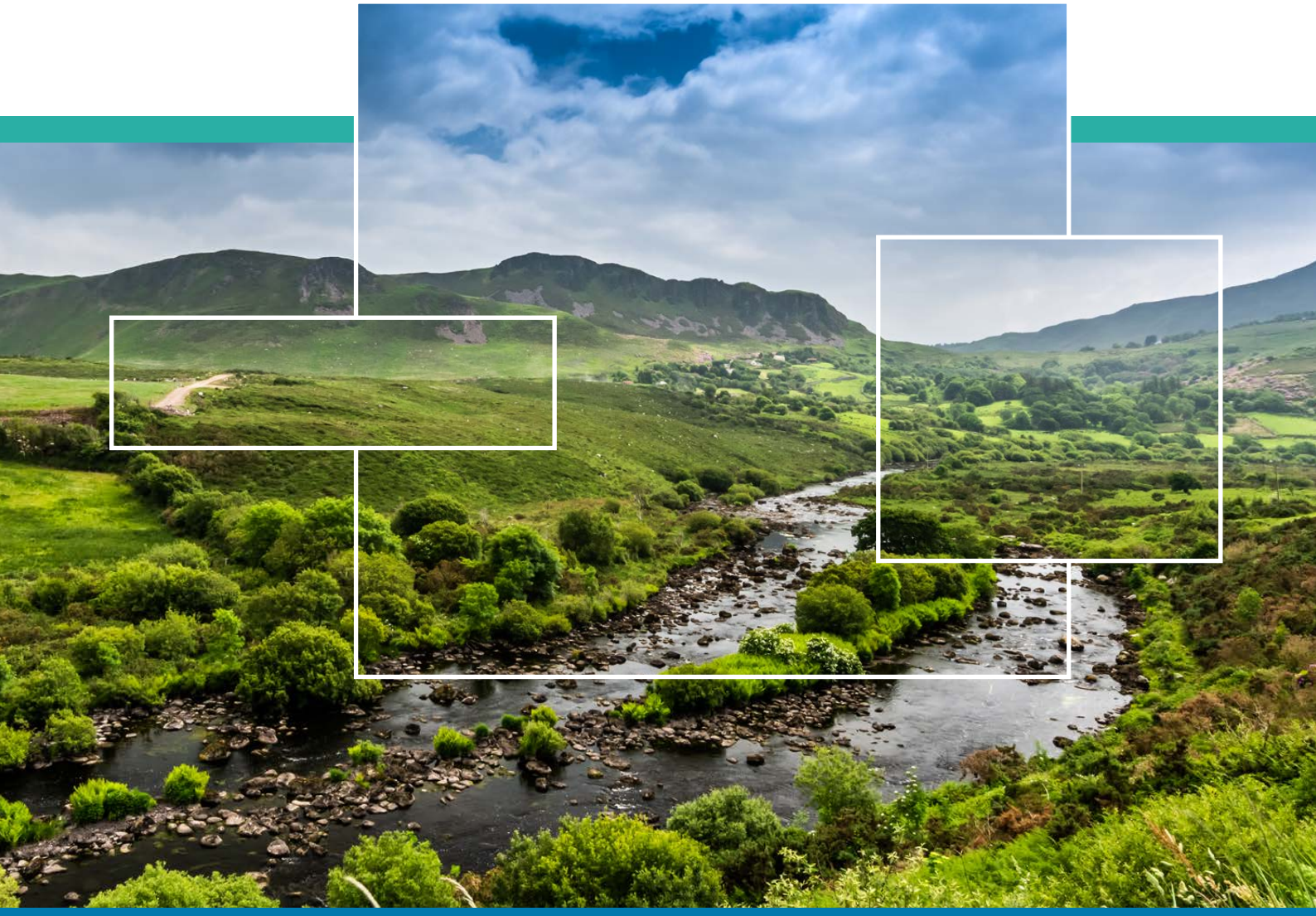
Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil



Water quality monitoring report on nitrogen and phosphorus concentrations in Irish waters 2021

ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

Regulation: *Implementing regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

Knowledge: *Providing high quality, targeted and timely environmental data, information and assessment to inform decision making.*

Advocacy: *Working with others to advocate for a clean, productive and well protected environment and for sustainable environmental practices.*

Our responsibilities include:

Licensing

- Large-scale industrial, waste and petrol storage activities;
- Urban waste water discharges;
- The contained use and controlled release of Genetically Modified Organisms;
- Sources of ionising radiation;
- Greenhouse gas emissions from industry and aviation through the EU Emissions Trading Scheme.

National Environmental Enforcement

- Audit and inspection of EPA licensed facilities;
- Drive the implementation of best practice in regulated activities and facilities;
- Oversee local authority responsibilities for environmental protection;
- Regulate the quality of public drinking water and enforce urban waste water discharge authorisations;
- Assess and report on public and private drinking water quality;
- Coordinate a network of public service organisations to support action against environmental crime;
- Prosecute those who flout environmental law and damage the environment.

Waste Management and Chemicals in the Environment

- Implement and enforce waste regulations including national enforcement issues;
- Prepare and publish national waste statistics and the National Hazardous Waste Management Plan;
- Develop and implement the National Waste Prevention Programme;
- Implement and report on legislation on the control of chemicals in the environment.

Water Management

- Engage with national and regional governance and operational structures to implement the Water Framework Directive;
- Monitor, assess and report on the quality of rivers, lakes, transitional and coastal waters, bathing waters and groundwaters, and measurement of water levels and river flows.

Climate Science & Climate Change

- Publish Ireland's greenhouse gas emission inventories and projections;
- Provide the Secretariat to the Climate Change Advisory Council and support to the National Dialogue on Climate Action;
- Support National, EU and UN Climate Science and Policy development activities.

Environmental Monitoring & Assessment

- Design and implement national environmental monitoring systems: technology, data management, analysis and forecasting;
- Produce the State of Ireland's Environment and Indicator Reports;
- Monitor air quality and implement the EU Clean Air for Europe Directive, the Convention on Long Range Transboundary Air Pollution, and the National Emissions Ceiling Directive;
- Oversee the implementation of the Environmental Noise Directive;
- Assess the impact of proposed plans and programmes on the Irish environment.
- Environmental Research and Development
- Coordinate and fund national environmental research activity to identify pressures, inform policy and provide solutions;
- Collaborate with national and EU environmental research activity.

Radiological Protection

- Monitoring radiation levels and assess public exposure to ionising radiation and electromagnetic fields;
- Assist in developing national plans for emergencies arising from nuclear accidents;
- Monitor developments abroad relating to nuclear installations and radiological safety;
- Provide, or oversee the provision of, specialist radiation protection services.

Guidance, Awareness Raising, and Accessible Information

- Provide independent evidence-based reporting, advice and guidance to Government, industry and the public on environmental and radiological protection topics;
- Promote the link between health and wellbeing, the economy and a clean environment;
- Promote environmental awareness including supporting behaviours for resource efficiency and climate transition;
- Promote radon testing in homes and workplaces and encourage remediation where necessary.

Partnership and networking

- Work with international and national agencies, regional and local authorities, non-governmental organisations, representative bodies and government departments to deliver environmental and radiological protection, research coordination and science-based decision making.

Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by advisory committees who meet regularly to discuss issues of concern and provide advice to the Board.

WATER QUALITY MONITORING REPORT ON NITROGEN AND PHOSPHORUS CONCENTRATIONS IN IRISH WATERS 2021

ENVIRONMENTAL PROTECTION AGENCY

An Ghníomhaireacht um Chaomhnú Comhshaoil
PO Box 3000, Johnstown Castle, Co. Wexford, Ireland
Telephone: +353 53 9160600 Fax: +353 53 9160699
Email: info@epa.ie Website: www.epa.ie
Lo Call 1890 33 55 99

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Contents

Background to this Report

Regulation 37 of the European Union (Good Agricultural Practices for the Protection of Waters) (Amendment) Regulations (S.I. 393 of 2022) requires the EPA to prepare an annual report of the results of water quality monitoring to support the assessment of the impact of the nitrate's derogation as required by the Commission Implementing Decision (EU) 2022/696.

In preparing this report, the EPA has used data from the National Water Framework Directive Monitoring Programme. The report summarises phosphorus and nitrate data, taking account of the water quality reporting guidance used for Council Directive 91/676/EEC (the Nitrates Directive).

Nitrogen and phosphorus data are presented for groundwater, rivers, lakes, estuarine and coastal waters. Nitrogen results are expressed as nitrate and phosphorus results are measured as molybdate reactive phosphate or total phosphorus. The results are expressed as annual means in the case of rivers, lakes and groundwater or as winter medians for estuarine and coastal waters. The figures and tables in this report summarise the mean or median annual concentrations in 2021 for groundwater and 2019-2021 for surface water and presents the mean or median annual concentrations observed in the last decade.

While both nitrate and phosphorus are important drivers of nutrient enrichment and pollution (eutrophication) their impact should be considered in conjunction with the overall ecological condition of our waters. The latest EPA Water Quality in Ireland report, covering the period 2016-2021, provides a full assessment of the chemical and ecological water quality and ecological status of Irish waters.

Public access to the nutrient data for the sites in the water monitoring programme is available on www.catchments.ie.

Water Quality Summary

The latest EPA Water Quality in Ireland report (EPA, 2022), covering the period 2016-2021, found that 54% of our surface waters were in satisfactory ecological health and overall water quality is in decline. The picture for our estuaries is even more stark with only 36% in satisfactory ecological condition. The assessment indicates the main problem damaging our waters is the presence of too much phosphorus and nitrogen, which is leading to increased eutrophication in these waters. Since 2018, the ecological status of a third of the marine (estuarine and coastal) waters in the south east[1] and along the southern seaboard of County Cork[2] has declined due to the impacts of nutrient enrichment.

In the south east and along the southern seaboard, only five of the 36 marine water bodies are achieving good ecological status, with declines in ecological status noted in twelve of the 36 water bodies since 2018 (EPA, 2022).

The data contained in this report finds that nitrate concentrations remain too high in rivers, groundwater and estuaries in the south east and along the southern seaboard. Nationally, although there has been year on year fluctuation in the average nitrate concentration, its apparent that average nitrate concentrations have increased in the last decade in all water types. Compared to a decade ago, on average, approximately an additional 6,000 tonnes of nitrogen is now being discharged to marine waters in the south east and along the southern seaboard of Ireland each year (EPA, 2022).

Four percent of groundwater monitoring sites exceeded the groundwater threshold value of 37.5 mg/l NO_3 in 2021, but a fifth of groundwater monitoring sites had mean nitrate concentrations greater than 25 mg/l NO_3. A third (31%) of rivers had mean nitrate concentrations greater than 11.5[3] mg/l NO_3. Nitrate concentrations above 11.5 mg/l NO_3 may be impacting on the ecological health of these rivers and the associated marine waters in the catchment.

The greatest increases in nitrate concentrations have been in the south east, resulting in ten of the 16 marine waters in this region having nitrate concentrations above 11.5 mg/l NO_3. Along the southern seaboard, three of the 20 marine waters in Cork have nitrate concentrations above 11.5 mg/l NO_3. Following salinity correction, nationally, 24 estuarine and coastal waters exceed the nitrogen standard for marine waters and 20 of these water bodies are in the south east or along the southern seaboard of Ireland (EPA, 2022).

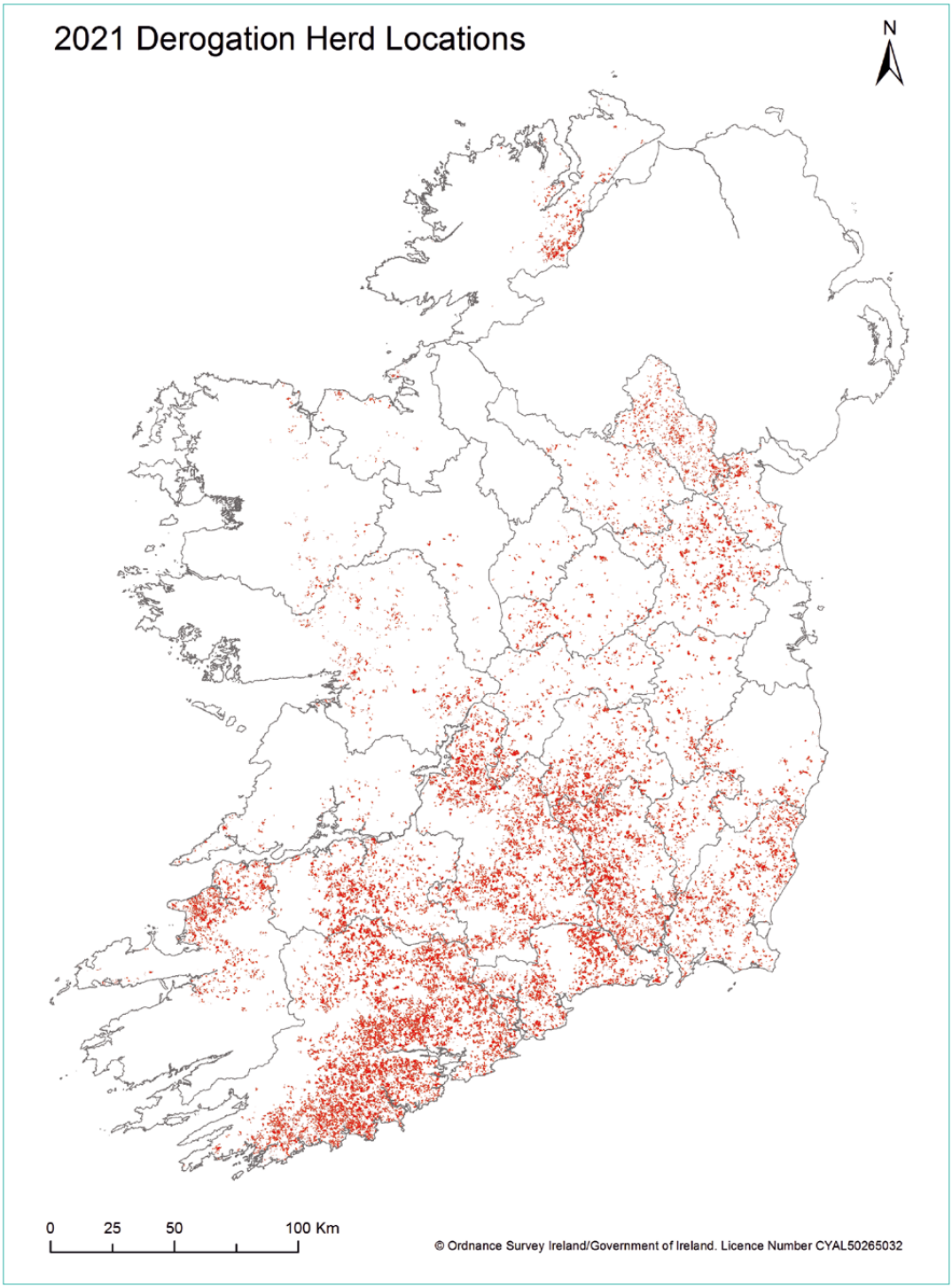
In relation to phosphorus the report finds that almost a third of all river sites (30%) and lake sites (32%) have unacceptably high mean phosphorus concentrations, which are greater than the good status EQS (0.035 mg/l P and 0.025 mg/l P for rivers and lakes respectively). The highest river and lake phosphorus concentrations are found in areas with poorly draining soils and it is in these areas that concentrations have increased the most in the last decade. Phosphorus losses from rivers may also be contributing to nutrient enrichment in the downstream estuaries.

1 Hydrometric areas 11-17

2 Hydrometric areas 18-20

3 For the purposes of catchment nutrient management, if the nitrate concentrations in streams and rivers throughout the contributing catchment are maintained at less than 11.5 mg/l NO_3, then the statutory dissolved inorganic nitrogen standard of 2.6 mg/l as N will be achieved in the receiving marine waters.

Map 1 shows the location of derogation farm holdings[4] in 2021 and the highest densities are found in the south east, along the southern seaboard, and to a lesser extent in the north east.



Map 1: National distribution of derogation herds in 2021 (Source: Department of Agriculture, Food and the Marine)

4 Derogation farms are those which have been granted a derogation from the standard limit of 170 kg nitrogen per hectare of livestock manure from grazing livestock which can be applied to the land each year on grassland farms. Farms granted derogations may apply manure up to a limit of 250 kg nitrogen per hectare (including by the animals themselves).

The increase in nutrient concentrations in the last decade and the recent declines in ecological status of our marine waters represents a worrying development in the context of our national water quality and in meeting the environmental objectives of the Water Framework Directive (WFD). The EPA has quantified the nutrient load reductions needed to achieve water quality outcomes for major river catchments in Ireland that discharge to marine waters (EPA, 2021). Information from this report has been considered in the development of measures included in the River Basin Management Plan 2022-2027, which has informed policy decisions that have been included in the European Union (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 113 of 2022). The nitrogen load reduction needed in each catchment has been determined by calculating the difference between the annual nitrogen load and the nitrogen load required to maintain the concentration below the Environmental Quality Standard of 2.6 mg/l (as N) in the receiving marine waters[5]. Phosphorus losses in some of these catchments may also be contributing to ecological declines the estuarine and coastal waters and this complexity highlights that different types of measures may be required in these catchments to reduce both nitrogen and phosphorus losses to water.

5 Nitrate concentrations are expressed as mg/l NO_3, and the standard to protect the receiving estuarine and coastal water is expressed as mg/l N. To convert nitrate to nitrogen, divide by 4.43 e.g. 11.5 mg/l NO_3 = 2.6 mg/l N.

Results of Water Quality Monitoring

The following section sets out the results of monitoring for groundwater, rivers, lakes and transitional and coastal waters. Groundwater monitoring data were averaged and are presented for monitoring undertaken during 2021, while the 2021 surface water data presented represents the average or median concentration between 2019-2021.

The water quality data presented hereafter uses a broadly comparable set of water quality ranges that are relevant to all waterbody types. Where applicable, the ranges align with environmental quality standards and/or environmental limits of concern for different water quality categories.

Groundwater

Nitrate in Groundwater

Figure 1 summarises the mean nitrate concentrations for 189 national groundwater monitoring programme sites monitored in 2021.

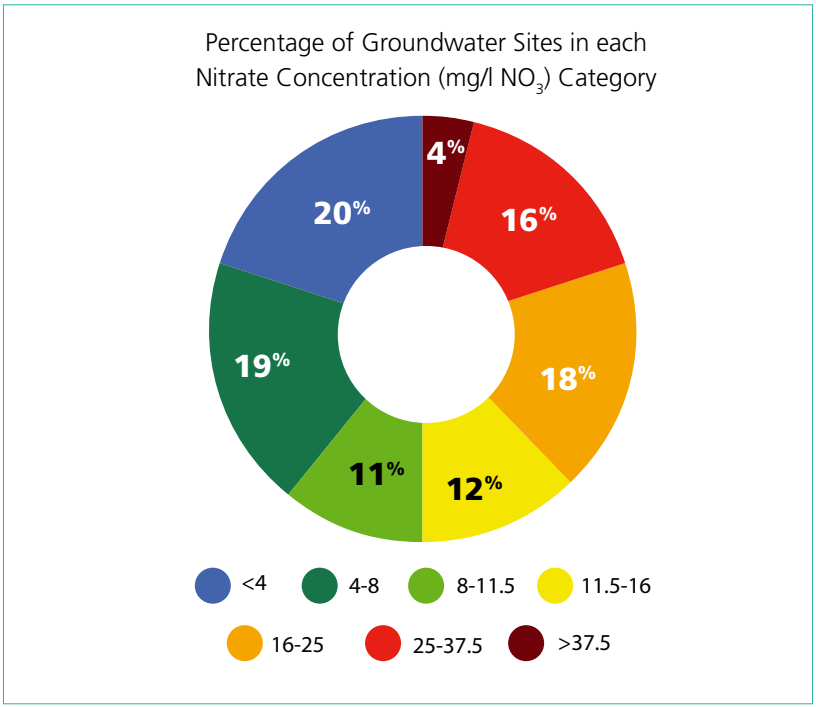
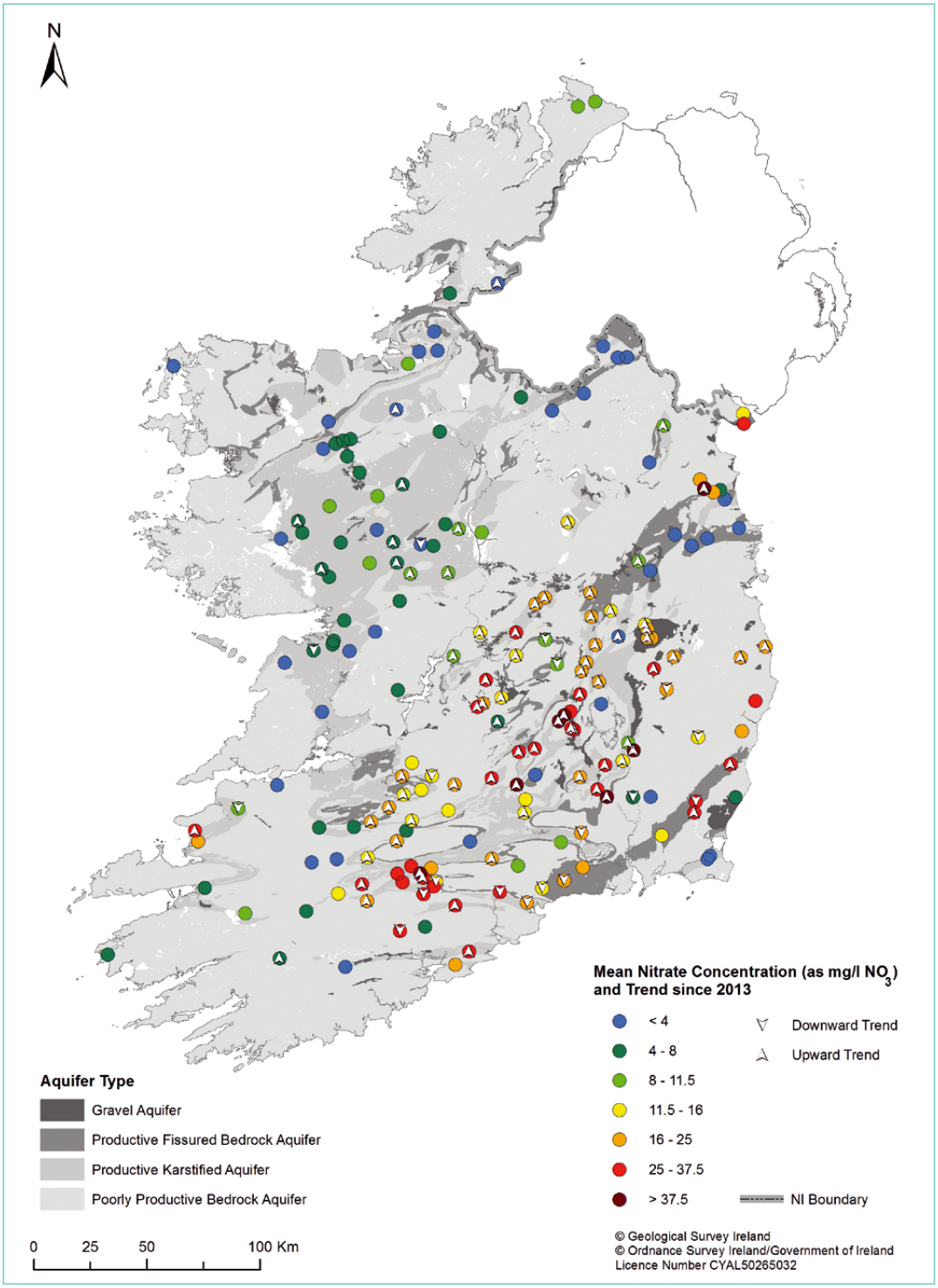


Figure 1: Mean nitrate concentrations in groundwater during 2021

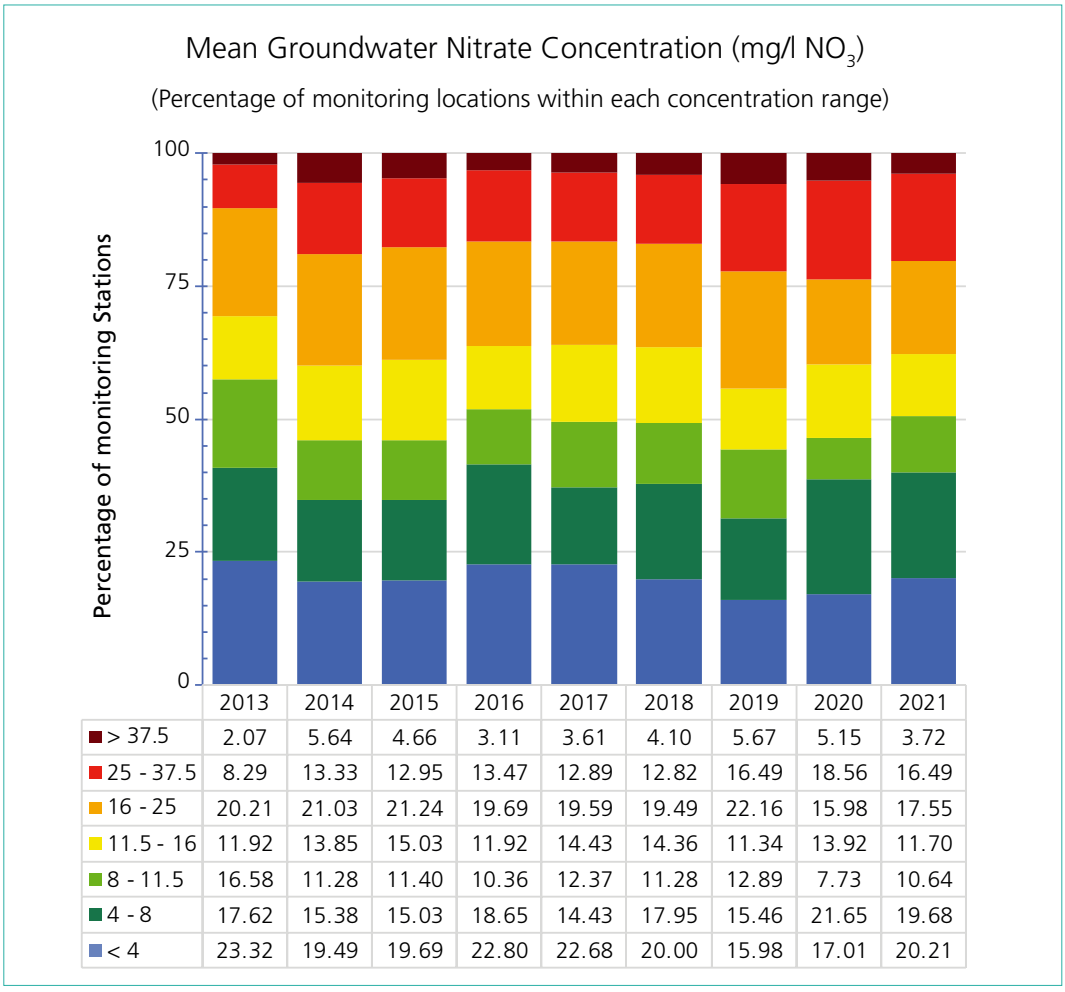


Map 2: Mean nitrate concentrations in groundwater during 2021 and concentration trends since 2013

In 2021, 20% of groundwater monitoring sites had a mean nitrate concentration greater than 25 mg/l NO_3 compared with 24% in 2020 and 10% of monitoring sites in 2013. Map 2 highlights that most sites with concentrations greater than 25 mg/l NO_3 are in the river catchments draining the south east and southern seaboard. Seven monitoring sites exceeded

the Irish Threshold Value of 37.5 mg/l NO_3. One of these sites had a mean nitrate concentration greater than the drinking water standard of 50 mg/l NO_3 and is used for water supply but has an appropriate water treatment system in place to ensure the provision of safe drinking water.

In the last decade, 40% of groundwater monitoring sites have seen an average concentration increase of over 0.2 mg/l NO_3 per annum, which identifies them as having an upward trend in accordance with the trend definitions of the Nitrates Directive. Only 10% of groundwater monitoring sites had improving trends during this time. Figure 2 shows that the national average nitrate concentration in groundwater has gradually increased over the last decade, albeit with year on year fluctuations. There is some indication that the national average concentration may be stabilising, albeit the concentrations remain too high. As groundwater contributes to surface water flow across the catchment, these elevated groundwater concentrations are contributing to an increase in the growth of algae and aquatic plants in rivers and the downstream marine waters.



	2013	2014	2015	2016	2017	2018	2019	2020	2021
> 37.5	2.07	5.64	4.66	3.11	3.61	4.10	5.67	5.15	3.72
25 - 37.5	8.29	13.33	12.95	13.47	12.89	12.82	16.49	18.56	16.49
16 - 25	20.21	21.03	21.24	19.69	19.59	19.49	22.16	15.98	17.55
11.5 - 16	11.92	13.85	15.03	11.92	14.43	14.36	11.34	13.92	11.70
8 - 11.5	16.58	11.28	11.40	10.36	12.37	11.28	12.89	7.73	10.64
4 - 8	17.62	15.38	15.03	18.65	14.43	17.95	15.46	21.65	19.68
< 4	23.32	19.49	19.69	22.80	22.68	20.00	15.98	17.01	20.21

Figure 2: Groundwater nitrate concentrations since 2013

Phosphorus in Groundwater

Figure 3 summarises the mean phosphorus concentrations (measured as molybdate reactive phosphorus (MRP)) for the 189 sites in the national groundwater monitoring programme sites during 2021. Figure 3 shows that 9% of monitoring sites had mean phosphorus concentrations greater than the Irish good ecological status threshold value of 0.035[6] mg/l P.

Groundwater phosphorus concentrations have remained stable in the last decade, with 97% of monitoring sites showing no trend. This validates the conceptual understanding that groundwater only provides a phosphorus pathway to surface waters in areas with extreme groundwater vulnerability i.e. where there is little or no soil available to bind up the phosphorus before it reaches groundwater.

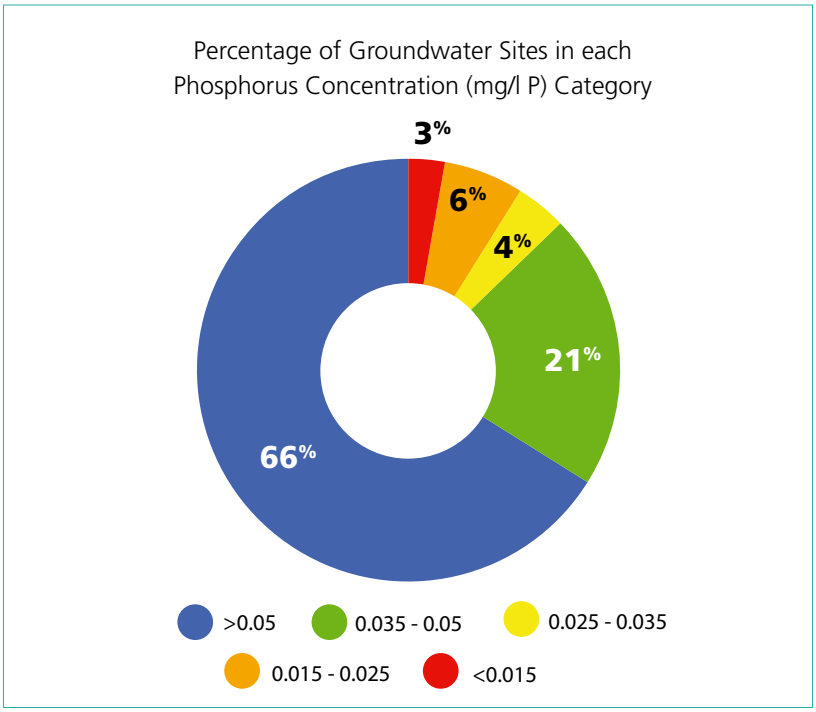
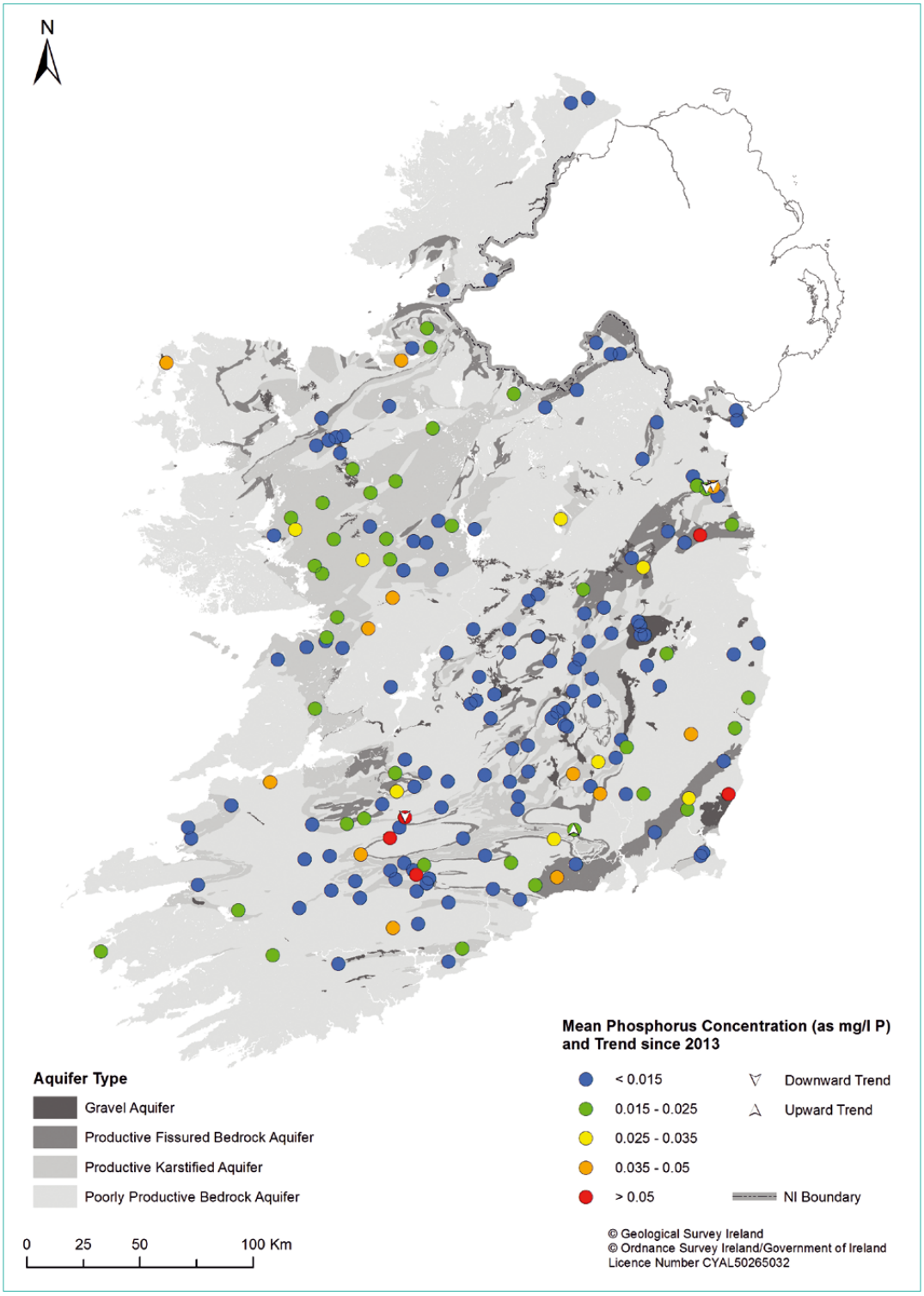


Figure 3: Mean phosphorus concentrations in groundwater during 2021

6 This groundwater threshold value is the WFD Good Status EQS for rivers



Map 3: Mean phosphorus concentrations in groundwater during 2021 and concentration trends since 2013

Rivers

Nitrate in Rivers

Figure 4 summarises the mean nitrate concentrations at 1,446[7] river monitoring sites from the national river monitoring programme for 2019-2021.

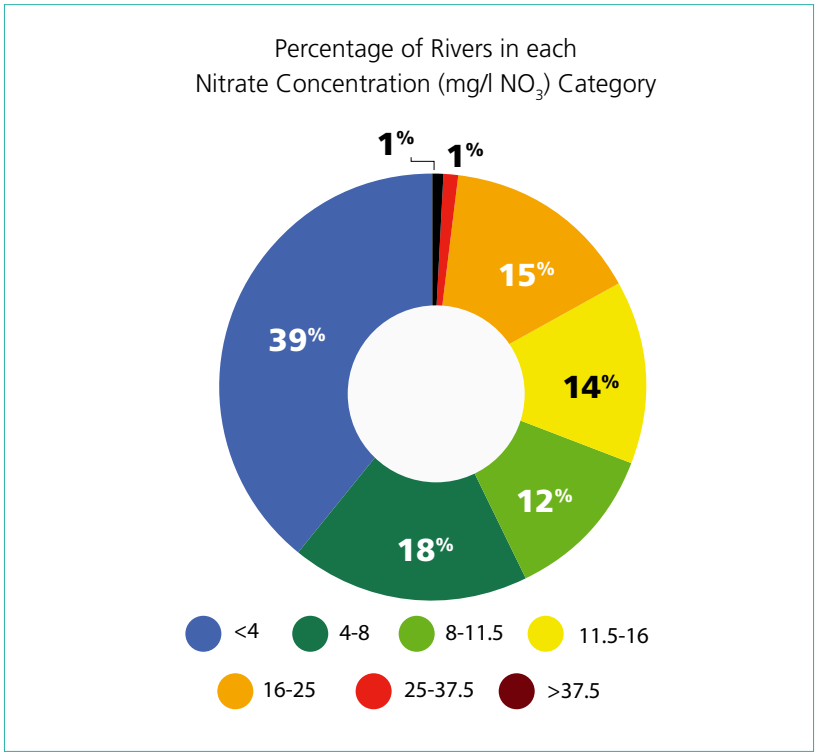
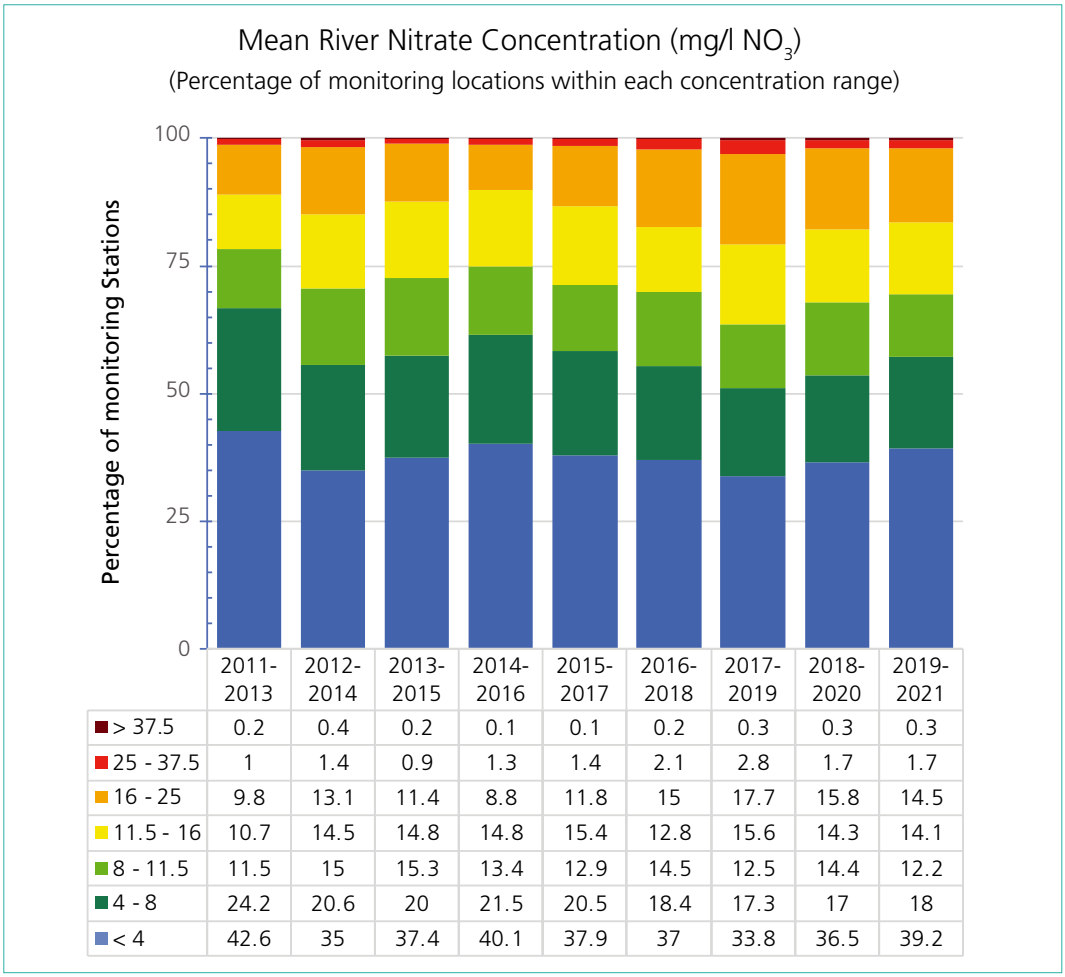


Figure 4: Mean nitrate concentrations at river monitoring sites for 2019-2021

Thirty-one percent of river sites have average concentrations greater than 11.5 mg/l NO_3 between 2019-2021 and Map 4 shows that most of the rivers in the south east and along the southern seaboard have concentrations above this value. The average nitrate concentration in these rivers is of concern as these concentrations contribute to an increase in the growth of algae and aquatic plants in rivers and the downstream marine waters, which impacts on the overall aquatic ecosystem health.

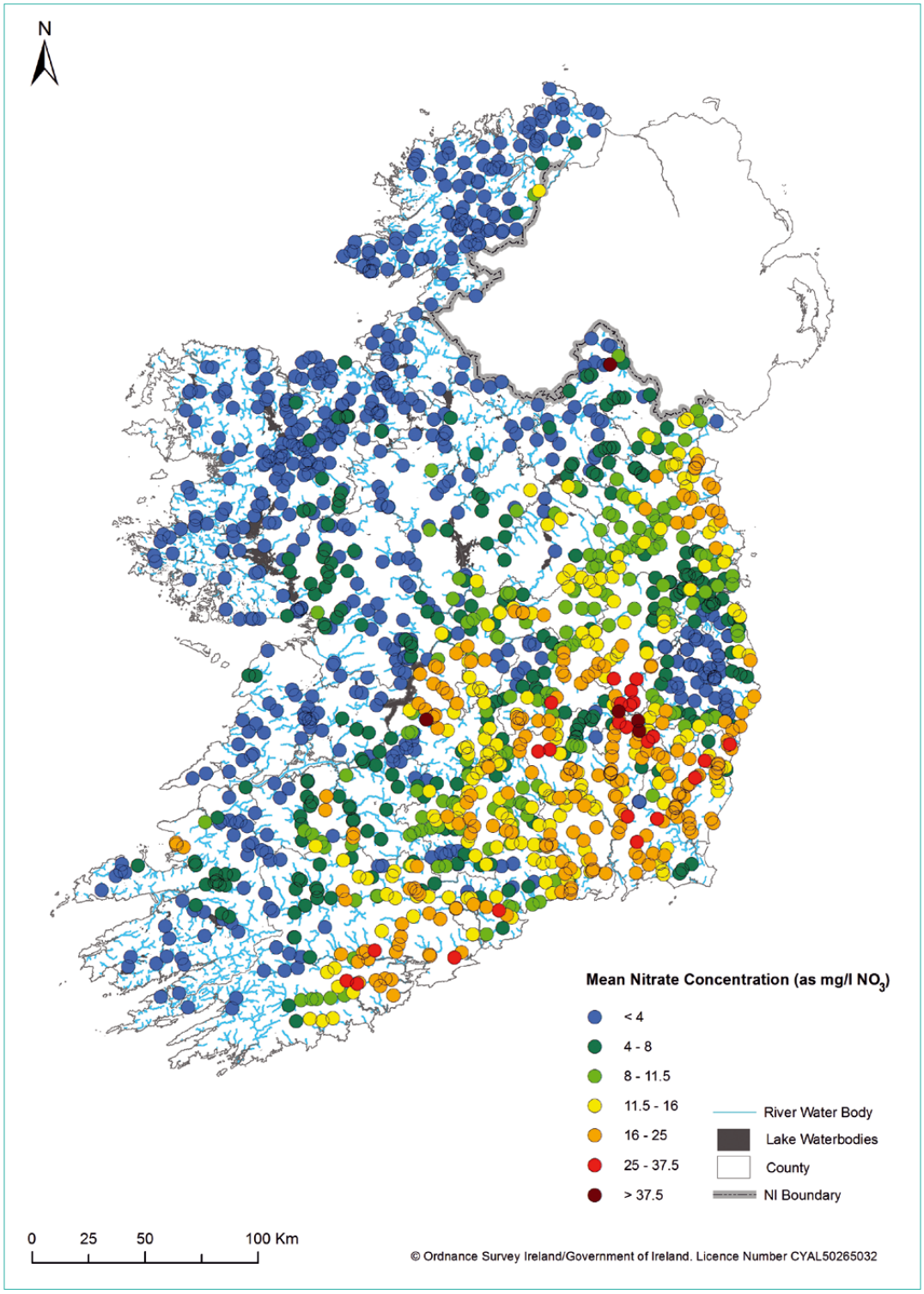
Figure 5 shows that the national average nitrate concentration in rivers have gradually increased over the last decade, albeit with year on year fluctuations. Thirty five percent of rivers have seen an average concentration increase of over 0.2 mg/l NO_3 per annum since 2016. There is some indication that average concentrations may be stabilising albeit they remain too high in about a third of our rivers. Map 5 indicates that the south east and east are the areas that have shown the greatest increase in nitrate concentration since 2016.

7 Only those monitoring sites that have been consistently monitored during this reporting period and that have at least four samples each year have been included in the assessment.

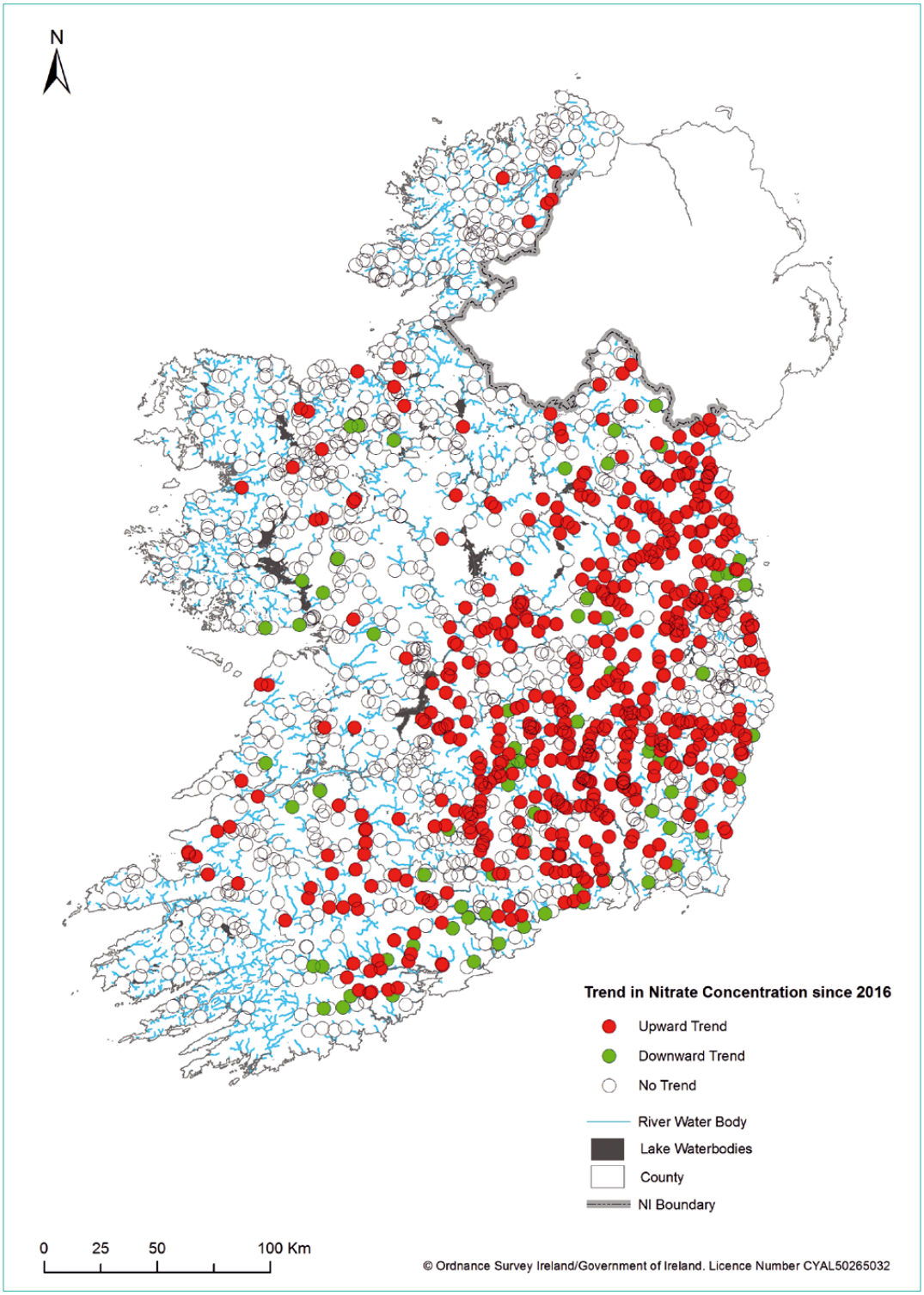


	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021
> 37.5	0.2	0.4	0.2	0.1	0.1	0.2	0.3	0.3	0.3
25 - 37.5	1	1.4	0.9	1.3	1.4	2.1	2.8	1.7	1.7
16 - 25	9.8	13.1	11.4	8.8	11.8	15	17.7	15.8	14.5
11.5 - 16	10.7	14.5	14.8	14.8	15.4	12.8	15.6	14.3	14.1
8 - 11.5	11.5	15	15.3	13.4	12.9	14.5	12.5	14.4	12.2
4 - 8	24.2	20.6	20	21.5	20.5	18.4	17.3	17	18
< 4	42.6	35	37.4	40.1	37.9	37	33.8	36.5	39.2

Figure 5: Riverine nitrate concentrations since 2013



Map 4: Mean nitrate concentrations in rivers for 2019-2021



Map 5: Nitrate concentration trends in rivers since 2016

Phosphorus in Rivers

Figure 6 summarises the mean phosphorous concentrations at 1,398[8] river monitoring sites from the national river monitoring programme for 2019-2021.

During this time, mean river concentrations were greater than the good status EQS (0.035 mg/l P) at 30% of sites. Map 6 shows that the highest phosphorus concentrations i.e. greater than 0.05 mg/l P, are found in areas that have a high proportion of poorly draining soils e.g. Limerick, Monaghan, the area north west of Dublin and Wexford.

Fifteen percent of rivers have seen an seen an average concentration increase of over 0.002 mg/l P per annum since 2016, with 21% of rivers seeing a comparable decrease during this period. However, Map 7 shows that most of these increases have been observed in the south east, in particular in the River Suir catchment. Since 2016, rivers in the River Suir catchment have seen an average concentration increase of over 0.002 mg/l P per annum at 85 (68%) of the 125 monitored river sites in that catchment, with only six (5%) of monitoring sites recording a comparable decrease in concentration during that time.

The Suir catchment has elevated nitrogen and phosphorus concentrations in its rivers, which may be due to more intensive farming and the heterogenous soils found in this catchment i.e. phosphorus losses are found in the poorly drained upland soils, with nitrogen losses found in the more freely draining lowland soils.

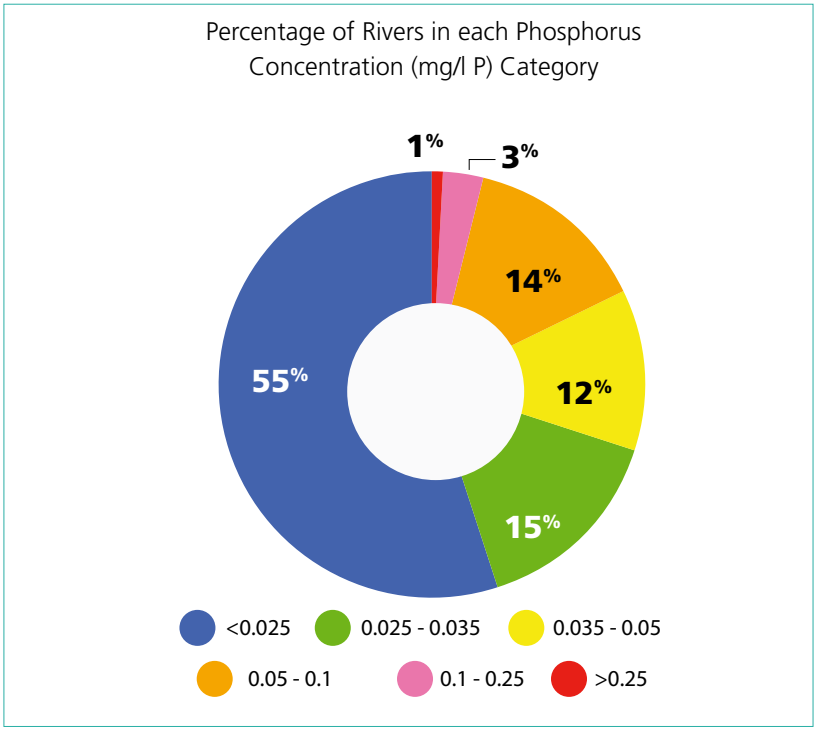
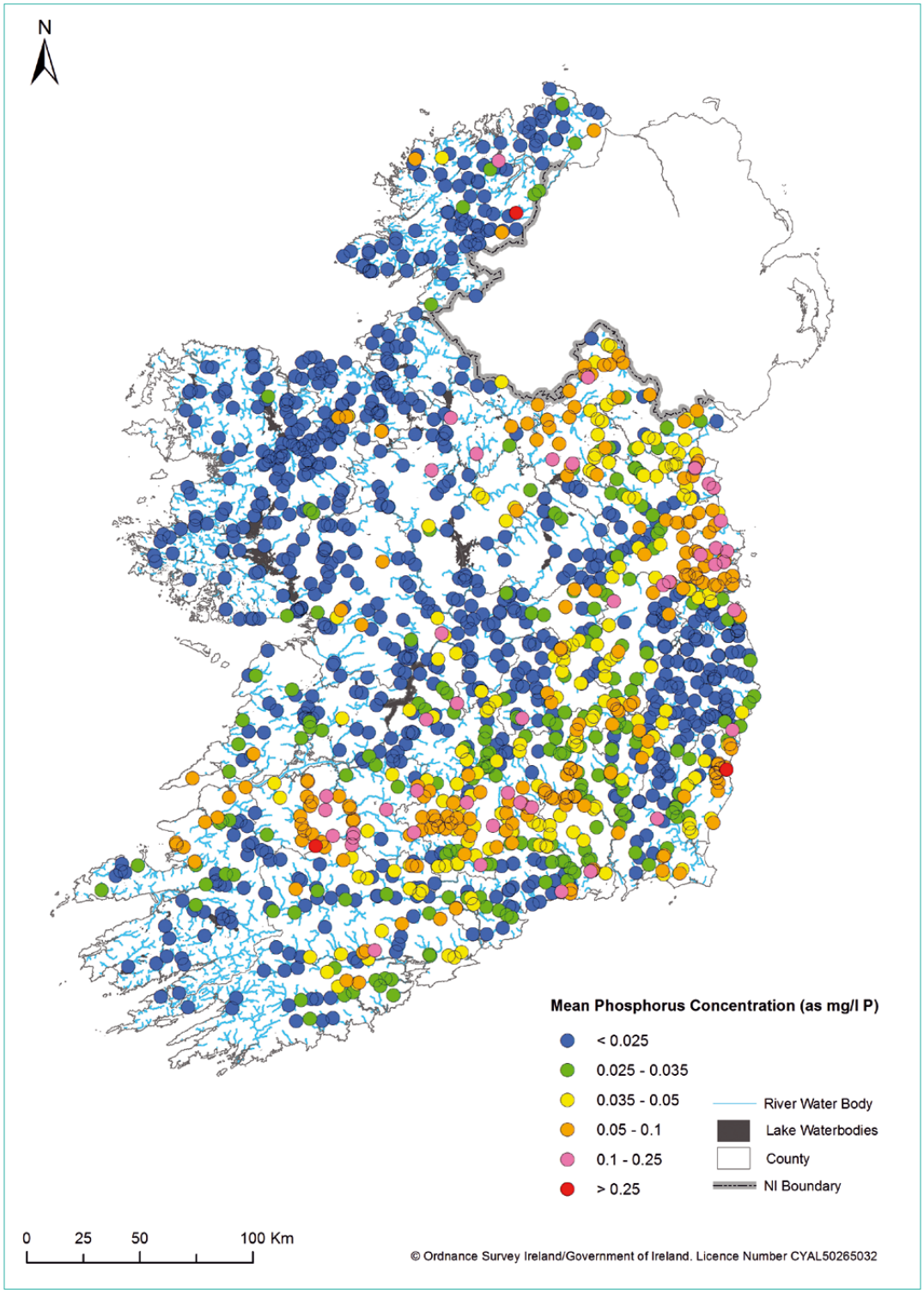
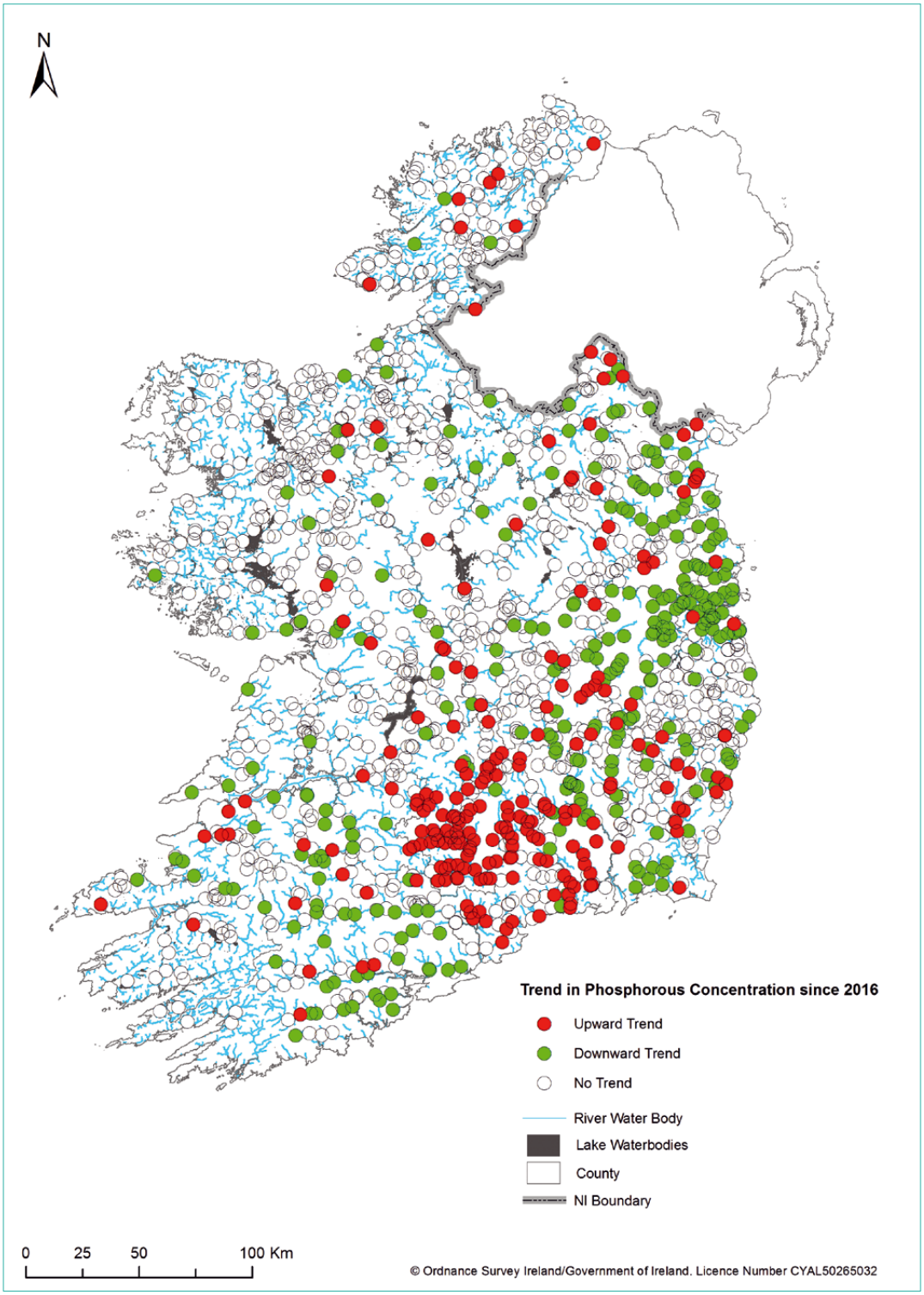


Figure 6: Mean phosphorus concentrations at river monitoring sites for 2019-2021

8 Only those monitoring sites that have been consistently monitored during this reporting period and that have at least four samples each year have been included in the assessment.



Map 6: Mean phosphorus concentrations in rivers for 2019-2021



Map 7: Phosphorus concentration trends in rivers since 2016

Lakes

Nitrate in Lakes

Figure 7 summarises the mean nitrate concentrations from the national lake monitoring programme for 2019-2021. Data were available for a total of 222 lakes. In summary, Figure 7 and Map 8 show that mean nitrate concentrations in lakes remains low, with the highest concentrations observed in the lakes of the south-east and south. Nationally, nitrate is not a significant driver of nutrient enrichment in Irish lakes.

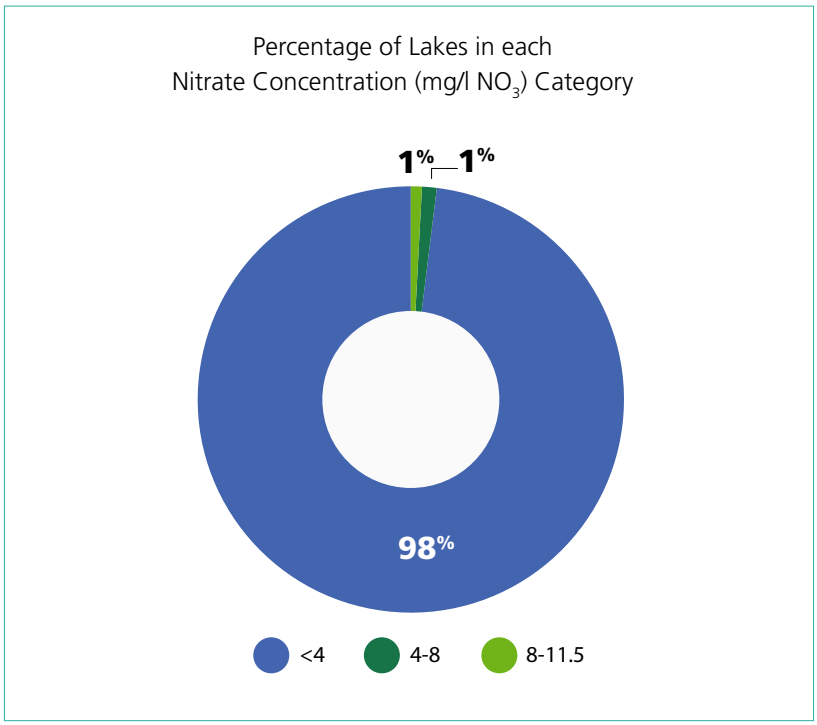
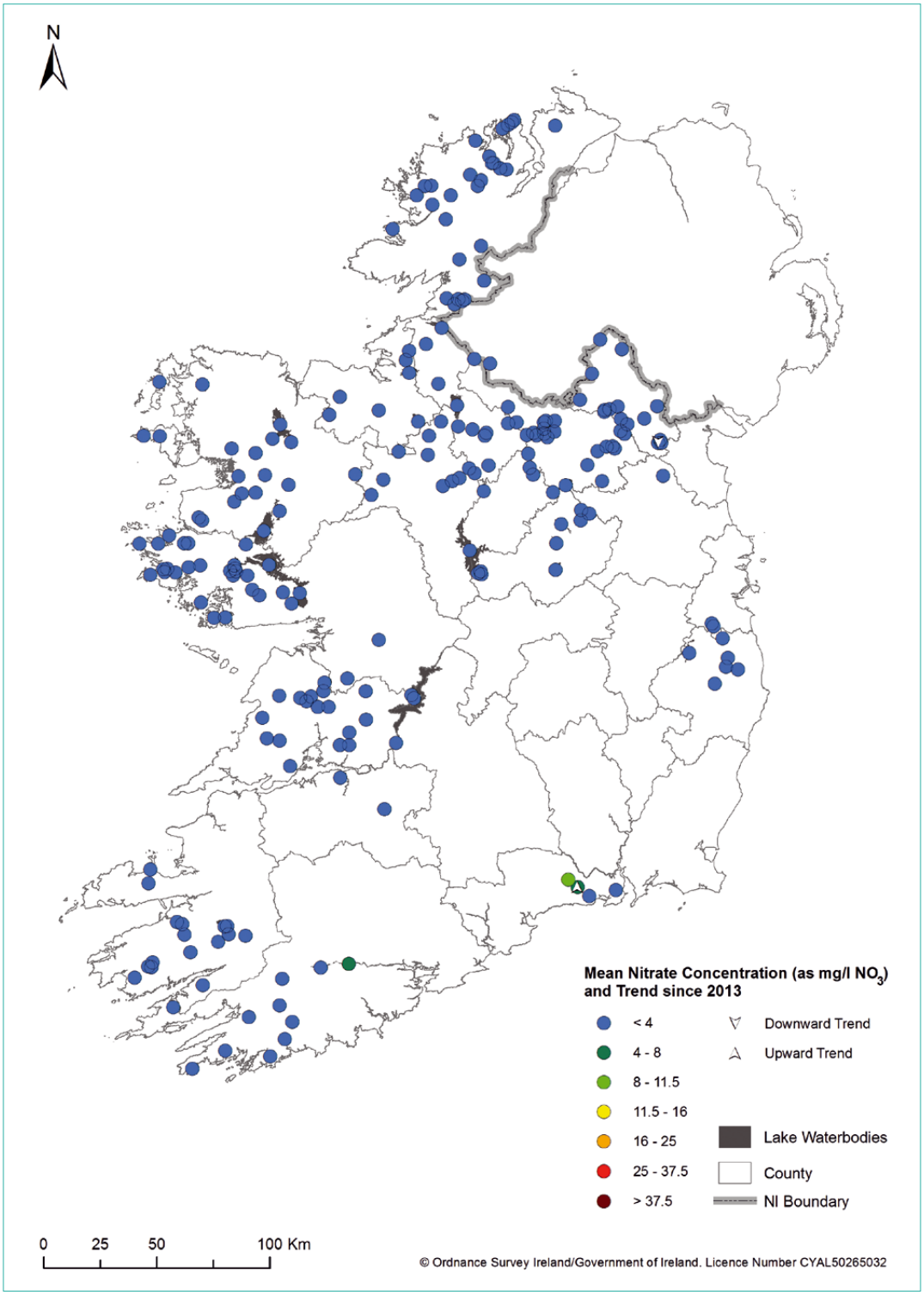


Figure 7: Mean nitrate concentrations in monitored lakes for 2019-2021



Map 8: Mean nitrate concentrations in Lakes for 2019-2021 and concentration trends since 2013

Phosphorus in Lakes

Figure 8 summarises the mean total phosphorus concentrations for 224 lakes in the national lake monitoring programme for 2019-2021. During this period, 32% of lakes had total phosphorus concentrations higher than the good status EQS of 0.025 mg/l P. Map 9 shows that almost all lakes with very high total phosphorus concentrations i.e. greater than 0.05 mg/l P are in Monaghan, Cavan or Leitrim. These counties are known to have a high proportion of poorly draining soils.

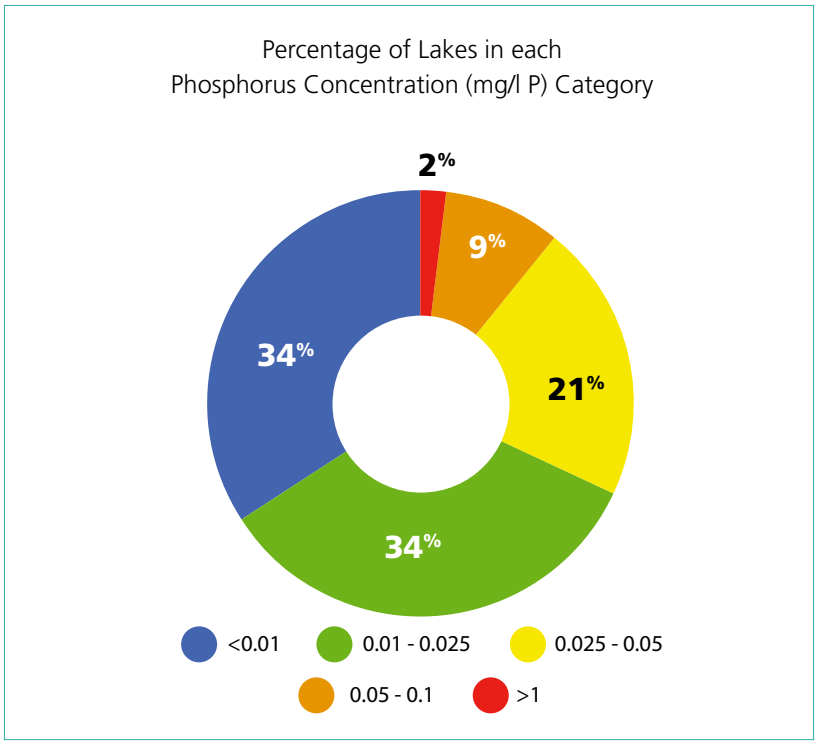
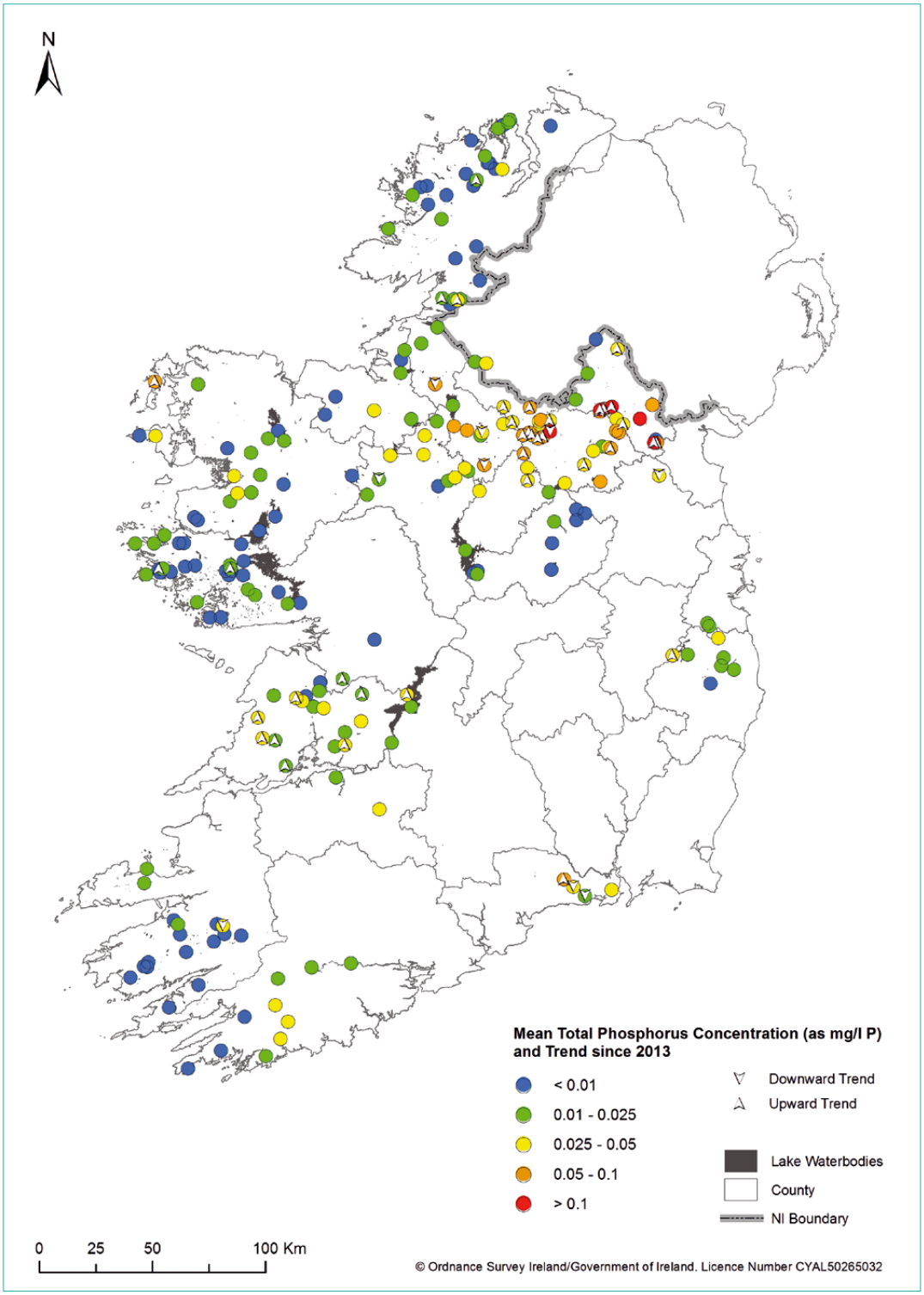


Figure 8: Mean total phosphorus concentrations in monitored lakes for 2019-2021

Seventeen percent of lakes have seen an average concentration increase of over 0.002 mg/l P per annum since 2013, with four percent of lakes seeing a comparable decrease during this period. Map 9 shows that many of the lakes of Counties Cavan, Monaghan and Clare have recorded increases in phosphorus concentrations in the last decade. Counties Cavan and Monaghan have historically had the highest lake phosphorus concentrations in Ireland because the land has a high proportion of poorly draining soils, which means the land is highly susceptible to phosphorus losses to surface water.



Map 9: Mean total phosphorus concentrations in lakes for 2019-2021 and concentration trends since 2013

Estuarine and Coastal Waters

Nitrate in Estuarine and Coastal Waters

Figure 9 summarises the median winter nitrate concentrations from the national monitoring programme for 2019 to 2021. The median winter nitrate concentration in marine waters is measured as dissolved inorganic nitrogen (DIN) and it is assumed that all measured nitrogen is present as nitrate[9]. The most recent assessment was carried out on 107 estuarine and coastal water bodies. Thirteen[10] of the 107 water bodies had nitrogen concentrations that were higher than 2.6 mg/l N.

Map 10 shows that the marine waters with nitrogen concentrations exceeding 2.6 mg/l N are all in the south east or along the southern seaboard. Higher nitrate concentrations in these areas coincide with, and are a consequence of, the losses of nitrate to the rivers and groundwater in the upstream catchments.

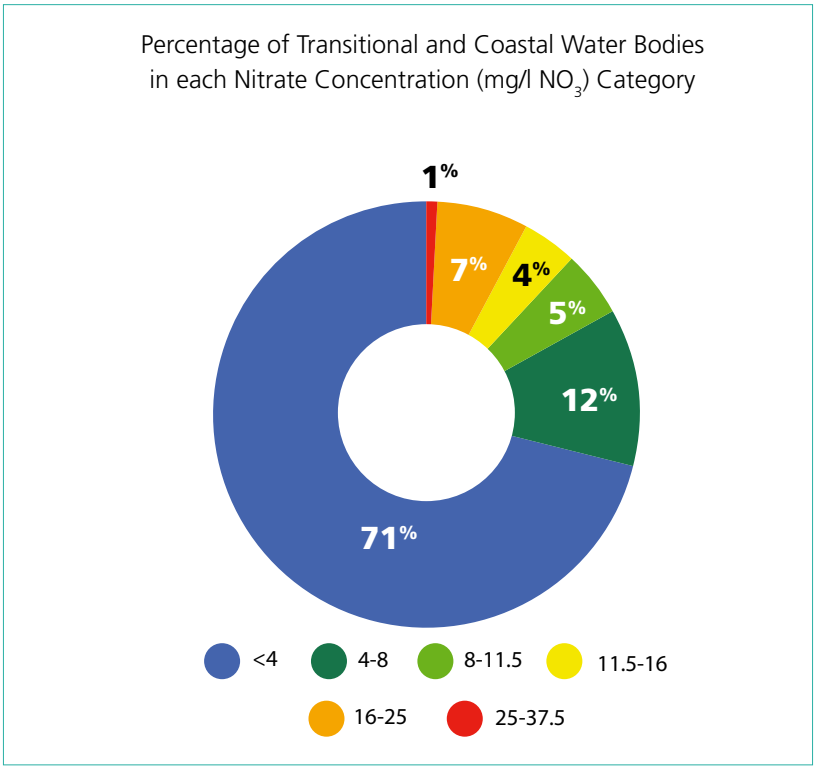
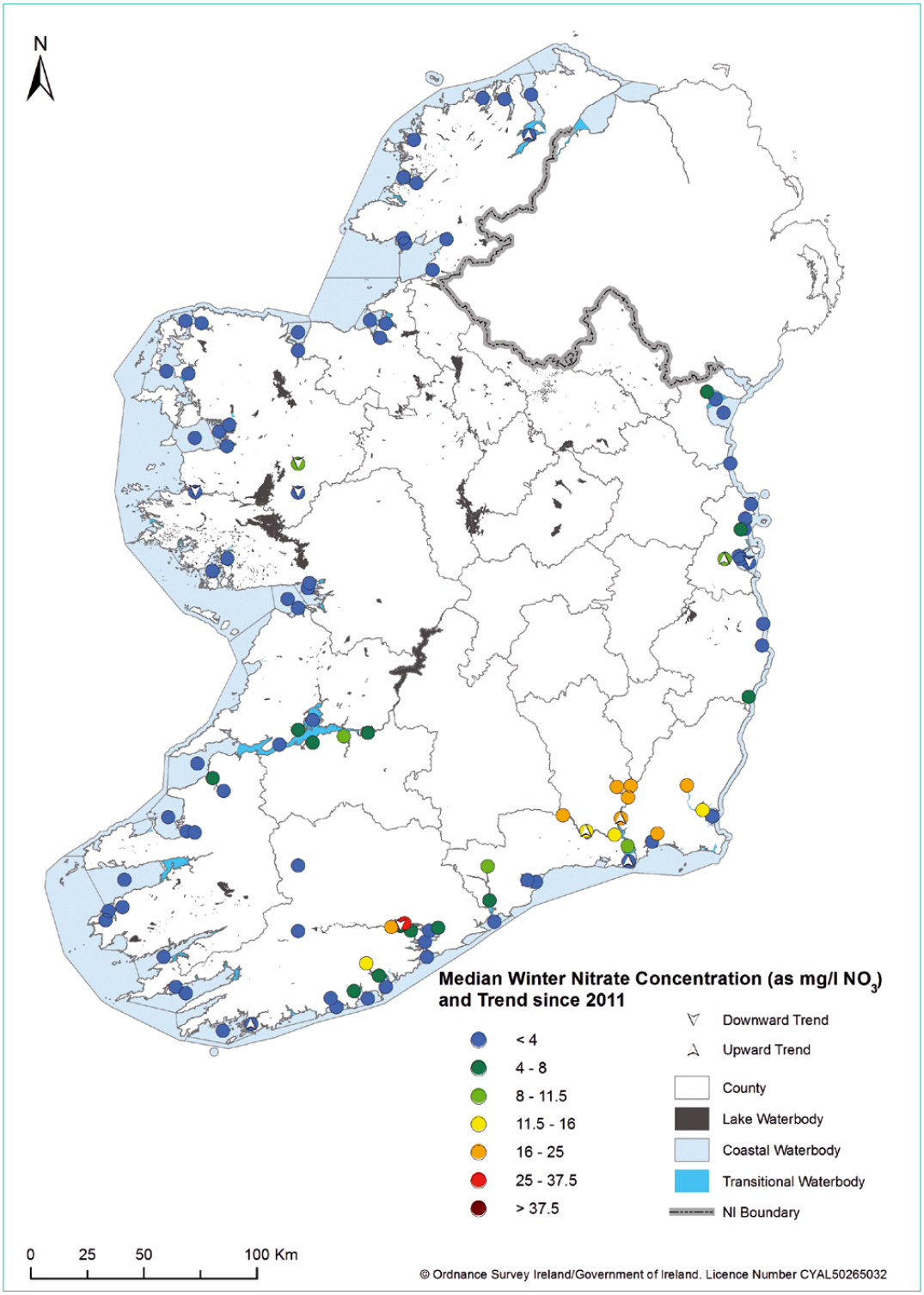


Figure 9: Median winter nitrate concentrations (mg/l NO_3) in estuarine and coastal waters for 2019-2021

Although 90% of estuarine and coastal waters have seen little or no change in nitrate concentration in the last decade, six marine waters have recorded an average increase of 0.05 mg/l N per annum during this period. Map 10 highlights that four of the six water bodies with upward trends in nitrate concentration are in the south east (three water bodies) or along the southern seaboard (one water body) i.e. the areas already with high nitrate concentrations. Compared to a decade ago, approximately an additional 6,000 tonnes of nitrogen are being discharged per annum to marine waters in the south east and along the southern seaboard (EPA, 2022).

9 The analysis in this report does not correct for salinity or the natural dilution and mixing properties of saline waters.

10 Following salinity correction, nationally, 24 estuarine and coastal waters are in an unsatisfactory condition as they exceed the salinity corrected nitrogen standard for marine waters (EPA, 2022).



Map 10: Winter median nitrate concentrations in estuarine and coastal waterbodies for 2019-2021 and concentration trends since 2011

Phosphorus in Estuarine and Coastal Waters

Figure 10 summarises the median winter phosphorus (measured as molybdate reactive phosphorus (MRP)) concentrations from 107 estuaries and coastal waters in the national monitoring programme for 2019 to 2021[11].

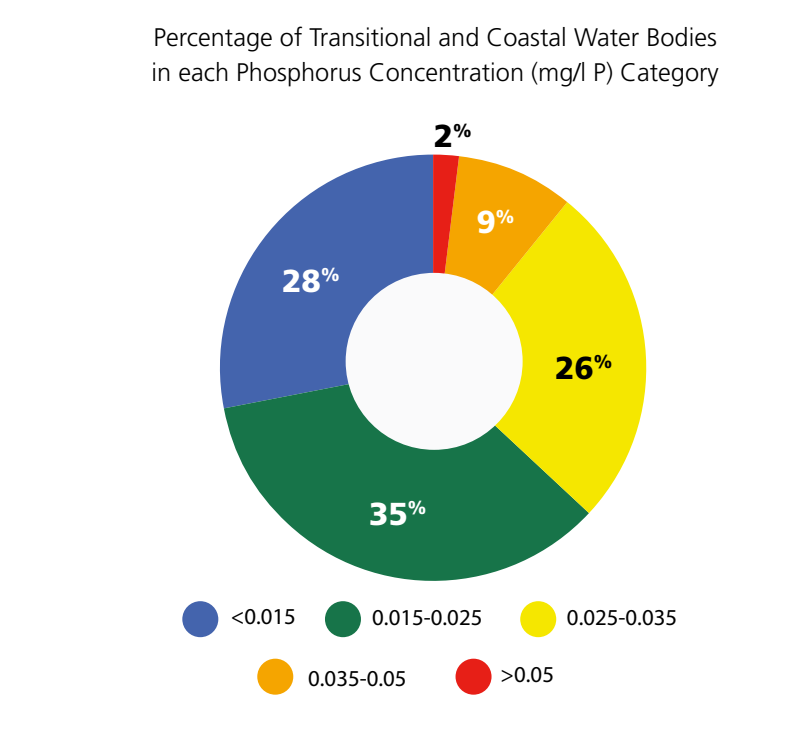
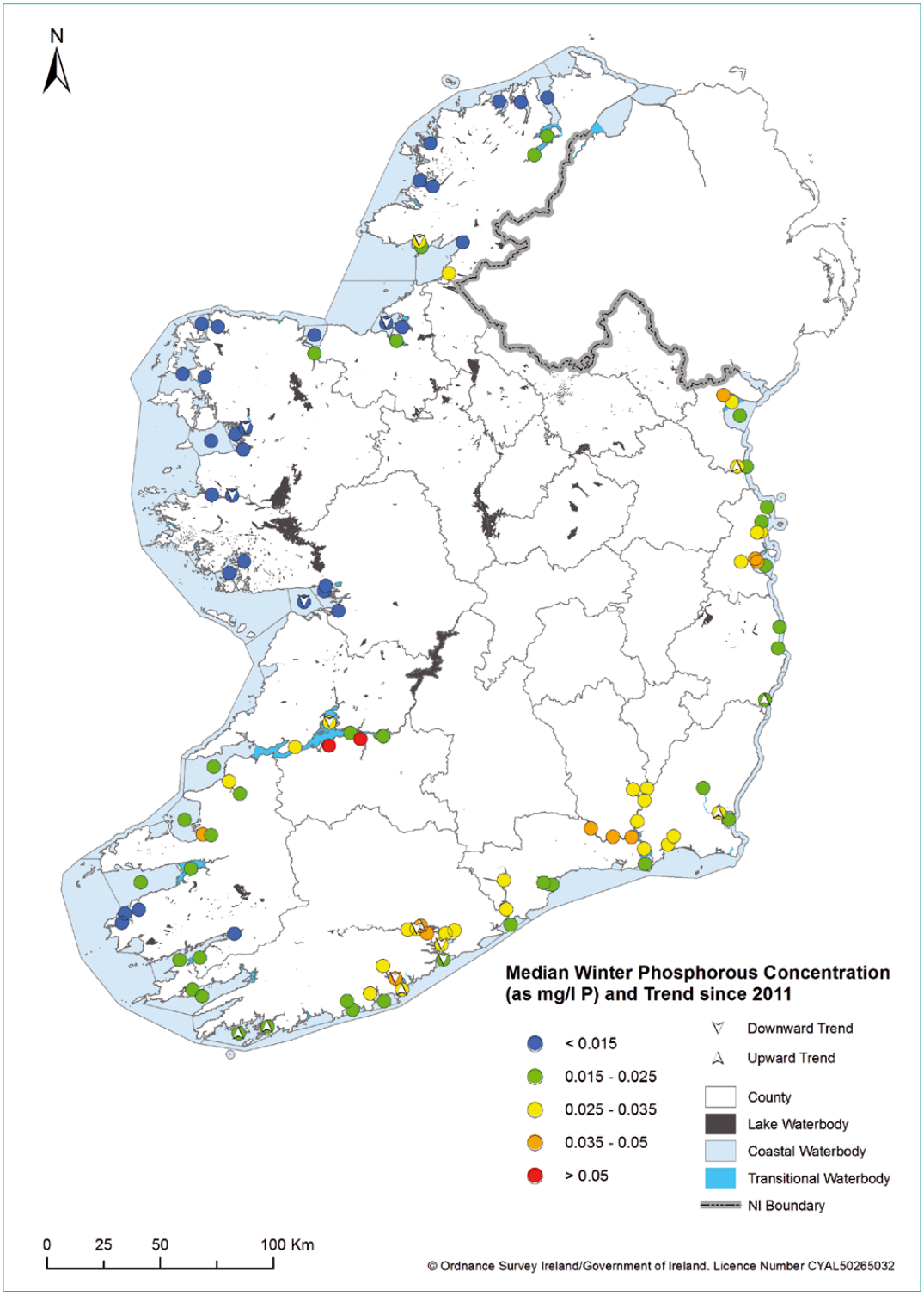


Figure 10: Median winter phosphorus concentrations in estuarine and coastal waters for 2019-2021

Winter median phosphorus concentrations are elevated in the south east and the southern marine waters, with Map 11 highlighting that there are high phosphorus concentrations in the estuaries downstream of the major urban centres of Limerick, Waterford, Cork and Dublin.

Eighty four percent of marine waters have seen little of no change in phosphorus concentration in the last decade. However, nationally, five of the seven estuarine and coastal water bodies with upward trends in phosphorus concentrations are in the south east (one water body) and along the southern seaboard (four water bodies). Four water bodies along the southern seaboard had downward trends in phosphorus concentrations, three of which are associated with the marine waters downstream of Cork City.

11 The analysis in this report does not correct for salinity or the natural dilution and mixing properties of saline waters.



Map 11: Winter median phosphorus concentrations in estuarine and coastal waterbodies for 2019-2021 and concentration trends since 2011

Summary

Nutrient losses from agriculture are one of the significant drivers for waters not meeting their environmental objectives under the Water Framework Directive. The most recent ecological status assessment (2016-21) indicates that just over half of our rivers and lakes; and only 36% of our estuaries were in satisfactory ecological health and overall water quality was in decline. The main problem damaging our waters is the presence of too much phosphorus and nitrogen.

Phosphorus concentrations are above the good status environmental quality standard in a third of rivers and lakes, typically in areas associated with poorly draining soils. Those catchments with a high proportion of poorly draining soils have seen an increase in phosphorus concentrations in rivers and lakes in the last decade.

This report finds that nitrogen concentrations remain too high in rivers, groundwater and estuaries in the south-east and along the southern seaboard of County Cork; and concentrations have been increasing in these areas in last decade. A third of rivers have concentrations higher than 11.5 mg/l NO_3, which is contributing to a breach of the environmental quality standard in the receiving marine waters.

The greatest increases in nitrate concentration have been in the south east and southern seaboard; thirteen of the 36 marine waters in this area have concentrations above 2.6 mg/l N. These losses of nitrogen to the water environment are having an ecological impact, with only five of the 36 marine water bodies in the south east and along the southern seaboard achieving good ecological status. Overall since 2018, twelve of these water bodies have declined in ecological status (EPA, 2022).

Overall, to reverse these declines in ecological status and to achieve the WFD objectives, mitigation measures need to be targeted to the water quality issues and physical settings where they occur, i.e. the critical source areas within sub-catchments. Within a catchment, the critical source areas for phosphorus and nitrate frequently occur in different locations because they are driven by the hydrological properties of the soils. Therefore, any mitigation measures introduced should be tailored and targeted to the critical source area that is relevant to the pollutant of concern.

References

Environmental Protection Agency (2021) *Assessment of the catchments that need reductions in nitrogen concentrations to achieve water quality objectives.* Environmental Protection Agency, Wexford, Ireland.

Environmental Protection Agency (2022) *Water Quality in Ireland 2016-21*. Environmental Protection Agency, Wexford, Ireland.

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL

Tá an GCC freagrach as an gcomhshaol a chosaint agus a fheabhsú, mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ar thionchar díobhálach na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialáil: *Rialáil agus córais chomhlíonta comhshaoil éifeachtacha a chur i bhfeidhm, chun dea-thorthaí comhshaoil a bhaint amach agus díriú orthu siúd nach mbíonn ag cloí leo.*

Eolas: *Sonraí, eolas agus measúnú ardchaighdeáin, spriocdhírithe agus tráthúil a chur ar fáil i leith an chomhshaoil chun bonn eolais a chur faoin gcinnteoireacht.*

Abhcóideacht: *Ag obair le daoine eile ar son timpeallachta glaine, táirgiúla agus dea-chosanta agus ar son cleachtas inbhuanaithe i dtaobh an chomhshaoil.*

I measc ár gcuid freagrachtaí tá:

Ceadúnú

- Gníomhaíochtaí tionscail, dramhaíola agus stórála peitril ar scála mór;
- Sceitheadh fuíolluisce uirbigh;
- Úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe;
- Foinsí radaíochta ianúcháin;
- Astaíochtaí gás ceaptha teasa ó thionscal agus ón eitlíocht trí Scéim an AE um Thrádáil Astaíochtaí.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Iniúchadh agus cigireacht ar shaoráidí a bhfuil ceadúnas acu ón GCC;
- Cur i bhfeidhm an dea-chleachtais a stiúradh i ngníomhaíochtaí agus i saoráidí rialáilte;
- Maoirseacht a dhéanamh ar fhreagrachtaí an údaráis áitiúil as cosaint an chomhshaoil;
- Caighdeán an uisce óil phoiblí a rialáil agus údaruithe um sceitheadh fuíolluisce uirbigh a fhorfheidhmiú
- Caighdeán an uisce óil phoiblí agus phríobháidigh a mheasúnú agus tuairisciú air;
- Comhordú a dhéanamh ar líonra d'eagraíochtaí seirbhíse poiblí chun tacú le gníomhú i gcoinne coireachta comhshaoil;
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Dramhaíola agus Ceimiceáin sa Chomhshaol

- Rialacháin dramhaíola a chur i bhfeidhm agus a fhorfheidhmiú lena n-áirítear saincheisteanna forfheidhmithe náisiúnta;
- Staitisticí dramhaíola náisiúnta a ullmhú agus a fhoilsiú chomh maith leis an bPlean Náisiúnta um Bainistíocht Dramhaíola Guaisí;
- An Clár Náisiúnta um Chosc Dramhaíola a fhorbairt agus a chur i bhfeidhm;
- Reachtaíocht ar rialú ceimiceán sa timpeallacht a chur i bhfeidhm agus tuairisciú ar an reachtaíocht sin.

Bainistíocht Uisce

- Plé le struchtúir náisiúnta agus réigiúnacha rialachais agus oibriúcháin chun an Chreat-treoir Uisce a chur i bhfeidhm;
- Monatóireacht, measúnú agus tuairisciú a dhéanamh ar chaighdeán aibhneacha, lochanna, uiscí idirchreasa agus cósta, uiscí snámha agus screamhuisce chomh maith le tomhas ar leibhéil uisce agus sreabhadh abhann.

Eolaíocht Aeráide & Athrú Aeráide

- Fardail agus réamh-mheastacháin a fhoilsiú um astaíochtaí gás ceaptha teasa na hÉireann;
- Rúnaíocht a chur ar fáil don Chomhairle Chomhairleach ar Athrú Aeráide agus tacaíocht a thabhairt don Idirphlé Náisiúnta ar Ghníomhú ar son na hAeráide;
- Tacú le gníomhaíochtaí forbartha Náisiúnta, AE agus NA um Eolaíocht agus Beartas Aeráide.

Monatóireacht & Measúnú ar an gComhshaol

- Córais náisiúnta um monatóireacht an chomhshaoil a cheapadh agus a chur i bhfeidhm: teicneolaíocht, bainistíocht sonraí, anailís agus réamhaisnéisiú;
- Tuairiscí ar Staid Thimpeallacht na hÉireann agus ar Tháscairí a chur ar fáil;
- Monatóireacht a dhéanamh ar chaighdeán an aeir agus Treoir an AE i leith Aeir Ghlain don Eoraip a chur i bhfeidhm chomh maith leis an gCoinbhinsiún ar Aerthruailliú Fadraoin Trasteorann, agus an Treoir i leith na Teorann Náisiúnta Astaíochtaí;
- Maoirseacht a dhéanamh ar chur i bhfeidhm na Treorach i leith Torainn Timpeallachta;
- Measúnú a dhéanamh ar thionchar pleananna agus clár beartaithe ar chomhshaol na hÉireann.
- Taighde agus Forbairt Comhshaoil
- Comhordú a dhéanamh ar ghníomhaíochtaí taighde comhshaoil agus iad a mhaoiniú chun brú a aithint, bonn eolais a chur faoin mbeartas agus réitigh a chur ar fáil;
- Comhoibriú le gníomhaíocht náisiúnta agus AE um thaighde comhshaoil.

Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéil radaíochta agus nochtadh an phobail do radaíocht ianúcháin agus do réimsí leictreamaighnéadacha a mheas;
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha;
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta;
- Sainseirbhísí um chosaint ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Ardú Feasachta agus Faisnéis Inrochtana

- Tuairisciú, comhairle agus treoir neamhspleách, fianaise-bhunaithe a chur ar fáil don Rialtas, don tionscal agus don phobal ar ábhair maidir le cosaint comhshaoil agus raideolaíoch;
- An nasc idir sláinte agus folláine, an geilleagar agus timpeallacht ghlan a chur chun cinn;
- Feasacht comhshaoil a chur chun cinn lena n-áirítear tacú le hiompraíocht um éifeachtúlacht acmhainní agus aistriú aeráide;
- Tástáil radóin a chur chun cinn i dtithe agus in ionaid oibre agus feabhsúchán a mholadh áit is gá.

Comhpháirtíocht agus líonrú

- Oibriú le gníomhaireachtaí idirnáisiúnta agus náisiúnta, údaráis réigiúnacha agus áitiúla, eagraíochtaí neamhrialtais, comhlachtaí ionadaíocha agus ranna rialtais chun cosaint chomhshaoil agus raideolaíoch a chur ar fáil, chomh maith le taighde, comhordú agus cinnteoireacht bunaithe ar an eolaíocht.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an GCC á bhainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóir. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig um Inbhuanaitheacht i leith Cúrsaí Comhshaoil
- An Oifig Forfheidhmithe i leith Cúrsaí Comhshaoil
- An Oifig um Fhianaise agus Measúnú
- An Oifig um Chosaint ar Radaíocht agus Monatóireacht Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tugann coistí comhairleacha cabhair don Ghníomhaireacht agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters

PO Box 3000,
Johnstown Castle Estate
County Wexford, Ireland

T: +353 53 916 0600
F: +353 53 916 0699
E: info@epa.ie
W: www.epa.ie
LoCall: 1890 33 55 99

Regional Inspectorate
McCumiskey House,
Richview, Clonskeagh Road,
Dublin 14, Ireland

T: +353 1 268 0100
F: +353 1 268 0199

Regional Inspectorate
Inniscarra, County Cork,
Ireland

T: +353 21 487 5540
F: +353 21 487 5545

Regional Inspectorate
Seville Lodge, Callan Road,
Kilkenny, Ireland

T +353 56 779 6700
F +353 56 779 6798

Regional Inspectorate
John Moore Road, Castlebar
County Mayo, Ireland

T +353 94 904 8400
F +353 94 902 1934

Regional Inspectorate
The Glen, Monaghan, Ireland

T +353 47 77600
F +353 47 84987

Regional Offices

The Civic Centre
Church St., Athlone
Co. Westmeath, Ireland
T +353 906 475722

Room 3, Raheen Conference Centre,
Pearse House, Pearse Road
Raheen Business Park, Limerick,
Ireland
T +353 61 224764

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