

INDEX

- Access to Information on the Environment (AIE) 8–9
- Accredited Inspection Contractor (AIC) schemes 149
- acid rain 47, 48, 181
- acidification 6, 44, 48, 51, 52, 107, 109, 111, 131, 169, 206, 257
- afforestation 35, 169–70, 199, 201, 218
- agriculture 145, 158, 162–4, 165, 166, 168, 201, 221; and biodiversity 197–8, 206; and eutrophication 106, 137; and GHG emissions 30–1, 33, 240, 249; intensive 83, 114, 168, 176, 197, 253; and pesticides 217–18; and waste 144; and water pollution 84, 94, 96, 98, 138, 252
- agriculture, forestry, fishing sector 18
- agrochemicals 80, 87
- air emissions 3, 240, 241, 250, 255
- Air Framework Directive 6, 44, 54
- air pollution 39, 111, 197, 234, 248, 255; transboundary 55, 181
- air quality 6, 43–55, 57–8, 173, 177, 249, 250, 258; and lichens 188; monitoring of 44–5
- Air Quality Daughter Directive 55
- Air Quality Directive 55
- air quality zones 44
- air travel 22
- algae 188, 197
- algal blooms 99, 106
- allergens 47
- alien species *see* invasive species
- alpha radiation 223, 225
- ammonia (NH₃) 6, 43, 44, 45, 51, 52, 53, 54, 55, 58, 181, 183, 240
- ammonium 81–2, 83
- amnesic shellfish poisoning (ASP) 119
- antibiotics 221
- antifoulants 126, 129, 130, 218, 220
- antimicrobial resistant bacteria 221, 257
- antimicrobials 221, 257
- Approved Treatment Facilities (ATFs) 151
- aquaculture 94, 114, 117, 125, 126; escapes from 130; impacts of 129–31, 133, 200, 221
- aquifers 64, 67, 77, 78, 82, 84, 251; bedrock 78, 79, 82, 84; karstified limestone 78, 79, 82, 84, 88, 137; sand and gravel 78, 79, 82, 84
- arctic char 189, 203
- arsenic 55, 176, 217
- asbestos 148
- azaspiracid shellfish poisoning (AZP) 119, 120
- backyard burning 151
- bacteria 221; faecal 77, 81, 84–6, 122
- bacterial tufts 93
- basin peats 175
- bass 203
- bathing water 65, 68, 121–3, 133
- Bathing Water Directive 6, 73, 75, 251
- bats 193, 196
- Batteries Directive 6, 151
- bees 196
- benzene 44, 45, 50
- Berne Convention 190
- beta radiation 223, 225
- Biochange Project 206
- biocidal products 218
- biodiversity 7, 8, 164, 166, 187–207, 210, 248, 249, 258, 260; and agriculture 198; awareness of 204, 210, 253–4; and climate change 203–6; and forestry 165; marine 115, 132; and soil 173, 176, 177, 179, 253–4
- Biodiversity Forum 204
- Biodiversity Fund 204
- Biodiversity Strategy 7, 190, 196
- BIOFOREST project 199
- biofuels 163–4, 166, 168, 204, 254
- Biofuels Directive 163–4
- biomass 38, 39, 56, 105, 106, 144, 157, 181, 259
- birds 163, 190, 196–8
- Birds Directive 65, 190, 196, 261
- bituminous coal 54
- black-necked grebe 197
- black scabbard 128
- black smoke concentrations 54, 57
- blanket peats 175
- blue ling 128
- blue whiting 126, 127
- bogs 191, 192, 195, 201, 205
- bonamiasis 130
- Bonn Convention 190
- Bord lascaigh Mhara 118, 128
- bring banks 148
- brominated flame-retardants (BFRs) 118
- brown earths 175
- brown podzolics 175
- bryophytes 188
- building and construction 18, 20–1, 234, 236
- bumblebees 196
- Burren, the 188, 189, 198, 253
- cadmium 55, 176, 177, 217
- caesium-137 117
- canals 64, 67, 69
- carbon dioxide (CO₂) 28, 30, 31, 33, 124, 131, 177, 178, 207, 235, 249, 250
- carbon levy 235
- carbon monoxide (CO) 44, 45, 50–1, 54
- carbon sinks 35, 37, 39, 56, 203, 250
- catalyst control technology 53
- cattle population 33, 53
- Central Fisheries Board 107

- Centre for Environmental Data and Recording (CEDaR) 206
- Cessation of Turf Cutting Scheme 201
- cetaceans 114, 118, 126, 189, 192, 194, 196, 253
- chemical industry 215, 236–7, 239, 256
- chemical status 70–1
- chemicals 6–7, 19, 215–23, 256, 258; Globally Harmonised System (GHS) of classifying/labelling 220
- Chernobyl accident 225
- chlorinated hydrocarbons 118
- chough 189, 253
- chromium 217
- CITES Convention 190
- civic amenity sites 148
- Clean Air for Europe (CAFÉ) 6, 55
- Clean Development Mechanism 38
- Cleaner Greener Production Programme (CGPP) 151
- ‘Climate Action and Renewable Energy Package’ 37, 261
- climate change 5, 8, 22, 27–41, 56–7, 187, 240, 247, 255, 258–9; adaptation to 249–50, 258, 259; awareness of 5, 16, 18; and biodiversity 203–6; causes of 28–9; impacts of 30, 39, 41, 99, 113, 114, 130–1, 134, 188, 197, 201, 248, 253, 259; indicators of 30; limitation of 249–50, 259; and oceans 29, 131–2; research on 39–40, 56; responses to 40; and soil 173, 179
- climate-friendly technology 41
- coal tit 189
- coastal waters 64, 65, 67, 68, 69–70, 73, 113–34, 136, 251
- coastal zone development 124, 165–6, 170
- Coastwatch Ireland 123
- cobalt 176
- cod 30, 113, 127, 128, 131, 203
- Coillte 164, 199, 200, 201, 206, 218
- Comhar 166, 204
- Common Agriculture Policy 163, 198
- Common Fisheries Policy 128, 200
- common scoter 197
- Commonage Framework Plans 206
- commuting 16, 210
- composting 148, 151, 241, 242
- conservation 7, 126, 128, 133, 149, 187, 189–94, 196–207, 210, 254, 259, 260
- contaminated sites 147, 180, 255, 260
- Convention on Biological Diversity (CBD) (Rio Convention) 7, 190, 196, 197, 201
- Convention of Long-Range Transboundary Air Pollution 55
- copper 176, 217
- corals 128, 132, 200
- Corine Land Cover 158–9
- corn bunting 197
- corncrake 196
- Corncrake Habitat Restoration Project 204
- cosmic radiation 225
- Council of the European Union 39
- Council for Forest Research and Development (COFORD) 35, 39, 40, 199
- cowberry 203
- crayfish: freshwater 189; white-clawed 193
- CréBeo 179
- cryptosporidium 84, 86
- cypermethrin 218
- dairying sector 168
- Dangerous Substances Directive 102
- DART 22
- decoupling 163, 168, 198
- deforestation 4, 188
- Department of Agriculture, Fisheries and Food (DAFF) 181, 206, 218, 219
- Department of Communications, Energy and Natural Resources (DCENR) 125, 217
- Department of Communications, Marine and Natural Resources (DCMNR) 9, 130
- Department of the Environment, Heritage and Local Government (DEHLG) 5, 9, 66, 74, 96, 152, 166, 196, 204
- developing countries 41
- diarrhetic shellfish poisoning (DSP) 119, 120
- dichlorodiphenylethylene (p,p’DDE) 118
- dichlorodiphenyltrichloroethane (DDT) 216
- dinoflagellates 120
- dioxins 113, 118, 216, 222; monitoring of 215, 222–3, 226
- dipper 189
- dolphins see cetaceans
- dormitory towns 157, 160
- DPSIR framework 4, 9
- dredging 114, 124, 126
- drinking water 22, 65, 68, 77, 89, 99, 251; groundwater sources of 79, 84, 86, 136–7; private supplies of 79
- Drinking Water Directive 73
- droughts 29, 66
- Dublin Airport Authority 8, 226
- Dublin Port Tunnel 22
- dune systems 166, 191, 195, 201
- earthworm 174, 179, 201
- eco-efficiency 8
- ecological classification 64
- ecological footprint 207
- ecological potential 69
- ecological status 69–71

- Economic and Social Research Institute (ESRI) 234
- economy 17–20, 33, 233–5, 247, 249, 255–6, 260
- ecoregions 66
- ecosystems 29, 30, 56, 89, 113, 136, 173, 174, 179, 181, 203–6, 254; aquatic 63, 64, 93, 102, 138, 251; coastal 124, 132; marine 131, 132, 137
- electrical and optical equipment 19–20
- electricity demand 32
- Emissions Trading Scheme (ETS) 5, 36, 38–41, 56, 235
- end-of-life vehicles (ELVs) 6, 146, 150, 151
- endocrine-disrupting chemicals (EDCs) 215, 220, 226, 257
- energy 20, 32, 249
- energy conservation 16
- energy efficiency 20
- Energy Efficiency Action Plan 35, 36
- energy security 41
- ENFO 204
- Enterprise Ireland 151
- Environmental Action Programmes (EAPs) 8, 148
- environmental awareness 16, 18
- environmental challenges 247–61
- Environmental Data Exchange Network (EDEN) 72–3
- Environmental Enforcement Network 256
- environmental impact assessment (EIA) 9, 169
- Environmental Impact Assessment Directive 196
- Environmental Liabilities Directive 192
- environmental licensing 249
- Environmental Noise Directive (END) 8, 215, 226
- Environmental Noise Regulations 8
- Environmental Protection Agency (EPA) 4, 5, 8, 9, 23, 33, 39, 40, 41, 43, 44, 45, 55, 65, 66, 68, 69, 71, 75, 81, 86, 92, 107, 115, 122, 133, 136, 138, 146, 149, 151, 166, 174, 177, 180, 183, 199, 216–17, 219, 223, 226, 234, 240, 241, 255–8
- Environmental Quality Standards 70–1, 138
- environmental research 3, 9, 22, 167, 247, 257–8, 261
- environmental technologies 8, 9, 148, 151, 249, 257–8, 261
- Environmental Technology Action Plan (ETAP) 258
- ENVision* 9, 138
- estuaries see transitional waters
- European Blue Flag Scheme 122–3
- European Chemicals Agency 219
- European Commission 5, 7, 8, 37, 39, 64, 66, 68, 71, 73, 128, 164, 182, 187, 190, 191, 198, 205, 206, 217, 219, 220, 226, 240, 261
- European Court of Justice 191, 197, 200
- European Environment Agency (EEA) 4, 73, 102, 168, 206, 253
- Eurostat 73
- eutrophication 6, 44, 51, 52, 82, 83, 92, 98, 99, 102, 105, 106–11, 113, 115, 130, 133, 137, 169, 178, 251, 259
- extinction 30, 130, 187, 188, 197, 249
- extreme weather events 29
- farm manures/slurries 77, 81
- farm plastics 150
- fauna 189
- fens 191, 195
- fertiliser use 33, 53, 114, 163, 206
- fish 92, 113, 114, 117, 118, 124–6, 225; demersal species of 127–8; pelagic species of 126–7
- fish farming see aquaculture
- fish kills 96–9
- Fisheries Boards 69
- fishery agencies 68
- fishing and fisheries 113, 114, 126–9, 132–3, 166, 256; and biodiversity 200–1; driftnet 127; environmental impact of 126–8, 137, 138, 197, 251
- flood defence 64
- flood risk 6, 64
- floods 27, 29, 30, 56, 66, 170, 181
- flora 64, 66, 68, 70–1, 166, 188, 190, 192, 199, 203, 253
- fly-tipping 151
- food and beverage sector 19
- Food Safety Authority of Ireland 118, 119
- Foras Talúntais, An 174, 175
- Forest Biodiversity Guidelines 199
- Forest Environment Protection Scheme (FEPS) 165, 200
- Forest Service 169, 199–200
- forestry 103, 138, 157, 163, 164–5, 166, 169–70, 178, 197, 217, 253, 256; and biodiversity 199–201, 205–6; broadleaf 198; and GHG emissions 35
- forests 159, 181, 195, 206
- forkbeard 128
- Foundation for Environmental Education in Europe 122
- Framework Directive on Sustainable Use of Pesticides 219
- frog, common 189, 193
- fuel switching 32, 52–3
- fuel-tourism 31–2
- fungi 188–9, 197, 253
- fungicides 218
- furans 118, 216

- gamma radiation 223, 225
- genetically modified organisms (GMOs) 223
- Geographical Information Systems (GIS) 183, 199
- Geological Survey of Ireland (GSI) 39, 67, 86, 88, 124, 192
- geology 136, 176, 188
- giant hogweed 201
- gleys 175
- 'global dimming' 39
- Global Strategy for Plant Conservation (GSPC) 197
- global warming 131, 134, 157, 166, 168, 170, 178
- global warming potential (GWP) 29
- glyphosate 218
- golden eagle 197
- Gothenburg Protocol 181
- grasslands 168, 174, 178, 191, 195
- great soil groups 175
- green chemistry 258
- 'green technologies' 151, 258
- greenhouse gas emissions 5, 20, 27–40, 56–7, 146, 151, 167, 178, 181, 203, 207, 210, 240, 248, 249–50, 257, 259; from agriculture 33–4, 40; 'baseline' scenario of 35; drivers of 31–3; inventories of 39, 41; projections of 33–7, 239; sources of 30; targets for 5, 20, 27, 28, 36, 37, 38, 56–7, 261; and tourism 22; and transport 22; trends in 30–1; from waste 33; 'with measures' scenario of 35; 'without measures' scenario of 35
- Greenland halibut 128
- Greenland white-fronted goose 189, 253
- grey brown podzolics 175
- Gross Domestic Product (GDP) 17–18, 20, 34
- Gross National Product (GNP) 234
- Gross Value Added (GVA) 18, 19
- groundwater 64, 65, 67, 68, 77–89, 136–7, 198, 248, 251; ammonium in 81–2; classification of 87–8; composition of 78; levels of 86–7; microbiology of 77, 81, 84–6; monitoring of 69, 80–1, 86; nitrate in 82–3; pollution of 66, 80, 180, 260; quality of 81–6; status of 71–2; and the WFD 79–80
- Groundwater Directive 72, 89
- Groundwater Monitoring Programme 81
- habitats, threats to 115, 132, 157, 166, 187, 188, 191, 192, 197, 204, 210, 249, 260
- Habitats Directive 65, 128, 190, 191, 196, 205, 254, 260, 261
- haddock 127–8, 203
- hare, Irish 193, 196
- hazardous substances 66, 148, 151
- health 8
- Health and Safety Authority 219
- heart urchins 120
- heath 195, 201
- heavy metals 54, 98, 176, 180, 217, 226
- hen harrier 197
- herbicides 218
- Heritage Council 204
- herring 126, 203
- hexabromocyclododecane (HBCD) 118
- high nature value (HNV) farmland 168
- High Radon Area 224
- hormones 220, 257
- horse mackerel 126–7
- house completions 145, 234
- household consumption 145
- households 16–17
- housing 16, 20, 201
- hydrofluorocarbon (HFC) 31
- hydrogeology 80
- HydroNet* 138
- hydropower 64
- Iarnród Éireann 8, 22, 226
- indicator reports 4
- industry 18–20
- infrastructure 22–3
- insects 92
- Integrated Coastal Zone Management (ICZM) 157, 166, 170, 201
- Integrated Pollution Control (IPC) 53
- Integrated Pollution Prevention and Control (IPPC) 51, 54, 81, 146, 217
- Integrated Pollution Prevention and Control Directive 74, 138
- Inter-departmental Committee for the Strategy for Science, Technology and Innovation (IDC-SSTI) 9
- Intergovernmental Panel on Climate Change (IPCC) 5, 29, 43, 131; Fourth Assessment Report of 5, 28, 29, 30, 249
- International Council for the Exploration of the Seas (ICES) 126, 127, 128
- invasive species 68, 108, 130, 137, 179, 192, 197, 201–3, 207, 253, 254
- Invasive Species Steering Group 203
- invertebrates 70, 92, 98, 107, 111, 189; benthic 70, 114, 115
- Irish Coast Guard 121
- Irish Farm Films Producers Group (IFFPG) 150
- Irish lady's tresses orchid 196
- Irish Landslides Working Group (of GSI) 181–2
- Irish Offshore Strategic Environmental Assessment (IOSEA1) 125
- Irish Sea Marine Aggregates Initiative (IMAGIN) 124
- Irish Sustainable Development Model (ISuS) 234–5, 240

- jay 189
- Joint Implementation 38
- karst landscapes 78, 86
- Kerry slug 189, 193, 196
- Killarney fern 196
- killer whale 118
- Kyoto Protocol 5, 20, 27–31, 36–41, 56, 239, 240, 250, 259, 261
- lakes 64, 65, 66, 67, 68, 69–70, 83, 98, 136–8, 195, 201, 251; classification of 106–7; hypertrophic 109; water quality of 104–11
- land cover 158–9, 210
- land use 15, 157–70, 183; changes in 157–8, 210–11, 256, 258
- Land-Use, Land-Use Change and Forestry sector 39
- landfill 23, 94, 138, 146–8, 179, 236, 241, 252–3, 260
- Landfill Directive 148, 152, 233, 236, 240, 243, 252, 261
- landfill levy 234, 240–4
- landslides 177, 181–2
- landspreading 19, 179, 180
- Large Combustion Plants Directive 51
- lead 45, 49–50, 176, 217
- Less Favoured Areas 198
- lichens 188–9, 253
- Life-Nature Programme 197, 206
- limestone pavement 188, 195, 253
- ling 128
- lithium 217
- lithosols 175
- little egret 203
- liverworts 188, 189, 253
- local authorities 6, 8, 39, 43, 44, 45, 63, 66–9, 74, 75, 136, 167–8, 183, 226, 260
- Local Biodiversity Action Plans 196, 205, 254
- Luas 22
- lugworms 120
- machair 166, 188, 195, 253
- mackerel 126
- macroalgae 71, 115–17, 188
- macrophytes 70
- maerl beds 188, 193, 253
- magnesium 178
- manufacturing sector 239
- marinas 124, 125
- marine aggregate extraction 114, 124–5
- Marine Climate Change Programme 132
- marine environment 113–15; pressures on 123–4
- Marine Environment Research Programme 132
- Marine Institute 69, 117, 118, 119, 120, 126, 132
- marine litter 114, 123–4
- Marine Strategy Directive 113, 132, 200
- Market Development Group 152
- marsh fritillary 189, 193
- mercury 55, 118, 176, 217
- Mercury Strategy 217
- Met Éireann 40, 47
- methane (CH₄) 28, 30, 31, 33, 146, 177, 178
- mining 92, 94, 98, 144, 145, 146, 176, 217, 239
- mires 191
- MOLAND 158
- Molluscan Shellfish Safety Committee (MSSC) 121
- molybdenum 217
- Moneypoint 52, 240
- mosses 188, 189, 253
- mussel: freshwater pearl 189, 192, 193, 196, 199; rope 129; zebra 108, 137
- nanoparticles 215, 221–2, 226, 257
- nanotechnology 221–2, 257, 258
- National Allocation Plan (NAP) 5: first 5; second (NAP2) 5, 38, 39
- National Biodegradable Waste Strategy 241
- National Biodiversity Action Plan 7, 254
- National Biodiversity Data Centre 7, 187, 206, 210, 254
- National Biodiversity Plan 7, 187, 196–7, 204
- National Climate Change Strategy (NCCS) 5, 33, 35, 36, 38, 39, 40, 54, 240, 250
- National Development Plan (NDP) 7, 9, 22, 23, 39, 198, 199, 201, 210, 237–8, 255–6, 258
- National Emission Ceilings (NEC) Directive 6, 43, 51–3, 55, 59, 240, 250, 261
- National Forest Inventory (NFI) 164
- National Hazardous Waste Management Plan 149, 152, 252
- National Parks and Wildlife Service (NPWS) 69, 192, 196, 201, 203, 206
- National Roads Authority 8, 226
- National Social and Economic Council 255
- National Soil Database (NSDB) 174, 175–6, 178, 179, 181
- National Spatial Strategy 7, 167, 210
- National Strategy for Plant Conservation in Ireland 197
- National Sustainable Development Strategy 210
- National Waste Prevention Programme (NWPP) 149–50, 152, 191, 236
- native species 27, 56, 189, 197, 201
- Native Woodland Scheme 200
- natterjack toad 189, 193, 196
- Natura 2000 network 128, 190–2, 200, 205
- Natural Heritage Area (NHA) 192, 201
- natural resources 8
- Nephrops 127, 128

- New Zealand flatworm 179, 201
 newt, smooth 189
 nickel 55, 176, 177, 181, 217
 nightjar 197
 nitrate 70, 77, 80, 82–3, 92, 99,
 101–2, 105, 106, 111, 115, 130,
 137, 197, 198, 251
 Nitrates Action Plan 138, 252
 Nitrates Directive 6, 74, 115, 138
 nitric oxide 47
 nitrogen dioxide (NO₂) 43, 47, 57
 nitrogen oxides (NO_x) 6, 43, 44, 45,
 47, 48, 51, 52, 53, 54, 55, 58–9,
 181, 240, 250
 nitrous oxide (N₂O) 28, 30, 31, 33,
 178
 noise 8, 215, 226, 258;
 infrastructural 226
 Noise Action Plans 226, 228
 North–South Shared Aquatic
 Resource (SHARE) 66
 northern hake 128
 Northern Ireland 4, 196, 204
 Northern Ireland Biodiversity Group
 204
 Northern Ireland Environment Agency
 (NIEA) 196, 203, 204
 Notice Nature 204
 nutrient management plans 183
- ocean energy 38, 259
 Office of Public Works 69
 offshore oil and gas exploration 125
 oil pollution 114, 121; contingency
 plans for 121
 oilseed rape 163–4, 168
 orange roughy 128–9
 organic farming 198
 Organisation for Economic
 Co-operation and Development
 (OECD) 73, 106
 organotin compounds 220, 257
 OSPAR 117, 125, 190, 217
 otter 193, 196
 overgrazing 178, 192, 198, 201
- oxygen depletion 115–16
 oyster 129, 130
 oysterplant 203
 ozone 45, 47–9; ground-level 6, 44,
 51, 52; precursors of 47
- Packaging Prevention Programme
 150
 paralytic shellfish poisoning (PSP) 119
 ‘park and ride’ 22
 particulate matter (PM) 43, 44, 45–7,
 54, 55, 57, 58, 250
 pasture 157, 159, 160, 163, 168,
 169
 peat 81, 84; as fuel 32–3, 73, 175,
 178, 197, 205, 253
 peatlands 188, 201, 203, 205–6, 253
 People’s Millennium Forest Project
 200
 perfluorocarbon (PFC) 31
 persistent organic pollutants (POPs)
 216, 226
 Pesticide Control Service (PCS) 181,
 218
 pesticides 70, 103, 163, 181,
 197, 216, 217–19, 226;
 organochlorine (OCPs) 118, 220,
 257
 petroleum hydrocarbons 118
 Petroleum Infrastructure Programme
 (PIP) 125
 pharmaceutical industry 215
 pharmaceutical and personal care
 products (PPCPs) 215, 221, 257
 phosphate 70, 77, 80, 83–5, 88, 92,
 99–100, 102, 105, 106, 115,
 130, 137, 176
 phthalates 220, 257
 phytobenthos 71
 phytoplankton 70, 106, 114, 115,
 119, 120, 130, 188, 203
 Plant Protection Products Directive
 220
 plastic bag levy 17
 podzols 175
- pollan 189, 193, 196, 203
 ‘polluter pays principle’ 151, 260
 polonium-210 117
 polybrominated diphenyl ethers
 (PBDEs) 118
 polychlorinated biphenyls (PCBs)
 113, 118, 216–17, 220, 257;
 dioxin-like 222
 polychlorinated dibenzofuran (PCDF)
 118, 222
 polychlorinated dibenzo-p-dioxin
 (PCDD) 118, 222
 polycyclic aromatic hydrocarbons 55,
 103
 population 14–16, 124, 144–5, 158,
 162, 165–6, 197, 239
 population density 15
 potassium 178
 power-generation plants 47, 48
 Producer Responsibility Initiatives
 (PRIs) 149–50, 152, 253
 public transport 43, 167
 public water supply schemes 79
 pyrethroids 181
- Q-values 92
 quail 197
 quality bus corridors (QBCs) 22
 quarrying 94, 146, 239
- radioactivity 117, 133, 223–5, 228;
 artificial 225; background 117;
 internal 225; medical 225;
 monitoring of 225
 Radiological Protection Institute of
 Ireland 117, 224, 228
 radon 224, 228
 rail freight 145
 Railway Procurement Agency 8, 226
 rainfall 30
 RAMSAR Convention 189
 recycling 143
 red deer 201
 red grouse 189, 198
 red kite 197

- redfish 128
- red-necked phalarope 197
- refuse collection 17
- Regional Fisheries Boards 107
- Regional Waste Plans 152, 252
- Register of Protected Areas 69
- Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) 6–7, 215, 216, 219–20, 256
- regosols 175
- rendzinas 175
- renewable energy 5, 20, 35, 151, 164, 166
- Renewable Energy Feed in Tariff (REFIT) 164
- Renewed Sustainable Strategy 166
- resource use 4, 6, 16, 138, 252–3
- Restriction on Use of Certain Hazardous Substances (RoHS) Directive 217
- Review on the Economics of Biodiversity Loss 205
- Review on the Economics of Climate Change 205
- rhododendron 201
- River Basin District Advisory Councils 73
- River Basin Districts (RBDs) 6, 63, 66–9, 73, 93–5, 108–9, 169; Characterisation Report on 67; International (IRBDs) 66, 69, 93, 94
- river basin management plans (RBMPs) 6, 64, 65, 68, 71, 74–5, 138, 252; public input to 73
- rivers 64, 65, 66, 67, 69–70, 74, 80, 83, 136–8, 201; classification of 92–3; water quality of 91–103
- road traffic 31; management of 22, 54, 55, 57, 58; pollution from 43, 45, 47, 50, 53, 54
- roseate tern 189, 253
- Rural Development Programme 199
- Rural Environment Protection Scheme (REPS) 23, 163, 165, 168, 169, 192, 198, 200, 204, 206
- rural settlements 160–2, 167–8
- Rural Transport Initiative 22
- salmon 92, 99, 126, 129, 189, 191, 193, 200; hybrid 130
- saltmarsh 131, 201
- sandbanks 200
- Science, Technology, Research and Innovation for the Environment (STRIVE) 9, 72, 255, 258
- Sea Fisheries Protection Authority 133
- sea temperature 132
- seabirds 114, 123, 126, 200
- seafood 118
- sea-lice 130, 200
- seals 123, 126, 189, 193, 194
- seawater 117
- seaweeds 115, 117, 130, 188
- sectoral analysis 233–44
- selenium 176, 217
- Sellafield 117, 133, 225
- separator trawls 128
- septic tanks 77, 81, 94, 162
- sewage fungus 93
- sewage sludge 174, 176–7, 180, 183, 198, 221, 257
- Sewage Sludge Directive 176, 181
- Shared Environmental Information System (SEIS) 73
- sharks 200
- shellfish 113, 117, 118, 124–6, 225; biotoxins of 119–21; and public health 120–1; quality of 118–19; and tributyltin 220
- Shellfish Directives 75, 118
- shellfish waters 118–19
- shrew, greater white toothed 189
- sika deer 201
- silage effluent 94, 180
- single farm payment scheme see decoupling
- Sites of Community Importance (SCIs) 190, 191
- Sitka spruce 165, 199
- slimes 93
- smelt 203
- socioeconomic activity 13–23, 40, 200, 206, 234, 258
- soil 7, 84, 166, 173–83, 221, 258; acidification of 48, 176; classification of 175; compaction of 173, 177, 179; contamination of 147–9, 179–81, 183, 255; deterioration of 177–81; erosion of 177, 178–9, 255; functions of 174, 210; information on 174–5, 210, 255; mapping of 173, 174–8, 182–3; monitoring of 173, 174, 183, 255; protection of 183, 248, 249; quality of 174, 210; remediation of 259; salinisation of 173, 177, 255
- Soil Information Systems 183, 255
- soil organic carbon (SOC) 177–8, 183
- soil organic matter (SOM) 177–9, 181
- Source Protection Zones 88
- spatial planning 168, 210; marine 125
- Special Areas of Conservation (SACs) 128, 132, 190, 191, 200, 201, 205
- Special Protection Areas (SPAs) 190, 191, 205
- Species Action Plans (SAPs) 196
- sprat 126
- squirrel: grey 201, 202; red 196, 201, 202
- state of the environment reports 4, 23, 234, 248, 255, 256
- Stern Report 5
- Stockholm Convention 216
- stoneworts 188
- storm petrel 189, 253
- storms 30

- Strategic Environmental Assessment (SEA) 9, 166–7
- Strategic Environmental Assessment Directive 9, 166–7, 196, 256
- strategic noise maps 215, 226
- Strategy for Science, Technology and Innovation (SSTI) 258
- Strategy on the Sustainable Use of Pesticides 215, 219
- suburbanization 157, 160, 167, 210, 255
- sulphate 111
- sulphur dioxide (SO₂) 6, 43, 44, 45, 48–9, 51, 52, 55, 59, 240
- sulphur hexafluoride (SF₆) 31
- surface sealing 173, 177, 179, 255
- Surveillance Monitoring programme 103
- sustainable development 233, 255–6
- Sustainable Energy Ireland (SEI) 34, 40, 151
- Sustainable Forest Management (SFM) 169, 199
- Taisce, An 122
- Teagasc 35, 40, 174, 183
- textiles, leather and leather products 19
- Thematic Strategy for Soil Protection 7, 182
- thermal treatment plants 23
- thoron 224–5
- tillage 163, 168
- tourism and travel 21–2, 124, 145, 197, 256
- trace metals 118
- Transboundary Air Pollution project 55
- transboundary emissions 6, 43, 47, 51–2, 240, 241
- transboundary pollution 43, 44, 47, 51–2, 55, 114, 181
- transitional waters 64, 65, 67–70, 73, 113–16, 131, 136, 200, 203, 251
- transport 22, 145, 249; car 16–17, 31, 145; public 16; school 16
- tributyltin 220
- tritium 225
- Trophic Status Assessment Scheme 115
- trout 92, 99, 189; sea 130, 200
- tuna 126, 127; albacore 127
- turloughs 188, 195, 253
- turtles 123; leatherback 189, 193
- twaité shad 189, 193
- 2020 Vision* 4, 249, 258
- ultrafine particles 6
- undergrazing 192, 198
- UNECE Aarhus Protocol 217
- UNECE Gothenburg Protocol 44, 51
- UNECE POPs Protocol 216
- United Nations Economic and Social Council 220
- United Nations Environment Programme (UNEP) 4
- United Nations Climate Change Conference, Bali 5
- United Nations Framework Convention on Climate Change (UNFCCC) 5, 27, 29, 41
- Urban Environment Project 159
- urban settlements 159–60, 167
- urban sprawl 167
- Urban Waste Water Directive 73, 74, 115, 138
- urbanisation 15–16, 114, 124, 179, 197
- UV radiation 47, 85
- viruses 84, 85
- viviparous lizard 189
- volatile organic compounds (VOCs) 6, 43, 44, 47, 48, 51, 52, 53, 55, 59; non-methane (NMVOCs) 240
- walking trails 22
- waste 6, 8, 143–52; biodegradable 148, 149, 152, 233, 252–3, 258; biodegradable municipal (BMW) 146, 233, 240–4, 261; commercial 147; construction and demolition 21, 145–6, 151, 152, 236; disposal of 6, 133, 217; generation of 145–6, 235–6, 241, 244, 252; and GHG emissions 35; hazardous 143, 146, 147–9, 152, 239; household 147, 252; illegal dumping of 256; incineration of 236; industrial 149; management of 6, 19, 23, 145–6, 148–9, 166, 235–6, 241–3, 249, 252–3, 260; minimization of 6, 143, 248; mining 148; municipal 146–7, 244; municipal solid (MSW) 236; packaging 150, 252; organic 77, 82, 84, 93; packaging 147, 152; prevention of 6, 143, 144, 148, 248, 253, 260; producer responsibility for 6, 143; recovery of 146, 248; recyclable 143, 148, 152; reuse/recycling of 6, 144, 148, 149, 151, 248, 252, 260; sector analysis for 236–9
- waste collection, pricing of 242
- waste electrical and electronic equipment (WEEE) 6, 20, 150–1, 253
- Waste Framework Directive 148
- waste management plans 149
- wastewater 22, 82, 84, 103, 133, 151, 220, 221, 252, 257
- water-based leisure activities 21
- water bodies 64; artificial (AWBs) 64, 65, 67–9; heavily modified (HMWBs) 64, 65, 67, 69; morphological pressures on 68; status of 5, 63, 67, 69–70, 88, 166, 259–60

- Water Framework Directive (WFD)
 - 5–6, 63–75, 77, 88–9, 93, 102, 115, 132, 136–8, 169, 190, 204, 218, 220, 251–2, 257, 260, 261; common implementation strategy on 66; and groundwater 79–80; milestones for implementation of 64; National Coordination Group on 66; National Technical Coordination Group on 66; North–South Coordination Group on 66; North–South Technical Advisory Group on 66; risk assessment under 80; Strategic Coordination Group on 66; UK Technical Advisory Group on 66, 72
- Water Information System for Europe (WISE) 73
- water pollution 65–7, 74, 77, 86, 89, 93–103, 162, 180, 197, 234, 251, 259; diffuse 68; point-source 68, 80, 87
- water provision 17
- water quality 5–6, 68, 91–103, 163, 173, 177, 198, 249, 251–2, 258, 261
- water treatment 85
- Waterways Ireland 69
- wetlands 64, 65, 66, 71, 75, 80, 83, 136, 159, 201, 205
- whales see cetaceans
- white biotechnology 258
- white-tailed eagle 197
- whiting 127–8
- Wildlife Grant Scheme 204
- wind energy 164, 259
- woodlands 191, 195, 200, 201, 203
- World Summit on Sustainable Development 220

- X-rays 225

- zinc 176, 217