the flood prevention scheme. Would be very little loss of grazing, some safeguarding of stock from deep mud & both banks of the river benefiting.
68	Lambi Crescent	A strategically important site which has plenty of potential to develop further for wildlife with some Council and local input.
70	Levern Water - Hurllet	A varied area linking to a SINC in Glasgow and consideration should be given to conservation management across borders
71	Levern Water - Neilston	This is a complex site and associated with other sites along the Levern Valley and represents many of the lowland habitats & species of the area justifying an integrated approach to the various countryside initiatives that have already occurred here
72	Loanfoot Marsh & Kirkton Mill	This is a very important marsh but very difficult to walk across for survey; it would benefit from further survey through the year and getting access at dry periods; the rare plants should be monitored
75	Low Borland	Interesting site which includes the silt-traps and the eastern meadow. It depends on grazing levels & avoidance of agricultural improvement. The silt traps and flat ground next to the river at the western end are developing some interesting sedge dominated wetland and should be monitored.
77	Lyoncross	A mixture of habitats next to intensively used agricultural land. As with all grassland the grazing levels are critical and a more detailed survey earlier in the year, looking at the nearby fields as well would give a better idea of the value of the site.

LBS	LBS Name	Recommendations
79	Mearnskirik Woods	Some scope for managing and enhancing this site which has mainly a landscape and amenity role at the moment
81	Monteith Dr Scot's Pine Wood	The role of this site is not clear and it is clearly neglected and, in part, used for dumping garden waste. It would be valuable to establish what conservation role it should play through appropriate management.
83	Muirhead Grasslands	This is probably the most important grassland site in ERC and there is some confusion as to the areas of species-rich grassland as there are no physical boundaries to the site. The ideal arrangement would be to work with the farmer to manage the site sympathetically.
84	Neilston Pad	A site with several rare plants and a detailed survey for their continued presence, distribution and abundance should be done and the management of the site adjusted if required to favour these and other species
85	Newford to Busby Glen Park	An important woodland next to an SSSI and the management should be co-ordinated. A rich site like this would benefit from further survey, including of non-plan groups.
87	Orchard Park Burn	An interesting wildlife corridor which merits more detailed study especially on management and identifying the long-term role for the site.
89	Picketlaw	The various low key plant communities need to management except the prevention of fires. The WeBS data on the birds seen on this reservoir should be incorporated into assessment
91	Pollick Glen	The site could benefit from being managed across the border and possibly extending the woodland to the north
92	Queenseat Hill to Drumduff Hill	The site already has a system of conservation management with various programs of monitoring and habitat regeneration.
93	Rouken Glen Park	Such a large site has huge potential for habitat improvement as well as educational uses.
95	Shawwood Crescent Field	A complex urban site not managed as a park and with lots of potential to improve the wildlife habitats on the site and extend the burn habitat corridor out-with the site.

LBS	LBS Name	Recommendations
97	Snypes Dam	This site and the land to the east is notable for its species-rich grassland maintained by appropriate grazing & lack of improvement. On this site the conditions may have changed with regards to grazing and planting of trees. Survey needed
98	Spiersbridge Disused Railway	An interesting mix of habitats but with the industrial estate encroaching on site. Could be improved as a local footpath
99	Springfield Disused Railway	The process of succession will inevitably mean that this site will develop into woodland unless some degree of mowing could be introduced as part of wildlife conservation measures
102	Thornliebank Playing Fields	A valuable site for local people and would be a suitable place for local involvement in the management for wildlife
104	Threepland	Areas of rush-pasture which have been improved and extending the site along the burn to include species-rich grassland which is maintained by sheep grazing. Prevention of any agricultural improvement to this site is essential
106	Uplawmoor Wood	Large & interesting site which would benefit from positive management (e.g. preventing small areas of open bog from being shaded out by tree colonisation. Further survey on bryophytes & moths.
107	Walden Woods	Important peri-urban wood which would benefit from conservation management, including adjacent area within Glasgow
109	Waterfoot Wood	The woodland should be fenced off from cattle on the north site to prevent poaching in the wood and along the river bank
110	Waulkmill Glen Reservoir	The site is part of the Country Park and is managed in line with the Park's Management Plan. Bird data from the WeBS should added to the site assessment
112	West Arthurlie Woodland	Part of an important wildlife corridor and vulnerable to development and rubbish tipping.
113	West Lodge Woods	Some management of the site including removing dense rhododendron would improve the wood for wildlife in the long-term.
114	White Cart Water to Netherlee	An important wildlife corridor and should be managed integrated with the rest of the valley to the west and the SSSI. The conifer plantation could be replaced with native deciduous trees.
118	Williamwood Triangle	A site which is developing naturally

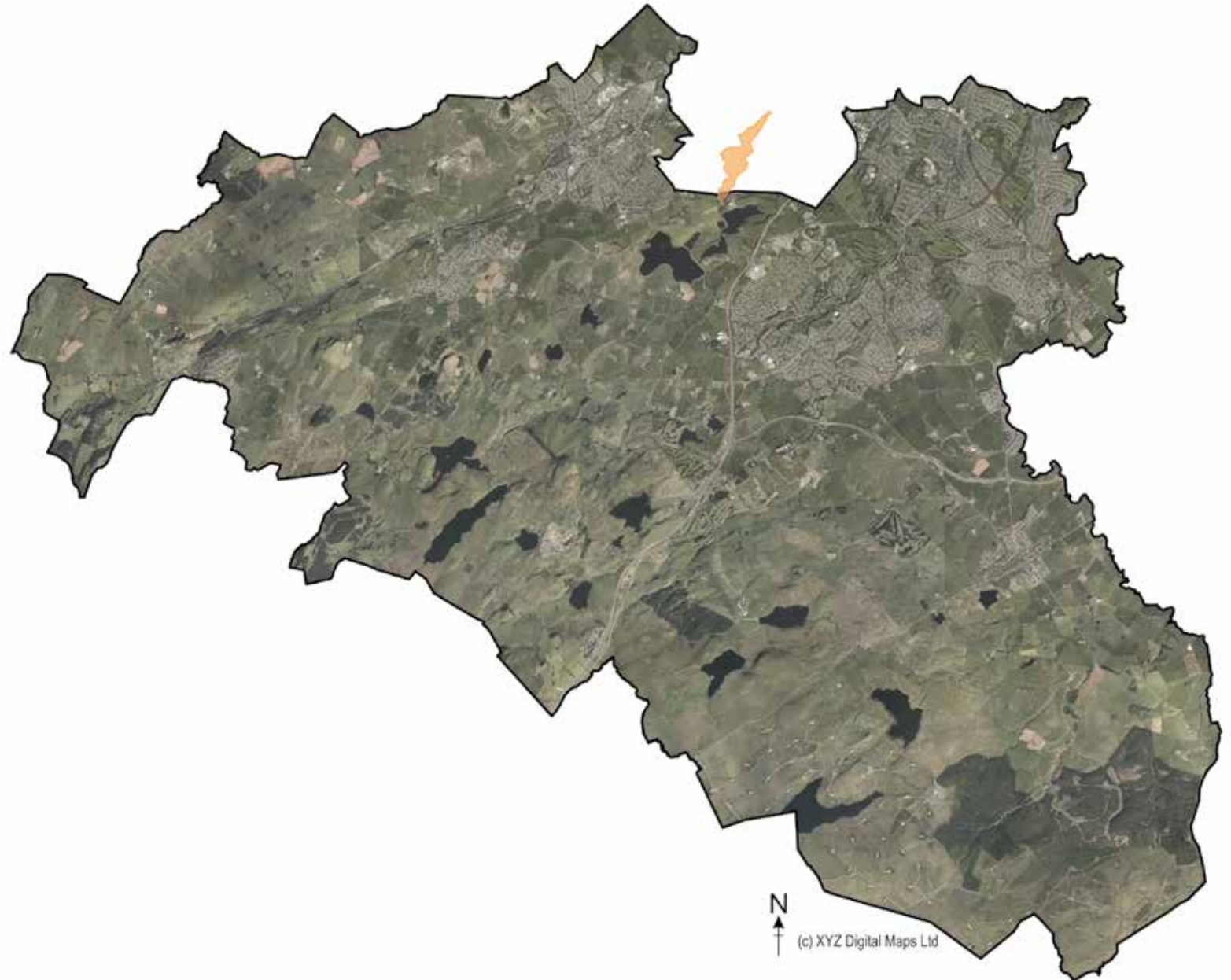
Local Nature Reserve (LNR)

Local Nature Reserves are areas of locally important natural heritage, designated and managed by local authorities to give people better opportunities to learn about and enjoy nature close to where they live. For this reason Local Nature Reserves are generally found close to towns and cities.

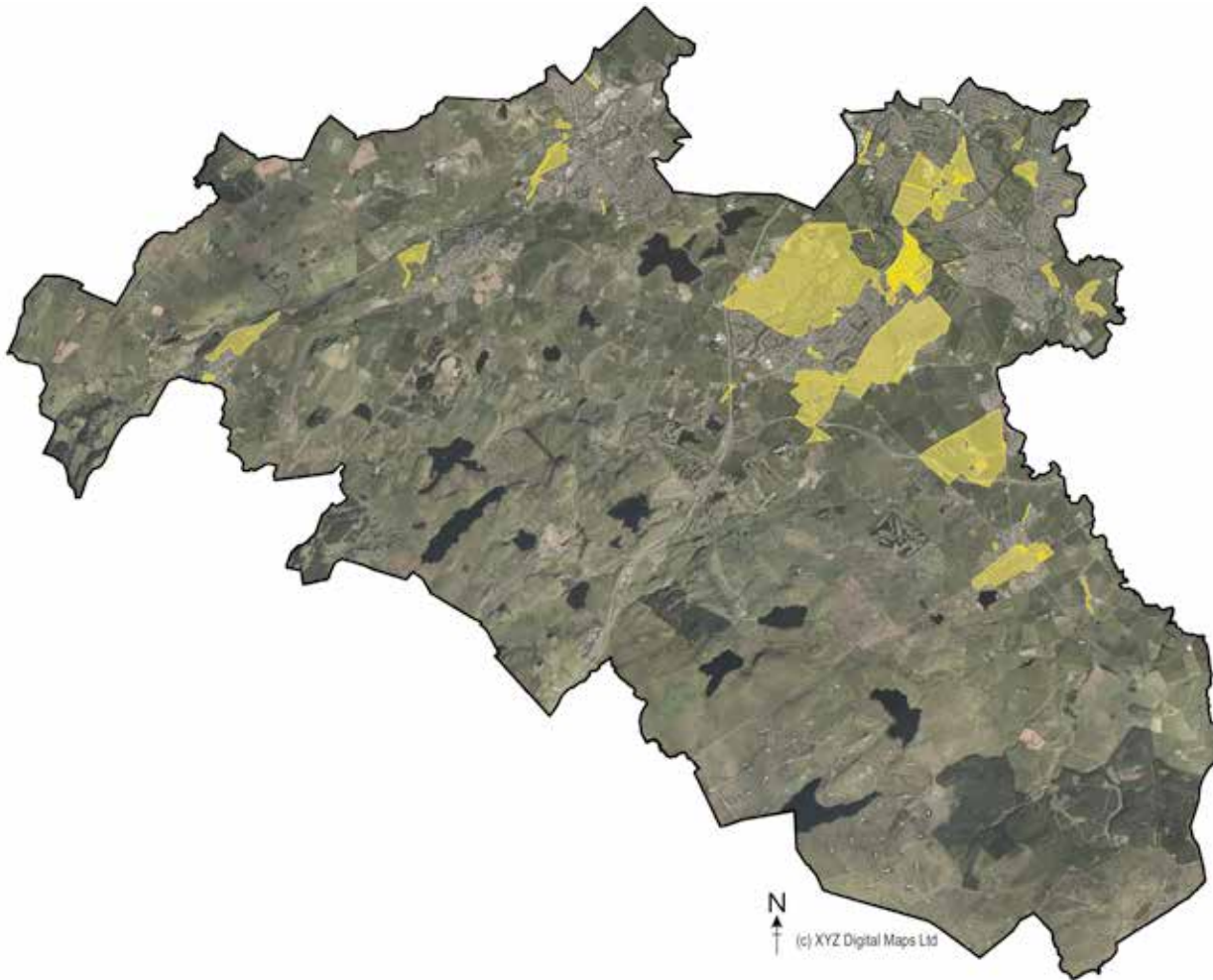
One Local Nature Reserve exists within the Darnley to Darnley Country Park which spans East Renfrewshire and Glasgow City Councils, albeit the majority falls within the Glasgow boundary. This is the first joint local authority partnership run LNR in Scotland.

The LNR encompasses both Darnley Mill (including the pond, wetland and grassland areas) and Waulkmill Glen woodland. The LNR is made up of a variety of habitats, each of which is beneficial for biodiversity. The wetlands are important for amphibians and a host of small invertebrates such as dragonflies and damselflies, whilst the grasslands contain abundant wildflowers, including a number of orchid species. Waulkmill Glen woodland is classed as semi-ancient, meaning that it is at least 250 years old.

Local Nature Reserve (LNR)



Tree Preservation Order Areas (TPOs)



Tree Preservation Orders (TPO)

There are 68 Tree Preservation Order areas, covering 765 Ha, which are in force in East Renfrewshire. These areas require consent from the Council to undertake tree works. Since SEA monitoring began in 2008 there has been no change in these areas, however there has also been no assessment of the areas to identify if they continue to warrant being a TPO area.

In addition to Tree Preservation Order Areas, Conservation Area designations bring an element of control in relation to treeworks. The Conservation areas are shown within the Cultural Heritage section of this report.

Recommendation

A review of the Tree Preservation Order Areas to ensure they are still suitable for designation subject to available funding resources.

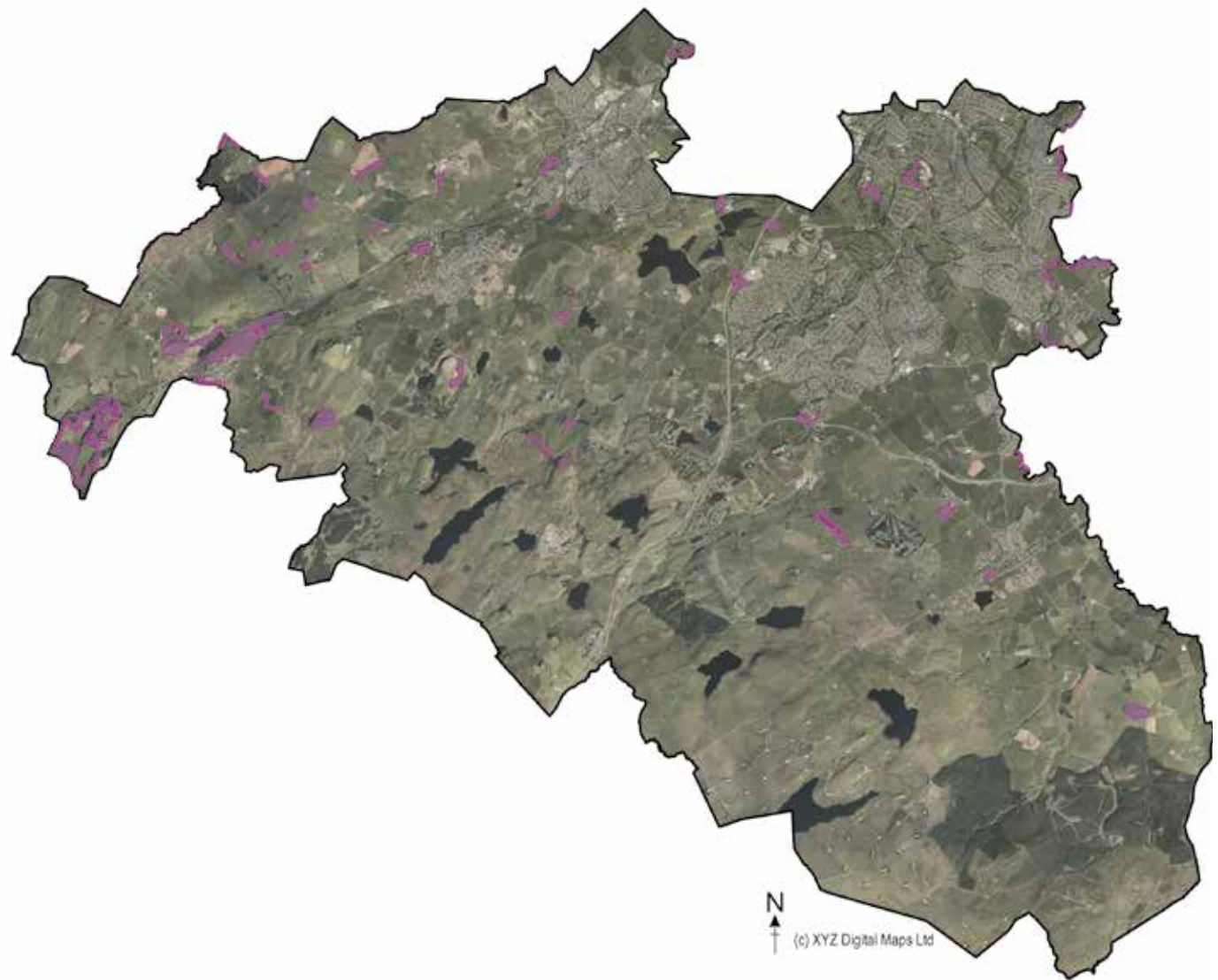
Ancient Woodland

There are pockets of ancient woodland scattered across East Renfrewshire which are identified in Scottish Ancient Woodland Inventory (SAWI)¹. These cover an area of approximately 261 Ha. Whilst there is no legislation protecting ancient woodland, Scottish Planning Policy identifies it as an important and irreplaceable national resource that should be protected and enhanced.

Some areas of ancient woodland fall within tree preservation order areas and local biodiversity sites.

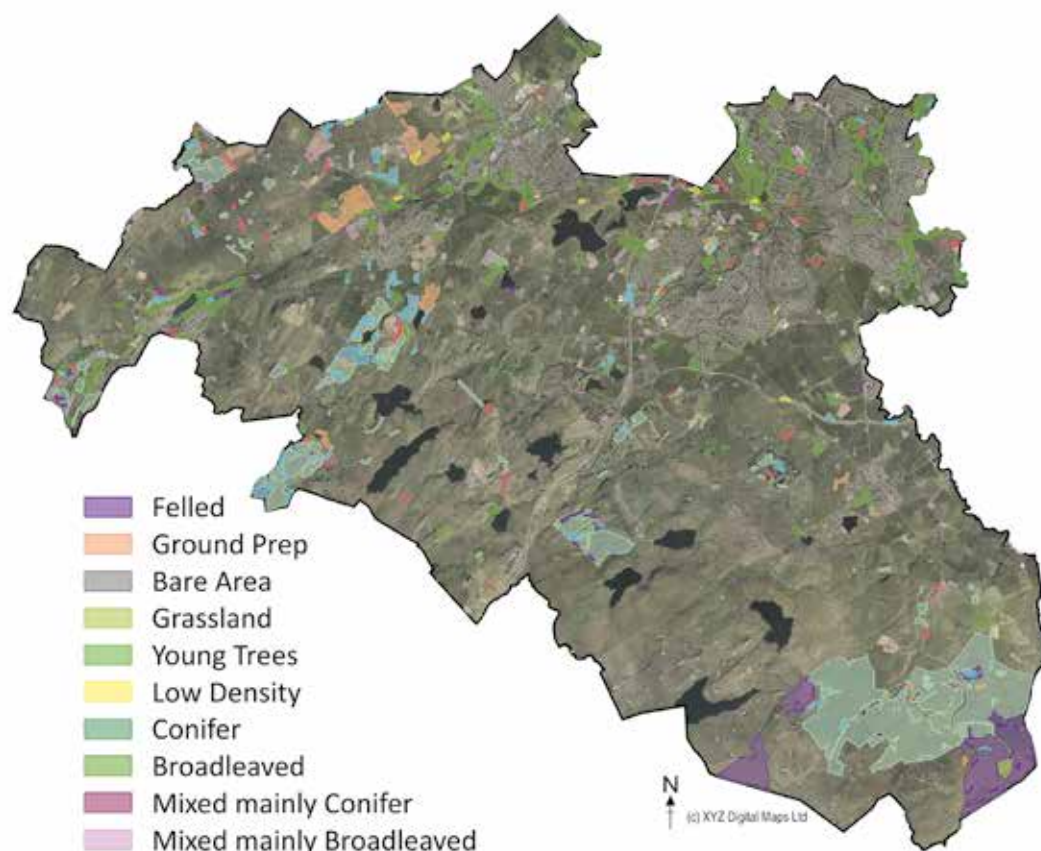
The dataset showing ancient woodland was last updated by SNH in 2010, and so it is not possible to identify any trend in this data.

Areas of Ancient Woodland



1 <http://gateway.snh.gov.uk/natural-spaces/index.jsp>

National Forest Inventory



Change in National Forest Inventory from 2012-2016

Interpreted Forest Type	2012 Area (Ha)	2014 Area (Ha)	2016 Area (Ha)	Interpreted Forest Type	2012 Area (Ha)	2014 Area (Ha)	2016 Area (Ha)
Ground Prep	79	87	82	Young Trees	143	99	93
Conifer	4553	1397	817	Open water	0.78	N/A	N/A
Broadleaved	573	582	346	Low density	9.7	9.7	8.2
Mixed, mainly conifer	48	50	48	Grass	27	27	26
Felled	135	734	97	Bare Area	0.54	0.54	0.54
Mixed, mainly broadleaved	53	53	46	Assumed Woodland	206	N/A	177

National Forest Inventory

In 2012 the Forestry Commission undertook a desktop exercise to identify all areas of Great Britain that had map features classified as woodland. All woodland areas 0.5 Ha or greater in extent, with the exception of assumed woodland or low density areas that can be 0.1 Ha or greater in extent, were mapped. The areas were broken down into different types of woodland.

The Inventory¹ shows fragmented areas of broadleaved woodland to the north of the authority area with larger conifer plantations to the south.

The dataset was updated in 2014 and subsequently in 2016. The difference in area between the 2012, 2014 and 2016 datasets is given in the table below.

The most notable difference between the datasets is the reduction in the area of conifer plantation.

¹ <http://www.forestry.gov.uk/inventory>

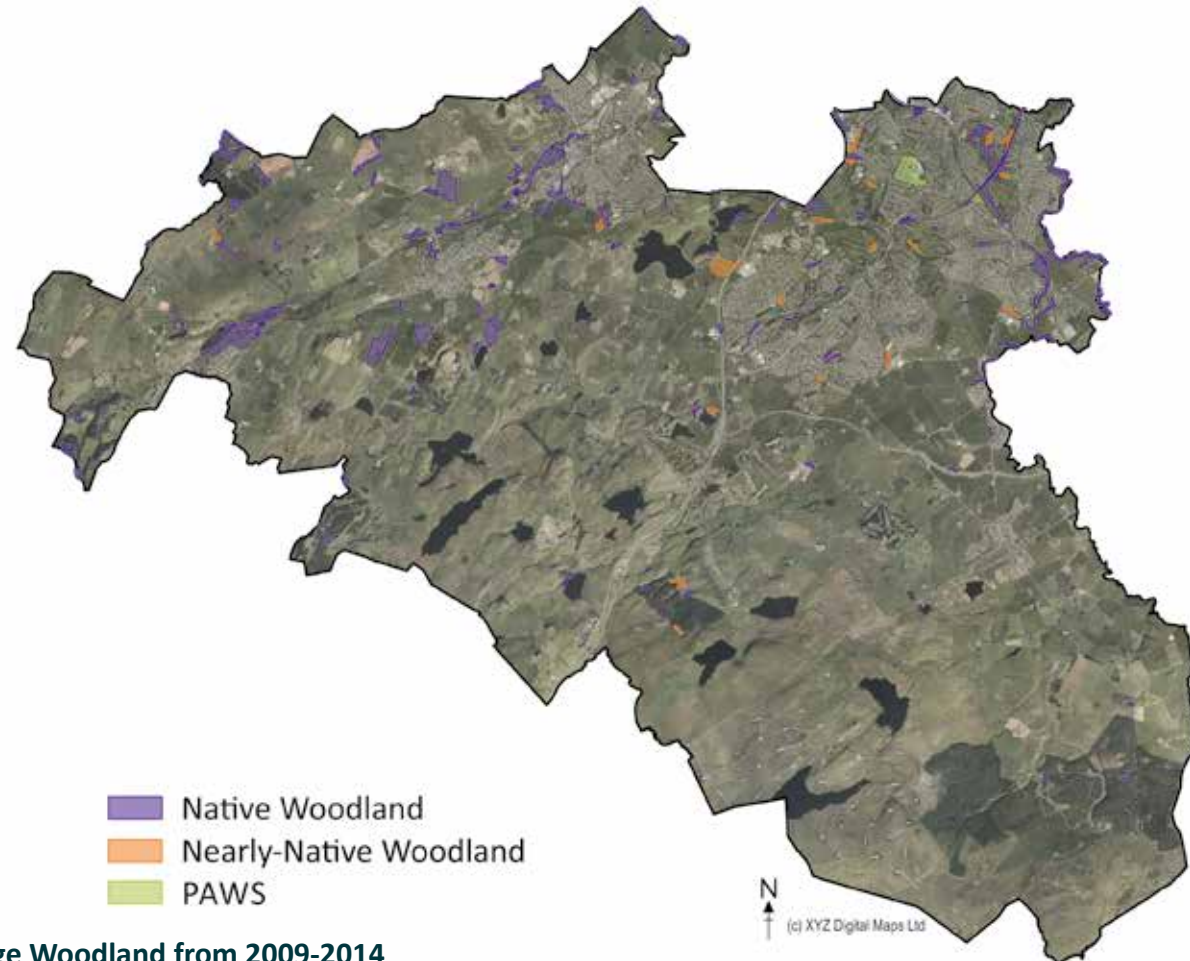
Native Woodland Survey of Scotland

The Forestry Commission Scotland undertook a field-based survey between 2006-2013 to establish the first authoritative picture of Scotland’s native woodlands. The survey identified 3 categories as follows:

- **Native Woodland:** greater than 50% native species in the canopy
- **Nearly-Native Woodland:** between 40-50% native species in the canopy
- **PAWS:** a woodland area wholly or partially identified as Plantation on Ancient Woodland Sites within the Scottish Ancient Woodland Inventory.

The dataset was updated in 2014¹. The table below shows areas within East Renfrewshire Council that are identified within the survey. There has been no change to the areas. The 2014 update is shown on the map to the right.

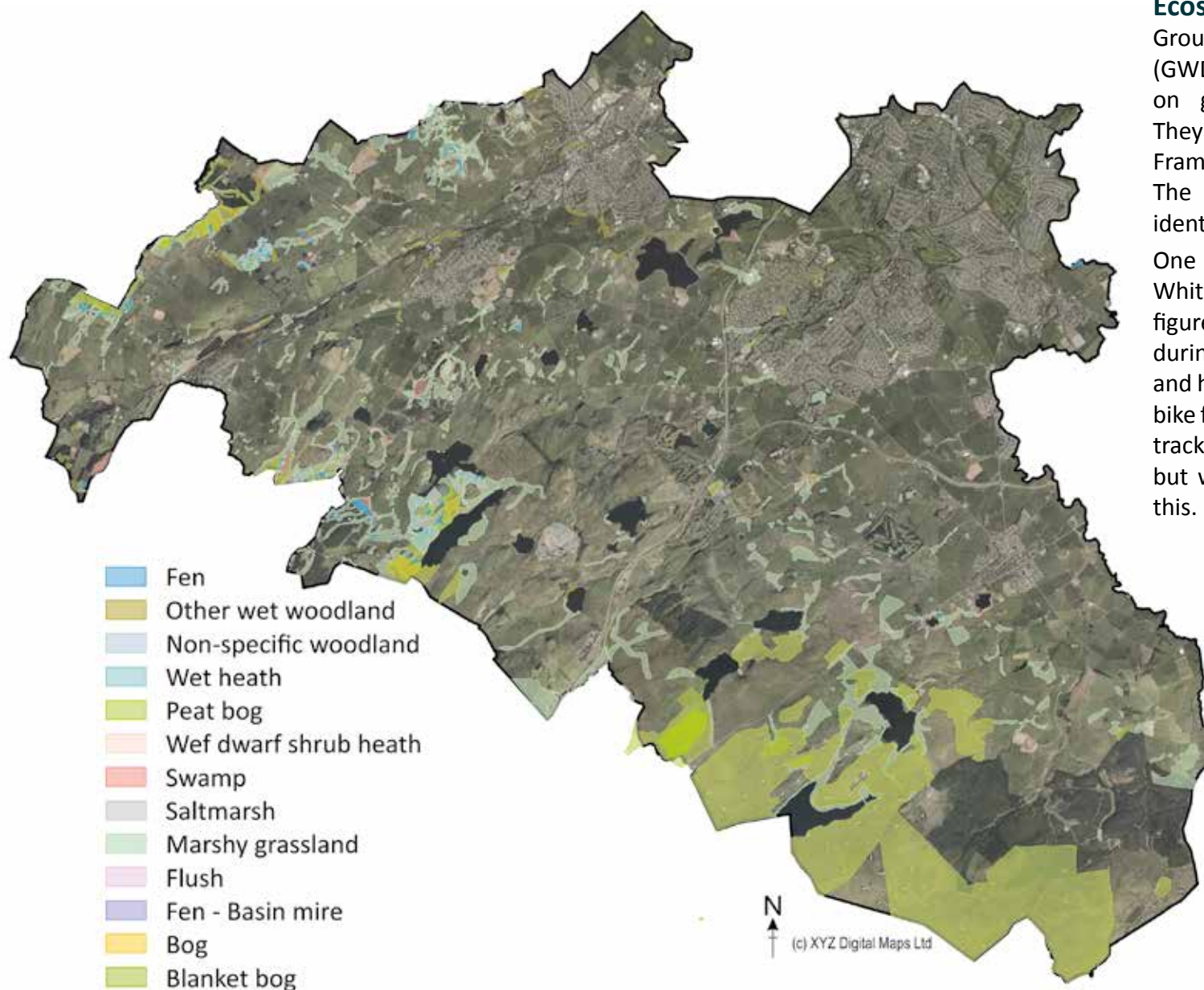
Native Woodland Survey of Scotland



Change Woodland from 2009-2014

Category	Area (Ha) 2014	% of Total	Area (Ha) in 2009 dataset
PAWS	10	3	10
Nearly-native woodland	28	8	28
Native woodland	328	89	328
Grand Total	367		367

1 <http://www.forestry.gov.uk/inventory>



Groundwater Dependent Terrestrial Ecosystems

Groundwater dependent terrestrial ecosystems (GWDTE) are wetlands which critically depend on groundwater flows and/or chemistries. They are afforded protected under the Water Framework Directive.

The figure to the left shows the habitats identified in SEPAs 2016 wetland inventory.

One area of peat bog around Brown Hill at Whitelee is no longer bog (circled in red on the figure opposite). This was used as a borrow pit during the construction of Whitelee Windfarm and has now been transformed into a mountain bike facility. The ground conditions between the tracks are developing towards marshy grassland but with willow carr looking likely to overtake this.

Projects Promoting Biodiversity

General

The Council published supplementary planning guidance for the green network and environmental management which gives direction to implement open space habitat, sustainable drainage and areas for natural play. The SPG requires the green network to be at the forefront of all new development. Grant funding and development contributions allow the Council to carry-out improvement /enhancement works within the existing green network

Rouken Glen Park

The Heritage Lottery Fund Project enabled volunteers to clear invasive bamboo, Himalayan balsam and invasive rhododendrons and replacement planting of native plants. A number of wildlife surveys were also undertaken. Other improvements include:

- An amphibian pond
- wild flower planting
- bulb planting in the Glen
- installation of bat boxes
- installation of bird nesting boxes.

Barrhead Water Works

Work is on going at the water works site and has recently seen the introduction of a beehive which is looked after by the Eastwood Bee Keepers. In addition to the wild flower planting local schools and nurserys have helped with the formation of a new orchard. The site is being well used for environmental education and skills development.

Barrhead Lavern Water & Capelrig Burn Newton Mearns

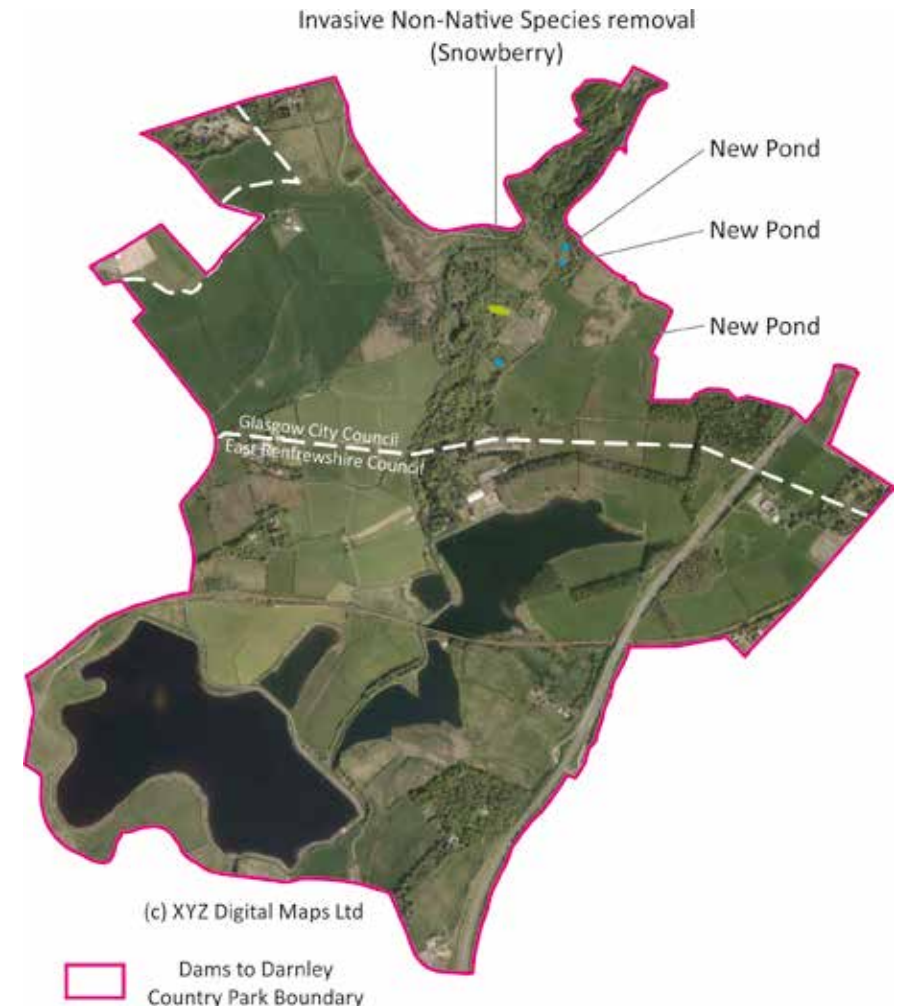
The Council is working in partnership with SEPA to identify opportunities for the enhancement of morphology, access and environmental enhancement around both watercourses

Significant grant funding together with development contributions enabling the implementation of works from 2017 onwards.

Temporary Greening of Vacant Land

At the site of the former Nestle factory in Barrhead some temporary greening works have been undertaken to improve the biodiversity and visual amenity of the site. Around 5Ha have been sewn with wildflowers.

Improvements at Dams to Darnley Country Park



Dams to Darnley

Habitat enhancements have been carried out at Darnley Mill and Waulkmill Glen Local Nature Reserve. Works include scrub removal, invasive non-native species removal and the creation of several new ponds. These works have primarily been focused in the Glasgow side of the Local Nature Reserve.

Whitelee

At Whitelee, Scottish Power Renewables have a habitat management plan which aims to improve ground conditions, encourage wetland flora and increase the number of ground nesting birds. Their 2015 Annual Report sets out five aims and provides detail as to whether those aims are being met.

Scottish Power Renewables, Habitat Management Aims

Aim	Objective	Outcome
Aim 1 - Enhance structural diversity of existing heather-dominated moorland for benefit of plant and animal species whilst maintaining integrity of the blanket bog complex.	1A - Achieve an upward trend in red grouse from baseline levels.	ACHIEVING
	1B - Achieve and upward trend in number of breeding snipe, curlew from baseline levels.	NOT ACHIEVING
Aim 2 - Re-establish 900.1ha of heathland/blanket bog for benefit of upland breeding and wintering birds	2A - Achieve and upward trend in the number of red grouse from baseline levels.	ACHIEVING
	2B - Achieve an upward trend in the number of breeding snipe and curlew from baseline levels.	ACHIEVING.
Aim 3 - Improve and increase the extent of habitats within the HMA for the benefit of black grouse	3A - Achieve upward trend in number of black grouse from baseline levels and ensure optimal levels maintained.	NOT ACHIEVING.
	3B - Create, maintain and enhance quality of lekking sites.	ACHIEVING.
Aim 4 - Encourage merlin to occupy areas located further from the proposed turbine locations, thereby reducing the likelihood of displacement and collision effects	4A - Restore 375.5Ha of upland foraging and nesting habitat for merlin.	ACHIEVING.
Aim 5 - Implement appropriate land management for veilwort within the HMA	5A - Maintain current extent of the veilwort population within the HMA.	ACHIEVING.
	5B - where possible, increase the extent of veilwort within the HMA.	ACHIEVING.



CULTURAL HERITAGE

5

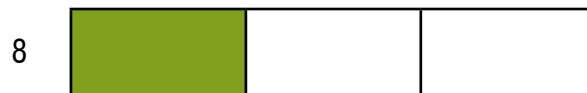


East Renfrewshire's **historic environment** is made up of monuments, archaeological sites and landscapes, historical buildings, townscapes and designed landscapes.

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Cultural Heritage				
7	Protect, enhance and where appropriate restore archaeological sites and the historic environment.	Is the LDP2 likely to significantly affect the integrity of any designated sites of their setting?	The need to protect areas of high conservation and landscape value. The need to conserve the built environment and reduce the number of listed buildings at risk.	Scheduled Monuments (Historic Scotland) Gardens and Designed Landscapes (Historic Scotland)
8	Protect, enhance and where necessary restore the built environment and regenerate degraded environments	Is the LDP2 likely to make a significant contribution to the regeneration/restoration of derelict, contaminated or otherwise degraded environments or is it likely to increase the area or degradation of such land?	The need to protect, restore and enhance areas of high conservation value and to ensure that development does not adversely affect such areas. Encourage the re-use of vacant and derelict land.	Conservation and Article 4 Areas (ERC) Listed Buildings (Historic Scotland) Buildings at risk register (www.buildingsatrisk.org.uk) Vacant and Derelict Land Survey (ERC)



7 There is no data on the status of scheduled monuments or archaeological sites. Therefore it is not possible to conclude if there has been restoration of such sites or if conditions have deteriorated.



8 Proposals for two new conservation areas show commitment to protecting the built environment.

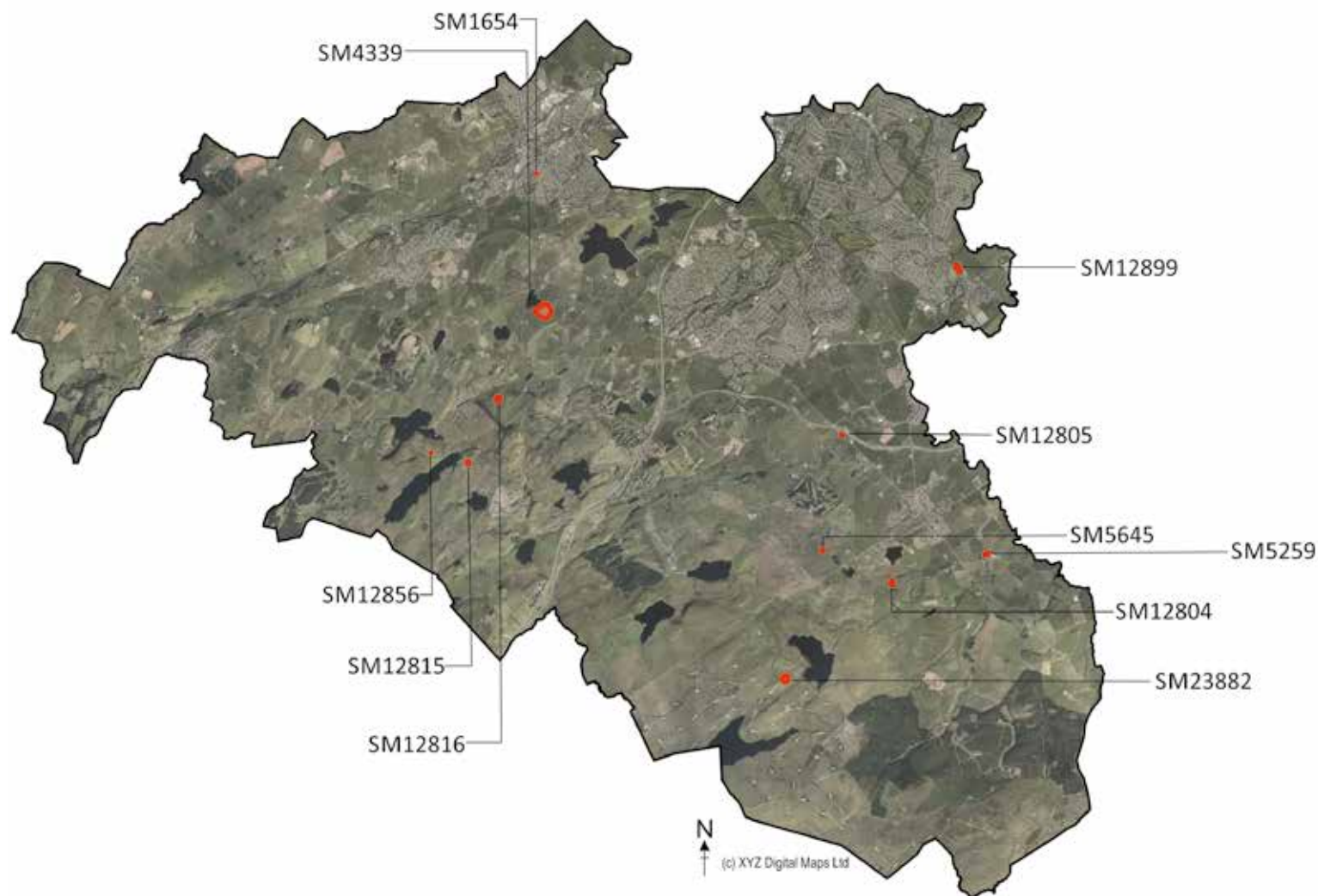
Scheduled Monuments

The aim of scheduling is to preserve Scotlands most significant sites and monuments as far as possible in the form in which they exist at present day.

There are 11 Scheduled Monuments designated in East Renfrewshire¹.

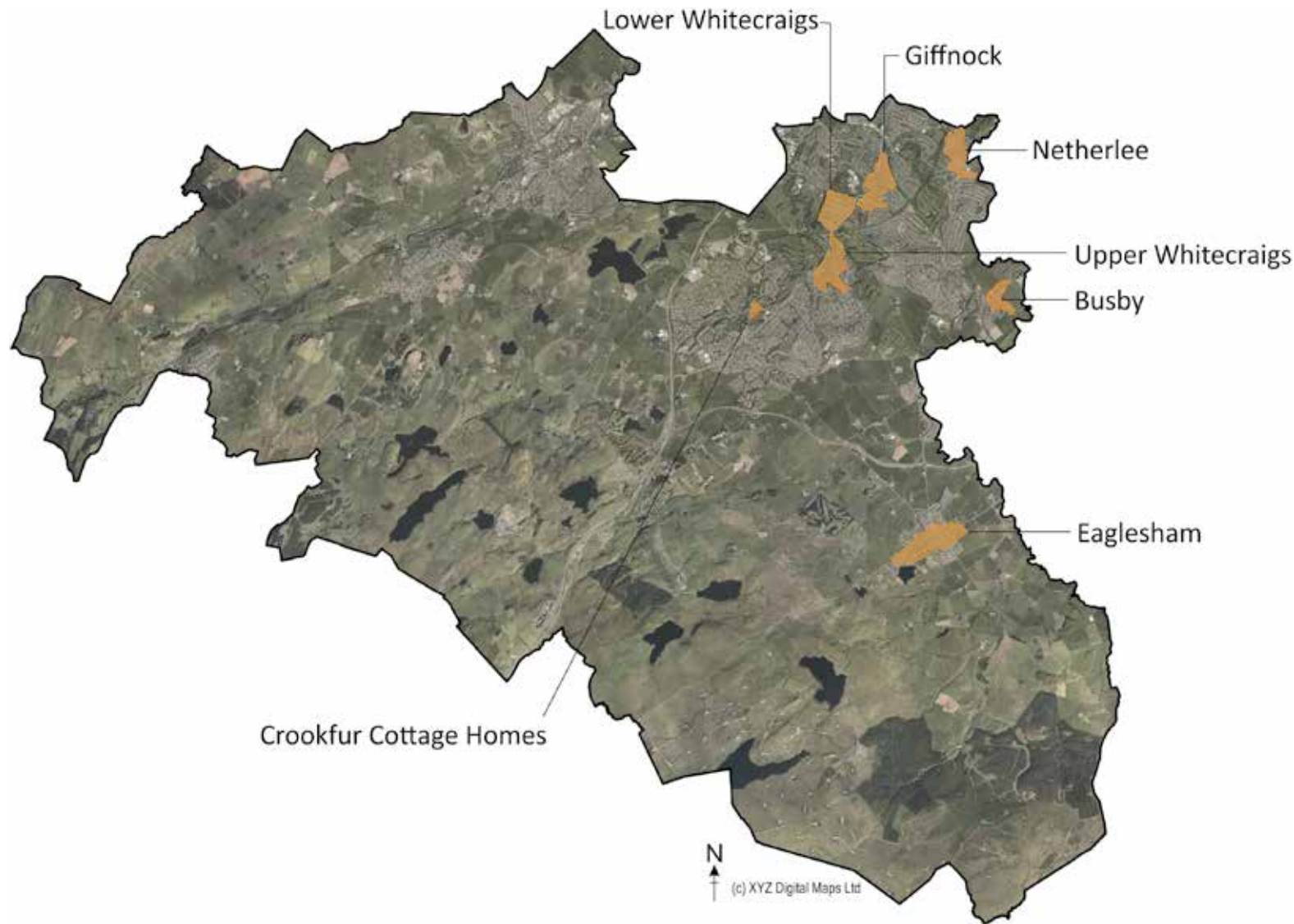
- **SM1654:** Arthur's Cross, cross shaft, Springhill Road, Arthurlie
- Designated 29/06/1925
- **SM12815:** Hut circle 965m WNW of Bannerbank
- Designated 01/03/2011
- **SM12899:** Busby Upper Mill, Cotton Mill
- Designated 04/07/2014
- **SM12805:** Deils Wood cairn
- Designated 11/08/2010
- **SM4339:** Duncarnock fort
- Designated 25/11/1981
- **SM12882:** Dunwan Hill fort
- Designated 24/02/2011
- **SM12804:** East Revoch cairn and cup-marked stone
- Designated 05/10/2011
- **SM12816:** Hut circle and enclosure 540m WSW of Middleton
- Designated 24/02/2011
- **SM12856:** Cairn 930m E of Moyne -
Designated 07/06/2012
- **SM5645:** Cairn 330m SW of North Kirktonmoor
- Designated 03/03/1993
- **SM5259:** Polnoon Castle
- Designated 09/03/1992

Scheduled Monuments



¹ www.historic-scotland.gov.uk

Conservation Areas



Conservation Areas

Conservation areas are defined as areas of special architectural or historical interest, that character or appearance of which is desirable to preserve or enhance. One of the main areas of protection afforded by conservation status is the control of demolition of buildings and structures through the mechanism of “conservation area consent” (CAC).

There are 5 conservation areas in East Renfrewshire. The Local Development Plan published in June 2015 proposed a further 2 at Netherlee and Crookfur Cottage Homes. Conservation area appraisals are being prepared for these sites before they are consulted on. A review of the existing conservation area appraisals is also underway.

Gardens and Designed Landscapes

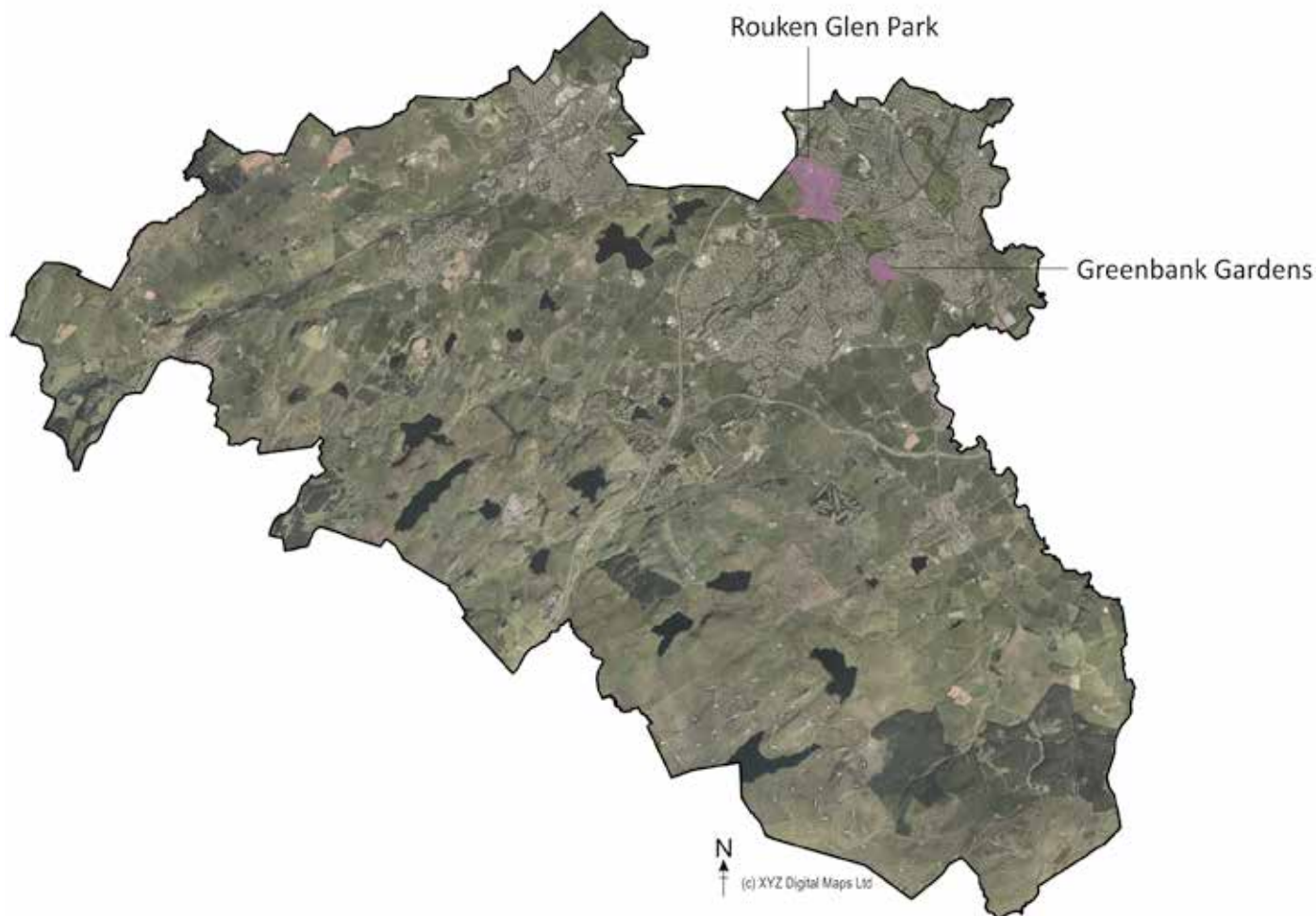
Gardens and Designed Landscapes are defined as grounds that are consciously laid out for artistic effect. This broad definition includes many different kinds of sites ranging from the grounds around historic country houses, to botanic garden collections, urban parks, small parks and gardens and even some cemeteries.

For a garden or designed landscape to be included in the inventory, it must be considered to be of national importance. Sites are selected and assessed using the following criteria:

- Value as an individual work of art in their own right
- Historic Value
- Horticultural, arboricultural or silvicultural value
- Architectural value
- Scenic value
- Nature conservation value
- Archaeological value
- All sites included on the Inventory are considered to be of national importance.

There are 2 sites designated within East Renfrewshire: Greenbank Gardens and Rouken Glen Park¹.

Gardens and Designed Landscapes



¹ www.historicenvironment.scot

Greenbank Gardens

Greenbank Gardens is described as being ‘famous for its daffodil collection’ as well as giving an impressive setting for the Category A listed Greenbank House.

The importance of the site is categorised below and indicates its importance is closely linked to the preservation of Greenbank House.

The continued inclusion of this site on the inventory since 1987 suggests that the site is being sufficiently protected.

Work of Art: Some

The parkland and gardens provide some value as Work of Art

Historical: Some

There is a survey plan of 1772, but little subsequent information, and this gives Greenbank some Historical value.

Horticultural : Some

The plant material at Greenabnk is largely composed of species which are generally available in order that the public may learn from or even copy the displays and this has some horticultural value.

Architectural: Outstanding

The landscape provides the setting for a Grade A listed building (Greenbank House) and therefore has outstanding architectural value.

Scenic: Some

The designed landscape has some value within the surrounding area.

Nature Conservation: Little

The site has a little Nature Conservation value due to the habitat it provides for wildlife in the suburban landscape

Rouken Glen Park

Rouken Glen Park was included in the inventory in 2006 and is described as ‘a very successful conversion of a private estate into a public park’. The importance of the site is categorised below and shows that its designation as a Site of Scientific Interest (SSSI) holds high importance for the conservation of the underlying geology.

Recent works have been undertaken at Rouken Glen Park to clear vegetation from banks, exposing the underlying rock formations.

Work of Art: Some

The picturesque Glen which forms the focal point of the site gives it some value as a work of art.

Historical: Some

The known historical development of this site gives Rouken Glen some historical value.

Horticultural : Some

The bedding displays in the walled garden combined with those on the rest of the site give Rouken Glen some horticultural interest. The specimen parkland trees are of value too.

Architectural: Little

There are no listed buildings at Rouken Glen but the walled garden, the robust stone retaining walls along the Glen path and the stables provide a little architectural value.

Scenic: Some

The presence of Rouken Glen Park in the largely suburban area gives the site some scenic value.

Nature Conservation: Outstanding

The area around the burn has been given Site of Special scientific Interest (SSSI) status for its geological structure. The site therefore has outstanding nature conservation value.

Archaeological: Some

The cup and ring marked rocks on this site give Rouken Glen some archaeological value.

LANDSCAPE

6

Landscape refers to the **visible features** of an area including hills, water bodies, land cover as well as human elements such as buildings and structures.



Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source	
Landscape					
9	Protect, enhance and create green spaces important for recreation and biodiversity.	Is the LDP2 likely to significantly help protect, enhance or create, or is it likely to significantly destroy greenspaces important for recreation and biodiversity or diminish their enjoyment?		Local Development Plan - D3 Greenbelt and countryside around towns - D4 Green Network -D5 protection of urban greenspace Green space Matt/Paul Green Network and Environmental Management SPG Rural Development Guidance SPG	
10	Protect, enhance and where necessary restore the natural landscape.	Is the LDP2 likely to significantly help protect, enhance or restore, or is it likely to significantly damage or diminish landscape character, local distinctiveness or scenic value or the enjoyment and understanding of the landscape?		The need to protect urban greenspace, under pressure from development, in particularly from residential development. The need to protect areas and sites of natural landscape and conservation value under pressure from development in particular from residential development.	Local Development Plan -D3 Greenbelt and countryside around towns -D4 Green network -D5 Protection of urban greenspace Green space Matt/Paul Green Network and Environmental Management SPG Rural Development Guidance SPG
11	Promote adequate protection of infrastructure, property, material resources and land.	Is the LDP2 likely to significantly affect property or land?		Conservation and article 4 areas Landscape Character Assessment	
12	Promote sustainable use of material resources.	Is the LDP2 likely to result in the use of material resources that cannot be replaced or sustainably sourced?		Housing Land Audit Vacant and derelict land survey	
13	Promote sustainable use of land including use of brownfield land.	Is the LDP2 likely to encourage the re-use of brownfield land?		Housing land audit Vacant and derelict land survey	



A review of the green network identified where improvements are needed.



There has been a loss in greenbelt from urban expansion. A defensible greenbelt is required to prevent future urban sprawl.



This is a relatively new dataset and objective. There is not enough historical data or monitoring to draw a conclusion as to whether the objective is being met.



There is not enough data to draw a conclusion as to the sustainable use of forestry and agricultural resources.



This is a relatively new dataset and objective. There is not enough historical data or monitoring to draw a conclusion as to whether the objective is being met.

Urban and Rural Split

East Renfrewshire is primarily a rural council with pockets of urban centres. The council covers a total area of approximately 17423 hectares. The area classified as urban within the 2015 Local Development Plan spans approximately 2804 Ha (approximately 16% of the council Area).

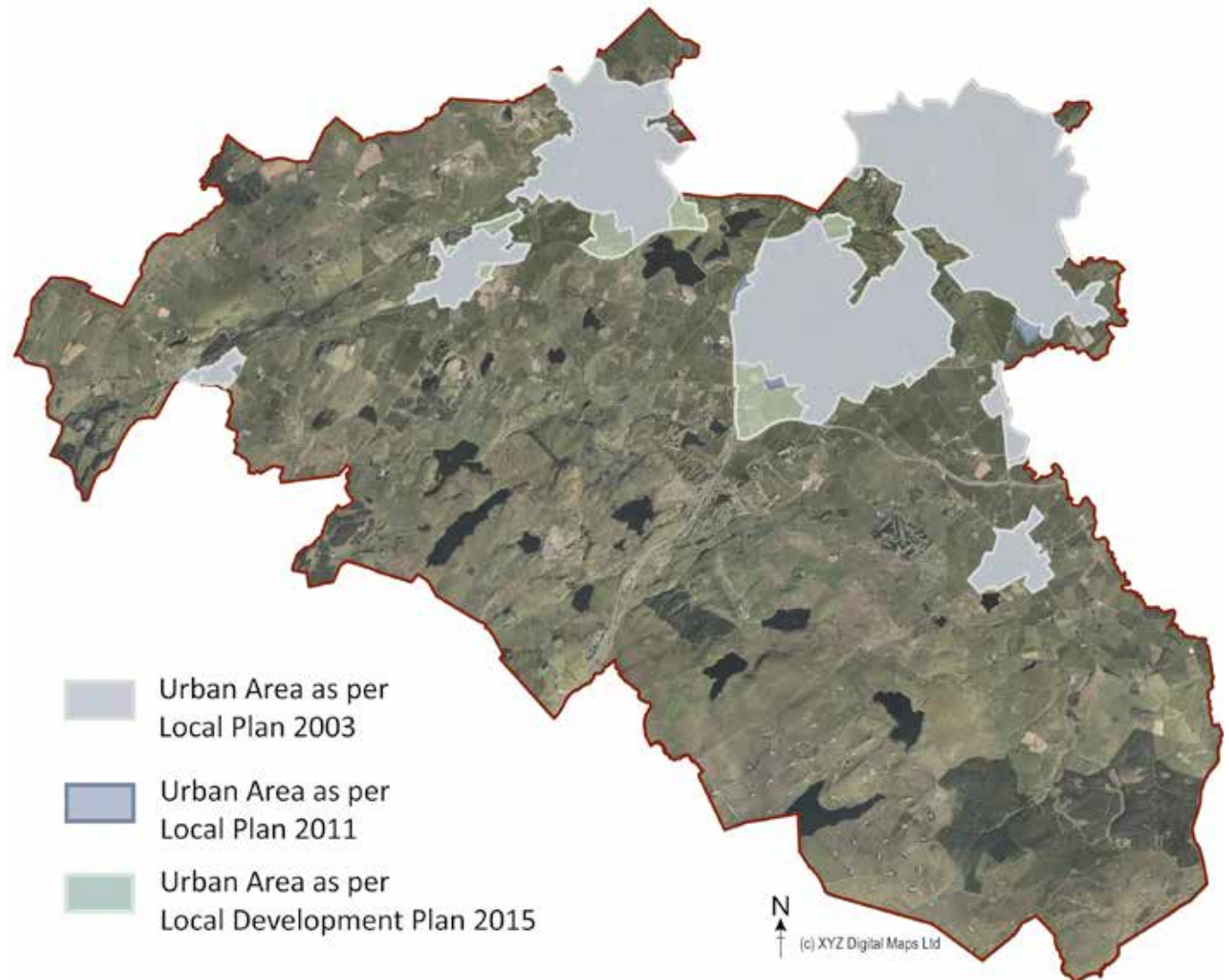
The 2011 Local Plan identifies 2588Ha as having an urban classification, approximately (14.8% of the Council area).

This increase in urban area from the 2011 Local Plan to the 2015 Local Development Plan is attributed to urban expansion around Newton Mearns, Barrhead South and Neilston.

Previously the 2003 Local Plan identified an urban area 2563Ha (14.7% of the Council area). The increase in urban area from 2003 to 2011 was not significant and was mainly due to the development of Williamwood High School, Uplawmoor Primary School and a residential development in Newton Mearns.

The trend does show an increase in the urban area and it is important to protect the most sensitive areas of the greenbelt from further urban sprawl.

Figure 28: Urban Area



Greenbelt

The figure opposite shows a large area of greenbelt sweeping across the authority from east to west with smaller pockets along the northern edge of the authority boundary. The total area of land identified as greenbelt according to the 2015 Local Development Plan is 9039 Ha.

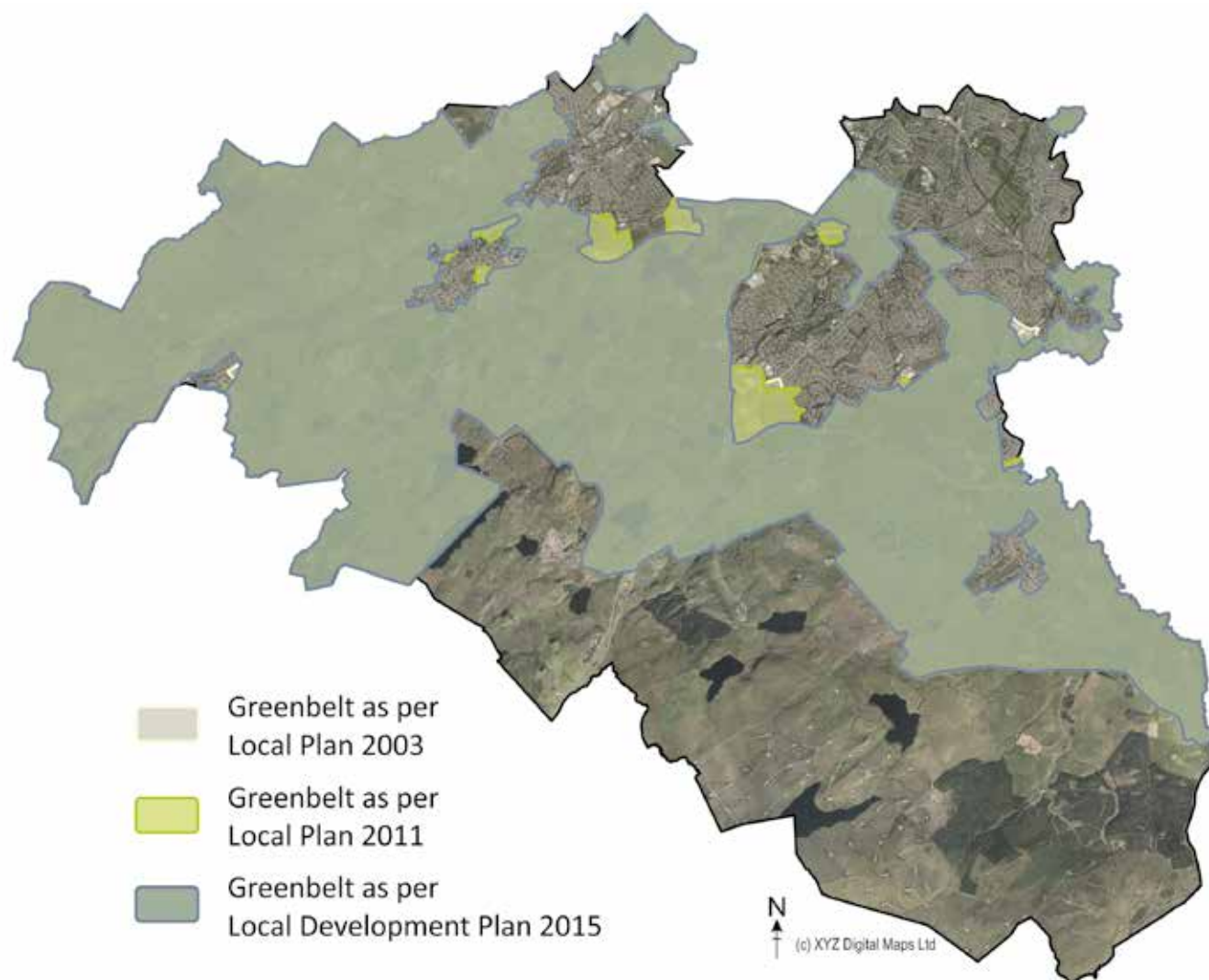
The Greenbelt has reduced in size around Newton Mearns, Barrhead and Neilston from the 2011 Local Plan to the 2015 Local Development Plan by approximately 216 Ha.

Annual monitoring shows that applications for development are being made in the greenbelt area. The number of applications received and granted in the greenbelt are give in the table below.

Planning Applications in the Greenbelt

Year	Number of applications in the greenbelt*	Number of applications granted permission in the greenbelt
2017/18	61	44
2016/17	43	33
2015/16	56	42
2014/15	51	35
2013/14	46	30
2012/13	45	31
2011/12	58	42
2010/11	59	41

Greenbelt



* Note the type of application ranges from new residential development, erection of extension to existing development, wind turbines and agricultural uses.

Parks and Open Spaces

Greenspace is the range of different green spaces which are found in and around the settlements of East Renfrewshire. It is an important resource providing space for recreation and play, wildlife and environment, and enhancing the quality of the landscape within settlements. It places an important role in quality of life and how people use their local area¹.

Greenspace can deliver a range of positive outcomes for the environment, people, health and economy.

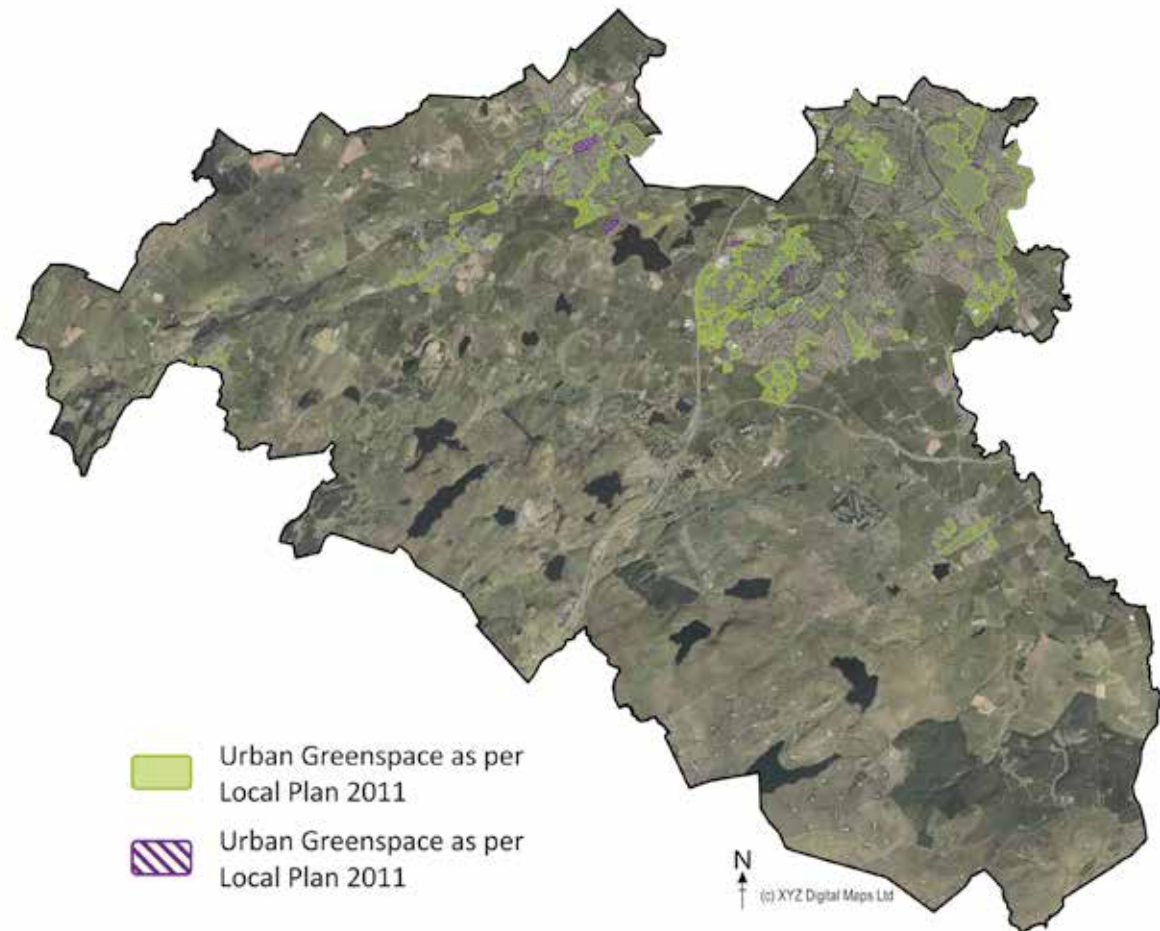
Examples of greenspace include:

- Playspace for children and teenagers
- Amenity greenspace
- Public parks and gardens
- Private gardens or grounds/ Private greenspace
- Sports areas
- Green corridors
- Natural/semi-natural greenspace
- Other functional greenspaces e.g. churchyards and cemeteries

Policy D5 of the 2015 Local Development Plan identifies areas of greenspace to be safeguarded from development. These greenspace areas cover 425 Ha, equating to 15% of the general urban area. 76.7% of residential properties are within 200m of these protected green spaces.

Within the 2011 Local Plan the greenspace areas to be safeguarded covered 404 Ha equating to 15% of the then general urban area. Therefore

Urban Greenspace



while the urban area has seen growth, the percentage of greenspace within the urban area has also increased to remain at 15% of the overall area.

The greenspace survey undertaken in 2004 described a total greenspace area of 699 Ha. This survey included private gardens and grounds

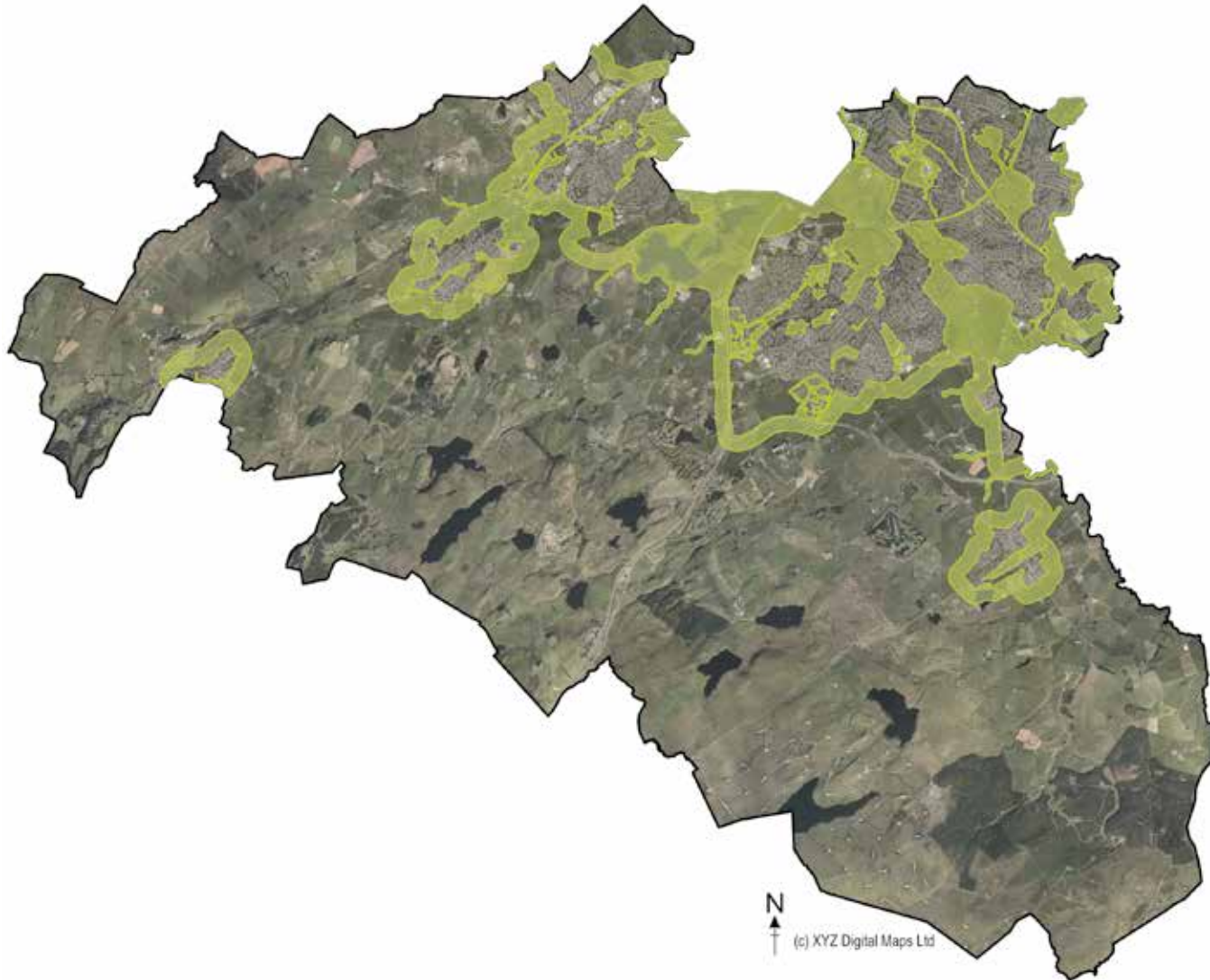
greater than 0.3 Ha.

The 2008-12 greenspace strategy reported an area of 532 Ha (20% of the general urban area). However this survey excluded gardens and grounds.

A revised Greenspace Strategy is currently being prepared.

¹ East Renfrewshire Greenspace Strategy 2008-12

Green Network



Green Network

The green network comprises a local network of natural, semi-natural and man-made greenspace, active travel and recreational routes, watercourses, woodland and other habitats. It is focussed on the urban areas and provides connectivity to the surrounding greenbelts and links habitats through the protection of a network of sites. It comprises a number of key components which provide a range of wildlife, recreational, landscape and access benefits and are a fundamental component of successful placemaking.

Figure 31 identifies the green network as per the 2015 Local Development Plan. 73% of residential properties in East Renfrewshire are within 200 meters of the green network shown in Figure 31. This however does not factor in the quality of greenspace resource or the connectivity between spaces for people and wildlife.

Work on refining the green network map is currently under way in collaboration with Glasgow Clyde Valley Green Network Partnership. The results of this work is expected late 2016 and, following a series of facilitated discussions, will help inform the upcoming Local Development Plan 2. This will provide a strategic basis to avoid fragmentation of existing green network assets and to identify key opportunities to enhance them.

Greenfield/ Brownfield Development

Industrial

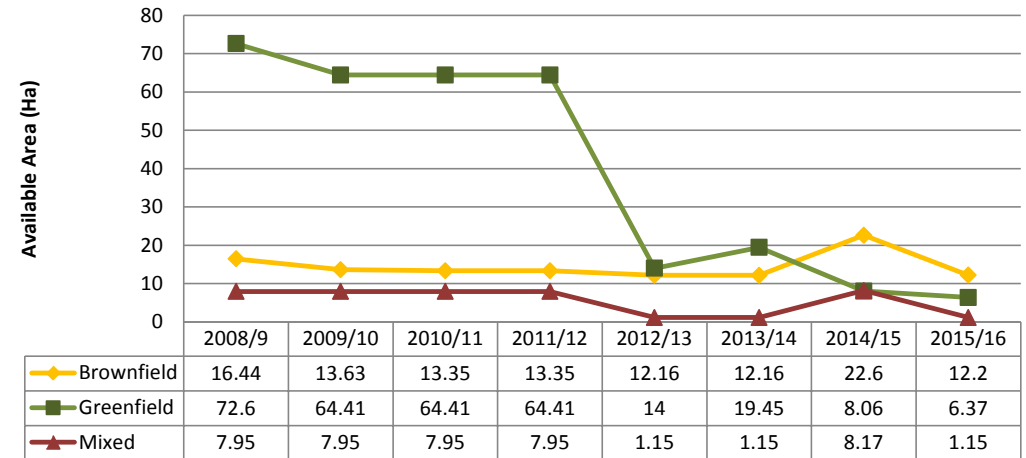
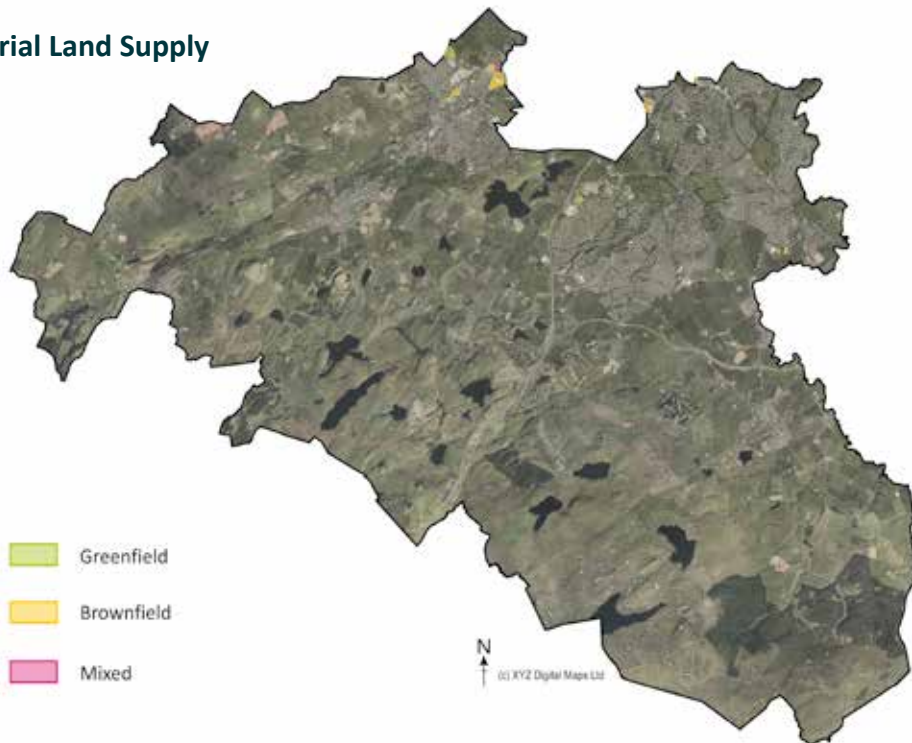
The 2015/16 Industrial Land Supply is presented in figure below. This identifies land allocated for industrial use. Of the 13 sites identified:

- 8 sites are on brownfield land (12.2 Ha)
- 4 sites are on greenfield land (6.37 Ha)
- 1 site is on mixed brown and greenfield land (1.15 Ha)

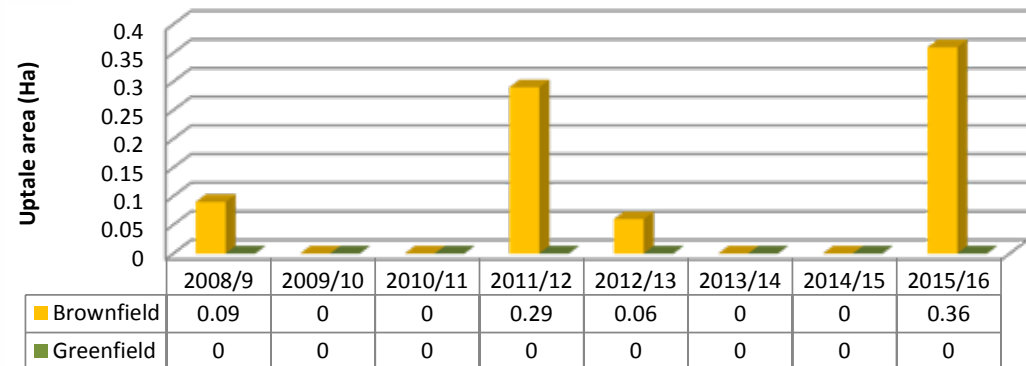
The change in industrial land supply from 2015 to 2016 is as follows:

- 10.4Ha reduction in available Brownfield land
- 1.69Ha reduction in available Greenfield land
- 7.02Ha reduction in available Mixed land

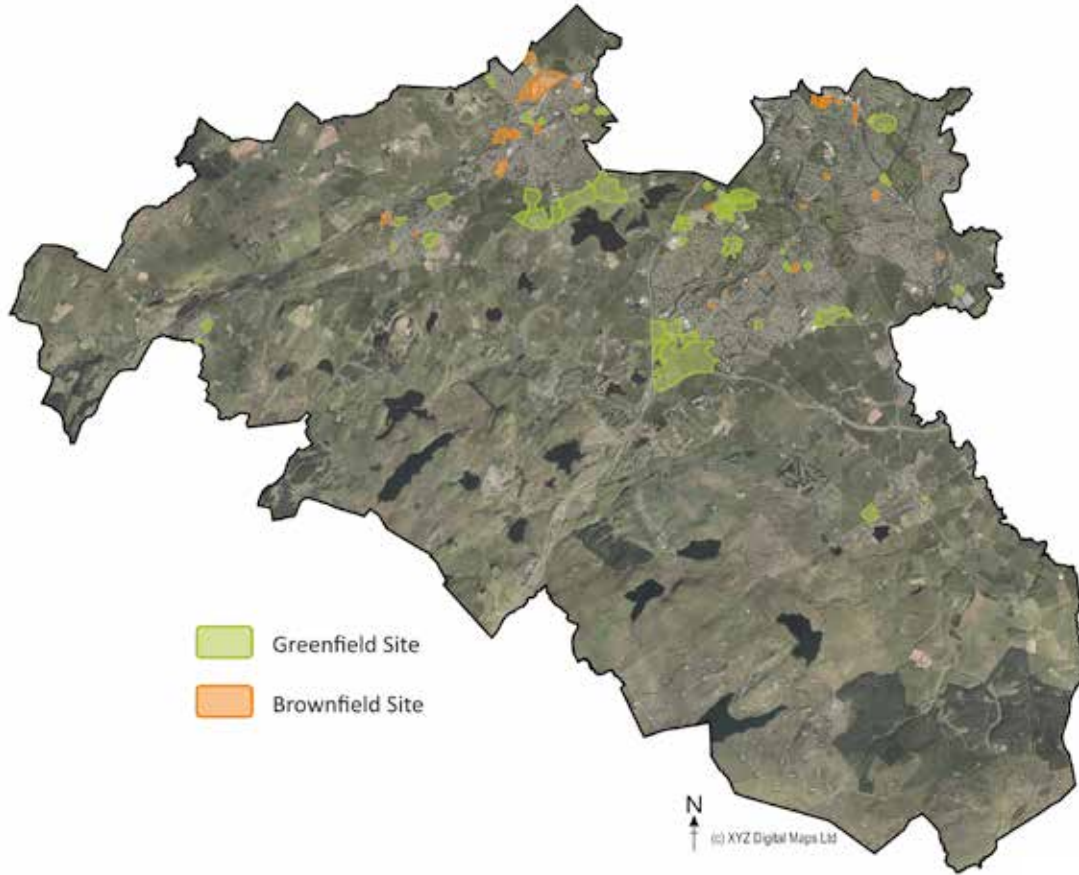
Industrial Land Supply



The uptake of industrial land from 2015-2016 was 0.36Ha of brownfield land. In the two years prior to that there was no industrial land uptake.



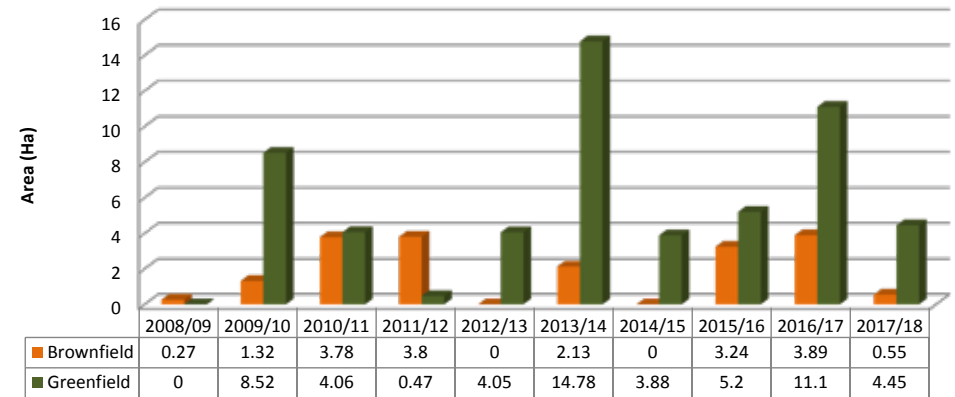
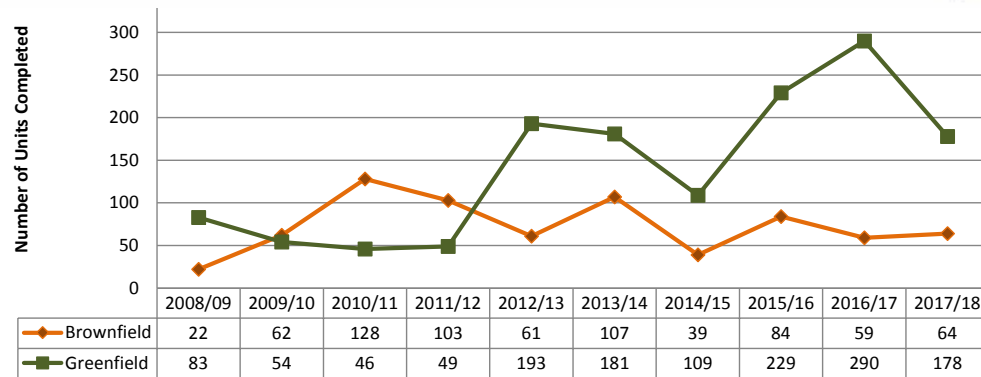
Residential Land Supply



Residential

The 2017/18 Residential Land Supply is presented in the figure opposite. This identifies land allocated for residential development.

Monitoring over recent years has shown the majority of development has occurred on greenfield land. This being predominately the area of land released from the greenbelt in the 2003 Local Plan at greenlaw and the 2010 Local Development Plan at Newton Mearns and South Barrhead.



POPULATION & HUMAN HEALTH

7



East Renfrewshire has an **ageing population** with **life expectancy** for both males and females **above the Scottish average**.

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Population and Human Health				
14	Provide environmental conditions promoting human health and well-being (including increasing opportunities for indoor and outdoor recreation).	Is the LDP2 likely to encourage an increase in outdoor access through new development being located near or within open countryside? Is the LDP2 likely to increase area/sport facilities such as kick about areas? Is the LDP likely to cater for increasing demand for affordable housing?		Audit Scotland LDP projects SPG Affordable Housing
15	Minimise any detrimental impact of activity on Human Health.	Is the LDP2 likely to introduce both construction and human activity into areas otherwise quiet and/or rural in nature?		SPG Renewable Energy SPG Rural Development Guidance SPG Householder Design Guide SPG Daylight and Sunlight Deign Guide



14

Residents have a longer life expectancy than the Scottish average. Visits to libraries and sports facilities have also increased.



15

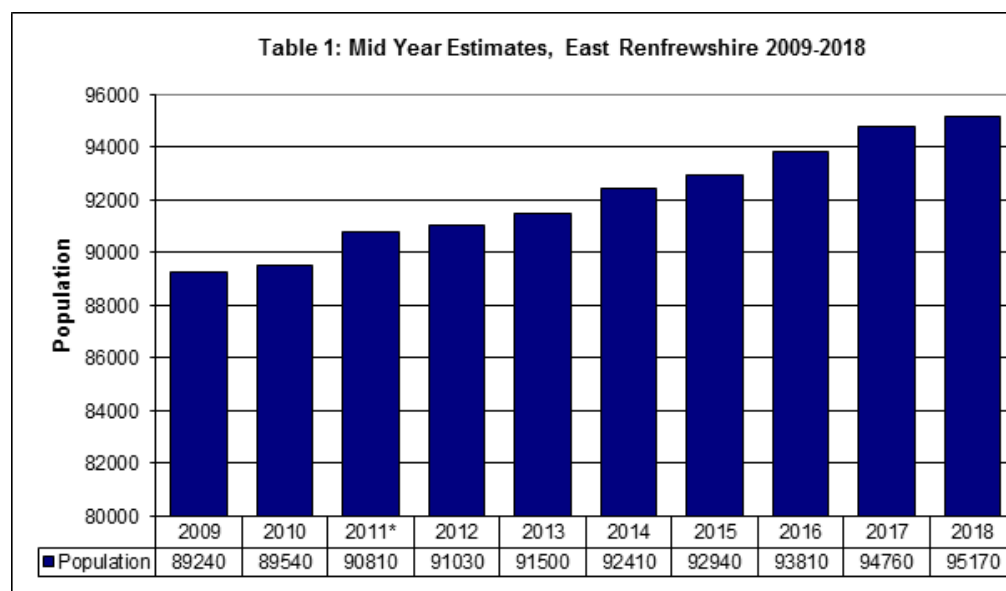
There are restrictions in place to minimise the impact of noise associated with construction.

Population Statistics

Mid-Year Estimates, East Renfrewshire

- 30 June 2016 – 93,810
- 30 June 2017 – 94,760
- 30 June 2018 – 95,170

The 2018 mid-year estimate shows the population of East Renfrewshire continues to grow. The population has risen to 95,170 which is an increase of 410 from 2017.



Age and Sex Profile

Between 2009-2018 there has been an increase of 0.18% of those aged 0-16. Similarly a 2% increase in those aged greater than 65 also occurred between 2009-2018.

Table 2a: Population Structure Change 2009-2018

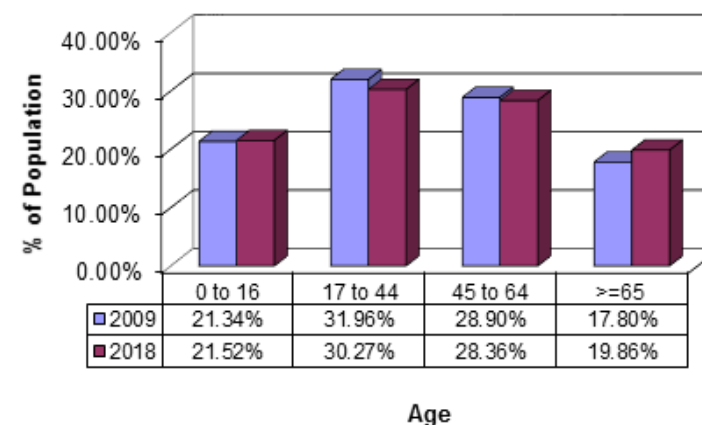
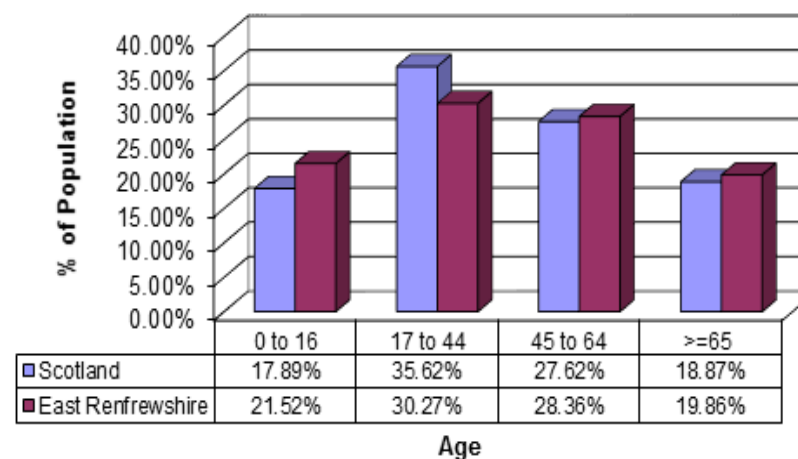


Table 2b: Population Structure East Renfrewshire v Scotland 2018



Natural Change and Migration

The number of births in 2017-18 is lower compared to 2016-17, there was also an increase in the number of deaths which results in a net loss of population through natural change.

Table 3: Natural Change 2009-2018

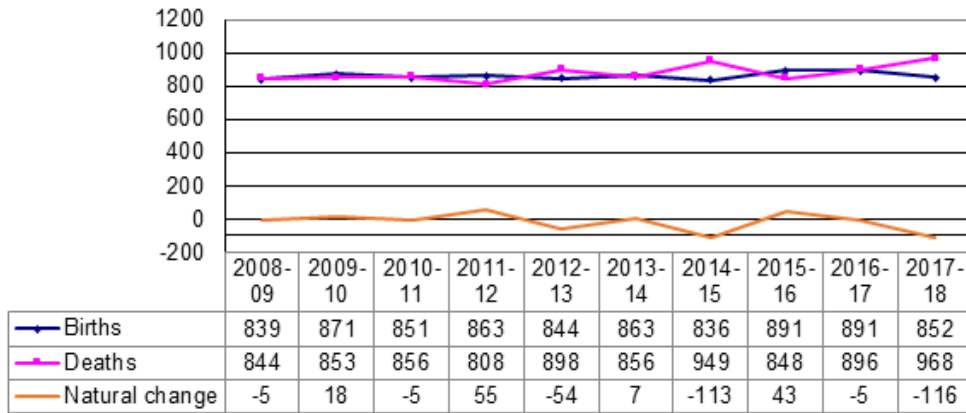
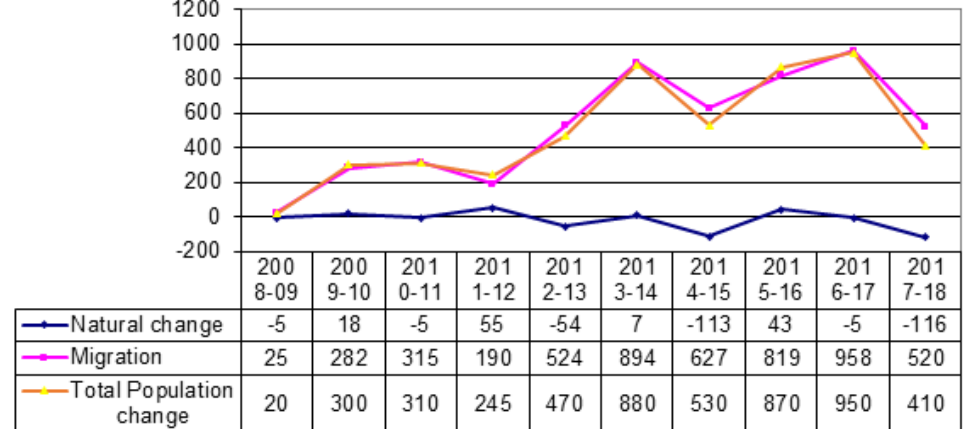


Table 4: Components of Change 2009-2018



Households

The total number of households according to the 2011 census in East Renfrewshire was 37,225. According to the NRS (2017) the total number of households is 38,899, which is an increase of 1,674.

The table below shows the average household size within Scotland and East Renfrewshire over the last 10 years:

Council Area	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Change 2007 to 2017 (%)
Scotland	2.19	2.18	2.18	2.18	2.19	2.18	2.18	2.17	2.17	2.17	2.16	-1.5
East Renfrewshire	2.48	2.45	2.44	2.43	2.42	2.41	2.41	2.41	2.41	2.42	2.42	-1.5

Although the average household size has reduced by 1.5% within East Renfrewshire, it is still the highest across Scotland.

The table below outlines the characteristics of dwelling type within East Renfrewshire in 2017.

Dwelling type - 2017 (% of total dwellings)				
Flats	Terraced	Semi-detached	Detached	Total
25%	17%	29%	28%	100%

Life Expectancy

The latest NRS figures for life expectancy 2015-17 show that for male's life expectancy is 80.5 and 83.7 for females. Both male and female life expectancy is above the Scottish average.

Males:

- 2014-16 East Renfrewshire – 80.1
- 2014-16 Scotland – 77.1
- 2015-17 East Renfrewshire – 80.5
- 2015-17 Scotland – 77.0

Females:

- 2014-16 East Renfrewshire – 83.5
- 2014-16 Scotland – 81.1
- 2015-17 East Renfrewshire – 83.7
- 2015-17 Scotland 81.1

Causes of Death

The leading causes of death in Scotland 2017 were:

1. Ischaemic heart disease: 6,727 (11.6%)
2. Dementia and Alzheimer's disease: 6,549 (11.3%)
3. Lung cancer: 4,069 (7.0%)
4. Cerebrovascular disease (including stroke): 3,927 (6.8%)
5. Chronic lower respiratory diseases (eg bronchitis and emphysema): 3,449 (6.0%)

Cause of Death	East Renfrewshire	Scotland	%
Ischaemic heart diseases	96	6727	1.43
Dementia and Alzheimer's disease	124	6549	1.89
Lung cancer	52	4069	1.28
Cerebrovascular diseases	57	3927	1.45
Chronic lower respiratory diseases	43	3449	1.25

In 2017 there were a total of 4 drug related deaths in East Renfrewshire, which accounted for 0.4% of all drug related deaths in Scotland.

Alcohol related deaths in East Renfrewshire accounted for 0.8% of all within Scotland. Whilst these results indicate there is an issue with drug and alcohol abuse within the authority, they do not appear to be prolific, based on the low number of deaths recorded.

Drug related deaths 2017:

- East Renfrewshire – 4
- Scotland – 934
- 0.4%

Alcohol related deaths 2017:

- East Renfrewshire – 9
- Scotland – 1,120
- 0.8%

Incidents/Accidents

The number of fatal road incidents between 2015-2017 is 0 within East Renfrewshire, however there has been a slight rise in the number of serious injuries over the last 3 years.

- Fatalities and Serious Injuries (<https://www.transport.gov.scot/publications/>):
 - 2015 – 0 Fatality, 15 Serious
 - 2016 – 0 Fatality, 17 Serious
 - 2017 – 0 Fatality, 18 Serious

Noise

Construction

To restrict the nuisance from noise, construction activities are restricted to the following hours:

- 0800 to 1900 hrs Monday - Friday
- 0800 to 1300 hrs Saturday
- No activities should be carried out on Sunday

Roads

Noise from non-emergency road works conducted by Council staff is carried out between 0800 to 1900 hrs Monday to Friday. On occasion it is also necessary to carry out works between 0900 to 1600 hrs on a Saturday and Sunday. However weekend works are restricted to situations relating to ensuring the safety of road users or avoiding severe congestion. Advance warning that works will be taking place will be given to adjacent properties.

The Council does not have powers to control the level of noise or times that works are carried out for external utility companies. However, the council does request that in the case of non-emergency works that these are carried out between the hours given in the billeted list above.

Intruder Alarms

Intruder alarms must be programmed to cut off a maximum of 20 minutes after activation. Intruder alarms which are continuing to sound after this time may be classed as a ‘statutory nuisance’ under Section 79 of the Environmental Protection Act 1990.

Anti Social Behaviour

Where the noise is found to be ‘anti social behaviours noise’ and the noise is found to exceed the noise limits a warning notice may be served, requiring the noise to be reduced. If this warning notice is not complied with, a fixed penalty notice can then be served.

The number of complaints relating to noise received by Environmental Health area shown in the table below.

Noise Complaints received	2016-17	2017-18	2018-19
Intruder Alarm	7	9	0
Commercial Noise	27	31	25
Construction Noise	27	25	28
Neighbour Disturbance	20	18	12

Health Walks

Dams to Darnley walks attendees (Day walks – no longer do evening walks):

- 2016 – 323
- 2017 – 407
- 2018 – 458

Whitelee Strollers attendees:

The group meets at 10am every Tuesday, from the visitor centre the group heads along the windfarm tracks for approximately 2 miles.

- 2016 – 220
- 2017 – 360
- 2018 – 295

Leisure Facilities

There are 4 sports and leisure centres in East Renfrewshire:

1. Barrhead Foundry
2. Eastwood Park
3. Neilston
4. Eastwood High

There are 10 libraries in East Renfrewshire:

1. Barrhead Foundry
2. Busby
3. Clarkston
4. Eaglesham
5. Giffock
6. Mearns
7. Neilston
8. Netherlee
9. Thornliebank
10. Uplawmoor

Leisure Visits:

Leisure Centres	2016/17	2017/18	2018/19
Pool usage	279,035	264,315	236,632
Dryside (inc games halls, gyms, courts & health suites)	344,779	416,407	405,540
Outside Usage (jogging, walking and EHSC tracks and pitches)	26,886	28,687	19,409
Totals	650,700	709,409	661,581
Pool Usage per 1000 population	3,002	2,818	2,497
Dryside per 1000 population (excludes Outside Usage)	3,710	4,439	4,280
Total Indoor Sports Usage (Excludes Outside, includes halls & schools out-of-hours)	8,445	9,711	9,372

Community Facilities	2016/17	2017/18	2018/19
Community Halls & Pavilions	326,360	307,6380	278,717
Schools Out-of-Hours Usage	615,809	628,490	679,071
Totals	942,169	936,170	957,788

Libraries	2016/17	2017/18	2018/19
Physical Visits	558,835	535,667	510,148
Virtual Visits (as revised 2017/18)	352,309	359,335	632,409
Totals	911,144	895,002	1,142,557
Physical visits per 1000 population	6,013	5,710	5,384
Total visits per 1000 population	9,804	9,541	12,057

Eastwood Park Theatre	2016/17	2017/18	2018/19
Number of Performances & Events	244		



SOIL & GEOLOGY

8



East Renfrewshire is rich in geology. This is highlighted in the three **Sites of Scientific Interest (SSSI)** noted for their important geological features.

There is also a **geology trail** set up by UKRIGs in Rouken Glen Park allowing members of the public to learn more about the ground beneath their feet.

Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Soil and Geology				
16	Maintain and improve soil quality and prevent any further degradation of soils.	Is the LDP2 likely to significantly help protect soils or encourage the sustainable use of soils, or to have adverse effects on soils?	The need to protect geological features of merit. The need to improve water and soil quality. The need to reduce the area of contaminated land and secure the appropriate end use of affected sites.	Areas of potentially contaminated land database Radon - BGS
17	Protect, enhance and where necessary restore geological features.	Does the LDP2 take into account the influence of landform, geomorphology and geology or is it likely to significantly exacerbate risks?		SSSIs - SNH
18	Protect and prevent impact on carbon rich soils (e.g. peat)	Is the LDP2 likely to protect areas of carbon rich soils?		Carbon rich soils - SEPA



16 Sites with the potential to be contaminated have not been investigated. Where these sites come under development there is no collective resource showing where remedial works have been undertaken and the soil quality improved.



17 Works have been undertaken at Rouken Glen Park to clear vegetation from exposures of fossil-rich Orchard Beds.



18 The dataset on carbon rich soils is relatively new and we do not have trend data. However, at Whitelee it is identified that an area has been lost to a borrow pit and now forms mountain bike trails. Scottish Power Renewables are working towards enhancing the structural diversity of existing moorland whilst maintaining the integrity of the blanket bog complex that dominate the soils at Whitelee.

Geological Features of Interest

East Renfrewshire is rich in geology. This is highlighted in the three Sites of Scientific Interest (SSSI) noted for their important geological features:

- Boylestone Quarry
- Rouken Glen
- Waulkmill Glen

There is also a geology trail set up by UKRIGs in Rouken Glen Park allowing members of the public to learn more about the ground beneath their feet.

Contaminated Land

There are no formally identified contaminated land sites in East Renfrewshire. The Environmental Health team hold a database of sites which have been identified as having the potential to be contaminated due to previous uses. There are 833 sites covering a total area of 519.23 ha which have been identified as having the potential to be contaminated.

Since 2009 no sites have been investigated or remediated under Part IIA of the Contaminated Land Regulations.

Radon

Radon is natural radioactive gas, which enters buildings from the ground. Exposure to high concentrations increases the risk of lung cancer. Radon is the biggest source of human exposure to ionising radiation in the UK and is responsible for an estimated 1,100 lung cancer deaths a year¹.

The Health Protection Agency recommends that parts of the country with less than a 1% chance of exceeding the Action Level will now be referred to as Lower probability areas the terms Intermediate and Higher probability will be applied to areas with 1-10% chance and at least and 10% chance of exceeding the Action Level. The HPA recommends that householders in intermediate and higher probability radon areas should have measurements made of indoor radon concentrations in their home.

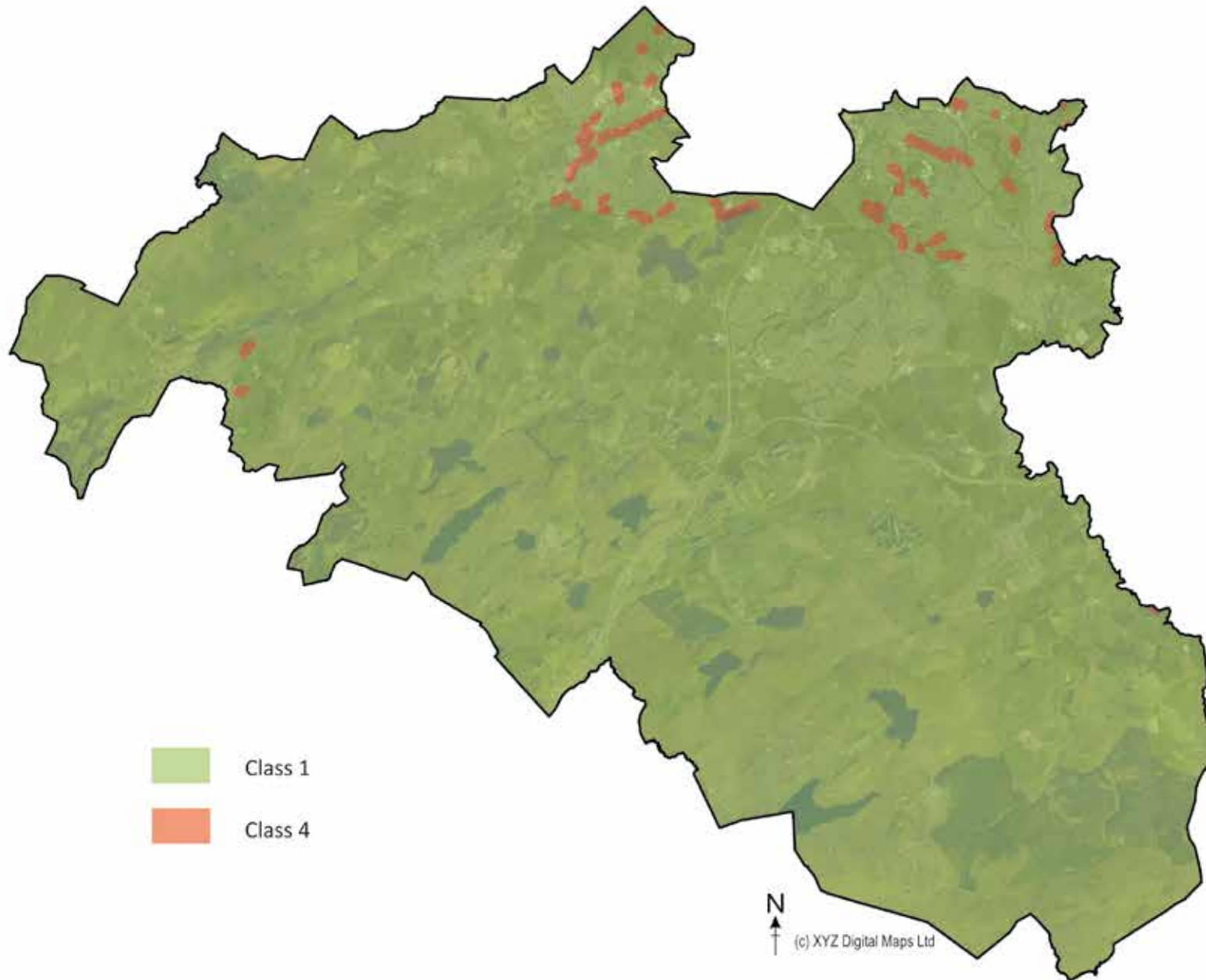
A monthly radiation monitoring exercise was undertaken at 7 sites in East Renfrewshire. This was conducted as part of the SCOTRAD programme as organised by Glasgow Scientific Services.

All levels throughout the study were found to be within the normal background range.

¹ McColl et al, 2010

Radon Potential Class	Estimated percentage of dwellings exceeding the Radon Action Level (Nominal percentage band)	Estimated percentage of dwellings exceeding the Radon Action Level (Actual percentage band)
1	0-1	0-0.99999
2	1-3	1-2.99999
3	3-5	3-4.99999
4	5-10	5-9.99999
5	10-30	10-29.99999
6	30-100	30-100

Radon

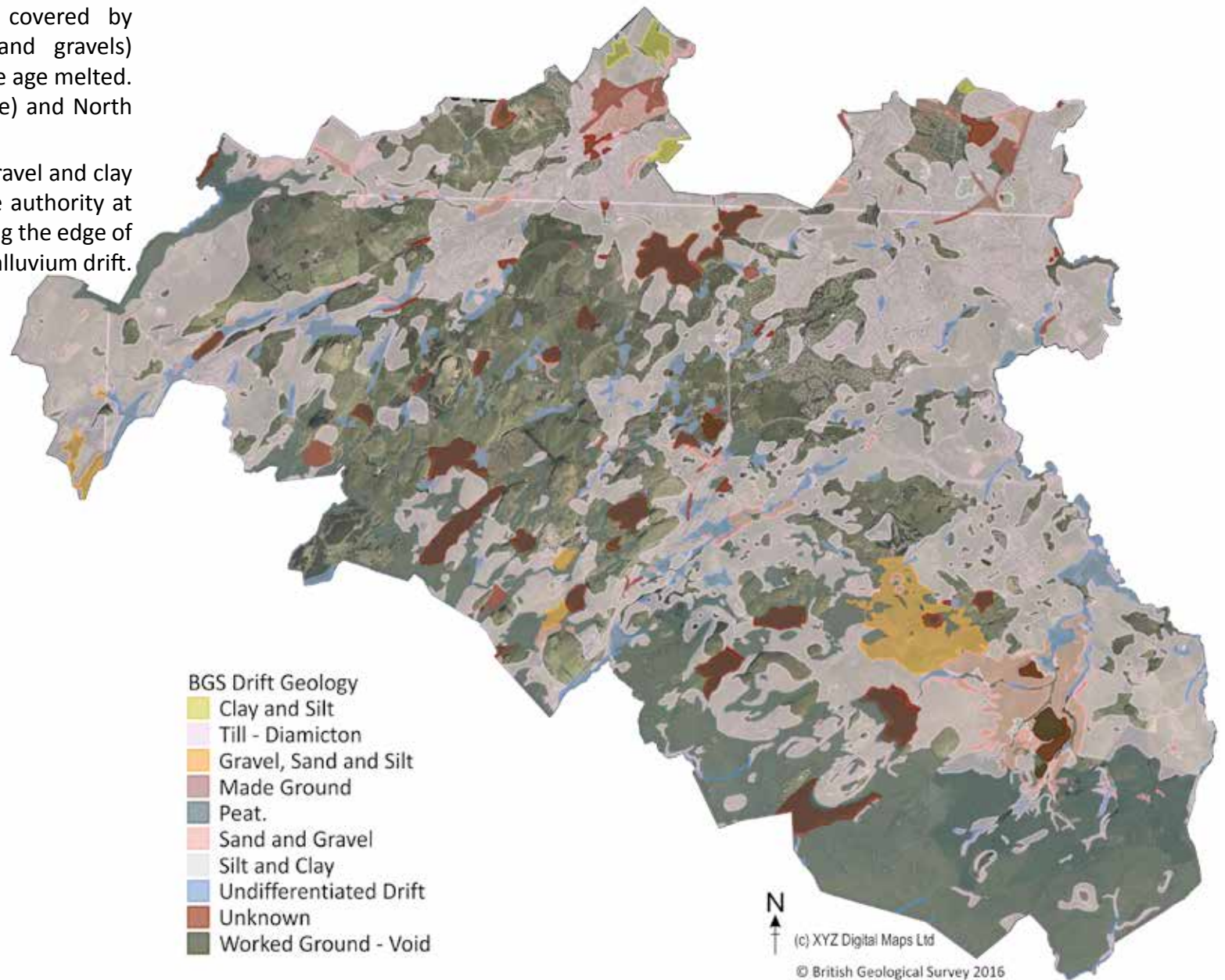


Superficial Geology

The majority of the authority is covered by diamictaon (poorly sorted sands and gravels) deposited as the glaciers of the last ice age melted. Peat lies to the South East (Whiteleee) and North West.

Raised marine deposits of sand and gravel and clay and silt are found to the north of the authority at Barrhead and Giffnock. Scattered along the edge of rivers are pockets of undifferentiated alluvium drift.

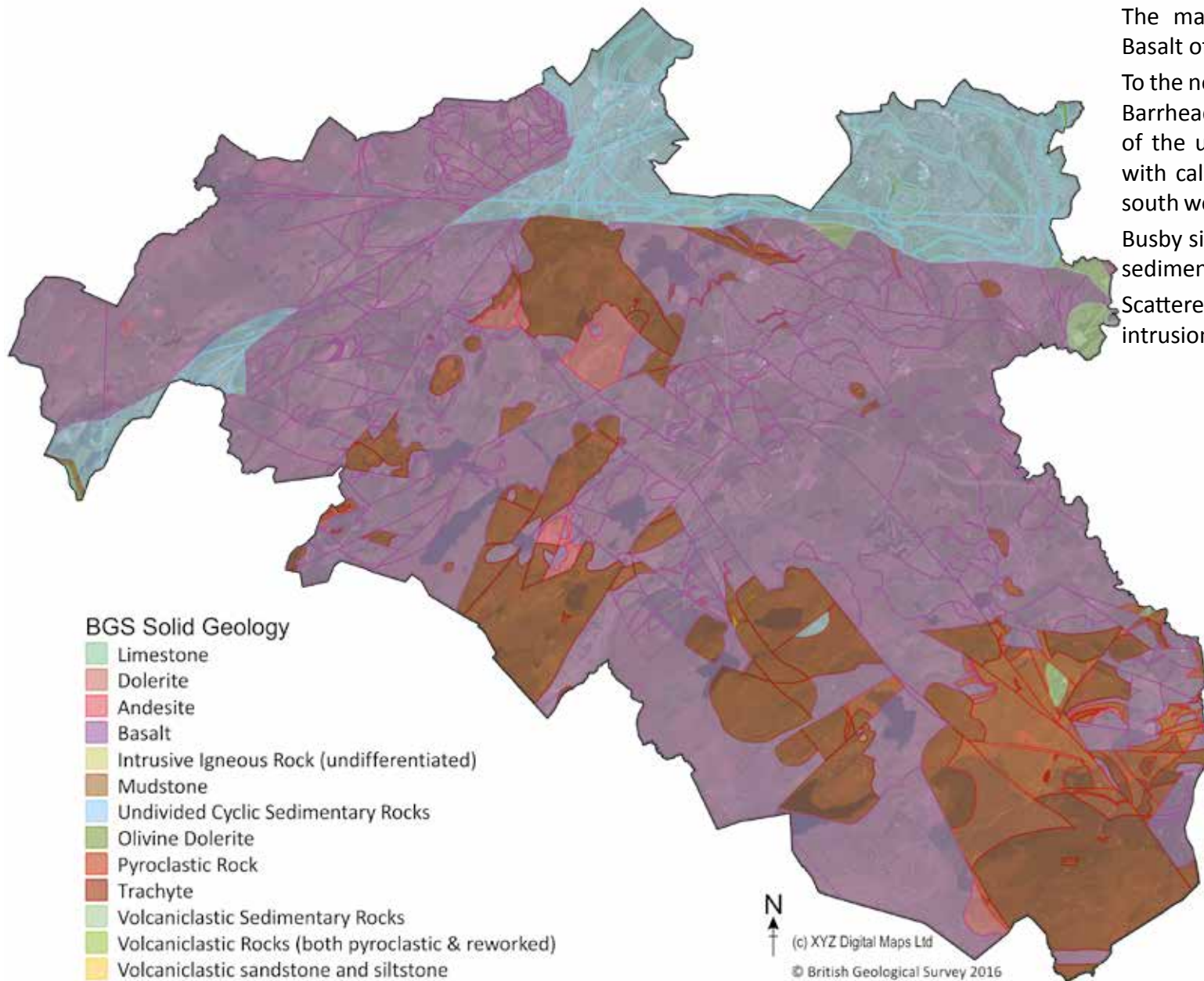
Superficial Geology



Solid Geology

Solid Geology

The majority of East Renfrewshire sits upon Basalt of the Clyde Plateau Volcanic Formation. To the north beneath Giffnock, Thornliebank and Barrhead are undivided cyclic sedimentary rocks of the upper limestone formation interspersed with calmy limestone. This is also seen to the south west of the authority beneath Uplawmoor. Busby sits on an area underlain by volcanoclastic sedimentary rock of the kirkwood formation. Scattered throughout are Trachyte and Andesite intrusions.

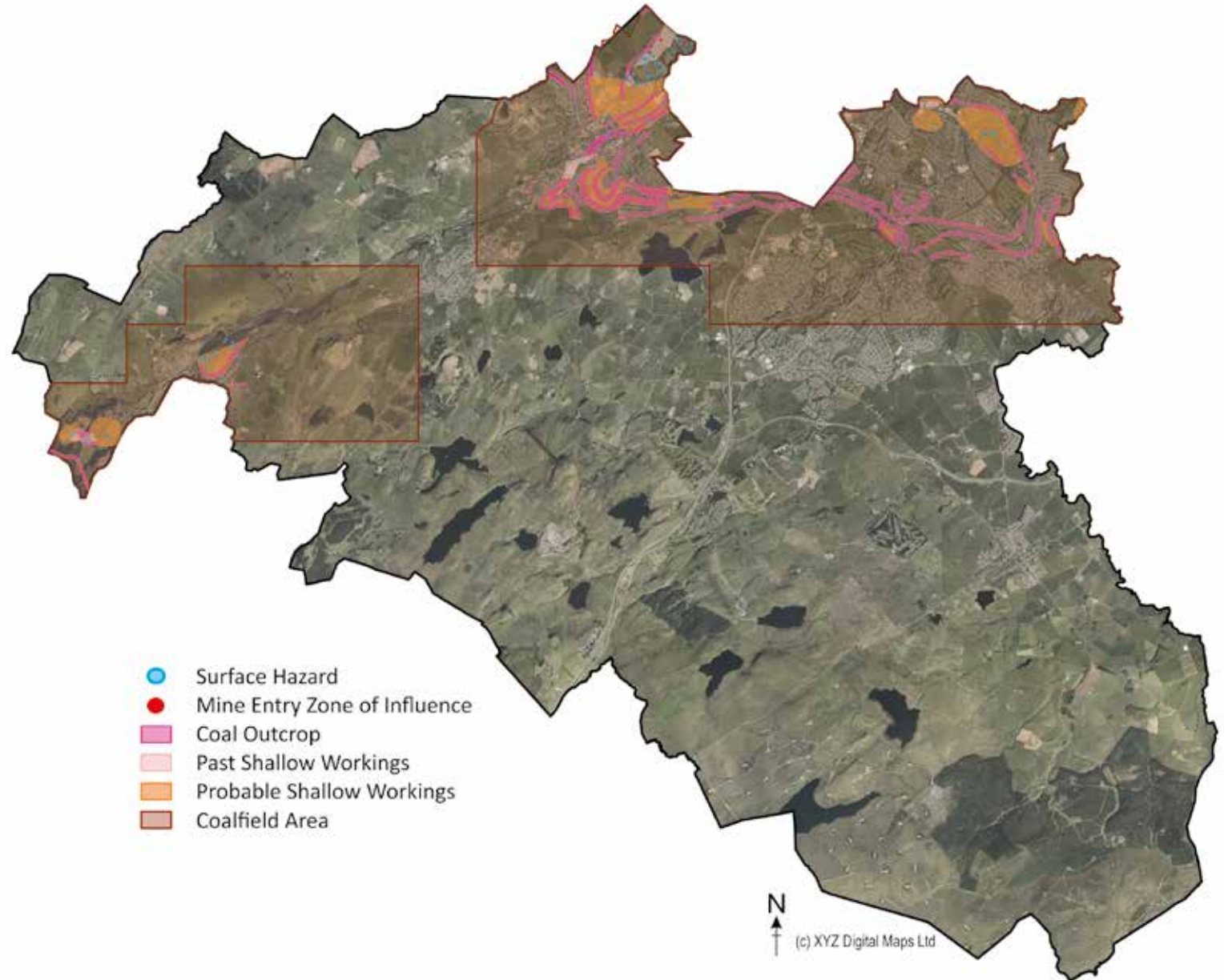


Coalfields/Mining/Quarries

There is a history of coal mining in northern section of the authority across Barrhead, Giffnock and Newton Mearns. The same is also true of the western section of the authority beneath Uplawmoor.

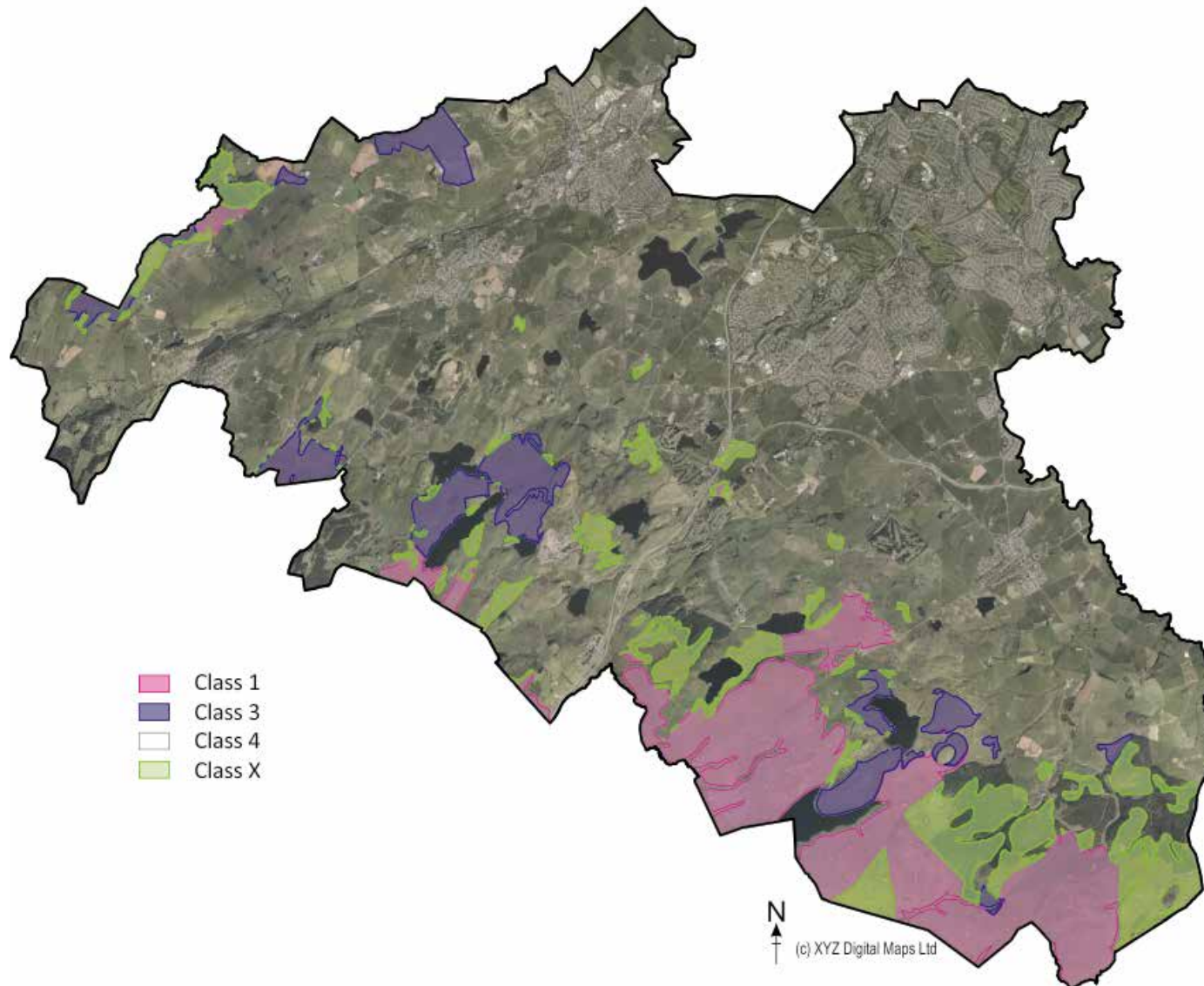
The figure opposite identifies the coal outcrops, former workings and mine entrances¹. Areas where there has been past or probable workings are considered to be high risk development areas and consultation should be sought from the Coal Authority. The coalfield areas identified are considered to be at low risk but further consultation should be undertaken with the Coal Authority.

Coal outcrops and mining.



¹ Coal Authority

Carbon rich soils



Carbon rich soils

Scottish Natural Heritage have produced a map identifying areas of carbon rich soil, deep peat and priority peatland habitats.

The map is split into five classes, four of which are applicable to East Renfrewshire:

Class 1:

- All vegetation cover indicates priority peatland habitats
- All soils are carbon rich soils and deep peat

Class 3:

- Vegetation cover does not indicate priority peatland habitat but is associated with wet and acidic soil types
- Most soils are carbon rich soils, with some areas of deep peat

Class 4:

- Area unlikely to be associated with peatland habitats or wet and acidic soils
- Area unlikely to include carbon rich soils

Class X

- Vegetation cover does not include peatland habitat
- All soils are carbon rich soil and deep peat

TRANSPORT

9



Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Transport				
19	Reduce the need to travel.	Is the LDP2 likely to significantly help reduce the need to travel or reduce the journey length or is it likely to significantly increase travel?	The need to reduce travel by private car and encourage travel by more sustainable modes including walking, cycling and public transport.	Census 2011 SPT
20	Promote sustainable transport modes.	Is the LDP2 likely to significantly help to encourage walking, cycling, or the use of public transport or is it likely to deter them?		Census 2011 SPT

19



East Renfrewshire is on the whole a commuter settlement for Glasgow and the greater area. There is therefore a need to travel to places of employment. This is highlighted with the high percentage of private vehicle ownership.

20

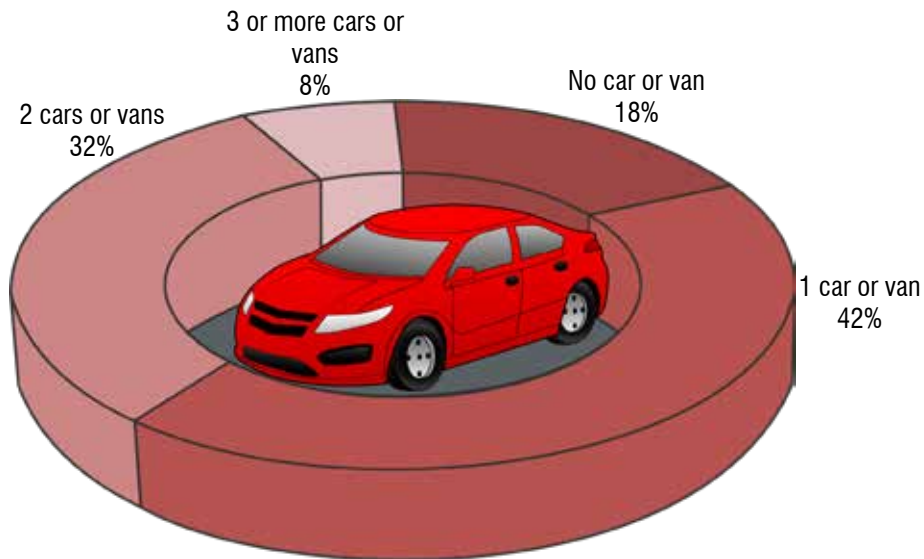


Although there is provision for active travel and use of sustainable transport, further work can be done to improve and link up facilities to encourage residents to make use of the facilities and reduce the number of journeys made by private vehicle. The Active Travel Plan Action Plan should assist in the delivery of these aspirations.

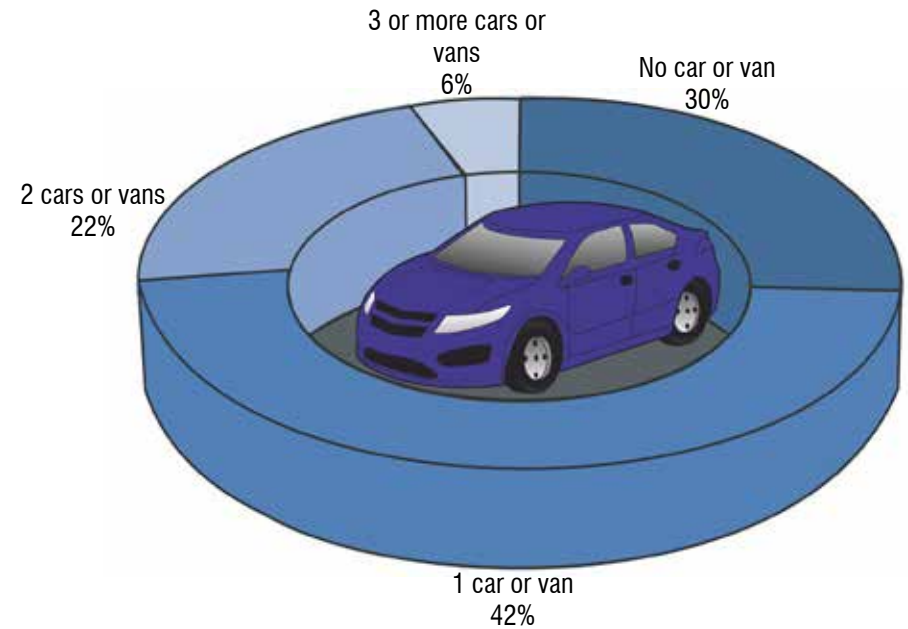
Private Vehicles

East Renfrewshire has a higher than Scottish average car ownership rate. 42% of households within the authority have access to one car, 40% have access to two or more cars and 18% do not have access to a car¹.

East Renfrewshire



Scotland



¹ 2011 Census

Commuting

Commute to Work

Commuters in East Renfrewshire appear to favour the car in their commute to work with 69% of people traveling in private car or taxi. This is above the Scottish average of 62%.

Also above the Scottish average is the percentage of people choosing to commute by train. In East Renfrewshire 9% of people commute using trains as oppose to Scottish average of 4%.

Below the Scottish average of 10% is the percentage of people opting to travel to work on foot. At only 3% East Renfrewshire is well below the Scottish average.

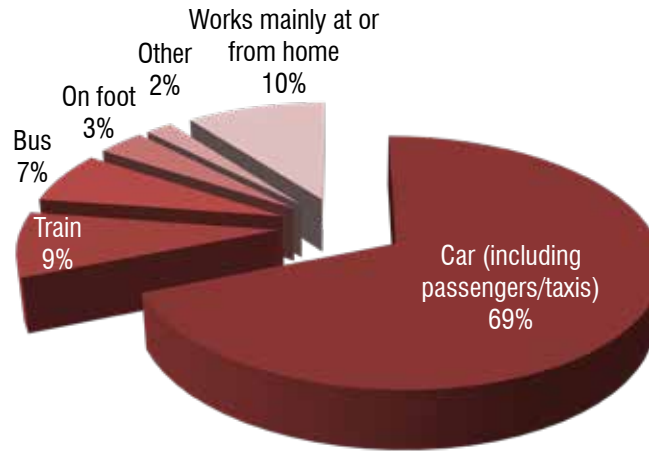
The percentage of people commuting by car has dropped from 71.2% in 2001 census to 69% in the 2011 census. Over the same time frame the percentage of people walking has increased by 2%. The percentage of people opting for public transport has remained the same.

Commute to Study

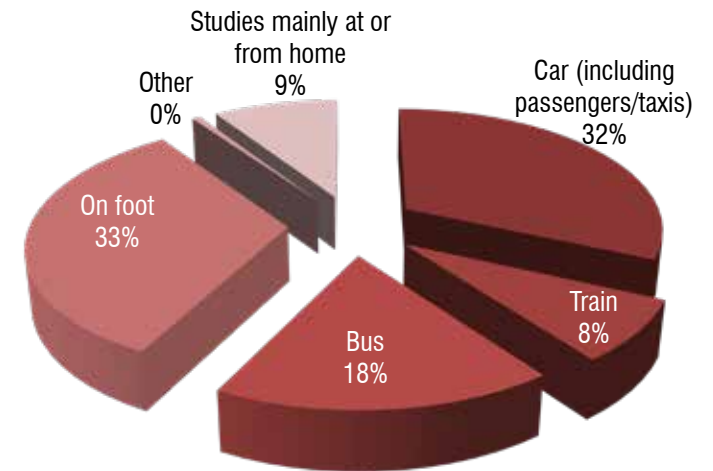
These figures relate to people aged 4 and over and in full time education. Approximately 1/3 of people in education travel to their place of study by car or taxi. This is above the Scottish average.

Approximately 1/3 of travel on foot which is below the Scottish average. As with the travel to work figures, East Renfrewshire has a higher percentage of train users and lower percentage of those traveling by foot than the Scottish average.

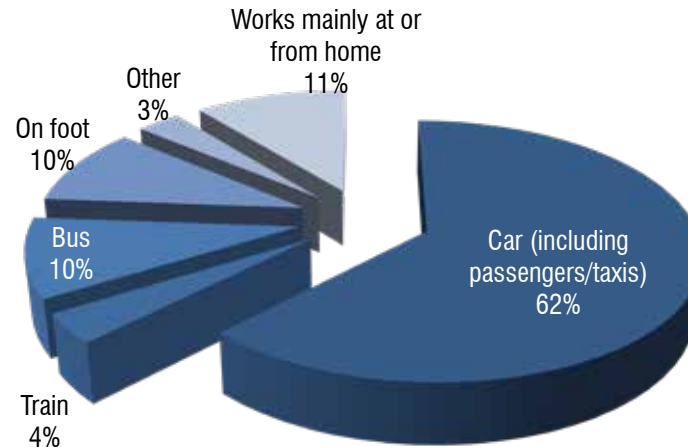
**East Renfrewshire
Commute to Work**



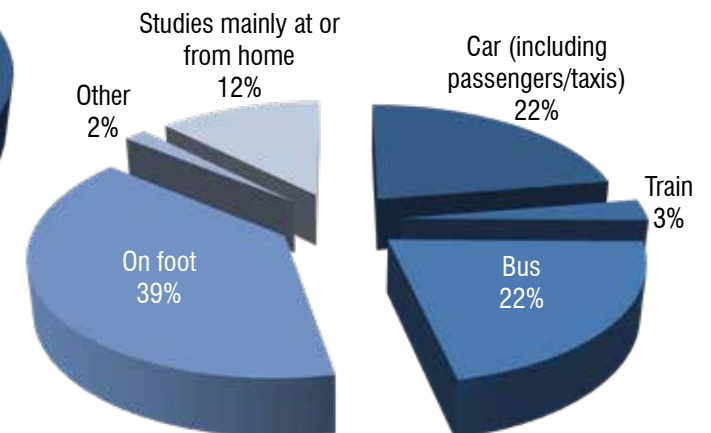
**East Renfrewshire
Commute to Study**



**Scotland
Commute to Work**



**Scotland
Commute to Study**



WASTE

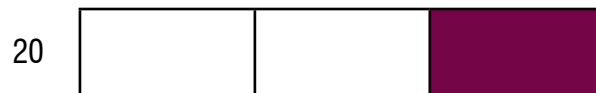
10



Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Waste				
21	Reduce waste and promote the sustainable use of waste including recycling and composting.	Is the LDP2 likely to significantly help reduce waste or is it likely to increase waste arising?	There is a need to reduce high levels of waste production and for the demand for landfill.	Waste team ERC
22	Prevent or reduce the volume of waste peat or forestry waste.	Is the LDP2 likely to significantly help to reduce the volume of waste peat or forestry waste?	Consideration also needs to be given to waste arising from carbon stores such as peat and forestry.	Carbon rich soils - SEPA National Forestry Inventory Ancient Woodland Inventory



The percentage of household waste recycled has increased by 7% within the last year.



We currently do not hold any information to identify this objective is being met.

Waste collection and recycling centres

There are two recycling centres within East Renfrewshire; one in Newton Mearns and one in Barrhead.

Scotland's Zero Waste Plan sets out the Scottish Government's vision for a zero waste society. The vision describes a Scotland where all waste is seen as a resource; waste is minimised; valuable resources are not disposed of in landfills, and most waste is sorted leaving only limited amounts to be treated. Zero Waste Scotland contributes to the following Scottish Government targets:

- Recycling 70% of all waste by 2025
- Reducing waste by 15% by 2025
- Reducing food waste by 33% by 2025
- Meeting 50% of energy heat demand from renewables by 2032
- Energy efficiency as a national infrastructure priority
- Reducing Scotland's greenhouse gas emissions by 66% by 2032

Waste per household tonnes:

2017:

Total Number of households = 38,899 (NRS 2017)

Bin lorry tonnage = 12232.78

$12232.78 \div 38899 = 0.31$

2018:

Total Number of households = 38,899 (NRS 2017)

Bin lorry tonnage = 12309.45

$12309.45 \div 38899 = 0.31$

Percentage of household waste recycled:

<http://www.improvementservice.org.uk/benchmarking/explore-the-data.html>

2016-17 – 60.8%

2017-18 – 67.1%

Commercial Waste (tonnes):

2017 – 3382.05

2018 – 3340.46

WATER

11



There are **approximately 354Km** of water courses (including small burns) within the boundaries of East Renfrewshire.

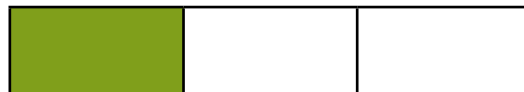
Environmental Objectives		Implications for LDP2	Identified Environmental Issues	Data Source
Water				
23	Protect and enhance the state of the water environment.	Is the LDP2 likely to significantly help to protect or enhance the water environment, for example reducing the risk of water being polluted?	The need to improve water quality and reduce pollution.	SEPA Scottish Water
24	Ensure sustainable use of water resources.	Is the LDP2 likely to significantly help conserve or protect water resources?	The need to reduce development on the flood plain.	SEPA Scottish Water
25	Safeguard the functional floodplain and manage and reduce flood risk.	Is the LDP2 likely to increase the likelihood of flooding or the requirement for flood defence works, or is it likely to have significant adverse effects on the water environment?	The need to reduce the number of flooding events and the number of properties affected by flooding.	SEPA ERC Scottish Water

23



Only one source degraded from Good to Moderate in the past 4 years.

24



Three of the lochs are drinking water, of which Lochgoin now has Good status

25



Historically there has been development in some of the areas identified in SEPA's flood potential maps, however the Local Development Plan has policies in place to ensure the potential for flooding is considered in future development proposals.

Catchments

East Renfrewshire falls within the Scotland River Basin District. Surface water bodies that are monitored by SEPA feed the following 4 river catchments:

- White Cart Water
- Black Cart Water
- River Garnock
- River Irvine

Water Quality

Lochs and other inland water bodies

Three of the larger lochs (Dunwan Dam, Balgray Reservoir and Lochgoin Reservoir) are noted as being storage for drinking water supply.

SEPA set environmental objectives for Lochgoin reservoir in order that sustainable improvements to its status can be made over time, or alternatively that no deterioration in status occurs. Scottish Water were identified as the water body owner and objectives were set to improve the status to moderate by 2015. The status improved from Poor to Good over 2015/16.

Water Body	2014	2015	2016	2017
10000 - White Cart Water (Kittoch Water to A726 road bridge)	Poor	Poor	Poor	Poor
10001 - White Cart Water (above Kittoch conf)	Poor	Poor	Moderate	Moderate
10002 - Kittoch Water	Poor	Poor	Poor	Poor
10003 - Capelrig/Auldhouse Burn	Poor	Poor	Poor	Poor
10007 - Lavern Water	Poor	Poor	Poor	Poor
10009 - Dunwan Burn/Polnoon Water (d/s Dunwan Dam)	Good	Good	Good	Good
10010 - Dunwan Burn (u/s Dunwan Dam)	Good	Good	Good	Good
10011 - Earn Water	Moderate	Moderate	Moderate	Moderate
10023 - Old Patrick Water	Moderate	Moderate	Moderate	Moderate
10383 - Lugton Water	Poor	Poor	Poor	Poor
10394 - Annick Water	Poor	Poor	Poor	Poor
10399 - Kingswell Burn/Fenwick Water/Kilmarnock Water	Poor	Poor	Moderate	Moderate
10401 - Craufurdland Water/Dunton Water (u/s hareshawmuir water)	Poor	Poor	Moderate	Good
10402 - Hareshawmuir Water/Gawkshaw Burn	Poor	Poor	Moderate	Good
10406 - Glen Water	Good	Good	Good	Good
10721 - Dusk Water	Good	Good	Moderate	Moderate
10921 - Brock Burn (source to A726 Road Bridge)	Good	Good	Good	Good
100299 - Balgray Reservoir	Moderate	Moderate	Moderate	Moderate
100304 - Dunwan Dam	Good	Good	Good	Good
100305 - Lochgoin Reservoir	Poor	Poor	Good	Good

Rivers

Seventeen rivers have undergone water classification by SEPA. In the monitoring period from 2013 to 2014 five rivers have degraded in overall quality status and only one has improved. The remaining fourteen have not changed from their previous status. The Table overleaf shows the water quality status from 2014-2017.

SEPA have identified East Renfrewshire Council as being a potential source for improvement for two of the rivers with poor quality status:

Surface Water Quality Status

