

6. Current State of the Environment

The Border Region is endowed with a wide range of environmental resources, which need be acknowledged and dealt with appropriately within the Guidelines. The current state of the environment of the Region will be considered under the following environmental headings:

- Biodiversity, Fauna and Flora
- Population
- Human Health
- Soil
- Water
- Air
- Climatic factors
- Material Assets
- Cultural heritage, including Architectural and Archaeological
- Landscape
- the interrelationship between the above topics

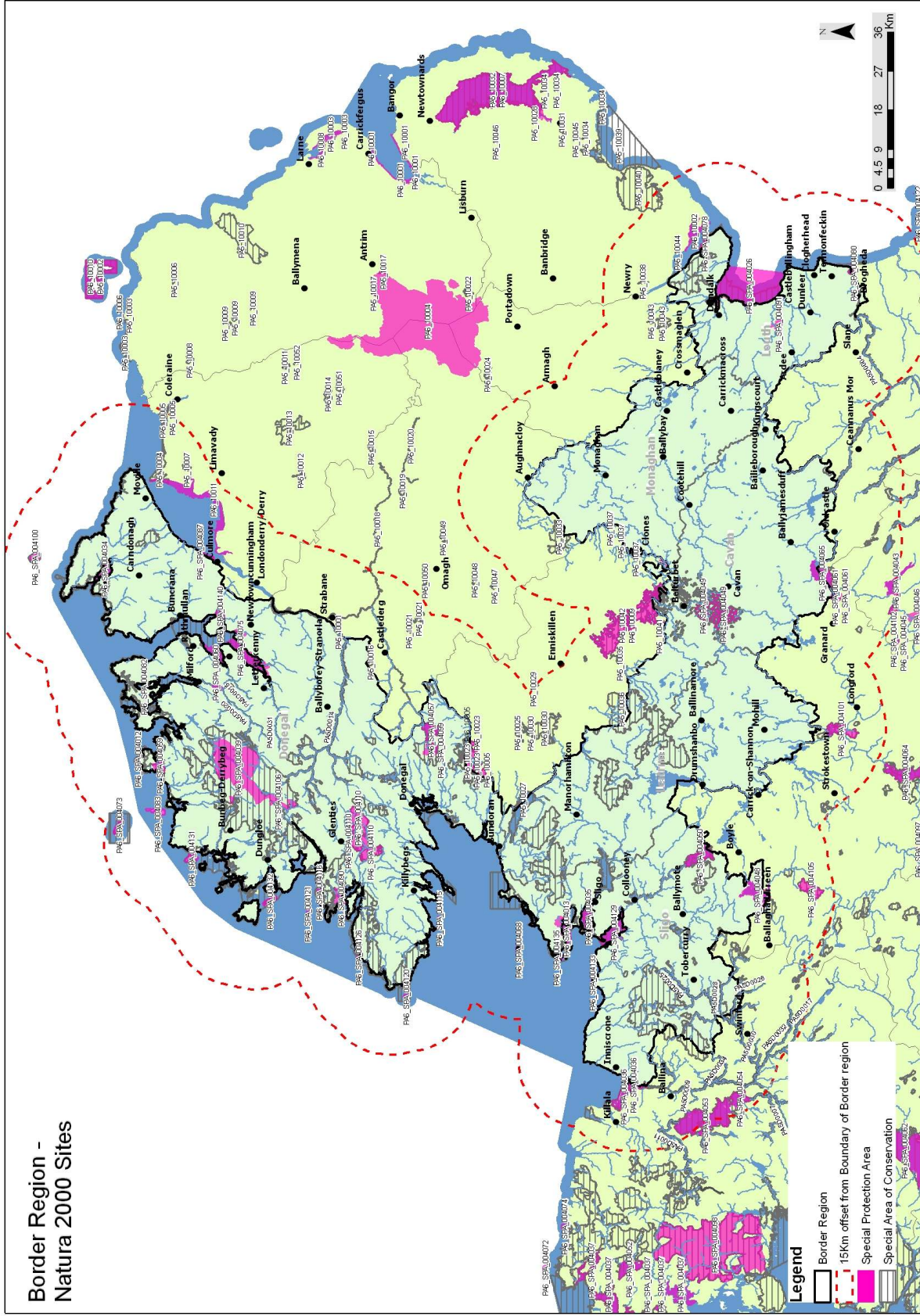
Annex 1 of the Directive also requires secondary and cumulative effects to be considered

6.1 Biodiversity, Flora and Fauna

The conservation of biodiversity in Ireland has been strengthened and expanded by EU law, most notably by the EU Birds Directive and EU Habitats Directive and also by the EIA Directive (85/337/EEC).

In 1997, the Habitats Directive was transposed into Irish national law and the relevant Regulations European Union (Natural Habitats) Regulations, SI 94/1997 represent a fundamental shift in nature conservation policy and law. These Regulations have since been amended by SI 233/1998 & SI 378/2005.

The landscape of the Border Region provides the setting for a range of wildlife habitats and species and many areas are designated or proposed as, Special Areas of Conservation (SAC's) and Special Protection Areas, (SPA's) Natural Heritage Areas (HNA's). In general terms SAC's and SPA's are afforded protection at a European and National level whereas NHA's are protected at a National level only. Habitats outside these designated areas are also key stepping stone habitats or ecological corridors linking sites of prime conservation value (e.g. waterways, woodlands and hedgerows). In December 2007, the first baseline assessments of conservation status for all 59 habitats and c.100 species listed for protection by the EU in Ireland was prepared by the National Parks and Wildlife Service. Many habitats associated with water were considered to be in bad condition. Planning for the conservation and protection of key habitats and species is important on a regional and catchment basis. Thus it is considered that wetland habitats and species (e.g. Freshwater Pearl Mussel, and Salmonids) will be a significant issue for consideration in the Environmental Report. Map 1 Natura 2000 Sites (SAC's and SPA's). Map 2 Location of Fresh Water Pearl Mussel Sites.



Border Region -



Map 2

Table 1 Number of NHA,s, pNHA's, cSAC's and SPA's in each County

County	NHAs	pNHAs	cSACs	SPAs
Cavan	2	20	7	3
Donegal	13	74	46	22
Louth	0	24	6	4
Monaghan	1	19	1	1
Sligo	3	35	21	9
Leitrim	9	28	8	2
Total	28	200	89	41

The full extent of the Regions natural heritage of wild species, geological features and landforms, and natural and semi-natural habitats, extend to more than just those sites which benefit from statutory protection. Under Article 10 of the EU Habitats Directive it states that Member States shall endeavour, where they consider it necessary, in their land use planning and development policies to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those, which by virtue of their linear and continuous structures such as rivers, or their functions as stepping stones such as ponds and small woods, are essential for the migration, dispersal and genetic exchange of wild species. The features will vary from area to area and include hedgerows, canals, ponds, lakes, ditches and banks, linear tree belts/shelter belts, larger semi-natural or ancient woodlands, river corridors and other locally important habitats. The management of the habitats of the Glenveagh National Park are of significant importance

The need to conserve biodiversity generally is underlined in the National Biodiversity Plan and Convention on Biological Diversity which Ireland has signed and ratified. Biological diversity means the variety of all life on earth from the smallest and simplest micro-organism to the complex system that is the rainforest. Biodiversity is the result of billions of years of evolution. In Ireland habitat and species diversity constitutes our national biodiversity. Biological diversity, or biodiversity, is the term given to the variety of life on Earth and the natural patterns it forms. The biodiversity we see today is the result of billions of years of evolution, shaped by natural processes and, increasingly, by the influence of humans. It forms the web of life of which we are an integral part and upon which we so fully depend. This diversity is often understood in terms of the wide variety of plants, animals and micro-organisms which have been impacted upon by human beings over time.

Urban growth in the Region has been accelerating at a greater rate over recent years as increased development expands city and town limits into the

countryside. Artificial land cover throughout Region remains relatively low; however, the constant encroachment on natural habitats will undoubtedly have an impact on natural flora, fauna and biodiversity. Clearing of vegetation has resulted in the replacement of natural habitats with semi-natural habitats. The intensification of agriculture, which took place in the second half of the last century, increased the removal of hedgerows and woodland. In recent years the development of many one-off greenfield sites in the county has also given rise to a sharp increase in the removal of hedgerows. Hedgerows constitute an important natural and historic resource given both their role as wildlife corridors between habitats, their value in terms of visual amenity and their historic significance as townland and field boundaries.

The number of protected sites (including candidate designated areas and proposed natural heritage areas) in respect to each county within the Region is set out in Table 1. In Northern Ireland there are over 350 protected areas (including candidate designated areas). Throughout the island of Ireland there has been a decline in many of the native species through habitat loss, competition, development and agriculture. Legislation from Ireland, Northern Ireland and Europe protect some of these species. Within Ireland there are 18 species of plant or animal recorded as endangered, 52 recorded as vulnerable, 75 recorded as rare and 8 classed as intermediate (<http://www.epa.ie/environment/biodiversity/protectedareas/>).

Within Northern Ireland there are currently 272 plant and animal species that require conservation action and have been identified as Priority Species under the Biodiversity Action Plan. There are also 457 species on the Northern Ireland Species of Conservation Concern (SOCC) list. Those species under threat have been identified on a scientific basis (<http://www.ni-environment.gov.uk/>).

Annex II species such as freshwater pearl mussel (*Margaritifera*) and salmon are particularly sensitive to pollution. *Margaritifera* requires extremely oligotrophic conditions, preferably rivers with a biotic quality index of Q5 (Ireland) or a GQS value of A (Northern Ireland). The EPA and NIEA use these Q5 and A values, respectively, to indicate the highest quality status categories. There has been a considerable decline in freshwater pearl mussel species distribution and numbers. Salmon need very good water quality typical of that found in upland streams. The species needs pool, glide and riffle. They require rivers where dredging is not on-going and where there are no abrupt changes, such as those that might occur through physical modifications. Map 2 shows the location of Freshwater Pearl Mussel relating to the Border Region.

Invasive species represent one of the greatest threats to biodiversity, second only to that caused by direct habitat destruction. They do this by competitively excluding or out-competing our less robust native species, by preying on native species or by altering the natural aquatic or riparian habitat in which they reside.

A number of invasive, non native species of both flora and fauna are present throughout the Region. Invasive species are defined as plants or animals which did not originally occur in Ireland, before human colonisation of the country and which are also expanding their numbers and distribution so as to cause a competitive threat to such native fauna and flora. Many species such as the Norway Rat have been here for centuries and are no longer considered non native. Other more recent arrivals to Ireland such as the Zebra Mussel are considered both non native and furthermore, in this case, pose a direct threat to aquatic ecosystems and human activities by blocking water pipes and boat engines and affecting our native fish species.

Invasive species have been introduced to Ireland from other countries or continents by human beings, either intentionally or accidentally. In the absence of their natural predators or parasites, such introduced, invasive species are increasing in number and spreading “out of control” and are colonising and monopolising habitats vital to the survival of native, Irish wildlife. Such species are seen to be a threat to native biodiversity and warrant corrective action to prevent their further spread and the consequent loss of native biodiversity which is seen as having “more of a right to be here” in that Ireland provides its natural habitat. We do not however include economically important, commercial crops (e.g. cereals or conifers) or domesticated animals (man, cattle, sheep, goats, cats etc) unless these have formed wild-breeding, feral populations. The following is a list of the most common invasive species to be found in the Region.

Sycamore – native in France and mainland Europe, widespread in woodlands
Non-native conifers (e.g. Sitka spruce) take up space that could be native woodlands and are also, to some degree, self-seeding on hillsides.

Rhodendron ponticum – native to Asia, widespread in woodlands

Other non-native broadleaved trees, such as horse or sweet chestnut, lime or beech are generally deliberately planted. Though they can and do set seed and grow from seed in the wild, they do not usually grow in such numbers as to threaten native biodiversity.

Gunnera, also known as giant hogweed, has poisonous qualities and is found across the Region.

Other invasive species found in the Region include; Japanese knotweed, Himalayan Balsam, *Didemnum* *Spartina anglica*

Table 2 presents a summary of the threats to the integrity of various categories of habitats.

Table 2 Threats to the integrity of different categories of Habitats

Habitats	Threats
Raised Bogs Blanket Bog Wet Heath Dry Heaths	Changes in local hydrology including drainage Peat Extraction Overgrazing Forestry Burning Direct loss of habitat to development Arterial drainage/water abstraction/ lowering of the regional water table Agricultural Reclamation
Lakes & ponds Watercourses/Rivers	Water quality/pollution Changes in flow rates Arterial drainage/water abstraction/ lowering of the regional water table Siltation Loss of fringe vegetation Changes in seasonal water levels/fluctuations Direct loss of habitat to development Loading from effluents (WWTP) Recreation/Amenity Use Developments - marinas
Marine Habitats Bays/Inlets/ Estuaries Brackish Waters Open sea	Water quality/pollution Development of marinas and ports Disturbance to marine mammals Dumping at sea Direct loss of habitat to development Recreational/Amenity Use
Woodland/Scrub	Direct loss of habitat to development Amenity/Recreational Use Invasive species Lack of/inappropriate woodland management Overgrazing (deer)
Semi-natural grasslands Limestone pavement	Agricultural Improvements/Reclamation Agricultural abandonment Overgrazing/Undergrazing Direct loss of habitat to development Quarrying on esker ridges and limestone pavement Bracken & scrub encroachment
Marshes Swamps Fens Turloughs	Agricultural Improvements/Reclamation Drainage/Changes in local hydrology Water quality/pollution (including groundwater) Agricultural abandonment Overgrazing/Undergrazing Direct loss of habitat to development Bracken & scrub encroachment Turf/Peat extraction in fens Impacts to local geology/geomorphology e.g. quarrying/rock blasting, for turloughs & groundwater fed fens
Sand Dune Systems Salt Marshes	Agricultural Improvements/Reclamation Drainage/Changes in local hydrology including water abstraction Erosion (natural and anthropogenic) Water quality/pollution Agricultural abandonment Overgrazing/Undergrazing Direct loss of habitat to development Bracken & scrub encroachment

	Amenity/Recreational Use Tourism related development
SPAs	Direct & indirect impacts to the habitats of the bird species of conservation interests (loss of habitat) Direct loss of habitat to development Water quality/pollution Disturbance including recreation/amenity use

Further information on biodiversity, flora and fauna in Ireland may be obtained from the National Parks and Wildlife Service (NPWS) database, information gathered under the National Platform for Biodiversity Research and the EPA Environment in Focus 2006 document. In Northern Ireland further information may be obtained from the Centre for Environmental Data and Recording (CEDaR), information gathered under the Countdown 2010 programme. The Habitats Directive Assessment process will integrate with the Environmental Report and inform management of biodiversity the making of the RPG's in respect to the management of the biodiversity, flora and fauna of the Region.

6.2 Population

The Regional Planning Guidelines have a critical role to play in ensuring that the needs of future population growth is planned for and accommodated within the Development Plans of each Member Council

Revised population targets from the NSS were circulated to the Regional Authorities by the Department of Environment, Heritage and Local Government on the 5th January 2009. Table 3 sets out the target population that must be incorporated into the revised Settlement Strategy in the new RPG's. An outline of how population targets in respect to, Gateways, Hubs and Strategically important Centers, will be presented in the Environmental Report.

Table 3 Regional Population Targets for the State and the Border Region 2010, 2016 and 2022

	2008	2010	2016	2022 (low / high) range
Border Region	492,500	511,000	552,700	595,000 / 611,400
State	4,422,000	4,584,900	4,997,000	5,375,200 / 5,523,000

DEHLG, 05 January 2009

Through the implementation of the existing RPGs, it was found that some variance exists in population growth of the Gateways and Hubs in the Region. In particular there was concern that some of the Gateways and Hubs are failing to develop the critical mass in line with the RPGs aims. The most noteworthy levels of population growth were in the Gateway of Letterkenny, the Hub town of Cavan and the Regionally Strategically Town of Carrick on Shannon. The promotion of a balanced regional development must therefore be a priority for the new Guidelines.

Reasons cited for poor growth in the main settlements may well be due to the fact that the Border Region is traditionally rural in nature with 305,252 persons (65.2% 2006 Census) of its total population living in rural areas. A breakdown of urban and rural population figures for the Border Region are provided in Table 4.

Table 4 Population and Percentage breakdown of Aggregate Town and Rural Area figures for Counties in the Border Region in 2002 and 2006

County/ Region/ State	Year	Aggregate Town Area Population (Persons)	Aggregate Rural Area Population (Persons)	Total Population (Persons)	% of Population in Aggregate Town Area
Louth	2002	65,340	36,481	101,821	64.2
	2006	71,640	39,627	111,267	64.4
Leitrim	2002	1,842	23,957	25,799	7.1
	2006	2,595	26,355	28,950	9.0
Sligo	2002	19,735	38,465	58,200	33.9
	2006	19,402	41,492	60,894	31.9
Cavan	2002	9,502	47,044	56,546	16.8
	2006	16,913	47,090	64,003	26.4
Donegal	2002	32,788	104,787	137,575	23.8
	2006	36,585	110,679	147,264	24.8
Monaghan	2002	14,651	37,942	52,593	27.9
	2006	15,988	40,009	55,997	28.6
Border	2002	143,858	288,676	432,534	32.3
	2006	163,123	305,252	468,375	34.8
State	2002	2,334,282	1,582,921	3,917,203	59.6
	2006	2,574,313	1,665,535	4,239,848	60.7

6.2.1 Emerging Facts

- ♦ County Louth has a higher average aggregate population in towns than both in the Border Region and the State

- ◆ County Louth is an exceptional case with a much higher percentage of people living in towns when compared to the other counties in the Border Region. This is due mainly to a relatively large population living in, what is, physically the smallest county in Ireland. Louth is dominated by the two main urban centres of Dundalk and Drogheda
- ◆ County Leitrim is also an exceptional case in that a very small percentage of its population live in towns (7.1% in 2002 and 9.0% in 2006). In 2006, the remaining counties of Sligo, Cavan, Donegal and Monaghan have similar percentages of the population living in towns with 31.9%, 26.4%, 24.8% and 28.6% respectively
- ◆ The Border Region experienced a higher percentage increase in the numbers of persons living in towns in 2006 when compared to the state. This may be due to the fact that traditionally the population of the Border Region is predominantly rural. This is reinforced by the fact that the average population in 2006, living in towns in the Border Region, was 34.8% when compared to the states average of 60.7%
- ◆ Sligo was the only county in the Border Region to experience a decline in the numbers of persons living in towns (-2.0%)
- ◆ County Cavan had the greatest increase in the numbers of persons living in towns between 2002 and 2006 with an increase of 9.6% points.
- ◆ Based on the 2006 census there is a relatively high residential vacancy rate within the Border Region, 21% as compared to 15% for the State. Vacancy rates are particularly high in Leitrim and Donegal, 29% and 27% respectfully. Table 5 presents vacancy rates for the State, the Region and each County

Table 5 Residential Vacancy Rates

Area	Total Housing Stock	% Vacancy
Leitrim	15282	29.3
Donegal	70526	27.0
Sligo	28751	23.1
Cavan	28250	21.2
Louth	45488	13.4
Monaghan	21658	12.8
Region	209955	21.1
State	1769613	15.0

Source CSO (2006)

Table 6 provides a breakdown of the population of each principal settlement in the Region for the years 2002 and 2006. These settlements will form the basis of the new Settlement Strategy in the revised Regional Planning Guidelines for the Border Region. It is envisaged that through the review, each county and their principal settlements will have anticipated population targets for the years 2010 and 2022.

Table 6 Population change in Principal Settlements between 2002 and 2006.

Settlement Hierarchy Category	Hierarchy Description	Settlements	Population (2002)	Population (2006)	% change in population between 2002 and 2006
Gateway	Strategically placed, national scale urban area, which individually, and in combination, will be key elements for delivering a more spatially balanced Ireland and driving development in the Region.	Letterkenny	7,965	15,062	89.1
		Sligo	18,473	17,892	-3.1
		Dundalk	27,385	29,037	6.0
Hub	Strategic urban centres, that support, and are supported by the Gateway, and reach out to wider rural areas of the Region which the RPG's are targeting for significant levels of growth.	Cavan	3,538	3,934	11.2
		Monaghan	5,717	6,221	8.8
Primary Development Centre	A location set out in the NSS which needs to aim at a population level that supports self sustaining growth, but which does not undermine critical mass in other locations. Such centres should energise their own catchments	Drogheda	28,333	28,973	2.3
Regionally Strategic Town	Important town that provides a regionally significant role and which takes up a strategic position in its own location. Its functionality does not relate to its size.	Carrick-on-Shannon	1,842	2,595	40.9

6.2.2 Socio-economic Characteristics of the Border Region

Age Profile and Dependency Ratios

The Region has :

- ◆ the lowest percentage of its population in the age category 25 – 44 (working population)
- ◆ the highest percentage of its population in the category 65 and over (Highest elderly dependency ratio in Ireland)
- ◆ one of the highest youth dependency ratios in Ireland (category 0 – 14 years)

Migration

- ◆ The Border Region has 9.13% of total non-nationals in Ireland

Disposable Income

- ◆ The Region consistently has one of the lowest levels of disposable income in Ireland (2002 and 2006 Census)

Education

- ◆ It has the lowest number of persons achieving below Junior Cert and Leaving Cert as a percentage of total population for persons aged 15+ for the census years 2002 and 2006
- ◆ It has one of the lowest numbers of persons achieving third level qualifications (23.4%) as a percentage of total population for persons aged 15+ in 2006. The situation has however improved significantly since 2002 where the corresponding figure was 18.9% which was at the time the worst in the country
- ◆ It is second only to the South East with the second highest percentage of early school leavers (18 – 24 year old) in the country

Expenditure on Research and Development

- ◆ It has the lowest percentage of expenditure on business expenditure on research and development in 2005 (3.9%) when compared to the rest of the country
- ◆ It has the second lowest percentage of expenditure on Higher Education research and development in 2006 (0.8%) when compared to the rest of the country

PC and Broadband Penetration

- ◆ It is joint lowest region (with the Midlands) for both PC (53%) and Broadband (12%) penetration in Ireland.

(Forfas, Regional Strategic Agendas Report 2007+)

6.2.3 Human Health

Availability of spatial data on human health on a regional basis is limited. However, a key area for consideration will be the interrelationships of human health and water quality to include drinking water, waste water treatment, recreational bathing waters, fisheries and shellfish waters. There will also be interrelationships with air quality and climatic factors such as flood risk.

6.3 Soil and Geology

EU proposals are currently in train for a Directive that lays down a framework for the protection and sustainable use of soil. Our maritime climate, predominance of permanent grassland, sustainable land management practices and lack of historic industrialisation has contributed to the maintenance and protection of soil quality across the country. The general consensus is that soil quality in Ireland is good; however, this is based on limited information and therefore the degree of certainty is low. The ultimate

purpose of knowing and assessing soil quality and potential threats is not to achieve, for example, high soil aggregate stability, biological activity, or some other soil property; rather the purpose is to protect and improve long-term agricultural and forestry productivity, water and air quality, and the habitats of all living organisms and humans.¹

Geology is now recognised as a fundamental component of natural heritage and as such the conservation of geological heritage features is considered an important aspect of conserving the natural heritage. In 1998, the Geological Survey of Ireland established the Irish Geological Heritage (IGH) Programme which is a partnership between The Geological Survey of Ireland (GSI) and the National Parks and Wildlife Service of The Department of Environment, Heritage and Local Government. Under the IGH Programme important sites that are capable of being conserved as Natural Heritage Areas (NHA) are being identified. Those not selected for NHA designation are being promoted as County Geological Sites (CGS). The IGH Programme has identified all sites of interest as CGS (including those to be designated as geological NHAs). The approximate number of sites in each county is given in Table 7 below.

Table 7 Geological Sites in each County

County	No of Sites
Donegal	120
Sligo	58*
Leitrim	24
Cavan	19
Monaghan	13
Louth	35

*includes Sligo-Leitrim sites

6.3.1 Land Cover

Land cover includes vegetation, man-made structures and surface water features. Agriculture is a significant land use within the Region in terms of land cover, occupying approximate 61.030% of the Region. Of this, some 44.005% is in use as pastures. Peat bog covers approximately 22.022%. Forests cover approximately 3.459% of the Region, with 2.798% of this comprised of coniferous forests as opposed to approximately 0.338% broadleaf. The total area covered and % cover for various categories of land use are given in Table 8. The distribution of land use cover will be provided in the Environmental Report.

Table 8 Land Use Cover

Class Name	Total Area Km2	% Cover
Airports	1.615	0.013
Bare rocks	5.433	0.044
Beaches, dunes, sand	47.061	0.382

¹ Environmental Protection Agency (2008) State of the Environment Report

Board Leaved forest	41.639	0.338
Coastal lagoons	0.325	0.003
Complex cultivation patterns	141.898	1.151
Coniferous forest	344.967	2.798
Construction sites	2.562	0.021
Continuous urban fabric	3.045	0.025
Discontinuous urban fabric	109.281	0.886
Estuaries	1.844	0.015
Green urban areas	0.750	0.006
Industrial or commercial units	1.591	0.013
Inland marshes	21.689	0.176
Intertidal flats	17.548	0.142
Land principally occupied by agriculture with areas of natural vegetation	1371.785	11.127
Mineral extraction sites	7.496	0.061
Mixed forest	39.779	0.323
Moors and heaths	378.032	3.066
Natural grassland	290.272	2.355
Non-irrigated arable land	436.892	3.544
Pastures	5425.061	44.005
Peat bogs	2714.957	22.022
Road and rail networks and associated land	4.916	0.040
Salt marshes	5.561	0.045
Sea and Ocean	12.617	0.102
Sparsely vegetated areas	9.784	0.079
Sport and leisure facilities	19.540	0.158
Stream courses	8.965	0.073
Transitional woodland scrub	589.514	4.782
Water bodies	271.960	2.206
Total Area of Border Region	12328.379	100.000

6.4 Water

The Water Framework Directive (WFD) marks a new approach to the protection and improvement of our water resources and aquatic ecosystems across Europe. In contrast to previous legislation, the WFD aims at protecting all waters and water dependent ecosystems: groundwaters, rivers, lakes, transitional waters (estuaries), coastal waters and wetlands. A primary environmental objective of the WFD is that all water bodies will be good or higher by 2015, and that in no case will this status deteriorate below its present condition. The main unit of management for the WFD is the River Basin Districts, outline details of which are referred to above

Considerable threats from sewage, afforestation and agricultural sources remain as a significant environmental issue within the Region. In response to the Phosphorous Regulations Local Authorities have operated effective measures to control phosphorous inputs to surface waters. The main pressure impacting on the water quality of lakes are inputs of nutrients, namely

phosphorous and nitrogen, at concentrations in excess of natural levels, resulting in over-enrichment and eutrophication. This process commonly results in increased planktonic algal and higher plant biomass creating an undesirable disturbance to the balance of organisms in lakes and thus to its water quality.

Waters within the Region support a rich diversity of marine life. The extensive offshore areas are generally not affected by pollution, while inshore, water quality in most estuarine and coastal waters remains high.

Levels of contaminants in fish and shellfish are very low and overall quality of Irish seafood produce remains high. Radioactive substances from the nuclear reprocessing plant at Sellafield in England continue to be discharged to the Irish Sea, though exposure to these substances is not considered to pose a significant health risk to the public. The quality of bathing waters is high, and while the bacteriological quality of shellfish in shellfish-growing waters is reasonably good, it is likely that additional measures will be required to prevent further deterioration in certain areas.

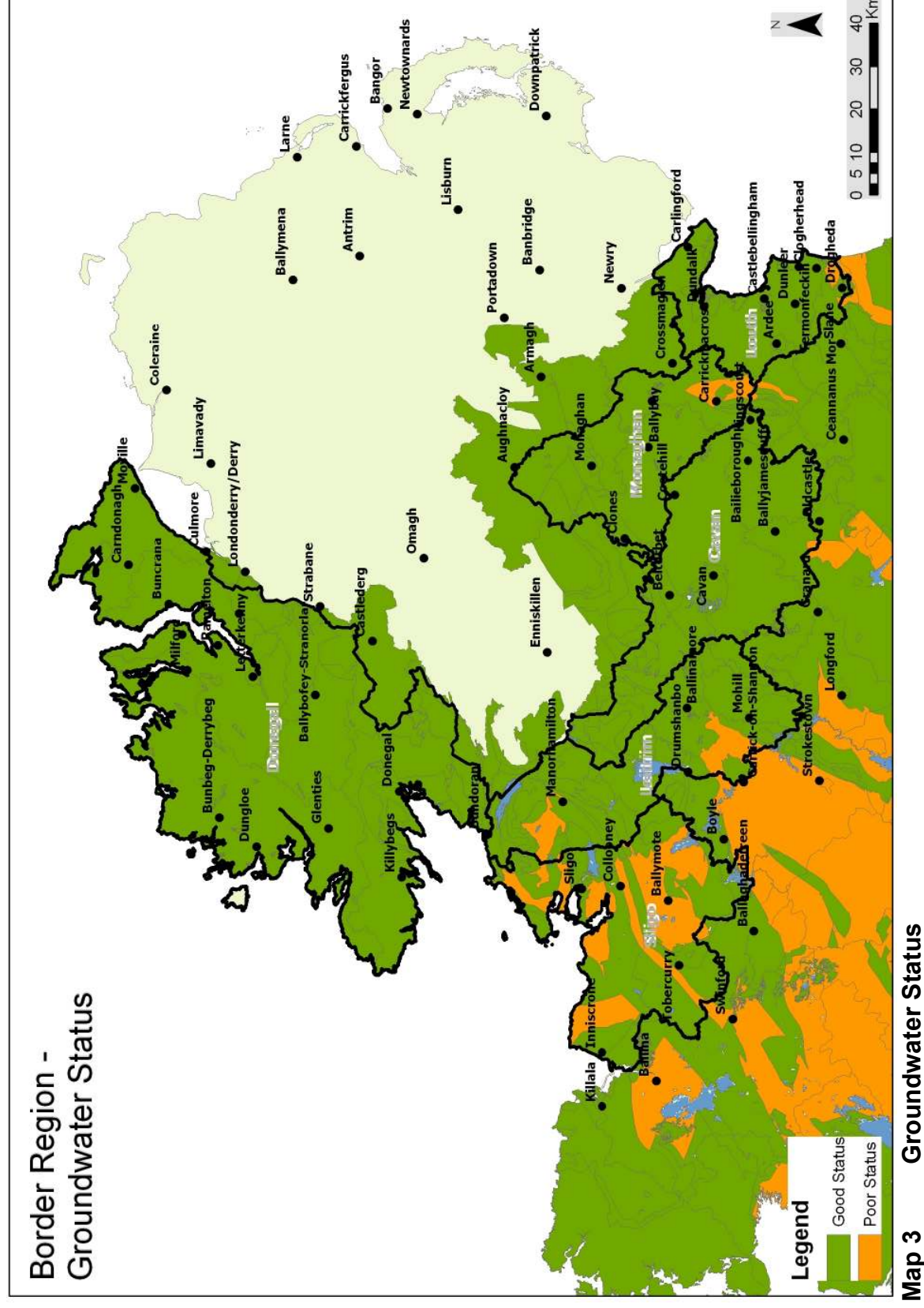
The greatest human impact on marine environment continues to be commercial fishing. Most commercially targeted fish stocks in Irish waters are over exploited and in decline. Cod stocks in the Irish Sea are considered to be in a stage of collapse. There is also mounting evidence that climate change has the capacity to alter the functioning of marine ecosystems by influencing the distribution and seasonality of a wide range of marine species².

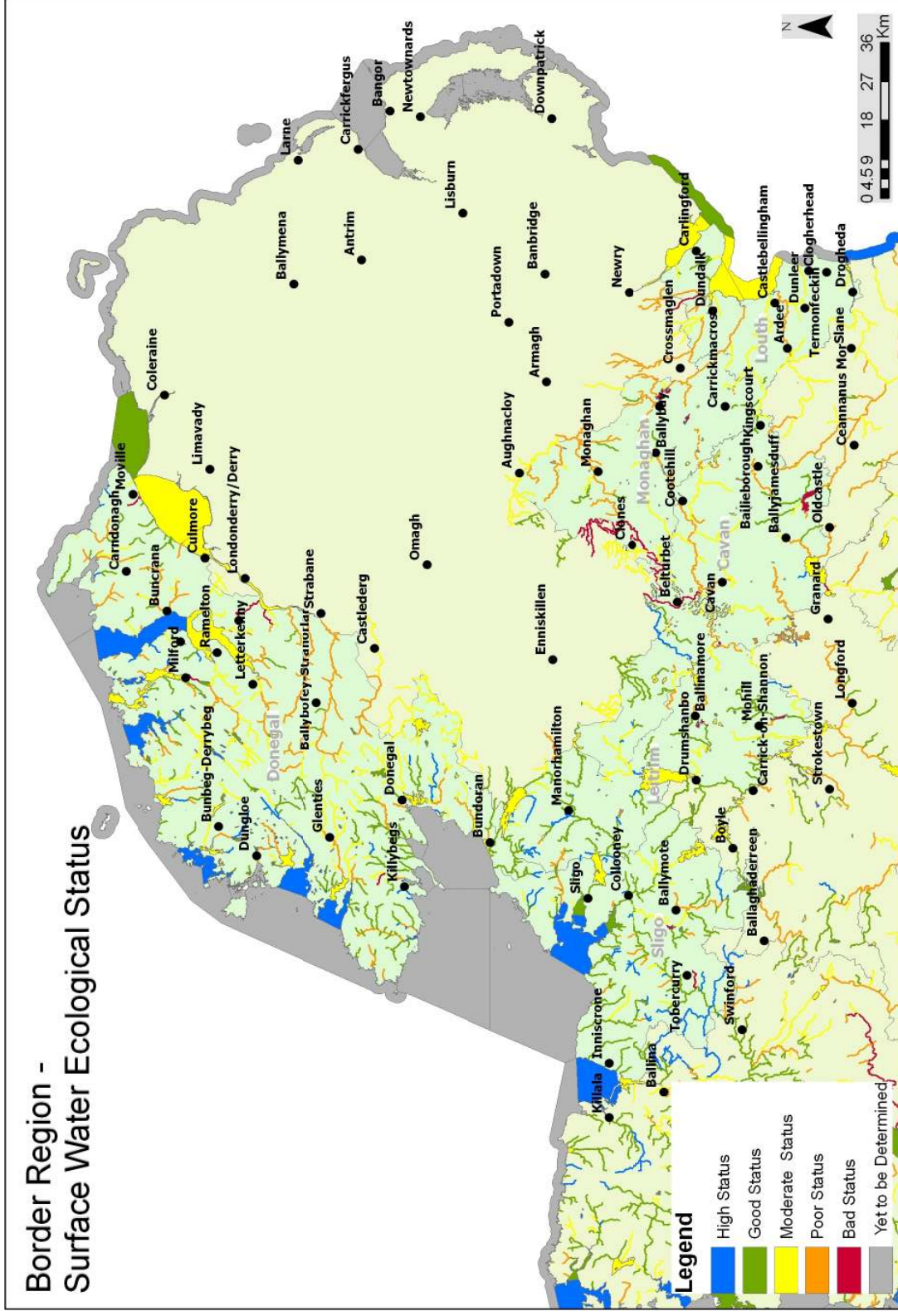
Groundwater is an important source of drinking water but also makes an important contribution to river flows and lake levels.

A new “water status” assessment approach was implemented over the past year on the island of Ireland as part of the Water Framework Directive. The approach incorporates chemical and biological monitoring into a status grade for each waterbody. These early results are based solely on one year’s data, reflecting the best current understanding of status; however, it is expected that this will improve over time as monitoring data, and the scientific tools used to interpret it, expand and improve in future river basin planning cycles.

The ground water status, surface water ecological status and surface water chemical status in relation to the Border Region is shown on Map 3, Map 4 and Map 5 respectfully.

² EPA, Ireland’s Environment 2008. <http://www.epa.ie/downloads/pubs/other/indicators/irlenv/>





Map 4 Surface Water Ecological Status



6.4.1 Drinking Water Status

The following is a summary of the status of drinking water supplies in each of the counties within the Region. The summary is based the Environmental Protection Agencies report entitled; 'The Provision and Quality of Drinking Water in Ireland - A Report for the Years 2007 – 2008'. The report assesses the safety and security of drinking water supplies covered by the European Communities (Drinking Water) (No. 2) Regulations, 2007.

Donegal

The overall rate of compliance in County Donegal, 95.3% was below the national average during 2007 but improved slightly from 95.1% in 2006

The report states that there are currently 30 public water supplies operated by Donegal County Council on the Remedial Action List (RAL29) of public water supplies. One supply in Donegal County was added to the RAL in 2008 while 4 were removed. Of the supplies on the RAL, Donegal County Council indicates that 13 supplies will be upgraded, 12 will be replaced, 5 will have operations improved to ensure the supply can produce safe and secure water.

As of August 2008, Donegal County Council had installed chlorine monitors and alarms on 26 of 42 supplies.

The EPA received 11 notifications of the failure to meet the parametric value from Donegal County Council in the period March 2007 to September 2008. The notifications were due to the failure to meet the E. coli (5), lead (3), copper (1), trihalomethanes (1) and antimony (1) parametric values.

During this period 1 boil water notice was put in place in part of the Pollan Dam supply due to contamination with E. coli. One Direction was issued by the EPA to Donegal County Council which required the installation of disinfection at one treatment plant. An action plan for completion of this has been submitted.

Sligo

The overall rate of compliance in Co. Sligo, 96.9%, was slightly below the national average but did rise from 96.5% in 2006.

The report states that there are currently 8 public water supplies in Sligo on the Remedial Action List (RAL71) of public water supplies, however, 2 of these are originate from Roscommon. No supplies in Sligo County were added to or removed from the RAL in 2008. Of the supplies on the RAL, Sligo County Council indicates that 5 supplies will be upgraded, one will be replaced and 2 will have operations improved to ensure the supply can produce safe and secure water.

As of August 2008, Sligo County Council had installed chlorine monitors and alarms on 10 of 11 supplies.

The EPA received 11 notifications of the failure to meet the parametric value from Sligo County Council in the period March 2007 to September 2008. The

notifications were due to failures to meet the E. coli (1), coliform bacteria (4), Cryptosporidium (1), aluminium (3), colour (1) and iron (2) parametric values.

During this period 5 boil water notices were put in place in the following supplies; Calry (December 2007), Kilsellagh (August 2008), North Sligo (July 2007), Rosses Point (August 2008) and South Sligo (July 2008). Arising from these notifications one Direction was issued by the EPA to Sligo County Council which required the preparation of action programme.

Leitrim

The overall rate of compliance in Co. Leitrim, 97.4%, was close to the national average during 2007 and improved from 96.4% in 2006.

The report states that there are currently 2 public water supplies operated by Leitrim County Council on the Remedial Action List (RAL49) of public water supplies. One supply in Co. Leitrim was added to the RAL in 2008 while one was removed. Of the supplies on the RAL, Leitrim County Council has indicated that one supply will be replaced and one will have operations improved to ensure the supply can produce safe and secure water.

As of August 2008, Leitrim County Council had installed chlorine monitors and alarms on 5 of 6 supplies.

The EPA received 13 notifications of the failure to meet the parametric value from Leitrim County Council in the period March 2007 to September 2008. The notifications were due to the failure to meet the E. coli (1), coliform bacteria (3), aluminium (3), lead (2), iron (2), turbidity (1) and colour (1) parametric values.

During the period 1 restriction of use was put in place in Dowra supply arising from excessive levels of aluminium in the drinking water. The treatment plant for this supply originates in Cavan.

Cavan

The overall rate of compliance in Co. Cavan during 2007 was slightly below the national average at 96.5%, though it has improved from 94.3% in 2006.

The report states that there are currently 9 public water supplies operated by Cavan County Council on the Remedial Action List (RAL17) of public water supplies. One supply was removed from the list in 2008 and none were added. Of the supplies currently on the RAL, Cavan County Council indicates that 2 supplies will be upgraded, 3 will be abandoned/replaced and 4 will have operations improved to ensure the supply can produce safe and secure water.

As of August 2008, Cavan County Council had installed chlorine monitors and alarms on 1 of 15 supplies.

The EPA received 4 notifications of the failure to meet the parametric value from Cavan County Council in the period March 2007 to September 2008. The notifications were due to the failure to meet the E. coli (1), aluminium (2) and manganese (1) parametric values.

During this period one restriction of use was put in place in the Dowra supply in May 2008 due to the presence of high levels of aluminium. Arising from this notification a Direction was issued by the EPA to Cavan County Council, which required the preparation of an action programme. This programme was later submitted to the EPA.

Monaghan

The overall rate of compliance in Co. Monaghan, 96.7%, was close to the national average and unchanged from 2006.

The report states that there are currently 8 public water supplies operated by Monaghan Council on the Remedial Action List (RAL) of public water supplies. No supplies in Co. Monaghan were added to the RAL in 2008 while 4 were removed. Of the supplies on the RAL, Monaghan County Council indicates that 4 supplies will be upgraded and 4 will have operations improved to ensure the supply can produce safe and secure water.

As of August 2008, Monaghan County Council had installed chlorine monitors and alarms on 8 of 12 supplies.

The EPA received 7 notifications of the failure to meet the parametric value from Monaghan County Council in the period March 2007 to September 2008. The notifications were due to the failure to meet the *Clostridium perfringens* (3) and aluminium (4) parametric values.

Louth

The overall rate of compliance in Co. Louth, 97.1%, was close to the national average.

The report states that there are currently 3 public water supplies operated by Louth County Council on the Remedial Action List (RAL57) of public water supplies. No supplies in Co. Louth were added or removed from the RAL in 2008. Of the supplies on the RAL, Louth County Council indicates that all 3 supplies will be upgraded to ensure the supply can produce safe and secure water.

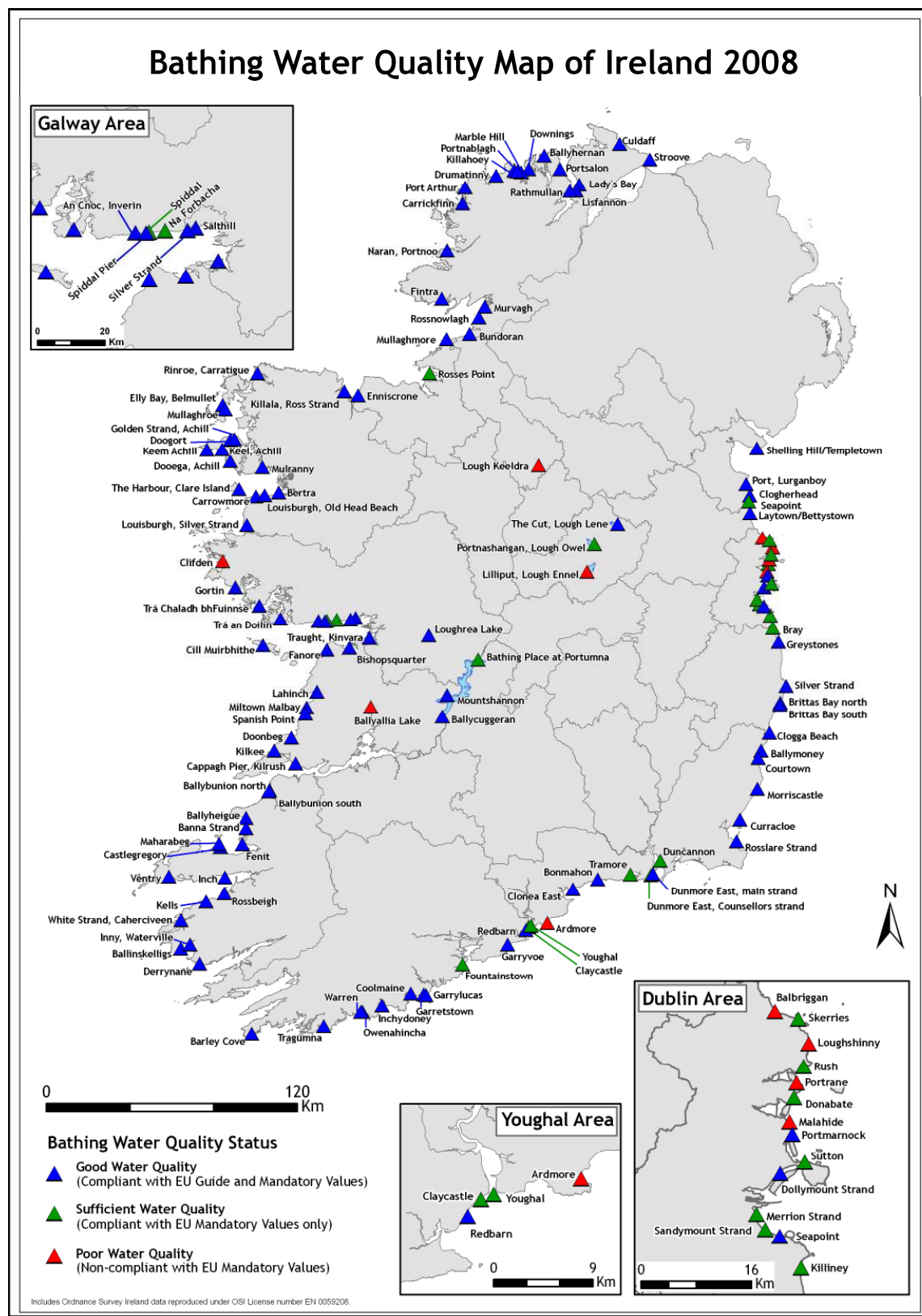
The EPA has advised all local authorities to install chlorine monitors and alarms at all treatment plants. As of August 2008, Louth County Council had installed chlorine monitors and alarms on 5 of 15 supplies.

The EPA received 4 notifications of the failure to meet the parametric value from Louth County Council in the period March 2007 to September 2008. The notifications were due to the failure to meet the *E. coli* (2), *Clostridium perfringens* (1) and lead (1) parametric values. Louth County Council has prepared and is implementing an action programme to deal with lead in the distribution network in the supplies in question.

6.4.2 Bathing Water Quality

The monitoring of water quality at designated bathing area's is governed by the European Council Directive 976/160/EEC). The Directive aims to ensure

that the quality of bathing water is maintained and, where necessary, improved so that it complies with specified standards designed to protect public health and the environment. Map 6 indicates the water quality status of each designated bathing area in respect to year 2008.



Map 6 **Bathing Water Quality Map of Ireland 2008**

Source: <http://www.epa.ie/downloads/pubs/water/bathing/name.26130.en.html>

The Environmental Protection Agency Report (2009) 'Quality of Bathing Water in Ireland' stated that at a national level, nine of the bathing areas that failed to achieve sufficient water quality status in 2008, six were seawater and three were freshwater. This included Keeldra Lough Co. Leitrim. It is noted in the report that the lower proportion of bathing areas achieving sufficient and good water quality status is due, in general, to the higher than usual rainfall that occurred during the summer of 2008. The status of the Bathing Areas within the Region is outlined in Table 9. **Error! Reference source not found.** below.

Table 9 Status of Bathing Areas within the Region

Responsible Local Authority	Bathing Area	Quality Water Status	Compliance with EU	
			Mandatory	Guide
Donegal Co Council	Ballyhernan, Fanad	Good	√	√
	Bundoran	Good	√	√
	Carrickfinn	Good	√	√
	Culdaff	Good	√	√
	Dowlings	Good	√	√
	Drumatinny	Good	√	√
	Fintra	Good	√	√
	Killahoey	Good	√	√
	Lady's Bay, Buncrana	Good	√	√
	Lisfannon	Good	√	√
	Marble Arch	Good	√	√
	Murvagh	Good	√	√
	Naran, Portnoo	Good	√	√
	Port Arthur, Derrybeg	Good	√	√
	Portsalon	Good	√	√
	Rathmullan	Good	√	√
	Rosnowlagh	Good	√	√
	Shroove	Good	√	√
Sligo Co. Council	Enniscrone	Good	√	√
	Mullaghmore	Good	√	√
	Rosses Point	Sufficient	√	X
Leitrim Co. Council	Keeldra Lough	Poor	X	X
Louth Co Council	Clogherhead	Good	√	√
	Port, Lurganboy	Good	√	√
	Seapoint	Sufficient	√	X
	Shelling Hill/Templetown	Good	√	√

6.4.3 Blue Flag Beaches and Green Coast Awards

Blue Flag Awards

The Blue Flag is an international award for beach excellence which is operated in Ireland by An Taisce with support from the Department of the Environment, Heritage and Local Government and by Tidy Northern Ireland with the support of the Northern Ireland Environment Agency.

The award is presented to beaches and marinas which have excellent water quality, and which achieve high standards across a wide range of other criteria including environmental education, management of the environment, safety and other services.

The Blue Flag programme has been operating in Ireland since 1988. This year there has been an overall decrease in the number of Blue Flags awarded, with 6 being awarded in Northern Ireland (a decrease of 2) and 77 being awarded here (a decrease of 3). The flag losses were due to a deterioration in water quality attributable to the exceptionally heavy rainfall during the 2008 bathing season.

2009 Blue Flag Awardees³

Donegal – 12 Flags

Bundoran Town Council receives the flag for its beach at Bundoran.

Donegal County Council receives 11 flags for Murvagh, Rossnowlagh, Fintra, Narin-Portnoo, Carrickfinn, Marble Hill, Lisfannon, Portsalon, Killahoey, Shroove and Culdaff

Sligo – 1 Flag

Sligo County Council retains one flag at Mullaghmore.

Louth – 3 Flags

Louth County Council retains both its Blue Flags at Shellinghill/Templetown and Port and gained a flag for Clogherhead

Green Coast Awards

In the case of the Green Coast Awards scheme⁴, 40 Beaches have been awarded the Green Coast Award for 2009. This compares with 33 for 2008. 2009 is the second year that the Green Coast Award has been conducted nation-wide. Green Coast Awardees for 2009 that are located within the Border Region are listed below;

County Donegal

Ballyhernan

Drumnatinney

Ladies Bay

Port Arthur

Rathmullan

Dooey Beach

Magheroarty Beach

County Sligo

³ Minister Gormley presents Blue Flag and Green Coasts Awards 2009

Statement Issued: 03 June 2009

⁴ An Taisce have awarded 75 International Blue Flags and 40 National Green Coast Awards for 2009. posted on June 03, 2009 04:01

Streedagh
Dunmorán Strand

6.4.4 Shellfish Waters

The aim of the Shellfish Waters Directive 2006/113/EC is to protect or improve shellfish waters in order to support shellfish life and growth. It is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth.

The Directive sets physical, chemical and microbiological requirements that designated shellfish waters must either comply with or endeavour to improve. The Directive also provides for the establishment of pollution reduction programmes for the designated waters.

Responsibility for the Shellfish Waters Directive in Ireland transferred from the Department of Agriculture, Fisheries and Food to the Department of the Environment, Heritage and Local Government on 5 November 2008. The Directive is implemented in Ireland by the European Communities (Quality of Shellfish Waters) Regulations 2006 (SI No 268 of 2006). Pollution reduction programmes (PRP's) were established for 14 sites already designated under the these Regulations

The Minister for the Environment, Heritage and Local Government, on 10th February 2009, signed the European Communities (Quality of Shellfish Waters) (Amendment) Regulation 2009, SI 55 of 2009. This SI amends the 2006 Statutory Instrument by providing for designation of an additional number of important shellfish growing areas..

The boundaries of the 49 additional areas have been drawn to ensure that they encompass all of the active licensed aquaculture being carried on within them. The additional designated areas together with their boundaries are shown on the maps that have been drawn up for each of the areas.

⁵ Designated sites within the Region are as follows;

Existing Designated Shellfish Waters (Pre 2009)

Mulroy) Donegal
Carlingford Louth

Newly Designated Shellfish Waters (2009)

County Sligo
Sligo Bay
Drumcliff Bay

5 <http://www.environ.ie/en/Environment/Water/WaterQuality/ShellfishWaterDirective/>

County Donegal

Donegal Bay

Inver Bay

McSwynes Bay

Loughros Beg

Gweebarra Bay

Trawenagh Bay

Dunglow

Gweedore Bay

Sheephaven

Lough Swilly

Trawbreaga Bay

County Louth

Dundalk Bay

Pressure on shellfish growing areas can come from any source which discharges into water. Table 10 below indicates the wide variety of potential threats to these areas.

Table 10 Potential Threats to Shellfish Growing Areas

Pressures arising from structural changes	Point source pressures	Diffuse source pressures
Channelisation and dredging	Discharges from waste water treatment plants	Drainage from urban areas, grassland and arable areas (including from dairy farming, cattle farming and the growing of crops)
Flood Protection and embankments	Discharges licensed by the EPA	Drainage from roads and railways
Dams, Locks and weirs	Discharges licensed by local authorities	Forestry
Intensive land use (land drainage)	Overflows from sewerage systems that by-pass treatment plants, caused by rain storms, usually referred to as combined sewer overflows (CSOs).	Septic tanks
Built structures e.g. ports and harbours	Discharges from water treatment plants	Activities which use dangerous substances (forestry and agriculture)
Deposition of dredge spoil		
Coastal defences		

To view the maps and other details in respect of designated sites listed above visit the following Department of Environment Heritage and Local Government web sites;

<http://www.environ.ie/en/Publications/Environment/Water/>

6.5 Climate change and Air Quality

Climate change is recognised as the greatest threat to the planet and the greatest challenge facing humanity. The need for major reductions in greenhouse gas (GHG) emissions is now an accepted priority for most countries. Ireland's commitment under the Kyoto Protocol is to limit GHG emissions over the 2008–2012 period to no more than an annual average of 62.8 M tonnes CO₂e (13 per cent above 1990 levels). However, the most recent data show that Ireland faces a major challenge to meet this target and reduce what is one of the highest levels of per capita emissions in the EU. The more stringent targets proposed by the EU for 2020 pose even greater challenges for the country, and there is an urgent need to implement effective long-term strategies to achieve the necessary emissions reductions across all economic sectors. Current projections show that even if all projected reductions from existing and planned policies are delivered, and forest sinks and Kyoto mechanisms purchases are used as envisaged, Ireland will still exceed its Kyoto Protocol limit by an average of 1.4 Mtonnes of CO₂ equivalent per annum in the period 2008-2012. Additional domestic policies and measures and/or additional Government purchases will be required to bridge this gap. In particular, Ireland will have to reduce its dependence on fossil fuels while at the same time ensuring that very significant increases are made in both energy efficiency and in the use of alternative energy sources such as wind, ocean and biomass. The impacts of climate change are projected to increase in the coming decades. Research commissioned by the EPA has demonstrated that action is required on a national basis to prepare for adverse impacts in areas such as flooding, water management during dry spells, sea-level rise and coastal erosion. Efforts will also be required to protect native species and manage changes in vulnerable natural and managed ecosystems⁶.

In 2006, measured sulphur dioxide, nitrogen dioxide, carbon monoxide, lead and benzene concentrations in Ireland were all below their individual limits, as designated under the 2002 Air Quality Standards Regulations. In addition, particulate matter (PM₁₀) concentrations in 2006 were similar to those measured in 2005, with all stations compliant with the standard introduced from 2005. However, ozone concentrations measured in Ireland in 2006 were higher than recent years.⁷

Northern Ireland has a relatively good network of air quality monitoring sites, which have been established to ensure the standards of the National Air Quality Strategy are met. Data from the monitoring sites show that in general

⁶ EPA, Ireland's Environment 2008. <http://www.epa.ie/downloads/pubs/other/indicators/irlenv/>

⁷ Environmental Protection Agency (2007). Air Quality in Ireland 2006 – Key Indicators of Ambient Air Quality.

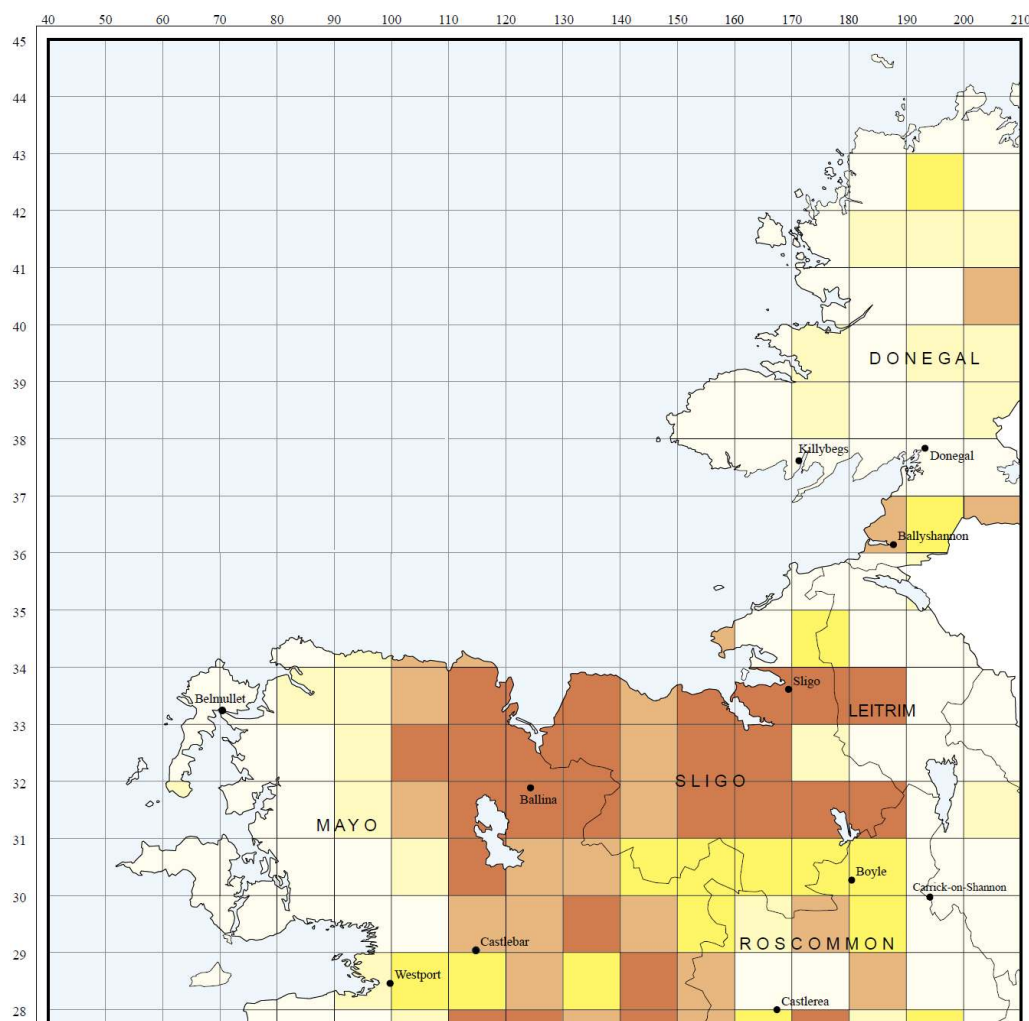
there has been a long term decline in the average number of air pollution days in Northern Ireland, reaching an all-time low of only three days in 2006. This is largely because of a reduction in particles and sulphur dioxide, but fluctuations from one year to the next can occur, as in 2003, because of differences in weather conditions. In rural areas the series can be volatile from one year to the next, and the downward trend is less clear. This reflects the variability in levels of ozone, the main cause of pollution in rural areas.⁸

It is only recently that Radon Gas has been identified as being a hazard to Public Health. Consequently the Radiological Protection Institute of Ireland (RPII) undertook a comprehensive survey of radon in Irish dwellings. Approximately 11,500 houses were surveyed nationally and the results suggest that approximately 7% of houses have radon concentrations in excess of the Maximum Acceptable Limit. The Building Regulations were amended in 1998 in order to deal with Radon in buildings.

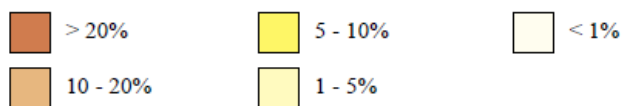
Further details on Radon and related matters, including maps indicating the predicted radon levels in dwellings throughout the country, may be found on the RPII website (www.rpii.ie).

From an examination of the radon mapping it can be seen that there are a number of areas, spread somewhat sporadically, throughout the Region where a significant percentage of houses have elevated radon levels. The extent of areas with elevated radon levels in County Sligo is relatively high.

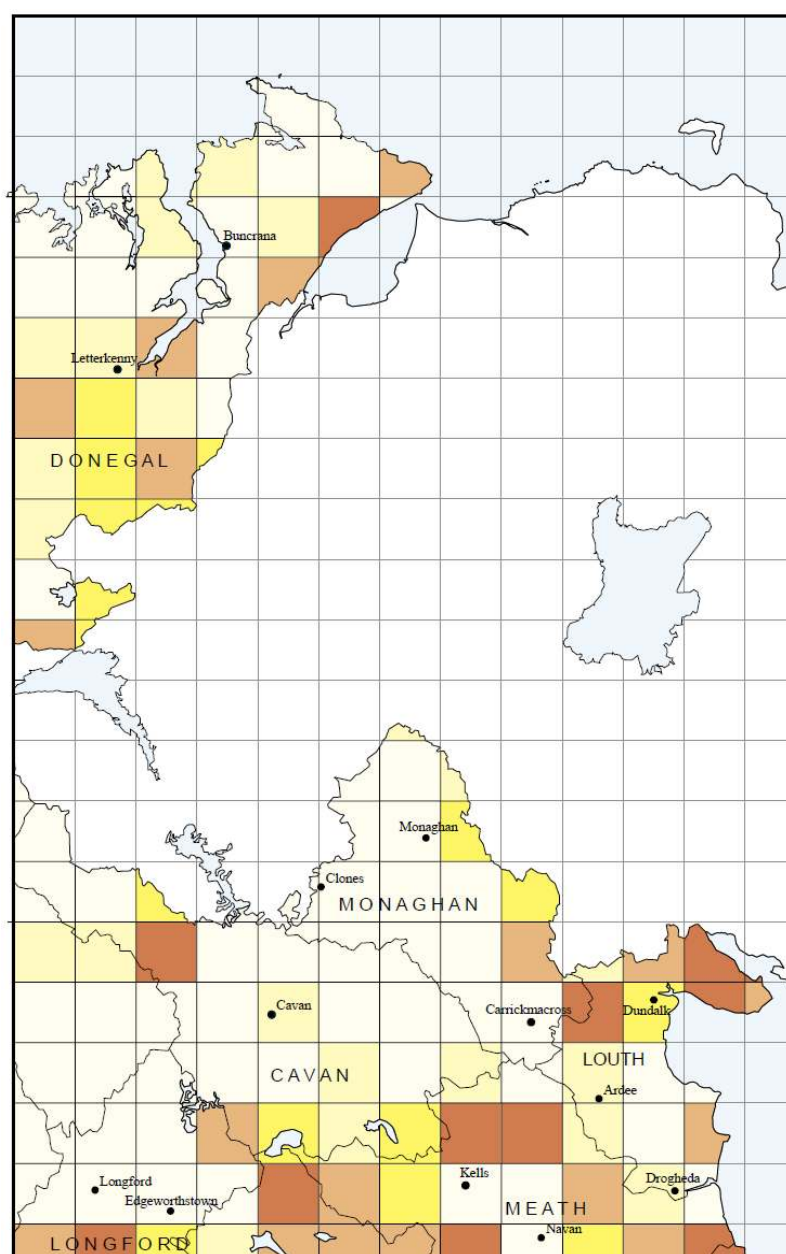
⁸ <http://www.airqualityni.co.uk/reports.php>.



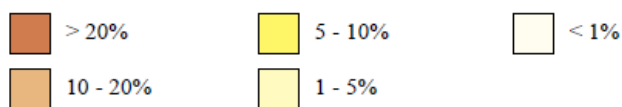
Estimated Percentage of Dwellings above 200 Bq/m³



Map 7 Extract from R P I I Survey 1999 - 'Radon in Irish Buildings'



Estimated Percentage of Dwellings above 200 Bq/m³



Map 11 (a) Extract from R P I I Survey 1999 - 'Radon in Irish Buildings'

6.6 Material Assets

Material assets are taken to include infrastructure and utilities including rail, road, water supply and wastewater treatment facilities. They also include economic assets such as quarries, forest estate, agricultural lands, coastal and water resources which support fisheries and the tourism industry. These resources will be included in the material assets baseline and considered in the Environmental Report.