

WATER QUALITY IN IRELAND 2006
Key Indicators of the Aquatic Environment

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INTRODUCTION

This report is the second in the series of annual summary statistics to be published, by the Agency, on the latest information regarding water quality in Ireland. It sets out in a concise way some core indicators for water quality, based on the most up-to-date data available. These indicators are the key statistics that summarise a particular water quality issue. Collectively, their value is in delivering timely, scientifically sound information on water quality to decision makers in particular as well as to the wider general public. The first report in the series was for 2005 (Lucey, 2006).

This indicator report focuses on a specific issue: the quality of aquatic ecosystems. As such it complements the national environmental indicator reports, in which integrated assessment is usually guided by, *driving forces, pressures, state, impact and response* (DPSIR). The latest such report by the Agency was published as *Environment in Focus 2006: Environmental Indicators for Ireland* (Environmental Informatics and Reporting Unit, 2006). In order to avoid unnecessary duplication, the series on the quality of the aquatic environment contain only those that can be described as direct environmental indicators. In other words only those indicators of *impact* or *state* are considered. Because of the importance of phosphorus as an enriching nutrient in the Irish aquatic environment it has been decided to include this element as an indicator for rivers.

The report concentrates on what are perceived to be the main indicators of ambient water quality in Ireland, which are 11 in total for present purposes. As well as giving the current situation, regarding the state of the aquatic resource, the report also includes analyses of trends over time. Only by including historical information can improvement or deterioration be discerned and programmes of measures for remediation instituted. In Ireland biological data on river quality are gathered over a three-year cycle and the present report coincides with the end of the latest such period, i.e. 2004-2006. Similarly, although collected annually, information on estuarine and coastal waters as well as lakes and groundwaters is reported in this rolling manner but with the former assessment over a five-year interval. All indicators include information for 2006.

The style of presentation is that the indicators have been set out in a 'stand alone' fashion, of two-page maximum length including graphics, so that a concise assessment is available for each of the 11 indicators.

In the most recent European Environment Agency (EEA) report, the country's perspective regarding water quality was summarised as follows: 'Eutrophication of rivers, lakes and tidal waters continues to be the main threat to surface waters with agricultural run-off and municipal discharges being the key contributors' (EEA, 2005). As will be seen from the present report, this could again aptly describe the current position with the addition that the first of these pressures also poses the greatest threat to the quality of the groundwater resource.

The European Commission (EC) has produced an atlas showing the extent of nutrient pollution, i.e. nitrogen and phosphorus, in Europe, which identifies Ireland, along with The Netherlands, Belgium, Denmark, France and Italy, with the highest levels of nutrient pressure. A close link between increased nutrient pressures on the environment and high-density livestock production was identified. The study shows that excess nutrient loss is often due to practices such as over-fertilization, which should, *ipso facto*, make prevention straightforward. The pan-European study found that applications of nitrogen fertilizers were, at times, as much as twice as high as crop needs (Mulligan *et al.*, 2006). Clearly there is a need for improved practices for fertilizer use, both manure and of mineral origin, right across the European region with economic savings as a spin-off.

A small increase in unpolluted channel of the Irish river system is again recorded for the period 2004-2006. There still remains, however, 28 per cent of the total length unsatisfactory to some degree. Similarly, while the proportion of lakes in a satisfactory condition shows some improvement, 15 per cent were classified as being less than satisfactory. Groundwater, on the other hand, is the only system showing a trend of decline in water quality and more stringent management of that resource is now urgently required.

The challenge, under the Water Framework Directive (WFD) (2000/60/EC), is to have all waters, both surface and groundwater, in good or higher status by 2015.* The recorded annual incremental improvement in surface water quality, based on that occurring between 2005 and 2006 and indeed for the three-year period since 2004, would, if maintained, leave Ireland potentially falling short of the WFD target in the time left for remediation; unless an all-out effort by all, stakeholders and policy makers, involved in the process was invested in a co-operative approach, in applying programmes of measures, to retrieve the situation. A recent study concluded that if current land uses continue unchanged, it will be very difficult to meet the demands of the WFD (Donohue *et al.*, 2006). However, with the type of pollution occurring in Ireland, chiefly nutrient enrichment, there is a relatively short recovery time for aquatic ecosystems and thus the objective of good quality status for all water bodies should be achievable.

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* The aims of the WFD are to maintain high status of waters where it exists, prevent any deterioration in the existing status of waters and achieve at least good status in relation to all waters by 2015.

SUMMARY

The 11 indicators used in this report, to reflect ambient water quality conditions in 2006 and preceding years, may be summarised as follows:

- Quality in the 13,200 km of river and stream channel assessed in 2004-2006 showed some improvement, over the 2001-2003 period, with 71.4 per cent unpolluted, 18.1 per cent slightly polluted, 10.0 per cent moderately polluted and 0.6 per cent seriously polluted.
- Nitrate levels in 11 large rivers showed differences across the country with the highest values recorded in the south-east. With the exception of two, all of these rivers have significantly increased nitrate levels in 2006 as compared with when first sampled in the late 1970s or early 1980s.
- Phosphate levels in 11 large rivers showed differences across the country. An example which illustrates the variation between river basins is that the annual median value for the Barrow was more than six-times that of the Shannon. Just five of these large river sites would meet the target of the Phosphorus Regulations in 2006. A brief overview of the Regulations, particularly regarding the situation for 2006, is included.
- Quality in the 1014 km² of lake surface area examined in 2004-2006 showed a slight improvement, since the previous period (2001-2003), with 91.9 per cent oligotrophic or mesotrophic (unpolluted), 4.6 per cent eutrophic and 3.5 per cent hypertrophic. The number of lakes assessed was 449, of which 66 were less than satisfactory.
- In 2006 there were 34 reported fish kills compared with 45 the previous year. This annual rate, albeit reduced compared with some previous years, is unacceptably high as each fish kill represents catastrophic environmental disturbance to aquatic life.
- Quality in 69 water bodies from 21 estuarine and coastal areas in 2002-2006 showed that 25 (36.2%) were unpolluted, 29 (42.1%) intermediate, 2 (2.9%) potentially eutrophic and 13 (18.8%) eutrophic. This represents a slight decline in status compared with the most recent previous period but with the overall number of water bodies in the eutrophic or potentially eutrophic classes remaining the same.
- In 2006 the quality of shellfish waters showed 25 per cent of sites were Class A (Highest Quality) and 56 per cent Class B (Intermediate Quality) with none in Class C (Low Quality). This can be compared with the situation in the previous two years when 30 per cent were A and 54 per cent B in 2005 and 30 per cent were A, 59 per cent B and 2 per cent C in 2004.*
- In 2006 there were 44 pollution-at-sea incidents, comprising approximately 77 per cent oil spillage and 23 per cent other substances, e.g. algae or unidentified blooms. This number shows a slight reduction compared with the 46 incidents for the previous year.
- Quality at the 131 bathing waters in 2006 showed almost 97 per cent of sites complying with EU minimum mandatory limit values and 90 per cent with the stricter guide values. Compared with 2005 this represents respectively an increase and decrease of one per cent.
- In the 2004-2006 period 57 per cent of groundwater monitoring locations had faecal coliforms in at least one sample (an increase of 8% from the previous reporting period 2001-2003), with 32 per cent of the sites having greater than 10 faecal coliforms in at least one sample (an increase of 1% per cent from the previous reporting period).
- Approximately 25 per cent of groundwater locations exceeded the mean guide nitrate concentration for drinking water (an increase of 2% from the previous reporting period 2001-2003), with two per cent breaching the mandatory limit (the same proportion as in the previous reporting period).

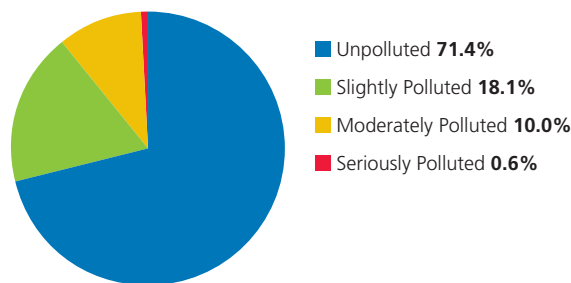
* It should be noted that in this classification of shellfish waters, the percentages do not necessarily add up to 100 as areas with sites having more than one class are omitted.

INDICATOR 1: RIVER QUALITY

The water quality situation in the 13,200 km of river and stream channel surveyed by the EPA, using a biological assessment method, is regarded as a representative indicator of the national status of such waters and to reflect any overall trends in conditions. The data are collected on a three-year cycle with the latest such period ending in 2006.

The total river length surveyed in 2004-2006 falling into the four biological water quality classes is shown in Figure 1a. This shows that some 71 per cent of channel length to be satisfactory, indicating an improvement of two per cent since the 2001-2003 monitoring cycle. Less than one per cent (0.6%), the same as in the previous cycle, was again classed in the most polluted condition.*

Figure 1a River Quality 2004-2006 – Percentage Channel Length in each Class



Source: EPA (K. Clabby, J. Lucey and M. McGarrigle)

Under the Regulations (S.I. No. 722 of 2003) implementing the Water Framework Directive (WFD) seven of the eight river basin districts (RBDs) or international RBDs (IRBDs), into which the island of Ireland is divided for water management purposes, fall wholly or partly within the South. The following tabulation gives the latest quality breakdown of the proportion of channel length in each district with the corresponding percentage for the previous period (2001-2003) shown in parentheses.

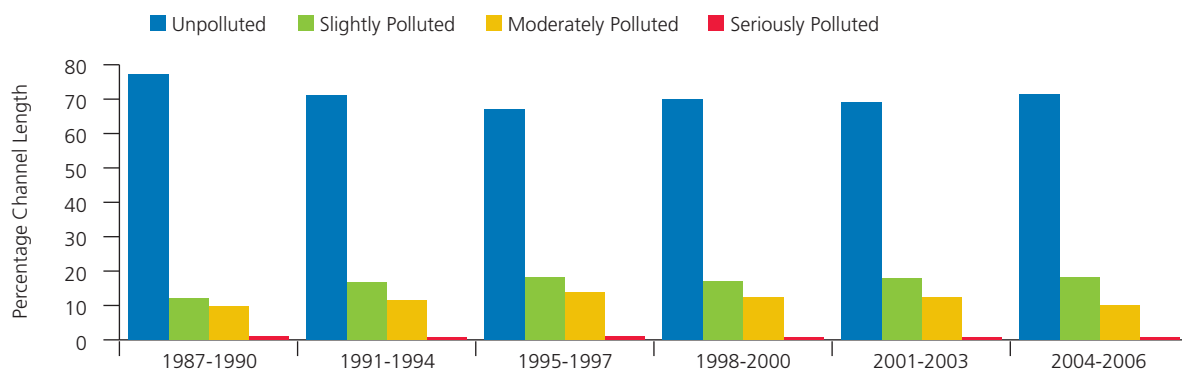
As would be expected, the less densely populated and less developed, as well as less intensely farmed, regions have the higher proportions of unpolluted channel. At RBD level, recent improvements, i.e. increase in unpolluted length, are noted in four (South Western, Shannon, South Eastern and Eastern).

Region	Unpolluted	Slightly Polluted	Moderately Polluted	Seriously Polluted
South Western RBD	90% (89%)	8% (8%)	2% (3%)	0.2% (0.1%)
Western RBD	84% (84%)	10% (11%)	5% (5%)	0.1% (0.3%)
North Western IRBD (South)	71% (76%)	15% (10%)	13% (12%)	0.5% (0.8%)
Shannon IRBD	67% (63%)	22% (21%)	11% (15%)	0.7% (0.6%)
South Eastern RBD	62% (58%)	26% (28%)	12% (13%)	0.4% (0.6%)
Eastern RBD	54% (41%)	27% (28%)	18% (30%)	1.2% (1.9%)
Neagh Bann IRBD (South)	49% (55%)	30% (15%)	20% (30%)	0.6% (0.1%)

* The following rivers and streams had seriously polluted stretches: 2004 – Bredagh, Brown's Beck Brook, Conawary (Upper), Corravaddy Burn, Erne, Glory, Greenhill Stream, Maggy's Burn, Milltown (Kerry), Owenalondrig, Roosky, Tubbercurry and Tubbercurry Stream; 2005 – Ahavarraga Stream, Brosna, Camac, Clodiagh (Tullamore), Clodiagh (Portlaw), Deel (Newcastle West), Garranacool Stream, Kilcullen Stream, Jiggy (Hind), Roechrow, Tolka, Tullamore and Ward; 2006 – Borrisoleigh Stream, Clarinbridge, Fane, Gowran, Ownahinchy, Triogue and Tully Stream.

Figure 1b shows the trends in river quality between 1987 and 2006. The proportion of river and stream channel length with an overall satisfactory water quality status has increased by more than two per cent in the latest period (71.4%) compared to the previous period of assessment (69.2%). There was a reduction (-2.3%) in the moderately polluted length but a small increase in the proportion of slightly polluted channel (+0.2%). In contrast the overall proportion of seriously polluted channel has remained unchanged between the two periods.

Figure 1b River Quality 1987-2006 – Percentage of Channel Length



Source: EPA (K. Clabby, J. Lucey and M. McGarrigle)

INDICATOR 2: NITRATES IN RIVERS

The concentration of nitrate in rivers is a key quality indicator because of its enriching effect as a nutrient and because of the potential health implication of high nitrate concentration in river waters abstracted for potable supplies.

The EU Nitrates Directive (91/676/EEC) requires member states to take specific measures to protect surface waters and groundwater from nitrate contamination from agricultural activities. The Irish Regulations implementing the Directive, and incorporating the action plan, were enacted and published as the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 (S.I. No. 378 of 2006).* In addition direct waste discharges, such as sewage, may also contribute to such contamination and the EU Directive on urban wastewater treatment (91/271/EEC) provides for the removal of nitrogen from such waste in certain circumstances.

Nitrate can be reported as N or NO₃ but there is a four-fold difference in numerical terms between the two expressions (See also Indicator 11: Nitrates in Groundwater). The EU maximum and guideline limits for nitrate in abstracted water for human consumption are respectively 11.30 and 5.65 mg/l N. In the Irish classification scheme for tidal waters a dissolved inorganic nitrogen (DIN) level of 2.6 mg/l N has been given as one element of a set of criteria above which tidal fresh waters can be defined as eutrophic or enriched; however, criteria for chlorophyll and dissolved oxygen must also be breached before an area is thus defined (See also Indicator 6: Estuarine and Coastal Water Quality).

Figure 2 shows annual median nitrate levels at downstream locations on each of 11 large rivers over the last 24-27 years. From this, it is apparent that, with the exception of the Erne at Belturbet, there is an increase in concentration from west to east. A positive correlation between nitrate levels and the proportions of ploughed land in their catchments has been shown for the rivers in the south-east. While most rivers in that region comply with the EU maximum value of 11.30 mg/l N many, e.g. some tributaries of the Barrow among others, exceed the guideline value of 5.65 mg/l N.

Because of its toxicity to some aquatic organisms a maximum level of 2 mg/l N has been deemed appropriate for protecting the most sensitive freshwater species. However, a lower level, i.e. <1.7 mg/l N, has been suggested nationally as the quality requirement for sustainable pearl-mussel water bodies. This protected species, *Margaritifera margaritifera*, a sensitive indicator of water quality, has become extinct in the Barrow and Suir in the past 25-30 years and occurs in depleted numbers in parts of the Nore, Slaney and Blackwater while its current status in the Moy is quite unknown but it is likely to be still living in that river since first recorded there in the late nineteenth century. The Nore population is under great threat of extinction and not thought to be sustainable, due to enrichment, and there is a further upward trend in the nitrate level apparent since 2003 adding to the other pressures. A similar trend is noticeable for the Boyne, which does not harbour this mussel, within the same period.

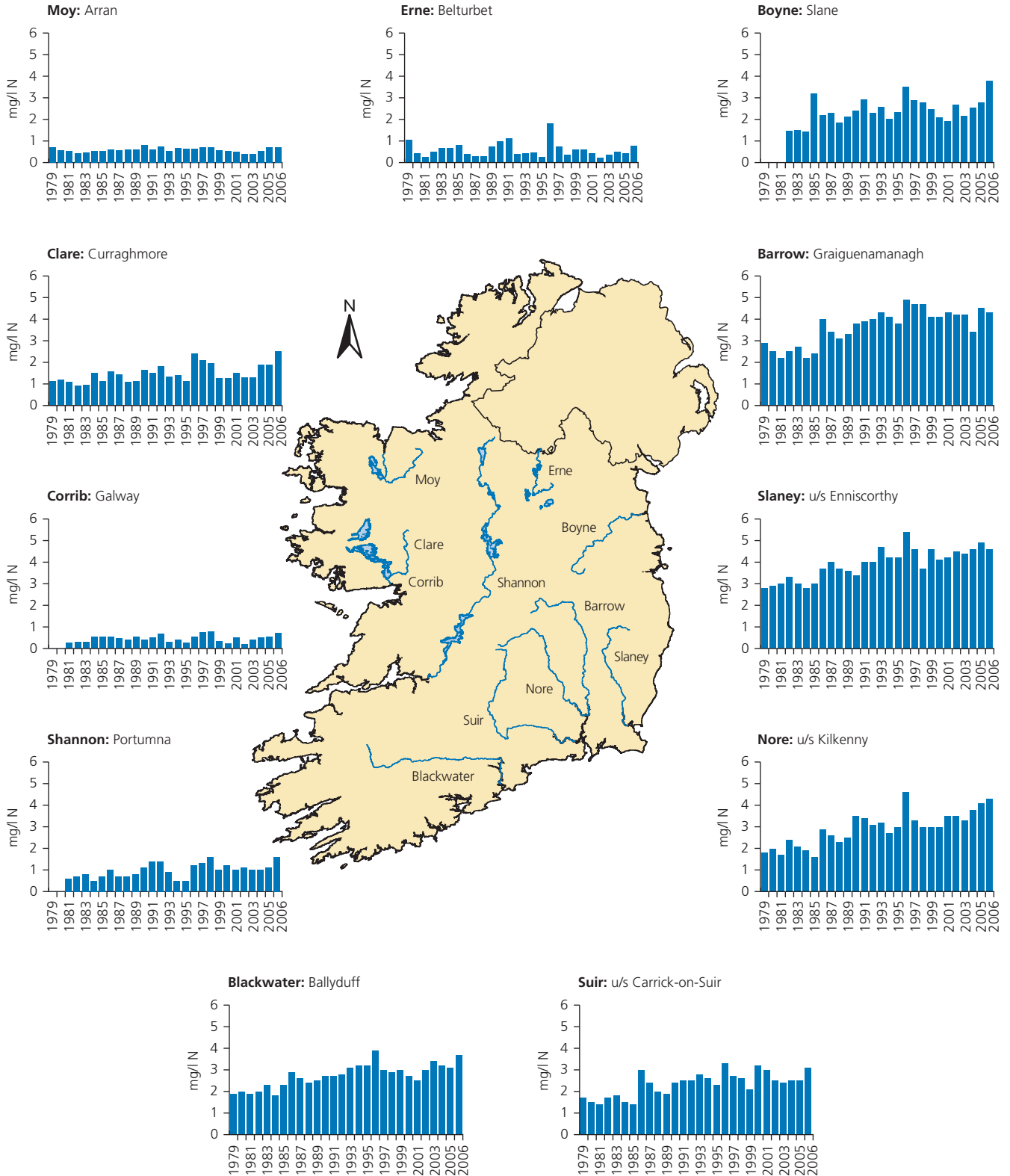
This indicator clearly shows the contrast between the regions with levels in the south-east much higher than those in the west. It is also clear, from Figure 2, that all the river locations, except the Erne and Moy, have significantly increased nitrate levels in 2006 as compared with when first sampled. In decreasing order the highest median values measured in 2006 at the selected locations were: Slaney, Barrow+Nore, Blackwater, Suir, Boyne, Clare, Shannon, Moy+Corrib and Erne. An example, which illustrates the variation in nitrate levels between river basins, is that the annual median value for the Slaney, in the previous year 2005, was more than an order of magnitude higher than that of the Erne.

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* These Regulations revoke, and re-enact with amendments, the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2005 (S.I. No. 788 of 2005).

Figure 2 Annual Median Nitrate Values (mg N/litre) in Rivers 1979-2006



Source: EPA (M. Neill, M. Quinn and R. Smith)

INDICATOR 3: PHOSPHATES IN RIVERS

The concentration of phosphate in rivers is a key quality indicator – because of its enriching effect as a nutrient – particularly in fresh water. Nutrients, such as phosphorus and nitrogen, are essential for plants and animals but if present in excessive amounts they can lead to a significant decrease in water quality. Phosphates can be introduced into the aquatic environment through industrial, sewage and animal wastes as well as from fertilizers or other agrochemicals leading to enrichment of waters (eutrophication).

Phosphate is routinely measured in the rivers monitoring programme and Figure 3 shows annual median levels at downstream locations on each of 11 large rivers over the past 23-27 years. While there appears not to have been significant increases in phosphate, in all of these rivers since 1979, there has been an increase in filamentous algal growth recorded in some during the growing season and large biomasses are produced in the rivers in the south-east annually which die-off in the winter. As phosphate is normally the limiting nutrient for plant growth in fresh waters it is freely removed from the water and in summer especially, the analysis of this parameter alone is not sufficient to gauge enrichment in rivers.* Nonetheless, as is the case with nitrate (See Indicator 2: Nitrates in Rivers), the contrast between the western and eastern river phosphate content is apparent and, although not scientifically derived, it would seem that the increase in phosphate levels in the rivers of the south-east had taken place before sampling began in 1979. Biological monitoring, using the resident flora and fauna of rivers as indicators, has been in place since 1971. The Nore, where the freshwater pearl mussel is under threat (See Indicator 2: Nitrates in Rivers), exhibited very high phosphate levels in 1990 and 1991, caused mainly by an agri-based industrial source, that were some three-times those measured when sampling began in 1979 (Figure 3).

Phosphorus Regulations

Phosphorus Regulations (S.I. No. 258 of 1998) were introduced in Ireland as part of a strategy to combat eutrophication and to implement, in part, the Dangerous Substances Directive (76/464/EEC). In the case of rivers, the Regulations prescribe interim quality standards that must be met by achieving the target biological quality rating (Q-value) or the target median molybdate-reactive phosphorus (MRP) concentration while for lakes the targets are set as either trophic status classification or average total phosphorus (TP) concentration.

In the Regulations the target MRP median concentration for rivers is 0.03 mg/l. See *Appendix: Phosphorus Regulations Update 2006*, for an overview of the Phosphorus Regulations and compliance.

An example which illustrates the variation in phosphate levels between river basins is that the annual median value for the Barrow was more than six-times that of the Shannon. In decreasing order the highest median values measured in 2006 at the selected locations were: Barrow, Nore, Blackwater, Erne, Boyne, Suir, Clare, Slaney, Moy, Corrib and Shannon. Only the last five would currently reach the target, based on median phosphate level, of the Phosphorus Regulations. One of these, the Slaney, however, would have breached the standard in 13 of the years since 1979.

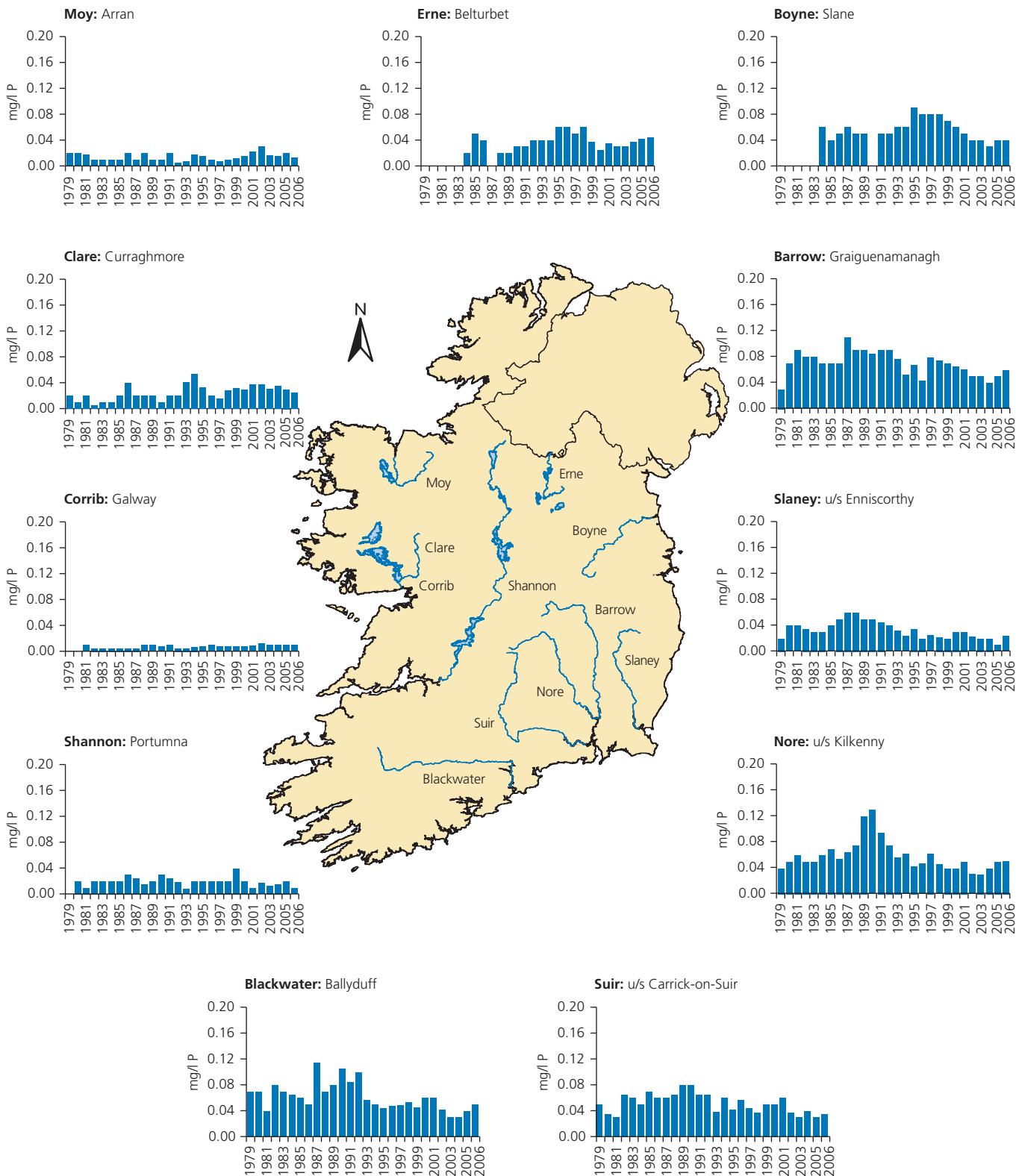
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* Also unlike nitrate, dissolved inorganic phosphorus interacts strongly with sediments which can also act as a sink for this nutrient particularly in summer.

Figure 3 Annual Median Phosphate Values (mg P/litre) in Rivers 1979-2006

Note that there were no data available for the Boyne in 1990 and the Erne in 1987 both of which rivers were first sampled in 1984



Source: EPA (M. Neill, M. Quinn and R. Smith)

INDICATOR 4: LAKE QUALITY

Nutrient enrichment, resulting in eutrophication, is the principal pressure on lake quality in Ireland. This form of pollution is caused by inputs of nutrients, especially compounds of phosphorus and to a lesser extent nitrogen, either directly to lakes or more commonly via inflowing rivers, at concentrations in excess of natural levels. These nutrient inputs result in plant growth in lakes, particularly planktonic algal forms, whose presence is quantified by a measure of the algal pigment chlorophyll. Lake trophic status is determined by a consideration of the annual maximum chlorophyll values, according to a modified version of a scheme developed by the OECD.

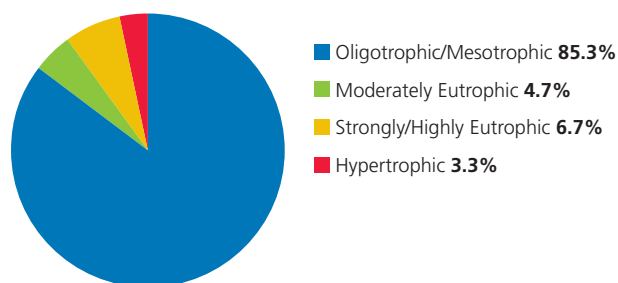
The number of lakes assessed in the period 2004-2006 was 449. The following gives a breakdown of water quality classification of the lakes by number and surface area.

Lake Quality 2003-2006		
Trophic Status	Number of Lakes	Surface Area km ²
Oligotrophic	275 (61.2%)	346.3 (34.2%)
Mesotrophic	108 (24.1%)	585.5 (57.7%)
Moderately Eutrophic	21 (4.7%)	23.0 (2.3%)
Highly Eutrophic	11 (2.5%)	10.6 (1.0%)
Strongly Eutrophic	19 (4.2%)	13.2 (1.3%)
Hypertrophic	15 (3.3%)	35.4 (3.5%)

The majority (383 or 85.3%) of the lakes examined in the period 2004-2006 were of satisfactory water quality, i.e. oligotrophic or mesotrophic in status (Figure 4a). The water quality of the remaining 66 lakes was less than satisfactory. Of these 15 lakes were classified as hypertrophic, i.e. most enriched status.* The surface area of the 449 lakes examined amounted to 1014 km². Lakes accounting for 931.8 km² (91.9%) were in the unenriched oligotrophic/mesotrophic categories. A further 46.8 km² (4.6%) were classified as eutrophic and 35.4 km² (3.5%) were assigned to the hypertrophic category.

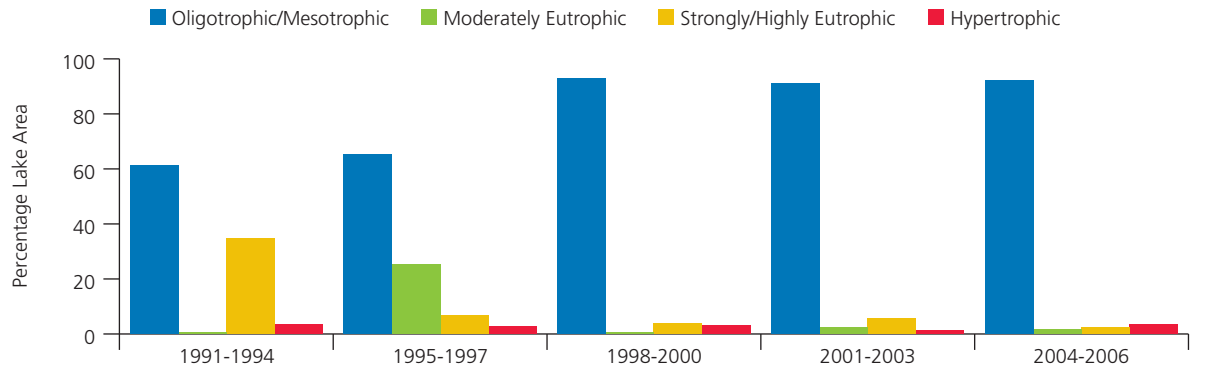
The proportion of lakes with an overall satisfactory water quality status has increased in the latest period (85.3%) compared to the previous period of assessment (82%). Likewise, the proportion of lake surface area (Figure 4b.) categorised as oligotrophic/mesotrophic for the period 2004-2006 (91.9%) is slightly higher than that for the period 2001-2003 (91%).

Figure 4a Lake quality 2004-2006 – Percentage of Water Bodies in each Class



Source: EPA (D. Tierney)

* The 15 lakes classed as hypertrophic in the period 2004-2006 were: Allua (Co. Cork); Cluhir (Co. Cork); Derrygooney (Co. Monaghan); Drumgole (Co. Monaghan); Funshinagh (Co. Roscommon – note this is a turlough and was almost dry at time of sampling); Gangin (Co. Leitrim); Gowna (Co. Cavan); Inner (Co. Monaghan); Monalty (Co. Monaghan); Muckno (Co. Monaghan); Mullagh (Co. Cavan); na Glack (Co. Monaghan); Oony (Co. Monaghan); Oughter (Co. Cavan); Peters (Co. Monaghan).

Figure 4b Lake Quality 1991-2006 – Surface Area (km²)

Source: EPA (D. Tierney)

Sources:

EPA (D. Tierney); OECD, 1982. *Eutrophication of Waters. Monitoring, Assessment and Control*. OECD, Paris; Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O'Boyle, S., MacCárthaigh, M., Craig, M. and Quinn, R., 2005. *Water Quality in Ireland 2001-2003*. EPA, Wexford.

INDICATOR 5: FISH KILLS

The presence of healthy fish stocks, particularly salmon and trout, in rivers and lakes is considered to be an indicator of good water quality. The demise of these fish, on the other hand, is a very striking manifestation of serious pollution. Very low or zero oxygen concentration in water is the principal cause of fish kills in Ireland. These conditions can be brought about by anthropogenic inputs of organic matter to water or may result from excessive plant growth.

Data on fish kills in Ireland are compiled annually by the Central Fisheries Board, based on returns from the Regional Fisheries Boards. In 2006, 34 fish kills were reported. Based on investigations carried out by fisheries board environmental staff the following causes were attributed:

Agriculture	Industry	Local Authority	Eutrophication	Other	Unknown	Total
5	2	7	5	10	5	34

As well as resulting from agricultural, industrial and sewage wastes entering water bodies, fish can be killed by other causes, such as civil works, as can be seen from the following regional example. In the South Western Regional Fisheries Board area, covering Cork and Kerry, eight fish kills were recorded in 2006. Investigations confirmed the cause in four of these (two each by agricultural discharges and in-stream drainage works) with three others suspected to have resulted from agriculture, civil works and poaching respectively while the remaining one could not be attributed to any cause.

A marked upsurge in fish kills had occurred in Irish rivers in the 1970s coinciding with the intensification of agriculture. In response to this situation, a nationwide public information campaign was launched and an enforcement strategy was put in place by the Regional Fisheries Boards and Local Authorities.

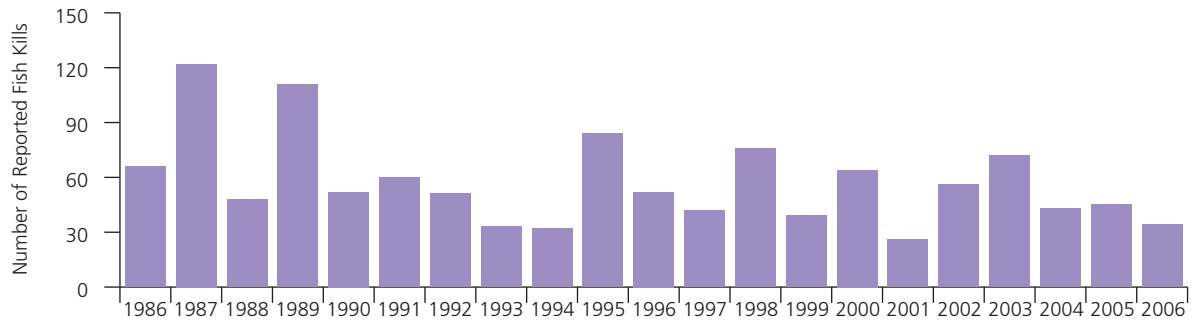
The trend in fish kills over the past 21 years (Figure 5) shows that the years 1987 and 1989 were the worst with in excess of 100 fish kills reported while 2001 had the least number. The number of such events in 2006 shows a reduction relative to 2004 and 2005 when 43 and 45 respectively were recorded.

The number of fish kills includes recurring deaths of fish in the Avoca River due to acid mine leachate which in 2006 accounted for half of the kills allocated to the 'Other' category in the above tabulation. A pilot treatment plant has been commissioned to help alleviate the problem in the lower reaches of the Avoca River due to discharges from the copper mines that have been occurring for over 200 years.

A fish kill is a sign of catastrophic ecosystem disruption and, while the situation appears to have stabilised somewhat, the number of reported fish kills remains unacceptably high.

Sources

Regional Fisheries Boards data as collated by the Central Fisheries Board; South Western Regional Fisheries Board, 2007. *Annual Report 2006*. South Western Regional Fisheries Board, Macroom.

Figure 5 Fish Kills 1986-2006

Source: Regional Fisheries Boards

INDICATOR 6: ESTUARINE AND COASTAL WATER QUALITY

As with fresh waters, increased nutrient loading resulting in eutrophication is an increasing pressure on Irish estuarine and coastal waters.

The trophic status of 69 water bodies from 21 estuarine and coastal areas around Ireland was assessed for the period 2002-2006. The assessment of these estuarine and coastal water bodies shows that 13 (18.8%) were classed as eutrophic, two (2.9%) as potentially eutrophic, 29 (42.1%) as intermediate and 25 (36.2%) were unpolluted.

The status of tidal waters in Ireland is generally unchanged from the period 1999-2003. In comparison to the assessment carried out for 2001-2005, seven water bodies have shown a decline in status for the latest rolling five-year period. Three of these, Lower Slaney estuary, Upper Blackwater estuary and Wexford Harbour are now classified as eutrophic, while Dungarvan Harbour, Sligo Harbour, Lower Lee (Tralee) estuary and Youghal Harbour are now in the intermediate category having previously been classed as unpolluted.

Three estuaries, Lough Mahon, Fergus and the freshwater tidal stretch of the Shannon have shown an improvement in quality status. The status of the latter two water bodies has improved from intermediate in the 2001-2005 period to unpolluted in the latest assessment. Lough Mahon, which is categorised as intermediate, has shown a substantial gradual improvement in recent years having been previously classified as eutrophic in the period 1999-2003 and then potentially eutrophic in 2001-2005. The observed improvement in the water quality status of this water body is likely to be a result of the newly commissioned urban wastewater treatment plant (Cork Main Drainage) at Little Island, though further investigation is required before this can be confirmed.

Data from the Marine Institute's winter nutrient monitoring programme, in coastal waters of the western Irish Sea and southern Celtic Sea, indicate no instances of excessive nutrient enrichment.

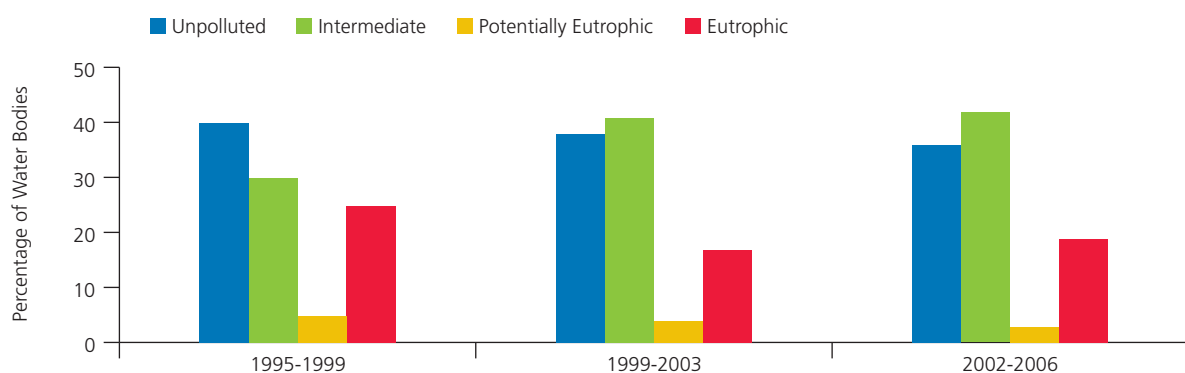
All 10 water bodies classified as eutrophic in the period 2001-2005 remain so and as indicated above an additional three water bodies are similarly classified in the present assessment. The percentage of water bodies being classified as eutrophic shows an initial decrease followed by a slight increase during the past decade: from 25 per cent in 1995-1999 to 17 per cent in 1999-2003 and almost 19 per cent in the period up to 2006 (Figure 6a).

The location and latest classification of the individual estuarine and coastal water bodies is shown in Figure 6b, which also gives a breakdown of the overall quality status.

Sources

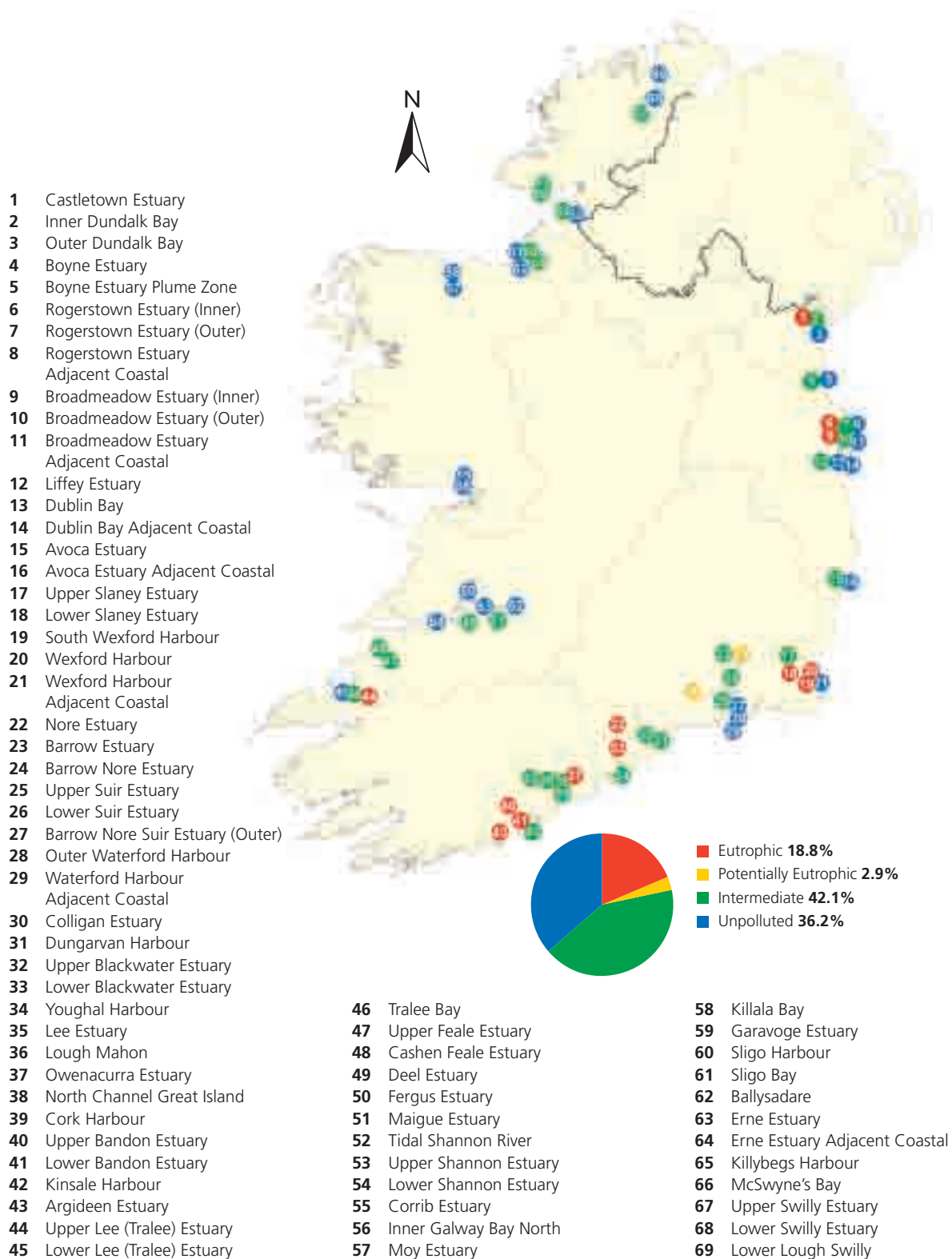
EPA (S. O'Boyle, G. McDermott and R. Wilkes); EPA, 2001. *An Assessment of the Trophic Status of Estuaries and Bays in Ireland*. Report prepared for the Department of the Environment and Local Government. EPA, Wexford; McGovern, E., Monaghan, E., Bloxham, M., Rowe, A., Duffy, C., Quinn, Á., McHugh, B., McMahan, T., Smyth, M., Naughton, M., McManus, M. and Nixon, E., 2002. Winter nutrient monitoring of the Western Irish Sea – 1990-2000. *Marine Environment and Health Series No. 4*, 2002. Marine Institute, Dublin.

Figure 6a Estuarine and Coastal Water Quality – Percentage of Water Bodies in each Class 1995-2006



Source: EPA (S. O'Boyle, G. McDermott and R. Wilkes)

Figure 6b Estuarine and Coastal Water Quality 2002-2006



Source: EPA (S. O'Boyle, G. McDermott and R. Wilkes)

INDICATOR 7: QUALITY OF SHELLFISH WATERS

In order to ensure the quality of shellfish for human consumption, controls are placed on the waters used for shellfish cultivation and harvesting. These controls were, up until 2006, driven by the EU Directive 'laying down the health conditions for the production and the placing on the market of live bivalve molluscs' (91/492/EEC) and by 1996 Irish Regulations (S.I. No. 147 of 1996) implementing the directive. From 1 January 2006, these were replaced by EC Hygiene Regulations 'laying down specific rules for food of animal origin' (Nos. 852/853/854 of 2004). The Department of Communications, Marine and Natural Resources (DCMNR) is the competent authority in Ireland for classifying shellfish production areas.*

A shellfish sanitation monitoring programme, based on a number of parameters including microbiological criteria, for classifying shellfish-growing waters had been in operation in Ireland since 1985. The scheme of classification has three categories, corresponding with the criteria and conditions as laid down in the older directive/new regulations and may be summarised as follows:

- A** Shellfish can be sold for direct human consumption
- B** Shellfish can be sold for human consumption following purification in an approved plant for two days
- C** Shellfish can be sold for human consumption following relaying in clean seawater for at least two months

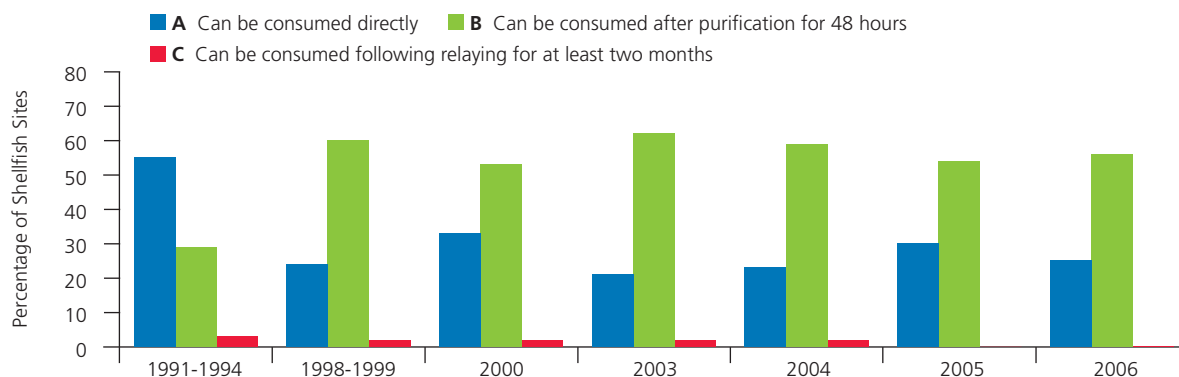
Figure 7 shows the number of shellfish sites, as a percentage of total, in the three classes between the 1991-94 period and 2006. It should be noted that percentages do not necessarily add up to 100 as sites with more than one class are omitted.**

In addition the shellfish production areas are monitored, on a weekly or monthly basis, for the presence of phytoplankton and marine biotoxins as part of a national monitoring programme operated by the Marine Institute on behalf of the Food Safety Authority of Ireland (FSAI). As well as causing illness in humans who consume affected shellfish some Harmful Algal Blooms (HABs) can directly (through toxicity) or indirectly (through deoxygenation) kill shellfish and other marine life. In July-August 2005 an exceptional bloom of a dinoflagellate, not of direct human health significance, had caused substantial stock losses to producers as shellfish died off as a direct toxic effect on the fish and shellfish. With the exception of the south-west coast waters the extent and intensity of toxic phytoplankton in Irish waters was much reduced in 2006, compared with previous recent years resulting in lower levels of toxins observed in fewer areas. The intense localised protracted toxicity present in the south-west region in 2006 caused severe impact and large-scale economic losses there. The most probable reason for the difference between the two years was wind climatic conditions. Where biotoxins are detected, the production area is closed and harvesting prohibited until the danger of toxicity has passed. Closures of shellfish-growing areas, as a result of biotoxin contamination, are common in the summer and autumn when toxic algae are present.

* The independent statutory Sea-Fisheries Protection Authority (SFPA) was set up on 1 January 2007 (S.I. No. 376 of 2006). The Authority will enforce sea-fisheries law generally and food safety law relating to fish or fishery products and will therefore be responsible for implementing the EU hygiene regulations. Shellfish production areas are classified under these regulations.

** In 2006, 25 per cent of sites were Class A waters compared to 30 the previous year but this is much less than the proportion in the 1991-94 period (55%). The downward trend in Class A waters appeared to have halted in 2004 with a slight upward swing in the following year but was down again in 2006. There were no Class C waters recorded in the past two years but a part of one shellfish harvesting area, in Wexford Harbour, was in this category.

Figure 7 Classification of Shellfish Areas



Source: Department of Communications, Marine and Natural Resources (J. Carney)

In accordance with another Directive (79/923/EEC), on the quality required of shellfish waters, seawater samples are taken from designated shellfish waters (S.I. No. 268 of 2006) twice annually and analysed for trace metals and organohalogens. In 2006 all pesticide and polychlorinated biphenyl (PCB) results were below limits of detection. The metal results varied substantially, as would be expected for seawater, and individual results for lead and zinc in some samples exceeded the national standard set for all tidal waters (S.I. No. 12 of 2001).*** However, no samples exceeded the Imperative values (maximum allowable concentrations) for shellfish waters (S.I. No. 268 of 2006). These substances are also monitored annually in shellfish flesh as this provides a better indicator of overall water quality than low frequency spot sampling of water. This monitoring typically shows Irish shellfish growing waters to be of high quality with respect to the substances monitored.

Sources

Department of Communications, Marine and Natural Resources (J. Carney); Marine Institute unpublished data [Test reports for trace metal and organochlorine substances in seawater sampled from designated shellfish growing areas, summer and winter 2006]; Lyons, D. and Doré, B., 2006. *Shellfish Microbiology – Implementation of the Hygiene Regulations and Good Practice Guide*. Proceedings of the 7th Irish Shellfish Safety Workshop, Galway, 30th November 2006, 4-7. Organised by the Marine Institute, Food Safety Authority of Ireland and Bord Iascaigh Mhara; Moran, S., Silke, J., Gallardo-Salas, R., Chamberlain, T., Lyons, J. and Shannon, S., 2006. *Review of Phytoplankton Monitoring 2006*. Proceedings of the 7th Irish Shellfish Safety Workshop, Galway, 30th November 2006, 30-36. Organised by the Marine Institute, Food Safety Authority of Ireland and Bord Iascaigh Mhara.

*** Individual results in themselves do not imply a breach of the standards as these standards apply as annual average concentrations.

INDICATOR 8: POLLUTION AT SEA INCIDENTS

Responsibility for the investigation of pollution incidents at sea rests with the Irish Coast Guard (IRCG), a division within the Department of Transport, as part of its role in developing and co-ordinating an effective regime for marine pollution response. The IRCG's functions regarding pollution incidents are mandated through Government policy, national legislation (e.g. Sea Pollution Acts, 1991 and 1999), EU Directives and International Conventions. In 2006 Ireland was invited to become a contracting party to the Bonn Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances. The IRCG provides a response to marine pollution incidents or threat of pollution from ships and offshore platforms within the Irish Exclusive Economic Zone (EEZ) which covers an area (approx. 200,000 km²) stretching to 200 miles off the west coast and to the median line between Ireland and the UK in the Irish and Celtic Seas.

The number of reported annual pollution incidents in the six-year period 2001-2006 is given in Figure 8.

The total number of incidents reported by category of pollution in the EEZ in 2006 was:

Mineral Oil	Garbage	Sewage	Chemicals	Other	Total
34	1	–	1	8	44

Analysis of the 44* incident reports for the year indicates that the reported pollution comprised approximately 77 per cent oil spillage and 23 per cent other substances, e.g. algae or unidentified blooms. Diesel and gas oils were the most frequently identified polluting substances. The overall geographical pattern indicates that the majority of oil discharges occurred in the smaller harbours and their surrounding areas. Clusters of slicks were identified in bays and near shore waters with 29 per cent reported in open sea. The small percentage of slicks reported in open sea, however, should be treated cautiously as the IRCG relies on reports from shipping and commercial air traffic for such incidents.

The distribution of received reports* of pollution in 2006 by marine environmental zone within the EEZ was:

Open Sea	Tidal River/ Estuary	Bay/Nearshore Waters	Beach/ Shore	Port/ Harbour	Total
15	9	6	5	17	52

The Coast Guard's role in marine casualty incidents is to oversee, control, intervene and exercise ultimate command and control to prevent/reduce the threat to the marine environment or the safety of the vessel or crew. During 2006 the IRCG intervened in a number of marine casualty incidents and closely monitored other incidents, which posed a threat of marine pollution. For example, 14 ships ranging from 3,000 to 17,000 tonnes experienced mechanical difficulties off the coast while on average three fishing vessels per month required assistance due to engine failure, fouled propellers or were taking water. In terms of pollution, these occurrences can be classed as mostly minor in nature, which are prevented from developing into more serious incidents.

* A total of 52 incidents were reported; however, in eight cases either no pollution was found or the threat of pollution was averted.

Work is being carried out to draft the national oil spill contingency plan (NCP) and nine of 19 port contingency plans have been submitted to the IRCG for approval in accordance with the Sea Pollution (Amendment) Act, 1999. The IRCG had issued oil spill contingency plan guidelines to all maritime county councils who were instructed to draw up contingency plans for the prevention and minimisation of damage arising out of oil and other spillages on the coast. The Coast Guard also reviews and approves oil spill contingency plans for mobile offshore drilling platforms intending to carry out drilling work within the EEZ. Review and approval of these plans is ongoing.

Source

Irish Coast Guard (E. Clonan).

Figure 8 Pollution at Sea 2001-2006



Source: Irish Coast Guard (E. Clonan)

INDICATOR 9: BATHING WATER QUALITY

Local authorities are responsible for bathing water quality in their areas and for making information available to the public during the summer season. The EPA collates the results of monitoring which are forwarded to the European Commission for inclusion in the compendium report published annually by the EU. The EPA also publishes an annual national bathing water report, which is released prior to the start of the following bathing season.

The primary legislation is set out in Regulations (S.I. No. 155 of 1992) and subsequent amendments giving effect to the EU Directive (76/160/EEC) concerning the quality of bathing water. The Regulations set more stringent limits for some parameters than the Directive.

The number of designated bathing areas is 131 including both seawater (122) and freshwater (9) sites. Results for 2006 show that the quality of bathing water in Ireland is relatively good, with 77 per cent (101 of 131) of sites complying with the National Limit Values.

2006 Bathing Water Quality Areas: Compliance with EU and National Limit Values

	Compliant	Non-Compliant	Total
Seawater			122
Guide	111	11	
Mandatory	118	4	
National	95	27	
Freshwater			9
Guide	7	2	
Mandatory	9	0	
National	6	3	
Overall			131
Guide	118	13	
Mandatory	127	4	
National	101	30	

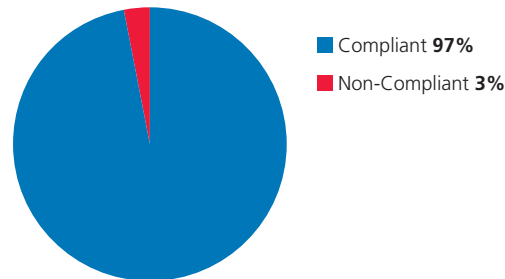
Source: EPA (K. Nolan, G. McHugh, G. Smith and T. Stafford)

Assessing compliance using the European Commission's approach shows almost 97 per cent (127 of 131) of sites complying with the minimum mandatory limit values specified in the Directive (Figure 9a) and 90 per cent (118 of 131) of sites with the stricter guide values. These guide values can be regarded as quality objectives that all bathing sites should aim to achieve.

The overall quality of bathing waters in Ireland remains quite good with the number of sites complying with EU mandatory values in 2006* showing an increase of almost one per cent when compared with 2005. However, guide compliance has decreased by the same percentage in the same period (Figure 9b). There was also a five per cent decrease in the compliance rate with National Standards in 2006 when compared with 2005.

* The four bathing areas that failed to comply with the minimum mandatory EU standards in 2006 were: Balbriggan and Malahide in Dublin; Clifden in Galway; Dunmore East (Main Strand) in Waterford. Those failing in 2005 were: Merrion Strand and Sutton Beach in Dublin; Na Forbacha and Clifden in Galway; Ardmore in Waterford.

Figure 9a Bathing Water Quality – Compliance of Areas in 2006 with EU Mandatory Values



Source: EPA (K. Nolan, G. McHugh, G. Smith and T. Stafford)

The Bathing Water Directive (76/160/EEC) was 30 years old when, in February 2006, a new Directive (2006/7/EC) was adopted which comes into force in 2008. The revised Directive will offer an opportunity to improve management practices at bathing water sites and to standardize the information provided to bathers across Europe. In comparison with some other European countries the number of designated bathing areas in Ireland is relatively low and the EPA has called for the number of sites to be increased, from 131 to 160, to ensure the adequate protection of those using bathing places.

Figure 9b Bathing Water Compliance 1996-2006



Source: EPA (K. Nolan, G. McHugh, G. Smith and T. Stafford)

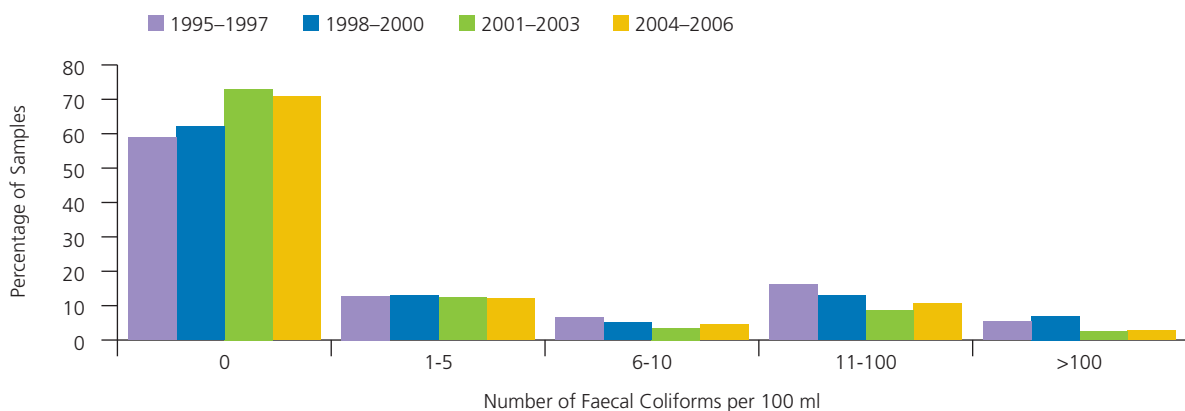
Source

EPA, 2007. *The Quality of Bathing Water in Ireland: A Report for the Year 2006*. EPA, Wexford.

INDICATOR 10: FAECAL COLIFORMS IN GROUNDWATER

Groundwater is a valuable resource in Ireland, used in food and industrial processing as well as being an important source of drinking water. Groundwater and springs account for approximately 26 per cent of the total drinking water supplied in Ireland while the proportion rises to 75 per cent in some counties. Although treated public water supplies and public group water schemes account for approximately 82 per cent of the total drinking water supplied in Ireland, the actual number of private group water schemes and small private supplies far exceeds that of public supply schemes. Private group water schemes and small private supplies account for approximately 17 per cent of the total drinking water supplied. The majority of the private group schemes and small supplies are reliant on groundwater and spring sources and often have inadequate treatment or, in many cases, no treatment at all. Therefore, to protect private supplies, and possibly reduce the risk of pollution of public supplies, there needs to be adequate protection of groundwater as a resource.

Figure 10a Faecal Coliforms in Groundwater



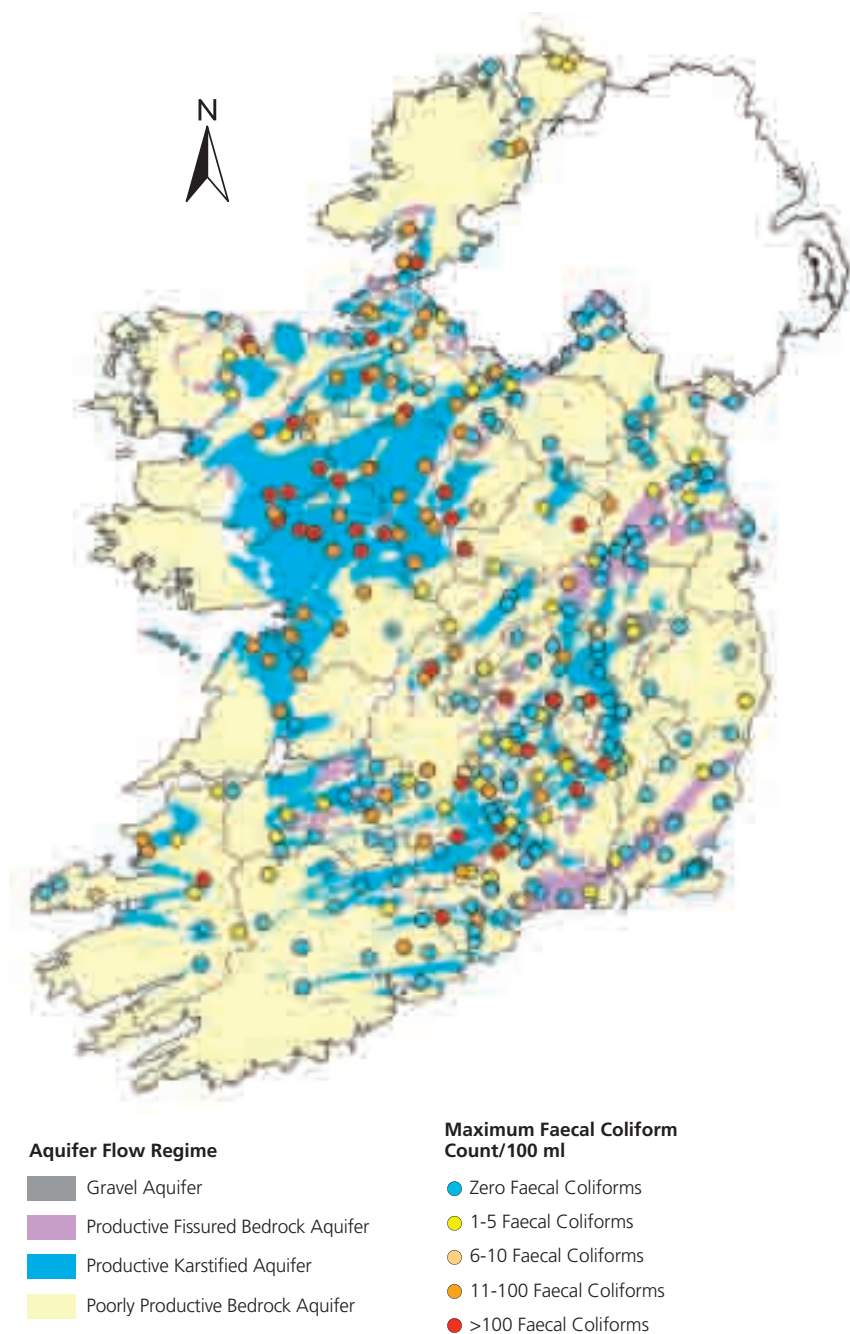
Source: EPA (M. Craig)

The EPA's national groundwater monitoring network includes sampling at some locations that are also used for the abstraction of drinking water. Faecal coliforms originate in human and animal waste. Their presence in water is taken as proof of faecal contamination and they provide a strong indication that pathogens, i.e. the actual disease-causing organisms, may be present. The presence of a single faecal coliform in a drinking water supply is a breach of the Drinking Water Regulations (S.I. No. 439 of 2000) in Ireland.

Between 2004 and 2006, the EPA sampled groundwater and springs as part of its national groundwater monitoring programme. The number of groundwater and spring samples with zero faecal coliforms declined slightly when compared with the previous reporting period (See Figure 10a). Approximately 29 per cent of the 1,591 samples taken between 2004 and 2006 tested positively for faecal coliforms and 13 per cent of the samples had greater than 10 faecal coliforms/100 ml. During this reporting period 57 per cent of all EPA monitoring locations had faecal coliforms in at least one sample (an increase of eight per cent from the previous reporting period), with 32 per cent of all EPA monitoring locations having greater than 10 faecal coliforms in at least one sample (an increase of one per cent from the previous reporting period).

The groundwater monitoring locations in karst limestone areas show the greatest degree of pollution (See Figure 10b). This reflects the vulnerable nature of the more dynamic flow systems to pollution. Since many private supplies are untreated and the factors influencing the water quality are unknown, or are beyond the control of the owner of the supply, general improvements in well design, knowledge of source protection and good land use practice are essential if the risk to these supplies are to be reduced and improvements in water quality are to be seen.

Figure 10b Maximum Faecal Coliform Count/100ml during 2004-2006



Source: EPA (M. Craig)

Sources

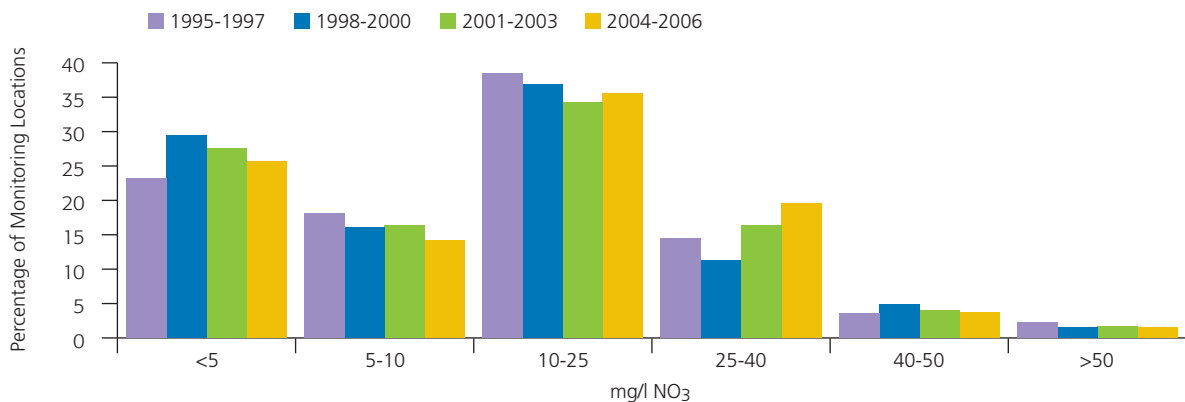
EPA (M. Craig); Page, D., Wall, B. and Crowe, M., 2006, *The Quality of Drinking Water in Ireland. A report for the year 2005*. EPA, Wexford; Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O'Boyle, S., MacCárthaigh, M., Craig, M. and Quinn, R., 2005. *Water Quality in Ireland 2001-2003*. EPA, Wexford.

INDICATOR 11: NITRATES IN GROUNDWATER

Relatively low concentrations of nitrate are found in unimpacted groundwater. Higher nitrate concentrations are usually indicative of organic or inorganic inputs to groundwater. Organic sources can include waste disposal, e.g. animal waste spreading, or leaching from septic tanks, whilst inorganic sources can include the spreading of artificial fertiliser. If a significant proportion of surface water flow is derived from groundwater, then increased nitrate concentrations in groundwater may contribute to eutrophication in surface waters.

The EPA's national groundwater monitoring network includes sampling at some locations that are also used for the abstraction of drinking water. The presence of high nitrate concentrations in drinking waters may induce methaemoglobinaemia (blue baby syndrome) in bottle-fed infants if the nitrate converts to nitrite and reacts with blood haemoglobin.

Figure 11a Nitrate in Groundwater



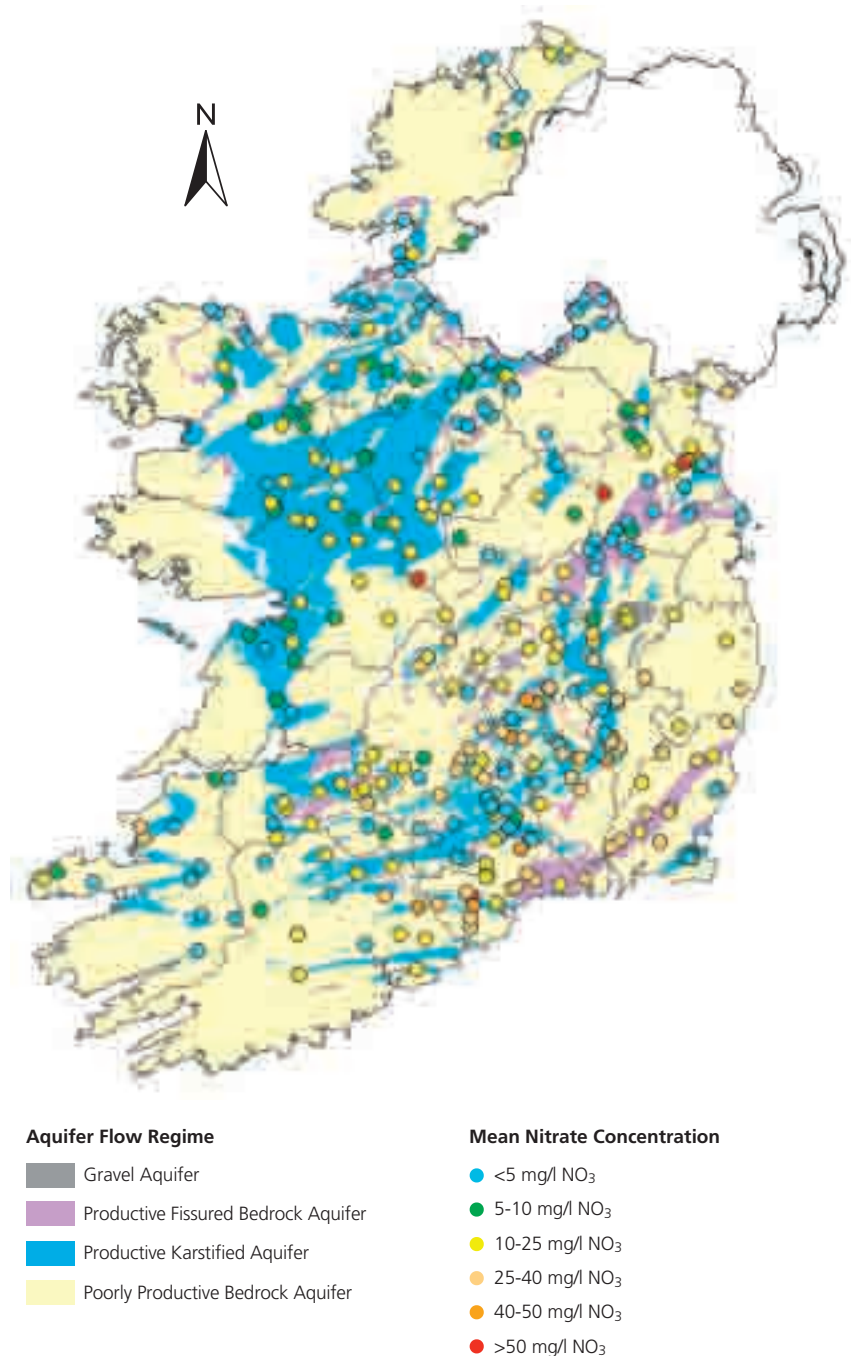
Source: EPA (M. Craig)

Between 2004 and 2006, the mean nitrate concentration exceeded the Drinking Water Regulations (S.I. No. 439 of 2000) guide concentration of 25 mg/l NO₃ at approximately 25 per cent of all EPA monitoring locations and exceeded the Maximum Admissible Concentration (MAC) of 50 mg/l NO₃ at approximately two per cent of all EPA monitoring locations.* Since 1995 there has been a general increase in the percentage of groundwater samples with nitrate concentrations between 25-40 mg/l NO₃ (Figure 11a) and there has also been a decrease in the percentage of samples with nitrate concentrations between 0-10 mg/l NO₃. The south-east of the country has the greater proportion of monitoring locations with elevated nitrate concentrations (See Figure 11b). See also Indicator 2: Nitrates in Rivers.

Elevated nitrate concentrations may be observed in monitoring points that are in close proximity to potential point source waste discharges. However, the spatial distribution of monitoring locations with elevated nitrate concentrations relates to areas with more intensive agricultural practices, which suggests that diffuse, agricultural sources are the cause. In recent years an increasing trend is seen in the number of monitoring locations with concentrations greater than 25 mg/l NO₃, suggesting a gradual deterioration in groundwater quality, particularly in the more intensive agricultural areas of the south and east of the country. This will be examined further as part of the implementation of the Water Framework Directive.

* Nitrate can be reported as N or NO₃ but there is a four-fold difference in numerical terms between the two expressions (See also Indicator 2: Nitrates in Rivers).

Figure 11b Mean Nitrate Concentrations during 2004-2006



Source: EPA (M. Craig)

Sources

EPA (M. Craig); Flanagan, P.J., 1988. *Parameters of Water Quality*. Environmental Research Unit, Dublin; Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O'Boyle, S., MacCárthaigh, M., Craig, M. and Quinn, R., 2005. *Water Quality in Ireland 2001-2003*. EPA, Wexford.

APPENDIX: PHOSPHORUS REGULATIONS UPDATE 2006

Prepared by the Office of Environmental Enforcement

The Phosphorus Regulations, (S.I. 258 of 1998) is a legislative measure aimed at reducing eutrophication in rivers and lakes. The targets set by the Phosphorus Regulations are designed to prevent deterioration of waters of good quality and to improve waters of unsatisfactory quality to a specified standard. The Regulations require that each local authority submit an Implementation Report to the Agency every two years detailing measures it is taking to meet the specified standards. The Agency has published a number of national reports on implementation of the Regulations and on progress towards meeting the targets.

The Phosphorus Regulations require that water quality be maintained or improved by reference to the baseline biological quality rating (rivers) assigned by the Agency in the 1995-1997 review period or at the first occasion thereafter. Water quality targets set in the Regulations must be met by 2007 at the latest for waters surveyed by the EPA in the 1995-97 period and within a maximum of ten years for waters first surveyed after 1997.

Current monitoring from the 2004-2006 period indicates that, in the case of rivers, the water quality at 69.5 per cent of the monitoring stations nationally is compliant with the Phosphorus Regulations, i.e. the water quality at these river stations meets the biological and/or the molybdate reactive phosphorus (MRP) targets in the Phosphorus Regulations (Figure A1). This represents an increase of 6.1 per cent in compliance from the previous monitoring period (2001-03). This may be accounted for by a substantial and continuing increase in MRP monitoring of water quality.

Local authorities with a relatively high level of compliance (> 70 per cent of river stations compliant) with the Regulations are Roscommon, Wicklow, Dublin City,* North Tipperary, Cavan, Meath, Kerry, Cork and Wexford. Local authorities with a relatively low level of compliance (< 50 per cent of river stations compliant) with the Regulations are Donegal and Fingal. Marked increases in compliance from the 2001-03 periods are apparent in Wicklow, Dun Laoghaire-Rathdown, Limerick, Meath, Monaghan, North Tipperary, Offaly, Kilkenny, Roscommon and Wexford. These increases are partly due to increased monitoring for MRP and in some cases overall reductions of MRP levels in rivers.

The review of river water quality carried out here, under the Phosphorus Regulations, is based on the approach of using either biological Q value data or MRP data to determine compliance. While trends in overall compliance may be attributed in part to increased levels of MRP monitoring, the assessment of compliance with the biological targets of the Regulations probably gives a better indication of trends in overall water quality status. A total of 59.3 per cent of river stations meet the biological targets of the Regulations. This represents an increase of 3 per cent in the number of stations meeting the biological targets of the Regulations from the 2001-2003 period.

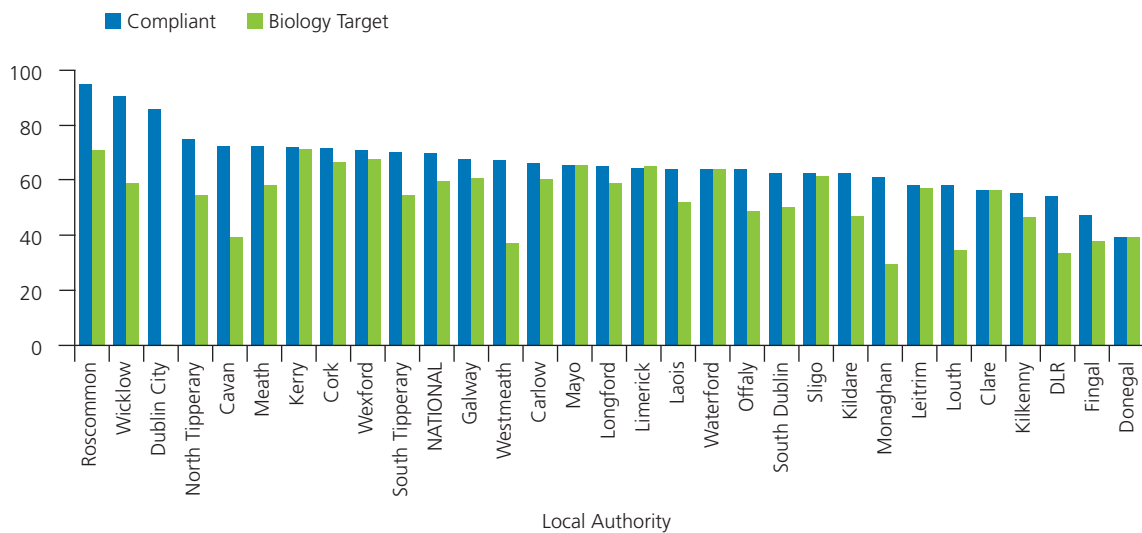
Counties with a relatively high percentage of stations meeting the biological targets (>60 per cent) include Carlow, Cork, Galway, Kerry, Limerick, Mayo, Roscommon, Sligo, Waterford and Wexford. Counties with a relatively low percentage of stations meeting the biological targets (<40 per cent) include Cavan, Dun Laoghaire-Rathdown, Donegal, Fingal, Louth, Monaghan and Westmeath.

Significant improvements in biological water quality (>10 per cent) have been achieved in Dun Laoghaire-Rathdown, Limerick, Longford, Meath and Westmeath. This is most likely due to the implementation of catchment specific measures by these local authorities. However, a significant decline in compliance with the Regulations is apparent in Donegal. Reductions in compliance are most likely due to water quality decline particularly characterised by a continuing loss of high quality Q5/Q4-5 stations.

* Percentage changes in compliance at monitoring stations of the Dublin local authorities (i.e., Dublin City, Dun Laoghaire-Rathdown, Fingal and South Dublin) must be treated with some degree of caution, as there are very few monitoring stations in their functional areas (<20). Thus changes in water quality at a few stations can result in large percentage changes.

The Local Authorities have proposed and or implemented a wide range of measures aimed at protecting and improving water quality. There have been some local improvements in water quality due to measures implemented. Current monitoring results indicate that significantly increased efforts will be required to meet the water quality targets of the Regulations (and indeed the more stringent targets of the Water Framework Directive).

Figure A1 Percentage of local authority river stations compliant with the Phosphorus Regulations in 2004-06 and percentage of local authority river stations meeting biological targets of the Regulations





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CÁILÍOCHT UISCE IN ÉIRINN 2006

Príomhtháscairí den Timpeallacht Uisceach

AN GHNÍOMHAIREACTH UM CHAOMHNÚ COMHSHAOIL

Is í an Gníomhaireacht um Chaomhnú Comhshaoil (EPA) comhlachta reachtúil a chosnaíonn an comhshaoil do mhuintir na tíre go léir. Rialaímid agus déanaimid maoirsiú ar ghníomhaíochtaí a d'fhéadfadh truailliú a chruthú murach sin. Cinntímid go bhfuil eolas cruinn ann ar threochtaí comhshaoil ionas go nglactar aon chéim is gá. Is iad na príomh-nithe a bhfuilimid gníomhach leo ná comhshaoil na hÉireann a chosaint agus cinntiú go bhfuil forbairt inbhuanaithe.

Is comhlacht poiblí neamhspleách í an Gníomhaireacht um Chaomhnú Comhshaoil (EPA) a bunaíodh i mí Iúil 1993 faoin Acht fán nGníomhaireacht um Chaomhnú Comhshaoil 1992. Ó thaobh an Rialtais, is í an Roinn Comhshaoil agus Rialtais Áitiúil a dhéanann urraíocht uirthi.

ÁR bhFREAGRACHTAÍ

Ceadúnú

Bíonn ceadúnais á n-eisiúint againn i gcomhair na nithe seo a leanas chun a chinntiú nach mbíonn astuithe uathu ag cur sláinte an phobail ná an comhshaoil i mbaol:

- áiseanna dramhaíola (m.sh. líonadh talún, loisceoirí, stáisiúin aistrithe dramhaíola);
- gníomhaíochtaí tionsclaíocha ar scála mór (m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
- diantalmhaíocht;
- úsáid faoi shrian agus scaoileadh smachtaithe Orgánach Géinathraithe (GMO);
- mór-áiseanna stórais peitreal.

Feidhmiú Comhshaoil Náisiúnta

- Stiúradh os cionn 2,000 iniúchadh agus cigireacht de áiseanna a fuair ceadúnas ón nGníomhaireacht gach bliain.
- Maoirsiú freagrachtaí cosanta comhshaoil údarás áitiúla thar sé earnáil – aer, fuaim, dramhaíl, dramhuisce agus caighdeán uisce.
- Obair le húdarás áitiúla agus leis na Gardaí chun stop a chur le gníomhaíocht mhídhleathach dramhaíola trí chomhordú a dhéanamh ar líonra forfheidhmithe náisiúnta, díriú isteach ar chiontóirí, stiúradh fiosrúcháin agus maoirsiú leigheas na bhfadhbanna.
- An dlí a chur orthu siúd a bhriseann dlí comhshaoil agus a dhéanann dochar don chomhshaoil mar thoradh ar a ngníomhaíochtaí.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaoil

- Monatóireacht ar chaighdeán aeir agus caighdeán aibhneacha, locha, uiscí taoide agus uiscí talaimh; leibhéil agus sruth aibhneacha a thomhas.
- Tuairisciú neamhspleách chun cabhrú le rialtais náisiúnta agus áitiúla cinntí a dhéanamh.

Rialú Astuithe Gáis Ceaptha Teasa na hÉireann

- Cainníochtú astuithe gáis ceaptha teasa na hÉireann i gcomhthéacs ár dtiomantas Kyoto.
- Cur i bhfeidhm na Treorach um Thrádáil Astuithe, a bhfuil baint aige le hos cionn 100 cuideachta atá ina mórghineadóirí dé-ocsaíd charbóin in Éirinn.

Taighde agus Forbairt Comhshaoil

- Taighde ar shaincheisteanna comhshaoil a chomhordú (cosúil le caighdeán aeir agus uisce, athrú aeráide, bithéagsúlacht, teicneolaíochtaí comhshaoil).

Measúnú Straitéiseach Comhshaoil

- Ag déanamh measúnú ar thionchar phleananna agus chláiracha ar chomhshaoil na hÉireann (cosúil le pleananna bainistíochta dramhaíola agus forbartha).

Pleanáil, Oideachas agus Treoir Chomhshaoil

- Treoir a thabhairt don phobal agus do thionscal ar cheisteanna comhshaoil éagsúla (m.sh., iarratais ar cheadúnais, seachaint dramhaíola agus rialacháin chomhshaoil).
- Eolas níos fearr ar an gcomhshaoil a scaipeadh (trí cláracha teilifíse comhshaoil agus pacáistí acmhainne do bhunscoileanna agus do mheánscoileanna).

Bainistíocht Dramhaíola Fhorghníomhach

- Cur chun cinn seachaint agus laghdú dramhaíola trí chomhordú An Chláir Náisiúnta um Chosc Dramhaíola, lena n-áirítear cur i bhfeidhm na dTionscnamh Freagrachta Táirgeoirí.
- Cur i bhfeidhm Rialachán ar nós na treoracha maidir le Trealamh Leictreach agus Leictreonach Caite agus le Srianadh Substaintí Guaiseacha agus substaintí a dhéanann ídiú ar an gcrios ózón.
- Plean Náisiúnta Bainistíochta um Dramhaíl Ghuaiseach a fhorbairt chun dramhaíl ghuaiseach a sheachaint agus a bhainistiú.

Struchtúr na Gníomhaireachta

Bunaíodh an Gníomhaireacht i 1993 chun comhshaoil na hÉireann a chosaint. Tá an eagraíocht á bhainistiú ag Bord lánaimseartha, ar a bhfuil Príomhstíúrthóir agus ceithre Stíúrthóir.

Tá obair na Gníomhaireachta ar siúl trí ceithre Oifig:

- An Oifig Aeráide, Ceadúnaithe agus Úsáide Acmhainní
- An Oifig um Fhorfheidhmiúchán Comhshaoil
- An Oifig um Measúnacht Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáide

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag ball air agus tagann siad le chéile cúpla uair in aghaidh na bliana le plé a dhéanamh ar cheisteanna ar ábhar imní iad agus le comhairle a thabhairt don Bhord.

CÁILÍOCHT UISCE IN ÉIRINN 2006

Príomhtháscairí den Timpeallacht Uisceach

Tiomsaithe ag
SEÁN Ó LUASAIGH

Timpeallacht Uisceach
An Oifig um Measúnacht Comhshaoil

An Ghníomhaireacht um Chaomhnú Comhshaoil
Environmental Protection Agency

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Cé go ndearnadh gach iarracht le cruinneas an ábhair san fhoilseachán a chinntiú, ní féidir cruinneas iomlán a ráthú. Ní ghlacann an Gníomhaireacht um Chaomhnú Comhshaoil ná an t-údar le haon fhreagracht ar bith as cailliúint nó damáiste a tharla, nó a éilíodh gur tharla, mar iarmhairt, i bpáirt nó go hiomlán mar gheall ar ghníomhú aon duine nó mainneachtain chun gníomhú, mar thoradh ar ábhar a fhaightear san fhoilseachán seo. Is féidir an foilseachán ar fad nó cuid de a chóipeáil gan tuilleadh cead, ar choinníoll go n-admhaítear an foinse.

CÁILÍOCHT UISCE IN ÉIRINN 2006

Príomhtháscairí den Timpeallacht Uisceach

Arna fhoilsiú ag an
nGNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL, ÉIRE

Dearadh le **firstimpression**

BUÍOCHAS

Is mian leis an tiomsaitheoir buíochas a ghabháil leis na comhghleacaithe EPA seo a leanas as ucht a gcuid cabhrach le heolas a sholáthar, nó fáil eolais a éascú don tuarascáil: Jim Bowman, Kevin Clabby, Matt Craig, Donal Daly, John Feehan, Dara Lynott, Georgina McDermott, Martin McGarrigle, George McHugh, Michael Neill, Kirsty Nolan, Shane O’Boyle, Ciarán O’Donnell, Gerard O’Leary, Cara O’Loughlin, Maeve Quinn, Gavin Smith, Ray Smith, Tom Stafford, Larry Stapleton, Deirdre Tiy agus Robert Wilkes. Ina theannta gabhtar buíochas leis na baill foirne hidriméadacha seo a leanas san EPA, ar son Donal Daly agus Matt Craig, as ucht sonraí screamhuisce a bhailiú: John Agnew, Michael Bourke, Michael Browne, Albert Curran, Pat Durkin, Martin Kerr, Brendan Magennis, Margaret Maher, Hugh McGinley, Matt Morgan, Jim Penny, Donal Quinn, John Rigney, Joe Reilly, Jim Ryan agus Michael Stapleton.

Tá buíochas faoi leith ag dul dóibhsean ó ghníomhaireachtaí eile a sholáthraigh eolas, i. An Bord Lárnach Iascaigh (T. Champ); An Roinn Cumarsáide Mara agus Acmhainní Nádirtha (J. Carney); Gardaí Cósta na hÉireann (E. Clonan); Foras na Mara (E. McGovern, E. Joyce agus J. Silke); Boird Iascaigh Réigiúnaigh (Fisheries and Senior Fisheries Environmental Officers) a sholáthraigh buneolas staitisticiúil ar shlad éisc, .i. Bord Iascaigh Réigiúnaigh an Deiscirt (P. Kilfeather, D. McNly agus F. O’ Donoghue), Bord Iascaigh Réigiúnaigh an Iardheiscirt (P. O’Connor agus M. McPartland), Bord Iascaigh Réigiúnaigh na Sionainne (M. Fitzsimons agus C. Kerins), Bord Iascaigh Réigiúnaigh an Iarthair (K. Rogers), Bord Iascaigh Réigiúnaigh an Iarthuaiscirt (S. Neylon agus H. Neary), Bord Iascaigh Réigiúnaigh an Tuaiscirt (B. Maguire agus A. Ní Shúilleabháin); Bord Iascaigh Réigiúnaigh an Oirthir (B. Beckett, D. Byrne, G. Hannigan, M. Kirrane agus N. McGloin).

Soláthraíodh bunsonraí uisce snámha don EPA (K. Nolan, G. McHugh, G. Smith agus T. Stafford) ag na húdaráis áitiúla seo a leanas: Comhairle Contae an Chláir (P. O’ Brien); Comhairle Contae Chorcaí (D. Sheehan); Comhairle Contae Dhún na nGall (P. Gallagher); Comhairle Cathrach Bhaile Átha Cliath (K. Callanan); Comhairle Chontae Dhún Laoghaire Ráth an Dúin (P. O’Keefe); Comhairle Chontae Fhine Gall (E. Whyte); Comhairle Cathrach na Gaillimhe (S. Kennelly); Comhairle Contae na Gaillimhe (C. Sullivan agus A. Dolan); Comhairle Contae Chiarraí (D. Lenihan); Comhairle Contae Liatroma (A. Reynolds); Comhairle Contae an Lú (B. Gallagher); Comhairle Contae Mhaigh Eo (K. Donnelly); Comhairle Contae na Mí (G. Duggan); Comhairle Contae Shligigh (P. Bergin); Comhairle Contae Loch Garman (A-M. Casey agus K. Mazur); Comhairle Contae na hIarmhí (A. Bonner); Comhairle Contae Loch Garman (S. Casey); Comhairle Contae Chill Mhantáin (E. Dillon).

Soláthraíodh sonraí breise uisce i lochanna i. sa bhreis ar na sonraí úd a bhailigh an EPA (D. Tierney, C O’Loughlin, E. Greenan, M. Neill agus R. Smith), uathu seo a leanas: An Bord Lárnach Iascaigh (T. Champ agus J. Hennelly); Comhairle Contae an Chabháin (C. O’Callaghan); Comhairle Contae an Chláir (T. Duffy); Comhairle Contae Chorcaí (D. Sheehan); Comhairle Contae Dhún na nGall (P. Casey agus G. McGinley); Comhairle Cathrach Bhaile Átha Cliath (D. Morrissey agus A. Boylan); Comhairle Contae na Gaillimhe (M Ní Chionna, D. Connell, A. Dolan agus C. Sullivan); Comhairle Contae Chiarraí (D. Lenihan); Comhairle Contae Liatroma (A. Reynolds agus E. Gibbons); Comhairle Contae Luimnigh (C. Gleeson); Comhairle Contae Longfoirt (A. Brady agus A. Skelly); Comhairle Contae an Lú (S. O’Callaghan); Comhairle Contae Mhaigh Eo (M. Sweeney agus H. Neary); Comhairle Contae na Mí (V. Collins); Comhairle Contae Mhuineacháin (B. O’ Flaherty agus G. Kelly); Bord Iascaigh Réigiúnaigh an Tuaiscirt (C. Glennon); Bord Iascaigh Réigiúnaigh an Iarthuaiscirt (H. Llyod agus B. Maguire); Comhairle Contae Uibh Fháilí (T. Mitchell agus C. Magee); Comhairle Contae Ros Comáin (J. Duggan); Comhairle Contae Shligigh (P. Bergin); Comhairle Contae Thiobraid Árann Thuaidh (P. J. Phelan); Comhairle Contae Thiobraid Árann Theas (M. Graham); Comhairle Contae Loch Garman (P. Carroll); Comhairle Contae na hIarmhí (A Marshall, M. Connolly); Comhairle Contae Loch Garman (T. Griffin agus J. Sexton).

Faoi dheireadh, Go raibh maith agat lenár gcomhghleacaí san EPA Micheál MacCárthaigh as ucht athbhreithniú a dhéanamh ar an aistriúchán Gaeilge.

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RÉAMHRÁ

Is í an tuarascáil seo an dara tuarascáil i sraith staitisticí achoimre bliantúla a d'fhoilsigh an Ghníomhaireacht, ar an eolas deireanach maidir le cáilíocht uisce in Éirinn. Leagann sé amach ar bhealach cruinn roinnt príomhtháscairí do cháilíocht uisce, bunaithe ar na sonraí is nuashonraí atá ar fáil. Is iad na táscairí seo na príomhstaitisticí a thugann achoimre ar shaincheist cáilíochta uisce. Le chéile, is é an luach atá orthu ná go dtugann siad eolas tráthúil, atá daingean go heolaíoch ar cháilíocht uisce do lucht ceaptha beartais ach go háirithe chomh maith leis an bpobal i gcoitinne. Ba le haghaidh 2005 ab ea an chéad tuarascáil sa tsraith (Lucey, 2006).

Díríonn an tuarascáil táscaire seo ar shaincheist: cáilíocht éiceachóras uisceach Mar sin comhlánaíonn sí na tuarascálacha táscaire náisiúnta comhshaoil, ina bhfuil measúnú comhtháite treoraithe de ghnáth ag, *cinn tiomána (driving force)*, *brúnna (pressures)*, *staid (state)*, *tionchar (impact) agus freagairt (response)* (DPSIR). Foilsíodh an tuarascáil dheireanach den sórt sin leis an nGníomhaireacht mar *Environment in Focus 2006: Environmental Indicators for Ireland* (Environmental Informatics and Reporting Unit, 2006). Le dúbailt nach gá a sheachaint, níl sa tsraith ar cháilíocht na timpeallachta uiscí ach na táscairí ar féidir cur síos orthu mar tháscairí díreacha timpeallachta. I bhfocail eile ní dhéantar ach na táscairí ar *thionchar* nó *staid* a mheas. Mar gheall ar an tábhacht a bhaineann le fosfar mar chothaitheach saibhrithe i dtimpeallacht uisceach na hÉireann socraíodh an ghné seo a chur san áireamh mar tháscaire d'aibhneacha.

Díríonn an tuarascáil seo ar na táscairí a mheastar gurb iad na príomhtháscairí iad ar cháilíocht uisce thimpeallaigh in Éirinn, tá 11 acu san iomlán chun na críocha reatha. Chomh maith leis an staid reatha a thabhairt maidir le staid na hacmhainne uiscí, áiríonn an tuarascáil freisin anailís ar threochtaí thar am. Ní féidir feabhas nó meath a aithint agus cláir beart a chur i bhfeidhm ach trí eolas stairiúil a chur san áireamh. In Éirinn bailítear sonraí bitheolaíoch ar cháilíocht aibhneacha thar shraithchúrsa trí bliana agus tagann an tuarascáil ag an am céanna le deireadh na tréimhse dheireanach den sórt sin, i. 2004-2006 Ar an gcaoi chéanna, cé go mbailítear go bliantúil é, tugtar tuairisc ar eolas ar uisce inbhearach agus cósta chomh maith le lochanna agus screamhuisce ar an mbealach rollach sin ach tá an measúnú roimhe thar eatramh cúig bliana. Áiríonn gach táscaire eolas do 2006.

Is í an stíl láithreachais ná go bhfuil na táscairí leagtha amach ar bhealach 'seasaimh aonair', agus uasfhad de dhá leathanach acu lena n-áirítear grafaic, ionas go bhfuil measúnú cruinn ar fáil do gach ceann de na 11 táscaire.

I dtuarascáil dheireanach Ghníomhaireacht Eorpach an Chomhshaoil (EEA), rinneadh achoimre ar dhearcadh na tíre maidir le cáilíocht uisce mar seo a leanas: 'Is é eotrófú aibhneacha, lochanna agus uiscí taoide fós an phríomhbhagairt i gcás uiscí dromchla agus is iad sileadh de bharr talmhaíochta agus ó bheartaíocht bhargasach is mó is siocair leis. (EEA, 2005). Mar a fheictear ón tuarascáil reatha, d'fhéadfadh sé seo cur síos go cruinn ar an staid reatha, ach a chur leis go bhfuil an chéad cheann de na brúnna seo ar an mbagairt is mó do cháilíocht an acmhainn screamhuisce.

Rinne Coimisiún na hEorpa (EC) atlas a léiríonn oiread an truaillithe cothaithe, i. níotráit agus fosfar, san Eoraip, a aithníonn Éire, i dteannta leis an Ísiltír, an Bheilg, an Danmhairg, an Fhrainc agus an Iodáil, leis na leibhéil is airde brú cothaitheach. Aithníodh dlúthnasc idir brú méadaithe cothaitheach ar an timpeallacht agus táirgeadh beostoic ardlúis. Léiríonn an staidéar go minic go gcailltear cothaitheigh bhreise mar gheall ar chleachtais mar ró-thoirchiú, rud a cheart, *ipso facto*, cosc a shimpliú. Léirigh an staidéar uile-Eorpach go raibh úsáid leasachán níotráite, dhá uair chomh hard le riachtanais na mbarraí, uaireanta. (Mulligan *et al.*, 2006). Is léir go bhfuil gá le cleachtais feabhsaithe d'úsáid leasachán, leasachán le fréamhacha aoiligh agus mianra araon, ar fud réigiún na hEorpa ar fad agus coigiltis eacnamaíochta mar thoradh air.

Taifeadadh méadú beag arís ar fhad cainéal neamhthruaillithe chóras aibhneacha na hÉireann don tréimhse 2004-2006. Ach fós, tá 28 faoin gcéad den fhad iomlán míshásúil go méid áirithe. Ar an gcaoi chéanna, cé go léiríonn an céatadán de lochanna i riocht sásúil roinnt feabhais, measadh go raibh 15 faoin gcéad níos lú ná sásúil. Ar an taobh eile den scéal, is é screamhuisce an t-aon chóras a léiríonn treocht laghdaithe ar cháilíocht uisce agus tá bainistíocht níos géire na hacmhainne sin ag teastáil go práinneach.

Is é an dúshlán faoin gCreat-treoir Uisce (WFD) (2000/60/EC), ná go mbeadh na huiscí ar fad, uisce dromchla agus screamhuisce aron, i stádas maith nó níos airde faoi 2015.* D'fhéadfadh an feabhas incriminteach bliantúil taifeadta ar cháilíocht uisce dromchla, bunaithe ar an bhfeabhas a tharla idir 2005 agus 2006 agus don tréimhse trí bliana ó i 2004, dá gcoimeádfaí é, Éire a fhágáil taobh thiar den sprioc WFD san am atá fágtha le feabhsú; mura n-infheistíonn gach duine, geallchoimeádaithe agus lucht déanta beartais, a bhfuil baint acu leis an bpróiseas, iarracht glan amach i gcur chuige comhoibritheach, i gcláir beart a chur i bhfeidhm, leis an staid a aisghabháil. Thóg staidéar le déanaí faoi deara mura n-athraíonn úsáid reatha talún mar an gcéanna go mbeidh sé an deacracht éilimh an WFD a fhreagrú (Donohue *et al.*, 2006). Ach, agus an chineál truaillithe atá ag tarlú in Éirinn tógtha san áireamh, saibhriú cothaitheach den chuid is mó, níl ach am aisghabhála réasúnta gearr d'éiceachórais uisceacha agus mar sin ba cheart go mbeadh an chuspóir de stádas cáilíochta maithe do gach corp uisce indéanta.

Tagairtí

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* Is iad aidhmeanna an WFD ná stádas ard uiscí a choimeád áit a bhfuil sé ann, aon mheath ar stádas reatha uiscí a sheachaint agus stádas maith ar a laghad a bhaint amach do gach uisce faoi 2015.

ACHOIMRE

D'fhéadfaí achoimre a dhéanamh ar na 11 táscaire a úsáidtear sa tuarascáil seo leis na coinníollacha uisce thimpeallaigh i 2006 agus sna blianta roimhe a léiriú, mar seo a leanas:

- Léirigh cáilíocht sa mheasúnú ar na 13,200 km de chainéal aibhneacha agus sruthanna i 2004-2006 roinnt feabhais, i gcomparáid leis an tréimhse 2001-2003, agus 71.4 faoin gcéad neamhthruaillithe, 18.1 faoin gcéad ábhairín truaillithe, 10.0 faoin gcéad measartha truaillithe agus 0.6 faoin gcéad truaillithe go dona.
- Léirigh leibhéal níotráite in 11 abhainn mór difríochtaí ar fud na tíre agus na leibhéal is airde taifeadta san oirdheisceart. Tá leibhéal níotráite méadaithe go suntasach ag na haibhneacha seo ar fad, ach amháin dhá abhainn, i 2006, i gcomparáid leis an uair a tógadh samplaí uathu den chéad uair go deireanach sna 1970í nó sna 1980í luatha.
- Léirigh leibhéal fosfair in 11 abhainn mór difríochtaí ar fud na tíre. Sampla a léiríonn éagsúlacht idir abhantraigh ná go raibh an luach airmheáin bliantúil don Bhearáú níos airde ná an tSionainn faoi shé. Ní bhainfeadh ach cúig cinn de na suíomhanna móra aibhneacha seo sprioc na Rialachán Fosfaire amach i 2006. Tá forbhreathnú ar na Rialacháin, go háirithe maidir leis an staid do 2006, san áireamh.
- Léirigh cáilíocht san achar dromchla locha de 1014 km² a scrúdaíodh i 2004-2006 feabhas beag ón tréimhse roimhe (2001-2003), agus 91.9 faoin gcéad olagatrófach nó méiseatrófach (neamhthruaillithe), 4.6 faoin gcéad eotrófach agus 3.5 faoin gcéad hipeatrófach. Ba é an líon lochanna a measúnaíodh ná 449, agus bhí 66 acu seo níos lú ná sásúil.
- I 2006 tuairiscíodh 34 shlad ar éisc i gcomparáid le 45 shlad sa bhliain roimhe. Tá an ráta bliantúil seo, cé go bhfuil sé laghdaithe i gcomparáid leis na blianta roimhe, ag leibhéal ard nach bhfuil inghlactha toisc gur cur isteach tubaisteach ó thaobh an chomhshaoil de ar bheatha uisceach atá i ngach slad ar éisc.
- Léirigh cáilíocht i 69 gcorp uisce ó 21 cheantar inbhearach agus cósta i 2002-2006 go raibh 25 (36.2%) neamhthruaillithe, bhí 29 (42.1%) idirmheánach, d'fhéadfadh 2 (2.9%) bheith eotrófach agus bhí 13 (18.8%) eotrófach. Léiríonn sé seo laghdú beag ar stádas i gcomparáid leis an tréimhse dheireanach roimhe ach d'fhan an líon iomlán corp uisce sna haicmí eotrófacha nó eotrófach féideartha mar an gcéanna.
- I 2006 léirigh an cháilíocht uiscí sliogéisc go raibh 25 faoin gcéad de shuíomhanna in Aicme A (Stádas is Airde) agus bhí 56 faoin gcéad in Aicme B (Cáilíocht Idirmheánach) agus ní raibh aon suíomhanna in Aicme C (Cáilíocht Íseal). Is féidir é seo a chur i gcomparáid leis an staid sa dhá bhliain roimhe nuair a bhí 30 faoin gcéad in A agus 54 faoin gcéad i B i 2005 agus bhí 30 faoin gcéad in A, 59 faoin gcéad i B agus 2 faoin gcéad i C i 2004.*
- I 2006 bhí 44 eachtra truaillithe san fharraige, ina raibh doirteadh ola i gceist i thart ar 77 faoin gcéad acu agus ábhair eile, m.sh. algaí nó blásanna neamhathieanta i gceist i 23 faoin gcéad. Léiríonn an líon leo laghdú beag i gcomparáid leis na 46 eachtra don bhliain roimhe.
- Léirigh cáilíocht ag na 13 uisce snámha go raibh beagnach 97 faoin gcéad de shuíomhanna ag comhlíonadh íosluchanna teorann éigeantach an AE agus go raibh 90 faoin gcéad ag comhlíonadh leis na luachanna teoracha níos déine. I gcomparáid le 2005, léiríonn sé seo méadú agus laghdú d'aon faoin gcéad faoi seach.
- Sa tréimhse 2004-2006 bhí bachaillíní drólannacha faecacha in ar a laghad sampla amháin i gcás 57 faoin gcéad de shuíomhanna monatóireachta screamhuisce (méadú 8% ón tréimhse tuairiscithe roimhe 2001-2003), agus bhí níos mó ná 10 mbachaillín drólannach faecach ag 32 faoin gcéad de na suíomhanna (méadú 1 faoin gcéad ón tréimhse tuairiscithe roimhe).
- Sháraigh thart ar 25 faoin gcéad de shuíomhanna screamhuisce meán-chomhchruinniú níotráite na teorach d'uisce óil (méadú 2% ón tréimhse tuairiscithe roimhe 2001-2003), agus sháraigh dhá faoin gcéad an teorainn éigeantach (an céatadán céanna agus a sháraigh sa tréimhse tuairiscithe roimhe).

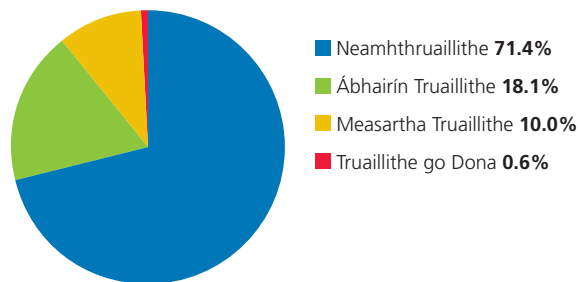
* Ní hionann é seo is a rá go bhfuil 100 sna ceatadán san iomlán san aicmiú sin uiscí sliogéisc toisc go bhfágтар amach ceantair le suíomhanna a bhfuil níos mó ná aicme amháin acu.

TÁSCAIRE 1: CÁILÍOCHT AIBHNEACHA

Breathnaítear ar an staid cáilíochta uisce sa 13,200 km de chainéal aibhneacha agus sruthanna a ndearna an EPA suirbhé air, agus úsáid á baint as modh measúnaithe bhitheolaíochta, mar táscaire ionadach ar stádas náisiúnta uiscí den sórt sin agus meastar go léiríonn sé aon treochtaí iomlána i gcoinníollacha. Bailítear na sonraí ar shraith trí-bliana agus chríochnaigh an tréimhse dheireanach den sórt sin i 2006.

Léirítear fad iomlán na n-aibhneacha a ndearnadh suirbhé air i 2004-2006 agus atá sna ceithre rang caighdeán uisce bhitheolaíochta i bhFigiúr 1a. Léiríonn sé seo go bhfuil 71 faoin gcéad de fhad cainéil sásúil, léiríonn sé sin feabhas dó faoin gcéad ó shraith mhonatóireachta 2001-2003. Rangaiodh níos lú ná aon faoin gcéad (0.6%), mar a bhí amhlaidh sa tsraith roimhe, sa choinníoll is truaillithe.*

Figiúr 1a Cáilíocht Aibhneacha 2004-2006 – Céatadán fad cainéil i ngach Rang



Foinse: EPA (K. Clabby, J. Lucey agus M. McGarrigle)

Faoi na Rialacháin (I.R. Uimh. 722 de 2003) a chuireann an Chreat-treoir Uisce (CTU) i bhfeidhm tá seacht gceantar abhantraí (RBD) as na hocht gceantar abhantraí nó RBDs idirnáisiúnta ina bhfuil oileán na hÉireann roinnte chun críche bainistíochta uisce, laistigh den Tuaisceart go hiomlán nó i bpáirt. Tugann an táblú seo a leanas an miondealú deireanach ó thaobh cáilíochta de ar an gcuid de fhad cainéil i ngach ceantar leis an gcéatadán comhfhreagrach don tréimhse roimhe (2001-2003) atá léirithe idir lúibíní.

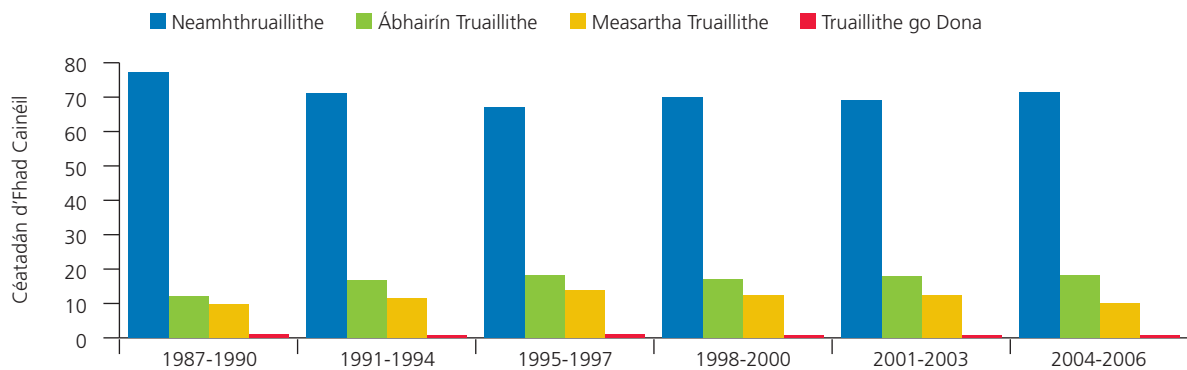
Mar a bheifí ag súil leis, bíonn na codanna níos airde de chainéal neamhthruaillithe ag na réigiúin nach bhfuil chomh a gcuid daonra chomh dlúth agus nach bhfuil chomh forbartha chomh maith leis na réigiúin nach ndéantar feirmeoireacht chomh dian iontu. Ag leibhéal RBD, tugtar feabhsúcháin le déanaí faoi deara, i. méadú ar fhad neamhthruaillithe i gceithre acu (Thiar Theas, An tSionainn, Thoir Theas agus Thoir).

Réigiún	Neamh-thruaillithe	Ábhairín Truaillithe	Measartha Truaillithe	Truaillithe go Dona
RBD Thiar Theas	90% (89%)	8% (8%)	2% (3%)	0.2% (0.1%)
RBD Thiar	84% (84%)	10% (11%)	5% (5%)	0.1% (0.3%)
IRBD Thiar Thuaidh (Deisceart)	71% (76%)	15% (10%)	13% (12%)	0.5% (0.8%)
IRBD na Sionainne	67% (63%)	22% (21%)	11% (15%)	0.7% (0.6%)
IRBD Thoir Theas	62% (58%)	26% (28%)	12% (13%)	0.4% (0.6%)
RBD Thoir	54% (41%)	27% (28%)	18% (30%)	1.2% (1.9%)
IRBD na Banna Neagh Bann IRBD (Deisceart)	49% (55%)	30% (15%)	20% (30%)	0.6% (0.1%)

* Bhí stráicí truaillithe go dona ag na haibhneacha agus na sruthanna seo a leanas: 2004 – Bredagh, Brown's Beck Brook, Conawary (Uachtair), Corravaddy Burn, An Éirne, Glory, Sruthán Greenhill, Maggy's Burn, Baile an Mhuilinn (Ciarraí), Owenalondrig, Rúscaigh, Tobar an Choire agus Sruthán Thobar an Choire; 2005 – Sruthán Ahavarraga, Brosnach, Camac, An Chlóideach (Tulach Mhór), An Chlóideach (Port Lách), Deel (An Caisleán Nua), Sruthán Garrnacool, Sruthán Chill Chuillinn, Jiggy (Hind), Roechrow, Tolka, Tulach Mhór agus; 2006 – Sruthán Bhuirios Ó Luigheach, Droichead an Chláirín, Átha Féan, Gabhrán, Ownahinchy, Sruthán Triogue agus an Tulach.

Léiríonn Figiúr 1b na treochtaí i gcáilíocht uisce idir 1987 agus 2006. Mhéadaigh an chuid de fhad cainéal aibhneacha agus sruthanna le stádas cáilíochta uisce sásúil ar an iomlán ag breis is dó faoin gcéad sa tréimhse dheireanach (71.4%) i gcomparáid leis an tréimhse measúnaithe roimhe (69.2%). Tháinig laghdú (-2.3%) ar an bhfad measartha truailithe ach tháinig méadú beag ar an gcuid de chainéal ar bheagán truailithe (+0.2%). Mar chodarsnacht níor athraigh an chuid iomlán de chainéal truailithe go trom idir an dá tréimhse.

Figiúr 1b Cáilíocht Aibhneacha 1987-2006 – Céatadán Fad Cainéil



Foinse: EPA (K. Clabby, J. Lucey agus M. McGarrigle)

TÁSCAIRE 2: NÍOTRÁITÍ IN AIBHNEACHA

Príomhtháscaire cáilíochta atá sa tíuchan níotráite in aibhneacha mar gheall ar a éifeacht saibhrithe mar chothaitheach agus mar gheall ar thionchar féideartha a bheadh ag tíuchan ard níotráite in uiscí aibhneacha as a mbítear ag baint uisce le haghaidh soláthair uisce inólta ar shláinte.

Éilíonn Treoir Níotráití an AE (91/676/EEC) ar bhallstáit bearta sonracha a ghlacadh le huiscí dromchla agus screamhuisce a chosaint ó éilliú níotráite ó ghníomhaíochtaí talmhaíochta. Achtaíodh agus foilsíodh Rialachán na hÉireann a chuireann an Treoir i bhfeidhm agus a áiríonn an plean gnímh, mar Rialachán Chomhphobal na hEorpa (Cleachtas Maith Talmhaíochta um Uiscí a Chosaint) 2006 (I.R. Uimh. 378 de 2006).* Ina theannta d'fhéadfadh scaoileadh díreach dramhaíola, mar shéarachas, rannchur le héilliú den sórt sin agus forálann Treoir an AE i leith cóireála fuíolluisce uirbeach (91/271/EEC) do níotráit a bhaint amach ó dhramhaíl den sórt sin ar chúinsí áirithe.

Is féidir Níotráit a thuairisciú mar N nó NO₃ mar tá difríocht ceithre-fhillte i dtéarmaí uimhriúla idir an dá slonn (Féach freisin Táscaire 11: Níotráití i Screamhuisce). Is iad uasteorannacha agus teorannacha treorach an AE do níotráit in uisce bainte le hól ag daoine ná 11.30 agus 5.65 mg/l N faoi seach. I scéim rangaithe na hÉireann d'uiscí taoide tugadh leibhéal níotráite neamhorgánaí tuaslagtha (NNT) de 2.6 mg/l N mar ghné amháin i sraith critéar ar féidir uiscí úra taoide a shainiú mar eotrófach nó saibhrithe thairisti; ach, ní mór go mbeadh clóraifill agus ocsaigin tuaslagtha sáraithe sula sainítear ceantar amhlaidh (Féach freisin Táscaire 6: Cáilíocht Uisce Inbhearaigh agus Cósta).

Léiríonn Figiúr 2 leibhéal airmheáin bhliantúla níotráite ag ionaid a imíonn le sruth tharstu ar gach ceann de na 11 abhainn mhór thar na 24-27 mbliana seo caite. Ó seo, is léir, ach amháin i gcás na hÉirne ag Béal Tairbirt, go bhfuil méadú ar thiúchan ón iarthar go dtí an t-oirthear. Léiríodh comhghaolú deimhneach idir leibhéal níotráite agus comhréir na talún treafa ina ndobharcheantair d'aibhneacha san oirdheisceart. Cé go comhlíonann an chuid is mó d'aibhneacha sa réigiún sin le huasluch an AE de 11.30 mg/l N tá go leor acu, m.sh. cuid de chraobhaibhneacha na Bearú i measc aibhneacha eile, thar an luach treorach de 5.65 mg/l N.

Mar gheall ar a tocsaineacht do roinnt orgánach uisceach measadh go bhfuil uasleibhéal de 2 mg/l N cuí leis na speicis fíoruisce is íogaire a chosaint. Ach, moladh leibhéal níos ísle, i. <1.7 mg/l N, go náisiúnta mar an riachtanas cáilíocht do choirp uisce diúilicín péarla inbhuanaithe. Chuaigh an speiceas cosanta sin, *Margaritifera margaritifera*, táscaire íogair ar cháilíocht uisce, in éag sa Bhearú agus sa tSiúr le 25-30 bliain anuas agus feictear líon ídithe de i gcodanna den Fheoir, den tSláine agus den Abhainn Mhór cé nach eol a stádas reatha sa Mhuaidh, ach is cosúil go maireann sé fós san abhainn sin ón uair a rinneadh é a thaifeadadh ansin ar dtús i ndeireadh an naoú aoise déag. Tá daonra na Feoire i mbaol mór dul i léig agus ní mheastar go bhfuil sé inbhuanaithe, mar gheall ar shaibhriú. Tá treocht aníos arís sa leibhéal níotráite soiléir ó 2003 i leith, rud a chuireann leis an mbrú. Tá gné chosúlach le tabhairt faoi deara don Bhóinn, nach dtugann tearmann don diúilicín sin, laistigh den tréimhse chéanna.

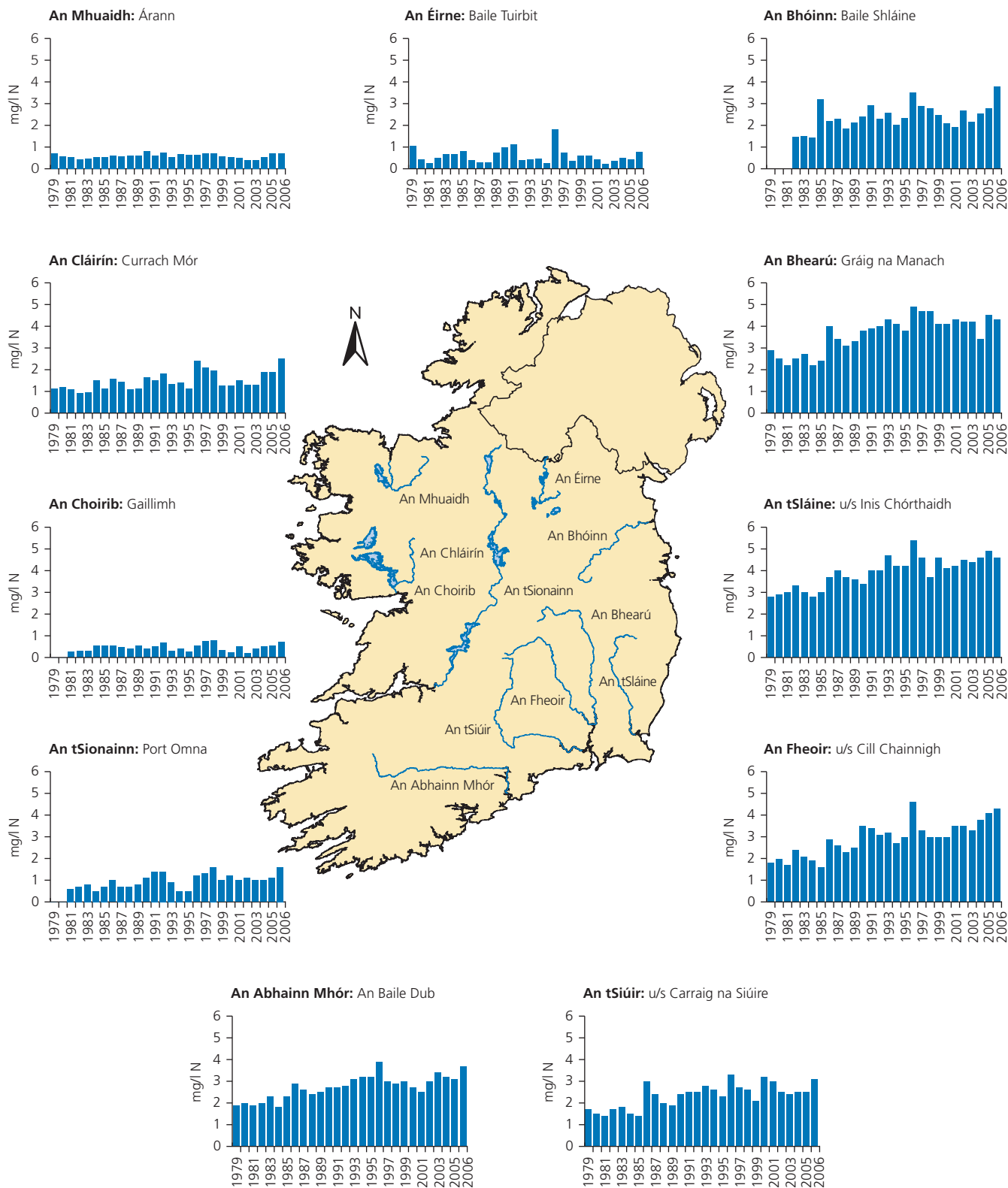
Léiríonn an táscaire seo an chodarsnacht idir na réigiúin agus leibhéal san oirdheisceart i bhfad níos airde ná leibhéal san iarthar. Is léir freisin, ó Fhigiúr 2, go bhfuil leibhéal níotráite méadaithe go suntasach ag na hionaid aibhneacha ar fad, ach amháin an Éirne agus an Mhuaidh, i 2006 i gcomparáid leis an uair a tógadh samplaí uathu ar dtús. In ord laghdaitheach ba iad na leibhéal airmheáin ab airde a tugadh tomhas orthu i 2006 ag na hionaid roghnaithe ná: An tSláine, An Bhearú+An Fheoir, An Abhainn Mhór, An tSiúr, An Bhóinn, An Chláirín, An tSionainn, An Mhuaidh+An Choirib agus an Éirne. Sampla a léiríonn an éagsúlacht i leibhéal níotráite idir abhantraigh ná go raibh an leibhéal airmheáin bliantúil don tSláine, sa bhliain roimhe 2005, níos airde ná an Éirne ag níos mó ná ord méadaíochta.

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* Déanann na Rialacháin seo cúlghairm ar, agus déanann siad ath-achtú le leasuithe, ar Rialacháin na gComhphobal Eorpach (Deachleachtas Talmhaíochta chun Uiscí a Chosaint) 2005 (I.R. Uimh. 788 de 2005).

Figiúr 2 Leibhéil Airmheáin Bhliantúla Níotráite (mg N/lítear) in Aibhneacha 1979-2006



Foinse: EPA (M. Neill, M. Quinn agus R. Smith)

TÁSCAIRE 3: FOSFÁITÍ IN AIBHNEACHA

Príomhtháscaire cáilíochta atá sa tíuchan fosfáite in aibhneacha – mar gheall ar a éifeacht saibhrithe mar chothaitheach – i bhfíoruisce ach go háirithe. Tá cothaitheach, mar fhosfar agus nítrigin, riachtanach do phlandaí agus ainmhithe, ach má tá méid iomarcach díobh ann d'fhéadfadh laghdú suntasach teacht ar an gcallíocht uisce. Is féidir fosfáití a thabhairt isteach sa timpeallacht uisceach trí dhreamhaíl tionscail, séarachais agus ainmhithe chomh maith le ó leasacháin nó agraicheimicí eile a mbíonn saibhriú uiscí (eotrófú) mar thoradh orthu.

Déantar fosfáit a thomhas mar ghnáthamh sa chlár monatóireachta aibhneacha agus léiríonn Figiúr 3 leibhéil airmheáin bhliantúla ag ionaid a imíonn le sruth tharstu ar gach ceann de na 11 abhainn mhór le 23-27 mbliana anuas. Cé gur cosúil nár tháinig méadú suntasach ar fhosfáit, i ngach abhainn ó 1979, tugadh taifead ar mhéadú ar fhás algaí filiméadacha i rith an séasúir fáis agus déantar bithmhaiseanna móra a éagann sa gheimhreadh sna haibhneacha san oirdheisceart go bliantúil. Toisc gur gnách gurb í fosfáit an cothaitheach a chuireann teorainn ar fhás plandaí i bhfíoruisc baintear amach go héasca ón uisce agus sa samhradh ach go háirithe, ní leor an anailís ar an bparaiméadar sin le saibhriú in aibhneacha a thomhas.* Ainneoin é sin, mar is amhlaidh i gcás níotráite, as is (Féach Táscaire 2: Níotráití in Aibhneacha), tá an chodarsnacht idir ábhar fosfáite aibhneacha an iarthair agus an oirthir soiléir agus, cé nach dtóghtar ón eolaíocht é, is cosúil gur tháinig an méadú ar leibhéil fosfáite in aibhneacha an oirdheiscirt sular thosaigh sampláil i 1979. Tá monatóireacht bhitheolaíoch, úsáid á baint as flóra agus fána aibhneacha mar tháscairí, ar bun ó 1971. Léirigh an Fheoir, áit a bhfuil an diúilicín péarla fíoruisce i mbaol (Féach Táscaire 2: Níotráití in Aibhneacha), leibhéil an-arda fosfáite i 1990 agus 1991, arbh í an phríomhchúis leo ná foinsé tionscail bunaithe ar thalmhaíocht, a bhí níos airde faoi thrí ná na leibhéil a tugadh tomhas orthu nuair a thosaigh sampláil i 1979 (Figiúr 3).

Rialacháin Fosfáite

Tugadh Rialacháin Fosfáite (I.R. Uimh. 258 de 1998) isteach in Éirinn mar chuid de straitéis le dul in aghaidh eotrófaíthe agus leis an Treoir Substaintí Contúirteacha (76/464/EEC) a chur i bhfeidhm, i bpáirt. I gcás aibhneacha, forordaíonn na Rialacháin caighdeáin eatramhacha cáilíochta nach mór comhlíonadh tríd an ráta cáilíochta bitheolaíche sprice (Q-luach) nó an spriochthíuchan meánach de thiúchan fosfáite a imoibríonn le molabdáit (molybdate-reactive phosphorus) (MRP) a bhaint amach agus i gcás lochanna tá na spriocanna leagtha mar rangú stádaís thrófaigh nó mar meántíuchan fosfáite iomláine (FI).

Sna Rialacháin is é an tíuchan airmheáin MRP sprice d'aibhneacha ná 0.03 mg/l. Féach *Aguisín: Nuashonrú ar na Rialacháin Fosfair do 2006*, le forbheathnú ar na Rialacháin Fosfaire agus chomhlíonadh.

Sampla a léiríonn éagsúlacht idir leibhéil fosfáite idir abhantraigh ná go raibh an luach airmheáin bliantúil don Bhearú níos airde ná don tSionainn faoi shé. In ord laghdaitheach ba iad na luachanna airmheáin ab airde a ndearnadh tomhas orthu i 2006 sna hionaid roghnaithe ná: An Bhearú, An Fheoir, An Abhainn Mhór, An Bhóinn, An tSiúir, an Cláirín, An tSláine, An Mhuaidh, An Choirib agus an tSionainn. Ní bhainfeadh ach an cúig cinn deireanach amach an sprioc, bunaithe ar mheánleibhéal fosfáite na Rialachán Fosfair. Ach ní shárodh ach ceann amháin acusan, an tSláine, an caighdeán i 13 de na bliana ó 1979.

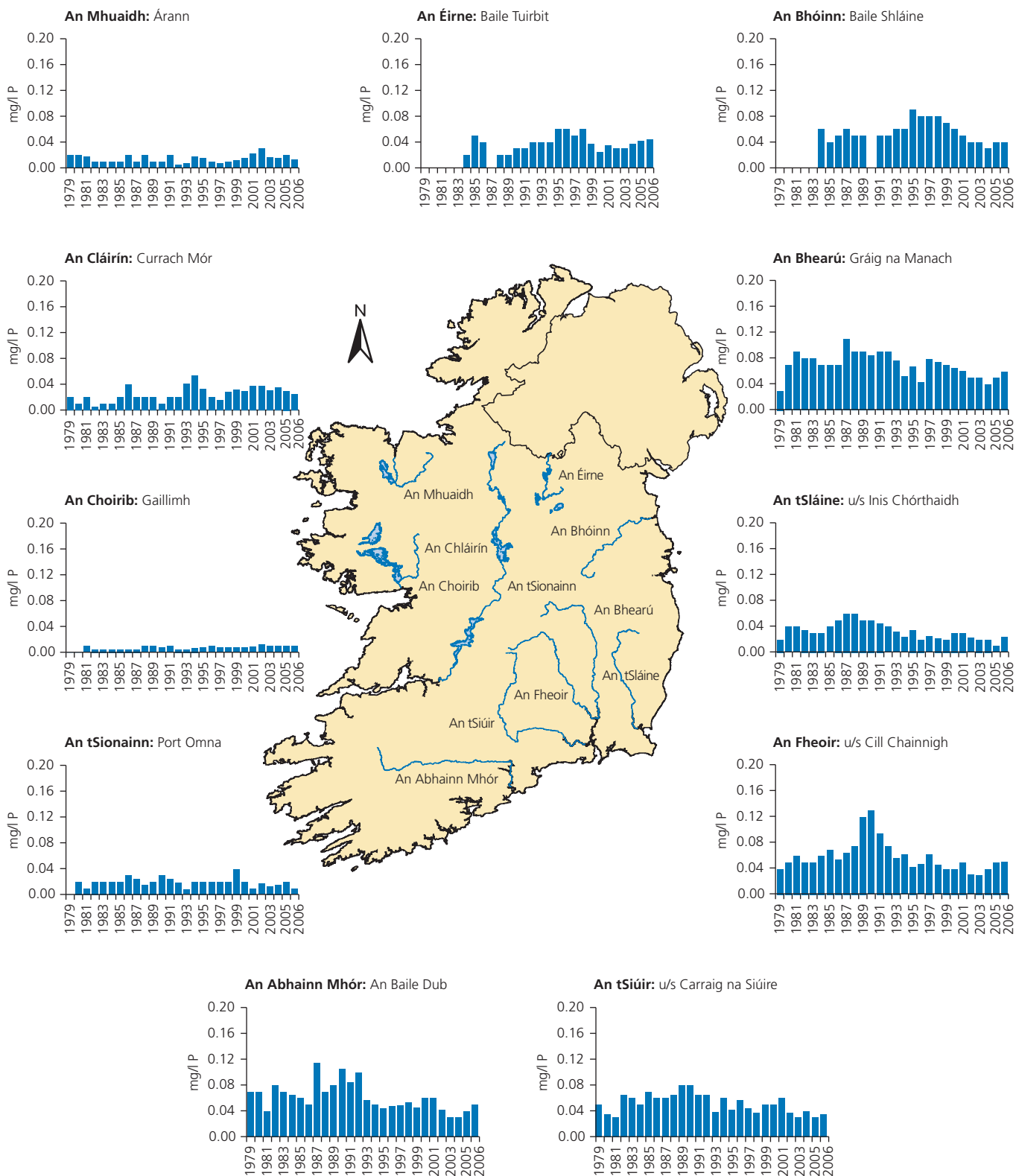
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* Rud eile faoi atá éagsúil ó níotráit, ná go n-idirghníomhann fosfar neamhorgánach tuaslagtha go láidir le dríodair, ar féidir leo feidhmiú mar shlogaí don chothaitheach seo, sa samhradh go háirithe.

Figiúr 3 Leibhéil Airmheáin Bhliantúla Fosfáite (mg P/lítear) in Aibhneacha 1979-2006

Tabhair faoi deara nach raibh aon sonraí ar fáil don Bhóinn i 1990 ná don Éirne i 1987 tógadh samplaí ón dá abhainn den chéad uair i 1984



Foinse: EPA (M. Neill, M. Quinn agus R. Smith)

TÁSCAIRE 4: CÁILÍOCHT LOCHANNA

Is é saibhriú cothaitheach, a mbíonn eotrófú mar thoradh air, an phríomhghné a chuireann brú ar cháilíocht lochanna in Éirinn. Is í an chúis leis an bhfoirm truaillithe sin ná ionchur cothaitheach, comhdhúlacha fosfáite ach go háirithe agus comhdhúlacha níotráite i méid níos lú, chuig lochanna go díreach nó trí aibhneacha insreafa níos minicí, ag tiucháin sa bhreis ar leibhéil nádúrtha. Is é an toradh a bhíonn ar na hionchuir cothaitheach seo ná fás plandaí i lochanna, foirmeacha planctónacha algaí ach go háirithe, a ndéantar a láithreach a chainníochtú tríd an clóraifill lí algaí a thomhas. Déantar stádas trófach lochanna a shocrú trí na huasluachanna bliantúla clóraifille a mheas, de réir leagan athraithe scéime a d'fhorbair an OECD.

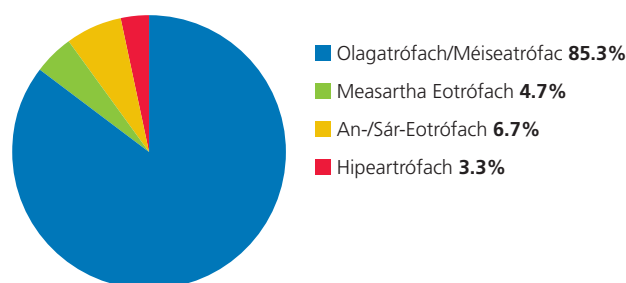
Ba é an líon lochanna a measúnaíodh sa tréimhse 2004-2006 ná 449. Tugann é seo a leanas miondealú ar rangú cáilíochta uisce na lochanna de réir líon agus achar an dromchla.

Cáilíocht Lochanna 2003-2006		
Stádas Trófach	Líon Lochanna	Achar Dromchla km ²
Olagatrófach	275 (61.2%)	346.3 (34.2%)
Méiseatrófach	108 (24.1%)	585.5 (57.7%)
Measartha Eotrófach	21 (4.7%)	23.0 (2.3%)
An-Eotrófach	11 (2.5%)	10.6 (1.0%)
Sár-Eotrófach	19 (4.2%)	13.2 (1.3%)
Hipeatrófach	15 (3.3%)	35.4 (3.5%)

Bhí cáilíocht shásúil uisce ag tromlach (383 nó 85.3%) na lochanna a scrúdaíodh sa tréimhse 2004-2006, .i. stádas olagatrófach nó méiseatrófach (Figiúr 4a). Bhí cáilíocht uisce na 66 loch eile níos lú ná sásúil. As na lochanna sin rangáíodh 15 loch mar hipeatrófach, i. an stádas is mó atá saibhrithe.* Ba é méid achar dromchla na 449 loch a scrúdaíodh ná 1014 km². Bhí lochanna ab ionann 931.8 km² (91.9%) sna catagóirí olagatrófacha/méiseatrófacha neamhsaibhrithe. RANGAÍODH 46.8 km² eile (4.6%) mar eotrófach agus dáileadh 35.4 km² (3.5%) don chatagóir hipeatrófach.

Mhéadaigh an comhréir lochanna le stádas cáilíochta uisce sásúla ar an iomlán sa tréimhse dheireanach (85.3%) i gcomparáid le tréimhse na measúnaithe roimhe (82%). Ar an gcaoi chéanna, tá an comhréir achar dromchla lochanna (Figiúr 4b.) a chuirtear sa chatagóir don olagatrófacha/méiseatrófacha tréimhse 2004-2006 (91.9%) beagán níos airde ná an comhréir don tréimhse 2001-2003 (91%).

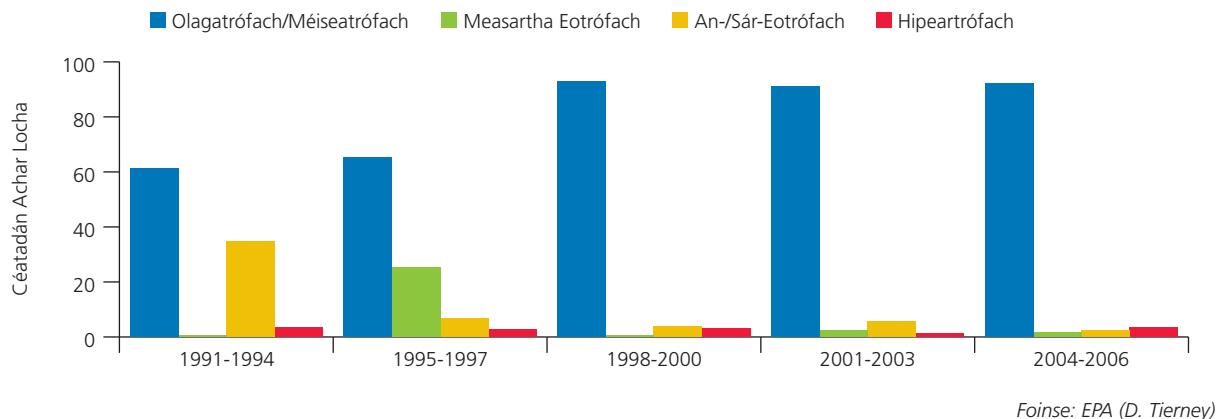
Figióir 4a Cáilíocht lochanna 2004-2006 – Ceatadáin de Choirp Uisce i ngach Rang



Foinse: EPA (D. Tierney)

* Ba iad na 15 loch a rangáíodh mar hipeatrófach sa tréimhse 2004-2006 ná: Loch Lua (Co. Chorcaí); Cluhir (Co. Chorcaí); Derrygooney (Co. Mhuineacháin); Drumgole (Co. Mhuineacháin); Loch Fuinseann (Co. Ros Comáin – tóg faoi deara gur turlach é seo agus go raibh sé beagnach tirim aimsir na samplála); Gangin (Co. Liatroma); Loch Gamhna (Co. Chabháin); Inner (Co. Mhuineacháin); Monalty (Co. Mhuineacháin); Loch Mucnó (Co. Mhuineacháin); An Mullach (Co. Chabháin); na Glack (Co. Mhuineacháin); Oony (Co. Mhuineacháin); Loch Uachtair (Co. Chabháin); Peters (Co. Mhuineacháin)..

Figiúr 4b Cáilíocht Lochanna 1991-2006 – Achar Dromchla (km²)



Foinsí

EPA (D. Tierney); OECD, 1982. *Eutrophication of Waters. Monitoring, Assessment and Control*. OECD, Páras; Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O’Boyle, S., MacCárthaigh, M., Craig, M. agus Quinn, R., 2005. *Cáilíocht Uisce in Éirinn 2001-2003*. EPA, Loch Garman.

TÁSCAIRE 5: SLAD AR ÉISC

Meastar gur táscaire ar cháilíocht uisce maith é stoic shláintiúla éisc, bradán agus breac ach go háirithe, in aibhneacha agus lochanna. Ar an taobh eile den scéal, comhartha an-soiléir de thruailliú trom é dul i léig na n-iasc seo. Is í an phríomhchúis le slad ar éisc in Éirinn ná tiúchan an-íseal ocsaigine nó gan aon tiuchán ocsaigine in uisce. D'fhéadfadh ionchur antrapaigineach ábhair orgánaigh san uisce bheith freagrach as na coinníollacha seo nó d'fhéadfadh siad tarlú mar thoradh ar fhá iomarcach plandaí.

Tiomsaíonn an Bord Lárnach Iascaigh sonraí ar shlad ar éisc in Éirinn go bliantúil, bunaithe ar thorthaí ó na Boird Iascaigh Réigiúnaigh. I 2006, tugadh tuairisc ar 34 slad ar éisc. Bunaithe ar fhiosrúcháin a rinne foireann comhshaoil bord iascaigh cuireadh i leith na gcúiseanna seo a leanas iad:

Talmhaíocht	Tionscal	Údarás Áitiúil	Eotrofú	Eile	Anaithnid	Iomlán
5	2	7	5	10	5	34

Chomh maith le tarlú mar thoradh ar dhramhaíol talmhaíochta, tionscail agus séarachais a dhul isteach i gcoirp uisce, d'fhéadfadh cúiseanna eile, mar oibreacha sibhialta, bheith freagrach as marú éisc, mar is féidir a fheiceáil ón sampla réigiúnach seo a leanas. I gceantar Bhord Iascaigh Réigiúnaigh an Iardheiscirt, a chlúdaíonn Corcaigh agus Ciarraí, tugadh taifead ar ocht slad ar éisc i 2006. Dheimhnigh fiosrúcháin an chúis i gceithre chás (dhá cheann mar thoradh ar scaoileadh talmhaíochta agus dhá cheann eile mar thoradh ar oibreacha draenála sa sruth) ceapadh gur tharla trí cinn eile mar thoradh ar thalmhaíocht, oibreacha sibhialta agus póitseáil agus ní rabhtas in ann an ceann eile a chur i leith aon chúise.

Tháinig méadú suntasach ar shlad ar éisc in aibhneacha na hÉireann sna 1970í ag an am céanna le dianú na talmhaíochta. Mar fhreagra ar an staid seo, sheol na Boird Iascaigh Réigiúnaigh agus na hÚdaráis Áitiúla feachtas eolais phoiblí ar fud na tíre agus chuir siad straitéis fhorfheidhmiúcháin ar bun.

Léiríonn an treocht i slad ar éisc le 21 bhliain anuas (Figiúr 5) gurbh iad 1987 agus 1989 na blianta ba mheasa nuair a tugadh tuairisc ar 100 slad ar éisc agus bhí an líon ba lú ag 2001. Léiríonn an líon tarlúintí den sórt sin i 2006 laghdú i gcomparáid le 2004 agus 2005 nuair a tugadh tuairisc ar 43 agus 45 faoi seach.

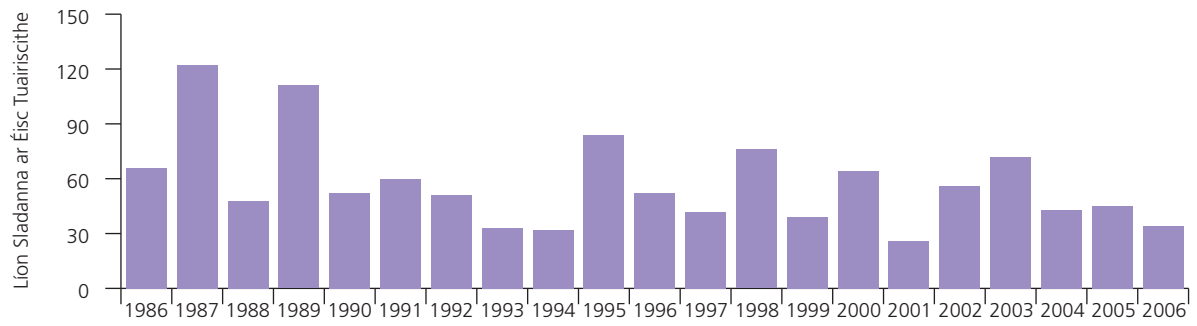
Áiríonn an líon sladanna ar éisc bás athfhillteach éisc in Abhainn Avoca mar gheall ar mhianach aigéid láisteáit a bhí freagrach i 2006 as leath den slad a dáileadh don chatagóir 'Eile' sa táblú thuas. Coimisiúnaíodh planda cóireála píolótach le cabhrú leis an bhfadhb a mhaolú i réimsí ísleAbhainn Abhóca mar gheall ar scaoileadh ó mhianaigh copair atá ag tarlú le breis is 200 bliain.

Comhartha de chur isteach tubaisteach ar éiceachóras atá i slad ar éisc agus, cé gur cosúil go bhfuil an staid éirithe seasta ar bhealach, tá an líon sladanna ar éisc tuairiscithe fós ag leibhéal an-ard nach bhfuil inghlactha.

Foinsí

Sonraí Bhoird Iascaigh Réigiúnacha arna bhailiú ag an bPríomh-Bhord Iascaigh; Bord Iascaigh Réigiúnach an Iar-Dheiscirt, 2007. *Tuarascáil Bhliantúil 2006*. Bord Iascaigh Réigiúnach an Iar-Dheiscirt, Maigh Chromtha.

Figiúr 5 Slad ar Éisc 1986-2006



Foinse: Boird Iascaigh Réigiúnacha

TÁSCAIRE 6: CÁILÍOCHT UISCE INBHEARAIGH AGUS CÓSTA

Mar is amhlaidh le fíoruiscí, cuireann lódáil méadaithe cothaitheach a mbíonn eotrófú mar thoradh air brú méadaitheach ar uiscí inbhearacha agus cósta na hÉireann.

Rinneadh measúnú ar stádas trófach 69 gcorp uisce ó 21 cheantar inbhearach agus cósta ar fud na hÉireann don tréimhse 2002-2006. Léiríonn an measúnú ar na coirp uisce inbhearacha agus cósta sin gur rangáíodh 13 acu (18.8%) mar eotrófach, rangáíodh dhá cheann (2.9%) mar eotrófach féideartha, rangáíodh 29 (42.1%) mar idirmheánach agus rangáíodh 25 (36.2%) mar neamhthruaillithe.

Go ginearálta níor tháinig athrú ar stádas uiscí taoide in Éirinn ón tréimhse 1999-2003. I gcomparáid leis an measúnú a rinneadh do 2001-2005, léirigh seacht gcorp uisce laghdú ar stádas don tréimhse rollach dheireanach cúig bliana. Tá trí cinn acusan, inbhear na Sláine, inbhear na hAbhann Móire uachtair agus Cuan Loch Garman rangaithe mar eotrófach anois, agus tá Cuan Dhún Garbháin, Cuan Shligigh, inbhear na Laoi Íochtair (Trá Lí) agus Cuan Eochaille a bhí rangaithe mar neamhthruaillithe roimhe sa chatagóir idirmheánach anois.

Léirigh trí hinbhear, Loch Machain, an Forghas agus stráice taoide fíoruisce na Sionainne feabhas ar stádas cáilíochta. D'fheabhsaigh stádas an dá chorp uisce deireanach ó idirmheánach sa tréimhse 2001-2005 go neamhthruaillithe sa mheasúnú deireanach. Léirigh Loch Machan, atá sa chatagóir idirmheánach, feabhas mór diáidh ar ndiaidh le blianta beaga anuas agus é rangaithe mar eotrófach sa tréimhse 1999-2003 agus ansin mar eotrófach féideartha i 2001-2005. Is cosúil gur tháinig an feabhas follasach ar stádas cáilíochta uisce an chorp uisce seo mar thoradh ar an bplanda cóireála fuíolluisce uirbhig nua-choimisiúnaithe (Cork Main Drainage) ag an Oileán Beag, cé go bhfuil tuilleadh fiosrúcháin ag teastáil sular féidir é sin a dheimhniú.

Comharthaíonn sonraí ó chlár monatóireachta cothaitheach geimhridh Fhoras na Mara, in uiscí cósta Muir Éireann thiar agus na Mara Ceiltí theas, nár tharla aon saibhriú iomarcach cothaitheach.

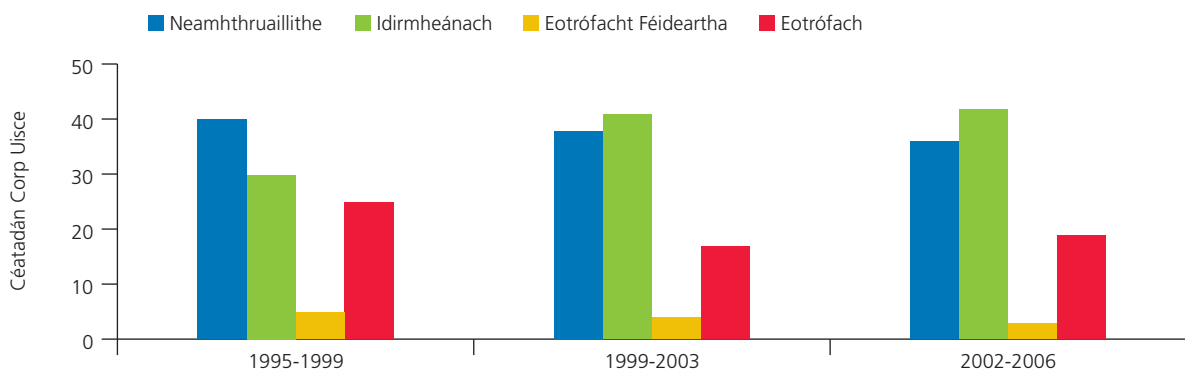
Tá na 10 gcorp uisce a rangáíodh mar eotrófach sa tréimhse 2001-2005 fós amhlaidh agus mar a comharthaíodh thuas tá trí chorp uisce breise rangaithe mar an gcéanna sa mheasúnú reatha. Léiríonn an céatadán de choirp uisce atá á rangú mar eotrófach laghdú tosaigh a tháinig méadú beag ina dhiaidh le deichniúr anuas: ó 25 faoin gcéad i 1995-1999 go 17 faoin gcéad i 1999-2003 agus beagnach 19 faoin gcéad sa tréimhse suas go dtí 2006 (Figiúr 6a).

Tá ionad agus an rangú is déanaí ar na coirp aonair uisce inbhearaigh agus cósta i bhFigiúr 6b, a thugann miondealú freisin ar an stádas cáilíochta iomlán.

Foinsí

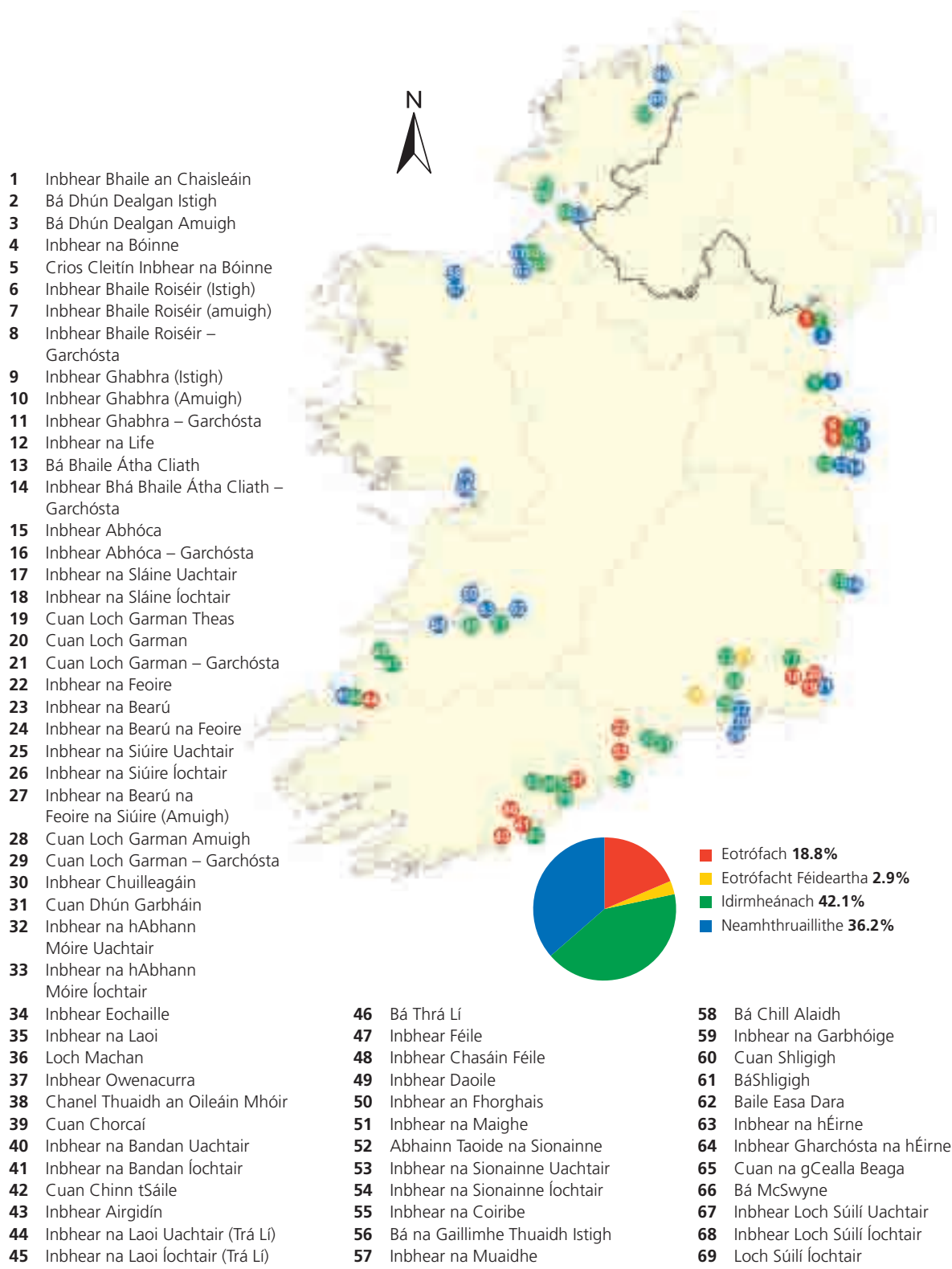
EPA (S. O'Boyle, G. McDermott agus R. Wilkes); EPA, 2001. *An Assessment of the Trophic Status of Estuaries and Bays in Ireland*. Arna réiteach don Roinn Comhshaoil agus Rialtais Áitiúil. EPA, Loch Garman; McGovern, E., Monaghan, E., Bloxham, M., Rowe, A., Duffy, C., Quinn, Á., McHugh, B., McMahon, T., Smyth, M., Naughton, M., McManus, M. agus Nixon, E., 2002. Winter nutrient monitoring of the Western Irish Sea – 1990-2000. *Marine Environment and Health Series Uimh. 4*, 2002. Foras na Mara, Baile Átha Cliath.

Figiúr 6a Cáilíocht Uisce Inbhearaigh – Céatadán Corp Uisce i nGach Rang 1995-2006



Foinse: EPA (S. O'Boyle, G. McDermott agus R. Wilkes)

Figiúr 6b Cáilíocht Uisce Inbhearaigh agus Cósta 2002-2006



Foinse: EPA (S. O’Boyle, G. McDermott agus R. Wilkes)

TÁSCAIRE 7: CÁILÍOCHT UISCÍ SLIOGÉISC

Le cáilíocht sliogéisc le hithe ag daoine a chinntiú, cuirtear rialuithe ar na huiscí a úsáidtear le sliogiasc a shaothrú agus a bhaint. Suas go dtí 2006, bhí na rialuithe seo treoraithe ag Treoir an AE ‘laying down the health conditions for the production and the placing on the market of live bivalve molluscs’ (91/492/EEC) agus ag Rialacháin na hÉireann 1996 (S.I. Uimh. 147 de 1996) a chuir an treoir i bhfeidhm. Ó 1 Eanáir 2006, chuaigh Rialacháin Sláinteachais an AE ‘laying down specific rules for food of animal origin’ (Uimh. 852/853/854 de 2004) ina n-áit. Is é an Roinn Cumarsáide, Mara agus Acmhainní Nádirtha (DCMNR) an t-údaras cumasach in Éirinn le limistéir táirgthe sliogéisc a rangú.*

Tá clár monatóireachta sláintíochta sliogéisc, bunaithe ar roinnt paraiméadar lena n-áirítear critéir mhicribhitheolaíochta, le huiscí fais sliogéisc i bhfeidhm in Éirinn ó 1985. Tá trí chatagóir ag an scéim rangaithe, a chomhfhreagraíonn do na critéir agus do na coinníollacha mar atá leagtha síos sa treoir níos sine/sna rialacháin nua agus is féidir achoimre a dhéanamh orthu mar seo a leanas:

- A** Is féidir sliogiasc a dhíol le hithe go díreach ag daoine
- B** Is féidir sliogiasc a dhíol le hithe go díreach ag daoine tar éis ionaithe i bplanda ceadaithe le haghaidh dhá lae
- C** Is féidir sliogiasc a dhíol le hithe ag daoine tar éis iad a athsheachadadh in uisce farraige ar feadh dhá mhíosa ar a laghad

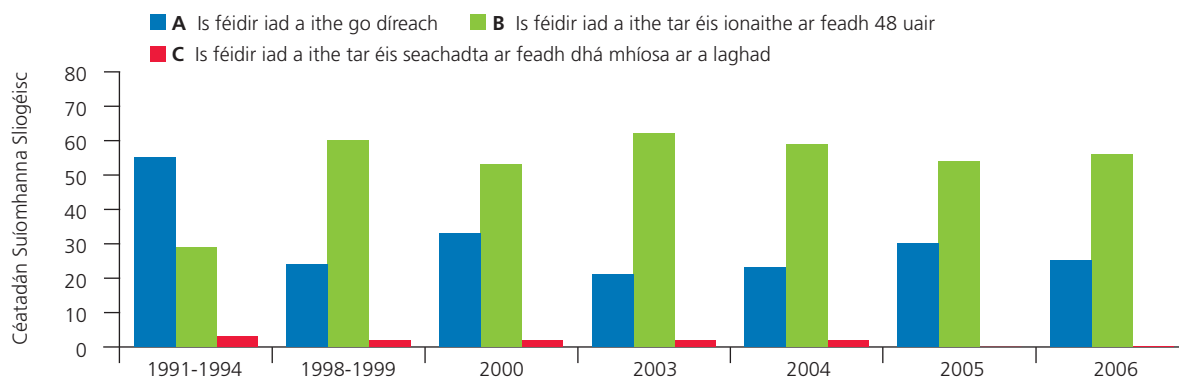
Léiríonn Figiúr 7 an líon suíomhanna sliogéisc, mar cheatadán den iomlán, sna trí rang idir an tréimhse 1991-94 period agus 2006. Ba cheart tabhairt faoi deara nach ionann agus 100 na ceatadán ar fad le chéile toisc go bhfuil suíomhanna le níos mó ná rang amháin fágtha amach.**

Ina theannta déantar monatóireacht ar na limistéir táirgthe sliogéisc, ar bhonn seachtainiúil nó míosúil, le haghaidh fíteaplanctóin agus bithocsainí mara mar chuid de chlár monatóireachta náisiúnta a fheidhmíonn Foras na Mara ar son Údarás Sábháilteacha Bia na hÉireann (FSAI). Chomh maith le bheith freagrach as tinneas i ndaoine a itheann sliogiasc atá buailte leo d’fhéadfadh roinnt Blás Algach Díobhálach (BAD) sliogiasc agus beatha mara eile a mharú go díreach (trí thocsaineacht) nó go hindíreach (trí dhí-ocsaiginiú). In Iúil-Lúnasa 2005 bhí blas eisceachtúil dinea-lascnaidigh, nach bhfuil suntasach go díreach ó thaobh sláinte an duine de, freagrach as caillteanas suntasach stoc do tháirgeoirí mar a d’éag sliogéisc mar thoradh ar éifeacht thocsaineach díreach ar na héisc agus na sliogéisc. Laghdaíodh méid agus déine fíteaplanctóin thocsainigh go leor i 2006, ach amháin uiscí cósta an iardheiscirt, i gcomparáid leis na blianta deireanacha roimhe agus mar thoradh air tugadh faoi deara go raibh leibhéal níos ísle toscainí i níos lú ceantar. Bhí tionchar trom ag an tocsaineacht dhian áitiúil fhadaithe ar réigiún an iardheiscirt i 2006 agus bhí sé freagrach as caillteanais eacnamaíocha ar scála mór ansin. Is mó is cosúil gurbh í an chúis leis an difríocht idir an dá bhliain ná coinníollacha aeráide gaoithe. Áit a mbraitear bithocsainí, dúntar an limistéir táirgthe agus cuirtear cosc ar bhaint go dtí go bhfuil an baol tocsaineachta imithe. Tarlaíonn dúnadh limistéir saothraithe sliogéisc, mar thoradh ar éilliú bithocsainí, sa samhradh agus san fhómhar nuair atá algaí tocsaineacha ann.

* Bunaíodh an tÚdaras Cosanta Iascach Mara (SFPA) neamhspleách reachtúil ar 1 Eanáir 2007 (I.R. Uimh. 376 de 2006). Cuirfidh an tÚdarás an dlí maidir le hiascaigh mhara i bhfeidhm go ginearálta chomh maith le dlí sábháilteacha bia maidir le hiasc nó táirgí éisc agus mar sin bheidh sé freagrach as rialacháin sláinteachas an AE a chur i bhfeidhm. Tá limistéir táirgthe sliogéisc rangaithe faoi na rialacháin sin.

** I 2006, uiscí Rang A a bhí i 25 faoin gcéad de shuíomhanna i gcomparáid le 30 faoin gcéad an bhliain roimhe ach tá sé sin i bhfad níos lú ná an chuid sa tréimhse 1991-94 (55%). Is cosúil gur tháinig stad leis an treocht thíos in uiscí Rang A i 2004 agus aistriú beag thuas sa bhliain dár gcionn ach bhí sé thíos arís i 2006. Níor tugadh taifead ar aon uiscí Rang C le dhá bhliain anuas ach bhí cuid de limistéir bainte sliogéisc amháin, i gCuan Loch Garman, sa chatagóir sin.

Figiúr 7 Rangú Limistéar Sliogéisc



Foinse: An Roinn Cumarsáide, Mara agus Acmhainní Nádúrtha (J. Carney)

De réir Treorach eile (79/923/EEC), ar an gcáilíocht atá ag teastáil in uisce sliogéisc, tógtar samplaí uisce farraige ó uisce sliogéisc ainmnithe (I.R. Uimh. 268 de 2006) dhá uair sa bhliain agus déantar anailís orthu do rianmhianraí agus organohalogen. I 2006 bhí gach toradh loitnaidicide agus défeinil polaclóirínithe (polychlorinated biphenyl (PCB)) faoi leibhéil braite. Bhí éagsúlacht mhór idir na torthaí mianra, mar a bheifí ag súil leis i gcás uisce farraige, agus bhí torthaí aonair do luaidhe agus shinc i roinnt samplaí thar an gcaighdeán náisiúnta leagtha do na huiscí taoide ar fad (I.R. Uimh. 12 de 2001).*** Ach ní raibh aon samplaí thar na luachanna Ordaitheacha (uastiucháin incheadaithe) d'uisce sliogéisc (I.R. Uimh. 268 de 2006). Déantar monatóireacht ar na substaintí seo go bliantúil freisin i bhfeoil sliogéisc toisc go soláthraíonn sé sin táscaire níos fearr ar cháilíocht uisce ar an iomlán ná spot-shampláil minicíocht ísle uisce. Go tipiciúil léiríonn an mhonatóireacht sin go bhfuil cáilíocht ard ar uisce saothraithe sliogéisc na hÉireann maidir leis na substaintí a ndearnadh monatóireacht orthu.

Foinsí

An Roinn Cumarsáide, Mara agus Acmhainní Nádúrtha (J. Carney); Sonraí neamhfhoilsithe Fhoras na Mara [Tuarascálacha tástálacha i gcomhair substaintí rianmhianraí agus orgánaclóirín in uisce sáile sampláilte ó cheantair sannta fás sliogéisc, samhradh agus geimhreadh 2006]; Lyons, D. agus Doré, B., 2006. *Shellfish Microbiology – Implementation of the Hygiene Regulations and Good Practice Guide*. Imeachtaí an 7ú Ceardlann sábháilteachta Sliogéisc, Gaillimh, 30ú Samhain 2006, 4-7. Arna eagrú ag Foras na Mara, an tÚdarás um Shábháilteacht Bia agus Bord Iascaigh Mhara; Moran, S., Silke, J., Gallardo-Salas, R., Chamberlain, T., Lyons, J. agus Shannon, S., 2006. *Review of Phytoplankton Monitoring 2006*. Imeachtaí an 7ú Ceardlann sábháilteachta Sliogéisc, Gaillimh, 30ú Samhain 2006, 30-36. Arna eagrú ag Foras na Mara, an tÚdarás um Shábháilteacht Bia agus Bord Iascaigh Mhara.

*** Ní thugann torthaí aonair iontu féin le fios gur sáraíodh na caighdeáin toisc go mbaineann na caighdeáin seo mar mheántiucháin bhliantúla.

TÁSCAIRE 8: TEAGMHAIS TRUAILLITHE SAN FHARRAIGE

Tá Gardaí Cóta na hÉireann (IRCG), rannóg laistigh den Roinn Iompair, freagrach as teagmhais truailithe san fharráige a fhiosrú, mar chuid dá ról i gcóras éifeachtach do fhreagra ar thruailliú mara a fhorbairt agus a chomhordú. Déantar feidhmeanna an IRCG maidir le teagmhais truailithe a shainordú trí pholasaí Rialtais, reachtaíocht náisiúnta (m. sh. Na hAchtanna Truailithe Mara S, 1991 agus 1999), Treoracha an AE agus Coinbhinsiún Idirnáisiúnta. I 2006 tugadh cuireadh d'Éirinn bheith ina páirtí conartha do Chomhaontú Bonn um Chomhoibriú i bPlé le Truailliú na Farráige Thuaidh ag Ola agus Substaintí Díobhálacha Eile. Soláthraíonn an IRCG freagra ar theagmhais truailithe mara nó baol truailithe ó loing agus ardáin amach ón gcósta laistigh de Chríos Eacnamaíochta Eisiach (CEE) na hÉireann a chlúdaíonn achar (thart ar. 200, 000 km²) a shíníonn go 200 míle amach ón gcosta thiar agus go dtí an meánlíne idir Éire agus an RA i Muir na hÉireann agus sa Mhuir Cheilteach.

Tugtar an líon teagmhas truailithe bliantúla sa tréimhse sé-bliana 2001-2006 i bhFigiúr 8.

Ba é an líon iomlán teagmhas a tuairiscíodh sa chatagóir truailithe sa CEE i 2006 ná:

Ola Mhianra	Dramhail	Séarachas	Ceimicí	Eile	Iomlán
34	1	–	1	8	44

Comharthaíonn anailís ar na 44* thuirisc teagmhas don bhliain go raibh doirteadh ola freagrach as 77 faoin gcéad den thruailliú tuairiscithe agus go raibh substaintí eile, m.sh. algaí nó blasanna neamhaitheanta freagrach as 23 faoin gcéad de. Ba iad díosal agus ola gáis na substaintí ba mhinicí a aithníodh do thruailliú. Comharthaíonn an pátrún geografach iomlán gur tharla an chuid is mó den doirteadh ola sna cuain níos lú agus ina gceantair máguaird. Aithníodh braislí leonna i mbánna agus in aice le huisc cladaigh agus tuairiscíodh 29 faoin gcéad san fharráige oscailte. Ach ba cheart breathnú le cúram ar an gcéatadán beag leonna a tuairiscíodh san fharráige oscailte toisc go mbrathann an IRCG ar thuiriscí ó thrácht loingseoireachta agus thrácht tráchtála aeir do theagmhais den sórt sin.

Ba é an dáileadh tuairiscí faighte* ar thruailliú i 2006 de réir crios timpeallachta mara laistigh den CEE ná:

Oscailte Farráige	Abhainn Taoide/ Inbhear	Bá/In Aice le Uiscí Cladach	Trá/ Cladach	Port/Cuan	Iomlán
15	9	6	5	17	52

Is é ról na nGardaí Cóta i dteagmhaisí taismeach mara ná maoirseacht a dhéanamh, rialú, agus ceannas agus rialú deireanach a chleachtadh leis an mbaol don timpeallacht mhara nó do shábháilteacht an árthaigh ná an chriú a sheachaint/a laghdú. I rith 2006 rinne an IRCG idirghabháil i roinnt teagmhas taismeach mara agus rinne sé dlúthmhonatóireacht ar theagmhaisí eile, a raibh bagairt truailithe mara i gceist leo. Mar shampla, d'fhulaing 14 long idir 3,000 agus 17,000 tona deacrachtaí meicniúla amach ón gcósta agus bhí cúnamh ag teastáil ó thrí ártach iascaireachta ar an meán in aghaidh na míosa mar gheall ar theip innill, liáin screabhaithe nó uisce a thógáil isteach. Maidir le thruailliú, is féidir na tarlúintí seo a rangú mar mhiontarlúintí ó thaobh nádúir de, agus is féidir iad a choimeád ó éirí níos troime.

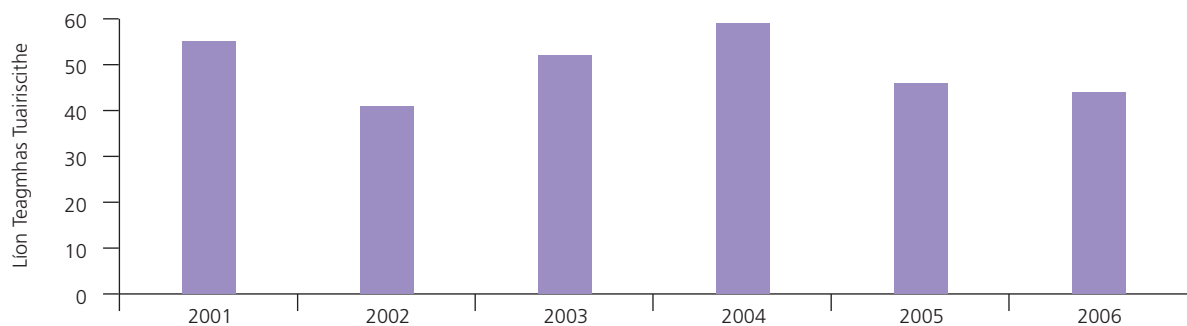
* Tuairiscíodh 52 theagmhas san iomlán; ach in ocht gcás ní bhfuarthas aon thruailliú nó seachnóidh an baol truailithe.

Tá obair á déanamh leis an bplean teagmhasachta náisiúnta um doirteadh ola (NCP) a dhréachtú agus tá naoi bplean as na 19 bplean teagmhasachta poirt curtha isteach don IRCG le ceadú de réir an Achta um Thruailliú na Fharraige (Leasú), 1999. D'eisigh an IRCG treoirlínte ar phlean teagmhasachta um doirteadh ola do gach comhairle contae mara agus tugadh treoir dóibh pleananna teagmhasachta a dhréachtú le dochar ag éirí as doirteadh ola agus doirteadh eile ar an gcósta a sheachaint agus a íoslaghdú. Freisin déanann na Gardaí Cónsta athbhreithniú ar agus céadaíonn siad pleananna teagmhasachta um doirteadh ola d'ardáin druileála soghluaiste amach ón gcósta a bheartaíonn obair dhruileála a dhéanamh laistigh den CEE. Tá athbhreithniú agus ceadú na bpleananna seo ar bun.

Foinse

Na Gardaí Cónsta (E. Clonan).

Figiúr 8 Truailliú San Fharraige 2001-2006



Foinse: Irish Coast Guard (E. Clonan)

TÁSCAIRE 9: CÁILÍOCHT UISCE SNÁMHA

Tá údaráis áitiúla freagrach as cáilíocht uisce snámha ina gceantair agus as eolas a chur ar fáil don phobal i rith an séasúr snámha. Déanann an EPA torthaí na monatóireachta a chóimheas agus cuirtear ar aghaidh chuig Coimisiún na hEorpa iad le cur san áireamh sa tuarascáil de choimre staitisticí a fhoilsíonn an AE go bliantúil. Freisin foilsíonn an EPA tuarascáil bliantúil náisiúnta uisce snámha, a scaoiltear sula dtosaíonn an séasúr snámha dár gcionn.

Tá an phríomhreachtaíocht leagtha amach i Rialacháin (I.R. Uimh. 155 de 1992) agus leasuithe ina dhiaidh a thugann éifeacht don Treoir AE (76/160/EEC) maidir le cáilíocht an uisce snámha. Leagann an Rialacháin teorannacha níos déine do roinnt paraiméadar ná an Treoir.

Is é an líon limistéar snámha ainmnithe ná 131 lena n-áirítear suíomhanna uisce farraige (122) agus fíoruisce (9). Léiríonn torthaí do 2006 go bhfuil cáilíocht an uisce snámha in Éirinn réasúnta maith, agus 77 faoin gcéad (101 as 131) de shuíomhanna ag comhlíonadh leis na Luachanna Teorann Náisiúnta.

Limistéir Cáilíochta Uisce Snámha 2006: Comhlíonadh leis an AE agus le Luachanna Teorann Náisiúnta

	Géilliúil	Neamhghéilliúil	Iomlán
Uisce Farraige			122
Treoir	111	11	
Éigeantach	118	4	
Náisiúnta	95	27	
Fíoruisce			9
Treoir	7	2	
Éigeantach	9	0	
Náisiúnta	6	3	
Overall			131
Treoir	118	13	
Éigeantach	127	4	
Náisiúnta	101	30	

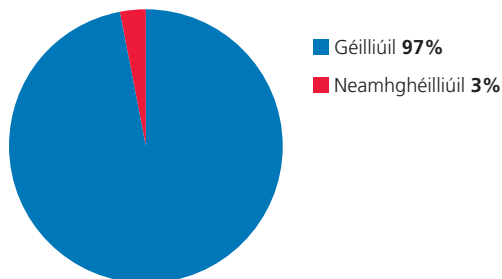
Foinse: EPA (K. Nolan, G. McHugh, G. Smith agus T. Stafford)

Léiríonn géilleadh agus úsáid á baint as cur chuige Choimisiún na hEorpa go bhfuil beagnach 97 faoin gcéad (127 as 131) de shuíomhanna ag comhlíonadh leis na híosluachanna teorann éigeantacha atá sonraithe sa Treoir (Figióir 9a) agus go bhfuil 90 faoin gcéad (118 as 131) de shuíomhanna ag comhlíonadh leis na luachanna teorach níos déine. Ba cheart breathnú ar na luachanna teoracha seo mar chuspóirí cáilíochta ar cheart go mbeadh sé d'aidhm ag gach suíomh snámha a bhaint amach.

Tá cáilíocht iomlán uisce snámha in Éirinn fós maith go leor agus an líon suíomhanna atá ag comhlíonadh le huasluachanna an AE i 2006* ag léiriú méadú beagnach faoin gcéad nuair a chuirtear i gcomparáid le 2005 é. Ach tháinig laghdú ar chomhlíonadh leis an treoir ag an gcéatadán céanna sa tréimhse chéanna (Figióir 9b). Freisin tháinig laghdú cúig faoin gcéad ar an ráta comhlíonta le Caighdeáin Náisiúnta i 2006 nuair a chuirtear i gcomparáid le 2005 é.

* Ba iad na ceithre limistéar snámha nár chomhlíon le híoschaighdeán éigeantacha an AE i 2006 ná: Baile Brigín agus Mullach Íde i mBaile Átha Cliath; An Clochán i nGaillimh; An Dún Mór (Príomhthrá) i bPort Láirge. Ba iad na cinn nár éirigh leo i 2006 ná: Trá Mhuirfean agus Trá Chill Fhionntain i mBaile Átha Cliath; Na Forbacha agus An Clochán i nGaillimh; An Aird Mhór i Loch Garman.

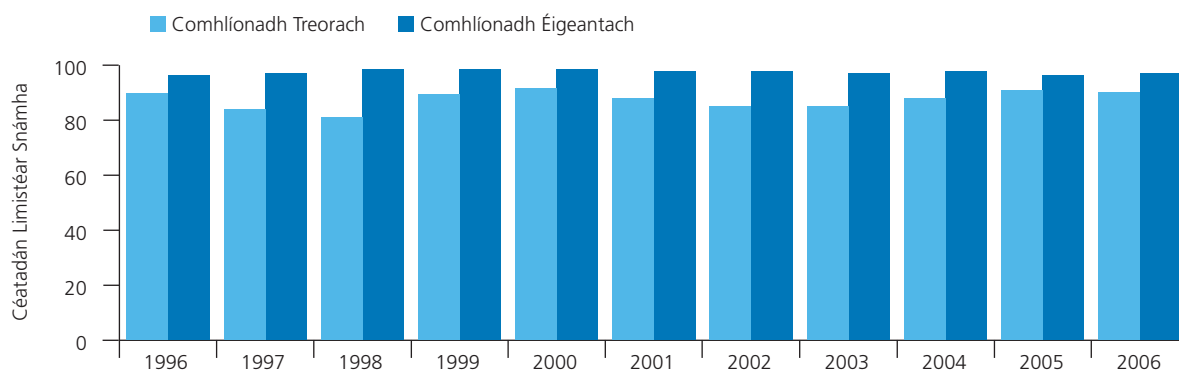
Figiúr 9a Cáilíocht Uisce Snámha – Comhlíonadh Limistéar i 2006 le Luachanna Éigeantacha an AE



Foinse: EPA (K. Nolan, G. McHugh, G. Smith agus T. Stafford)

Bhí an Treoir Uisce Snámha (76/160/EEC) 30 bliain d’aois nuair a glacadh le Treoir nua (2006/7/EC) i bhFeabhra 2006 a rachaidh i bhfeidhm i 2008. Tabharfaidh an Treoir athbhreithnithe deis cleachtais bhainistíochta ag suíomhanna uisce snámha a fheabhsú agus an t-eolas a chuirtear ar fáil do shnámhóirí ar fud na hEorpa a chaighdeánú. I gcomparáid le roinnt tíortha Eorpacha eile tá an líon limistéar snámha ainmnithe in Éirinn réasúnta íseal agus d’iarr an EPA ar an líon suíomhanna a mhéadú, ó 131 to 160, le cosaint dhóthanach iadsan a úsáideann na hionaid snámha sin a chinntiú.

Figiúr 9b Comhlíonadh Uisce Snámha 1996-2006



Foinse: EPA (K. Nolan, G. McHugh, G. Smith agus T. Stafford)

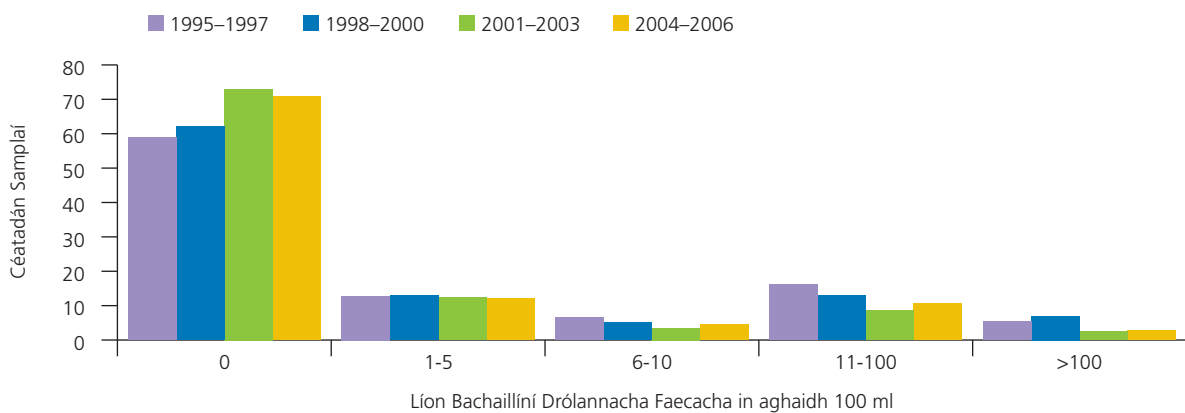
Foinse

EPA, 2007. *The Quality of Bathing Water in Ireland: A Report for the Year 2006*. EPA, Loch Garman.

TÁSCAIRE 10: BACHAILLÍNÍ DRÓLANNACHA FAECACHA I SCREAMHUISCE

Acmhainn luachmhar in Éirinn atá i screamhuisce, úsáidtear é i bpróiseáil bia agus tionscail agus is foinse tábhachtach uisce óil atá ann freisin. Tá screamhuisce agus fuaráin freagrach as thart ar 26 faoin gcéad den uisce óil iomlán a sholáthraítear in Éirinn agus méadaíonn an comhréir go 75 faoin gcéad i roinnt contaetha. Cé go bhfuil soláthair uisce phoiblí cóireálta freagrach as thart ar 82 faoin gcéad den uisce óil iomlán a sholáthraítear in Éirinn, tá an fíorlón scéimeanna grúpa uisce príobháideacha agus soláthar príobháideach beag. Tá scéimeanna grúpa uisce príobháideacha agus soláthair bheaga phríobháideacha freagrach as thart ar 17 faoin gcéad den uisce óil iomlán a sholáthraítear. Braitheann formhór na scéimeanna grúpa príobháideacha agus na soláthar beag ar screamhuisce agus fhoinsí fuarán agus is minic nach mbíonn cóireáil dhóthanach acu, nó i go leor cásanna ní bhíonn aon chóireáil acu. Mar sin, le soláthair phríobháideacha a chosaint agus le laghdú féideartha a dhéanamh ar an mbaol truaillithe i soláthair phoiblí, ní mór go mbeadh cosaint dhóthanach screamhuisce mar fhoinsé.

Figiúr 10a Bachaillíní Drólannacha Faecacha i Screamhuisce



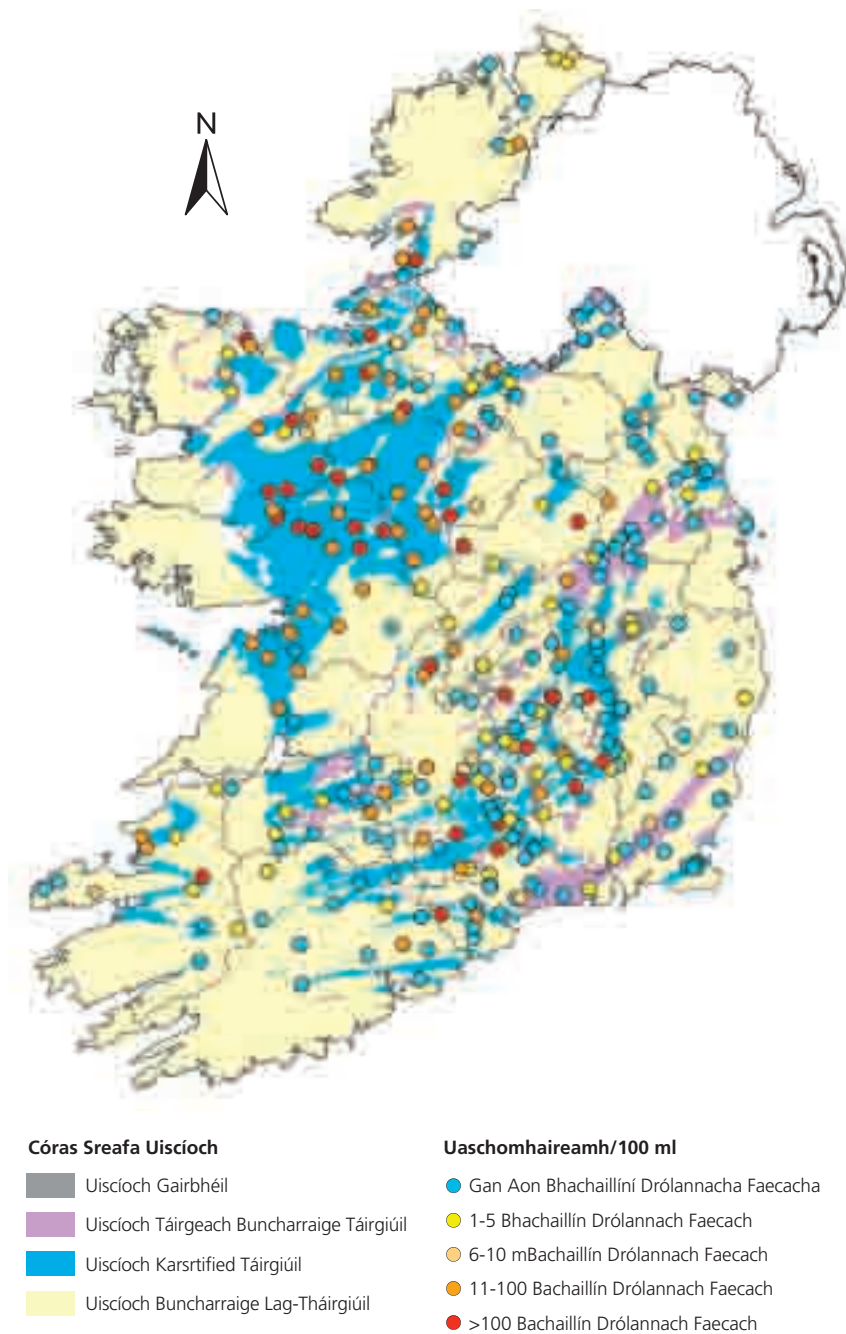
Foinse: EPA (M. Craig)

Áiríonn líonra monatóireachta screamhuisce náisiúnta an EPA samplaí ag roinnt suíomhanna a úsáidtear freisin le huisce óil a bhaint. Tagann bachaillíní drólannacha faecacha ó dhramhaíol daoine agus ainmhithe. Glactar lena láithreach in uisce mar chruthú ar éilliú faecach agus soláthraíonn siad comhartha láidir go bhféadfadh pataiginí, i. na horganáigh atá freagrach as galar, bheith ann. Sárú ar na Rialacháin Uisce Óil (I.R. Uimh. 439 de 2000) in Éirinn atá i láithreach bachaillín drólannach faecach amháin i soláthar uisce óil.

Idir 2004 agus 2006, thóg an EPA samplaí screamhuisce agus fuarán mar chuid dá chlár monatóireachta screamhuisce náisiúnta. Bhí laghdú beag ar an líon samplaí screamhuisce agus fuarán nach raibh aon bhachaillín drólannacha faecacha iontu nuair a cuireadh i gcomparáid é leis an tréimhse tuairiscithe roimhe (Féach Figiúr 10a). Fuarthas toradh dearfach do bhachaillíní drólannacha faecacha i thart ar 29 faoin gcéad de na 1,591 sampla a tógadh idir 2004 agus 2006 agus bhí níos mó ná 10 mbachaillín drólannacha faecach/100ml i 13 faoin gcéad de na samplaí. I rith na tréimhse tuairiscithe sin bhí bachaillíní drólannacha faecacha i sampla amháin ar a laghad i 58 faoin gcéad de na hionaid mhonatóireachta EPA ar fad (méadú ocht faoin gcéad ón tréimhse tuairiscithe roimhe), agus bhí níos mó ná 10 mbachaillín drólannach faecach i sampla amháin ar a laghad ag 32 faoin gcéad de na hionaid monatóireachta EPA ar fad (méadú aon faoin gcéad ón tréimhse tuairiscithe roimhe).

Léiríonn na hionaid monatóireachta screamhuisce i gceantair aolchloiche cairistí an leibhéal is mó truaillithe (Féach Figiúr 10b). Léiríonn sé sin nádúr leochaileach na gcóras sreafa níos dinimiciúla do thruaillí. Ós rud é go bhfuil go leor soláthar príobháideach neamhchoireálta agus nach eol na fachtóirí a mbíonn tionchar acu ar chaighdeán an uisce, nó nach bhfuil siad faoi smacht úinéir an tsoláthair, tá feabhsúcháin ghinearálta ar dhearadh tobar, eolas ar chosaint foinsí agus cleachtas maith d'úsáid talún riachtanach leis an mbaol do na soláthair sin a laghdú agus feabhas a chur ar cháilíocht uisce.

Figiúr 10b Uaschomhaireamh Bachaillíní Drólannacha Faecacha/100ml i rith 2004-2006



Foinse: EPA (M. Craig)

Foinsí

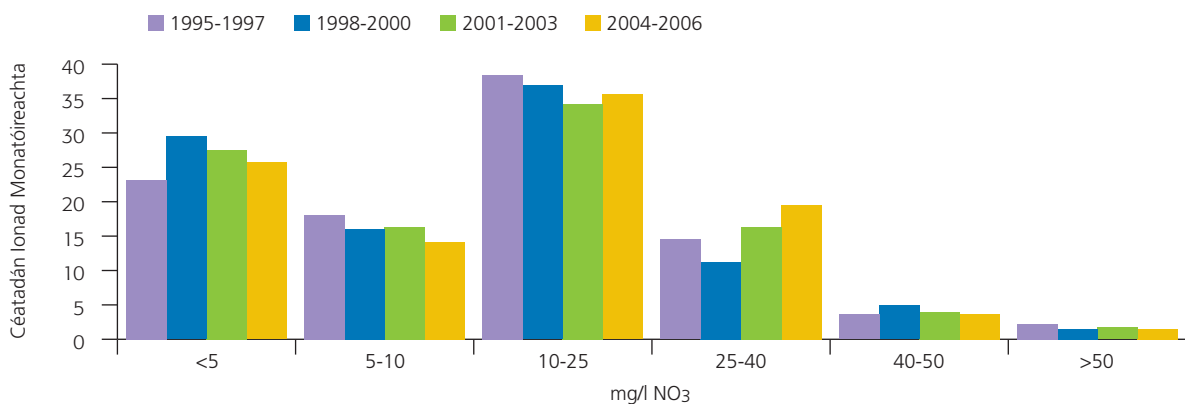
EPA (M. Craig); Page, D., Wall, B. agus Crowe, M., 2006, *Cáilíocht an Uisce Óil in Éirinn. Tuarascáil don bhliain 2005*. EPA, Loch Garman; Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O'Boyle, S., MacCárthaigh, M., Craig, M. agus Quinn, R., 2005. *Cáilíocht Uisce in Éirinn 2001-2003*. EPA, Loch Garman.

TÁSCAIRE 11: NÍOTRÁITÍ I SCREAMHUISCE

Faightear tiucháin reásúnta íseal níotráite i screamhuisce nach raibh aon éifeacht air. De ghnáth comharthaíonn tiucháin níos airde níotráite go raibh ionchur orgánach nó neamhorgánach ar screamhuisce. D'fhéadfadh foinsí orgánacha diúscairt dramhaíola a áireamh, m.sh. scaipeadh dramhaíola ainmhithe, nó láisteadh ó umair sheipteacha agus d'fhéadfadh foinsí neamhorgánacha mar scaipeadh leasacháin bhréagaigh. Má thagann cuid mhór den sreabhadh uisce dromchla as screamhuisce, mar sin d'fhéadfadh tiucháin mhéadaithe níotráite i screamhuisce cur le heotrófú in uiscí dromchla.

Áiríonn líonra monatóireachta screamhuisce náisiúnta an EPA sampláil ag roinnt suíomhanna a úsáidtear freisin le huisce óil a bhaint. D'fhéadfadh láithreach tiucháin arda níotráite in uiscí óil bheith freagrach as methaemoglobinaemia (blue baby syndrome) i naoináin a chothaítear le bhuidéil má athraíonn an níotráit go nítrít agus má imoibríonn sé le haemaglóbín fola.

Figure 11a Níotráite i Screamhuisce



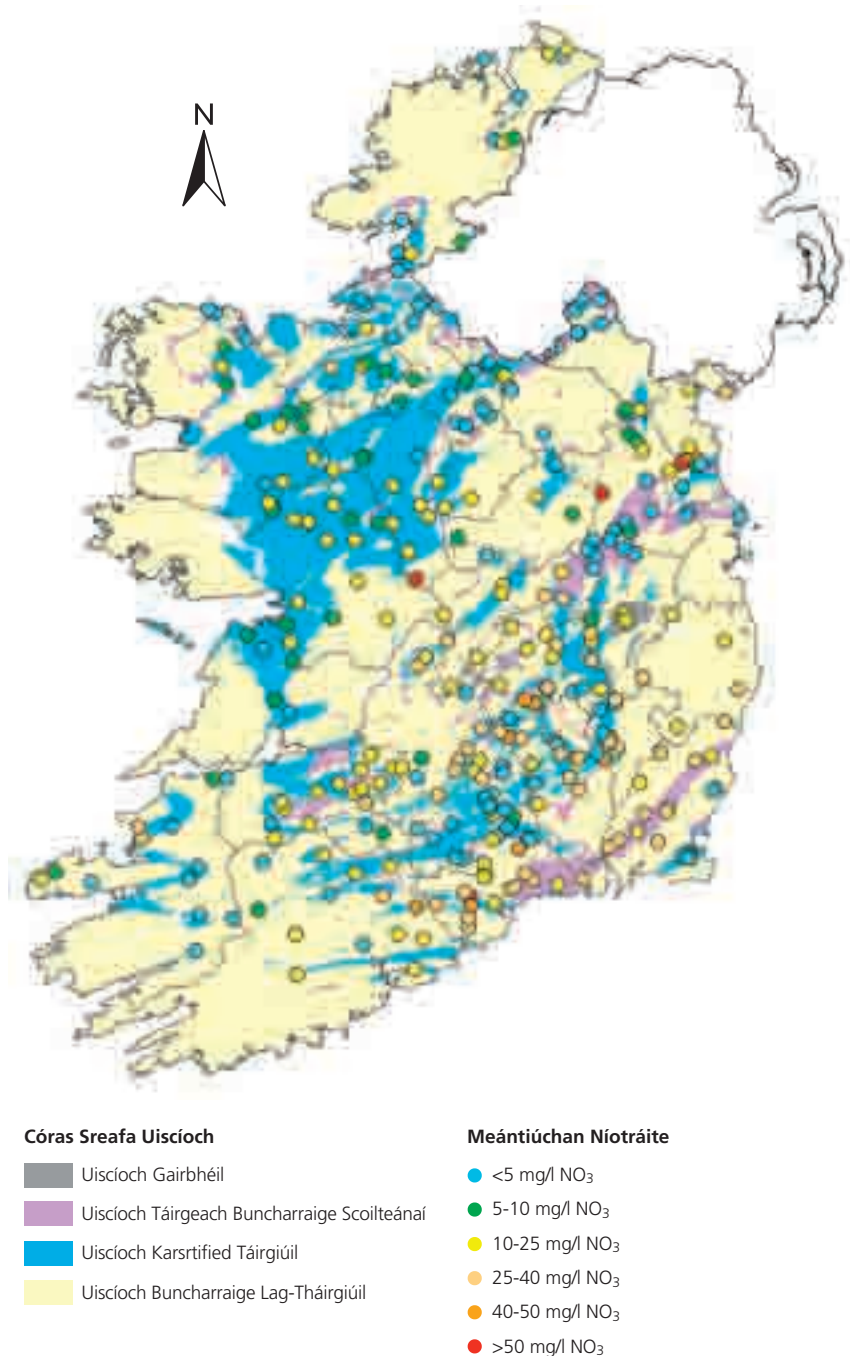
Foinse: EPA (M. Craig)

Idir 2004 agus 2006, bhí an meántiuchán níotráite thar thiúchan treorach na Rialacháin Uisce Óil (I.R. Uimh. 439 de 2000) de 25 mg/l NO₃ ag thart ar 25 faoin gcéad d'ionaid monatóireachta ar fad an EPA agus bhí sé thar an Uastíuchan Ceadaithe (MAC) de 50 mg/l NO₃ ag thart ar dhá faoin gcéad de na hionaid mhonatóireachta EPA ar fad.* Ó 1995 tá méadú ginearálta ar cheatadán na samplaí screamhuisce le tiucháin níotráite idir 25-40 mg/l NO₃ (Figiúr 11a) agus bhí laghdú freisin ar an gcéatadán samplaí le tiucháin níotráite idir 0-10 mg/l NO₃. Tá an chuid níos mó d'ionaid mhonatóireachta le tiucháin méadaithe níotráite ag oirdheisceart na tíre (Féach Figiúr 11b). Féach freisin Táscaire 2: Níotráití in Aibhneacha.

Is féidir tiucháin méadaithe níotráite a thógail faoi deara i bpointí monatóireachta atá gar do fhoinsí pointe féideartha scaoilte dramhaíola. Ach, baineann dáileadh spásúil ionad monatóireachta le tiucháin méadaithe níotráite le ceantair le cleachtais thalmhaíochta níos déine, a thugann le fios gurb iad foinsí talmhaíochta idirleatha is cúis leo. Le blianta beaga anuas feictear treocht méadaithe sa líon ionad monatóireachta le tiucháin níos mó ná 25 mg/l NO₃, a thugann meath diaidh ar ndiaidh ar screamhuisce le fios, go háirithe i gceantair thalmhaíochta níos déine dheisceart agus oirthear na tíre. Déanfar tuilleadh scrúdú ar seo mar chuid de chur i bhfeidhm an Chreat-Treoir Uisce.

* Is féidir Níotráit a thuairisciú mar N nó NO₃ mar tá difríocht ceithre-fhillte i dtéarmaí uimhriúla idir an dá slonn (Féach freisin Táscaire 2: Níotráití in Aibhneacha).

Figiúr 11b Méantiúcháin Níotráite i rith 2004-2006



Foinse: EPA (M. Craig)

Foinsí

EPA (M. Flanagan, P.J., 1988. *Parameters of Water Quality*. An tAonad Taighde Comhshaoil, Baile Átha Cliath; Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O'Boyle, S., MacCárthaigh, M., Craig, M agus Quinn, R., 2005. *Cáilíocht Uisce in Éirinn 2001-2003*. EPA, Loch Garman.

AGUISÍN: NUASHONRÚ AR NA RIALACHÁIN FOSFAIR DO 2006

Arna ullmhú ag an Oifig um Fhorfheidhmiúchán Comhshaoil

Is beart reachtúil iad na Rialacháin Fosfair, (I.R. 258 de 1998) atá dírithe ar eotrófu a laghdú in aibhneacha agus i lochanna. Tá na spriocanna atá leagtha amach ag na Rialacháin Fosfair deartha chun meath uiscí atá ar cháilíocht mhaith a sheachaint agus chun uisce nach bhfuil ar cháilíocht mhaith a fheabhsú go dtí caighdeán sonraithe. Éilíonn na Rialacháin go gcaithfidh gach údarás áitiúil Tuarascáil Fhorfheidhmiúcháin a chur isteach chuig an nGníomhaireacht gach dara bliain ina dtabharfar sonraí ar na bearta atá á ghlacadh acu chun na caighdeáin sonraithe a chomhlíonadh. D'fhoilsigh an Ghníomhaireacht roinnt tuarascálacha náisiúnta ar fhorfheidhmiúchán na Rialachán agus ar an dul chun cinn atá déanta ó thaobh na spriocanna a bhaint amach.

Éilíonn Rialacháin Fosfair go gcoinnítear nó go bhfeabhsáítear cáilíocht uisce trí thagairt a dhéanamh don rátáil cáilíochta bitheolaíochta bonnlíne (aibhneacha) a leag an Ghníomhaireacht síos sa tréimhse athbhreithnithe 1995-1997 nó ag an gcéad deis ina dhiaidh sin. Caithfear spriocanna cáilíochta uisce a leagadh síos sna Rialacháin a chomhlíonadh faoin mbliain 2007 ar a dhéanaí i gcás uiscí a ndearna an EPA suirbhé orthu sa tréimhse 1995-97 agus laistigh d'uastréimhse deich mbliana i gcás uiscí a rinneadh suirbhé orthu ar dtús tar éis 1997.

Tugann monatóireacht reatha ón tréimhse 2004-2006 le fios, i gcás aibhneacha, go dtagann an cháilíocht uisce 69.5 faoin gcéad sna stáisiúin monatóireachta go náisiúnta leis na Rialacháin Fosfair, .i. comhlíonann an cháilíocht uisce ag na stáisiúin aibhneacha seo na spriocanna bitheolaíochta agus/nó spriocanna molabdáite imoibríochta fosfair (MRP) atá leagtha síos sna Rialacháin Fosfair (Figiúr A1). Léiríonn sé seo méadú 6.1 faoin gcéad i ngéilliúntas ón tréimhse monatóireachta roimhe sin (2001-03). D'fhéadfadh sé gur tharla sé seo mar gheall ar mhéadú mór leanúnach i monatóireacht MRP ar cháilíocht uisce.

Is iad na húdaráis áitiúla a bhfuil leibhéal géilliúntais sách ard acu (>70 faoin gcéad de stáisiúin aibhneacha ag comhlíonadh na rialachán) leis na Rialacháin ná Ros Comáin, Cill Mhantáin, Cathair Bhaile Átha Cliath,* an Mhí, Ciarraí, an Cabhán, Tiobraid Árann Thuaidh, Corcaigh agus Loch Garman. I measc na n-údarás áitiúla a bhfuil leibhéal géilliúntais sách íseal acu (<50 faoin gcéad de stáisiúin aibhneacha ag comhlíonadh na rialachán) leis na Rialacháin ná Dún na nGall agus Fine Gall. Is léir go bhfuil méaduithe móra i ngéilliúntas ó thréimhsí 2001-03 le feiceáil i gCill Mhantáin, Dún Laoghaire-Ráth Dúin, Luimneach, an Mhí, Muineachán, Tiobraid Árann Thuaidh, Uíbh Fhailí, Cill Chainnigh, Ros Comáin agus Loch Garman. Tharla na méaduithe seo i bpáirt mar gheall ar mhonatóireacht MRP níos mó agus i roinnt cásanna laghduithe foriomlána ar leibhéil MRP in aibhneacha.

Tá an t-athbhreithniú ar cháilíocht uisce aibhneacha a rinneadh anseo, faoi na Rialacháin Fosfair, bunaithe ar an gcur chuige maidir le sonraí luach bitheolaíochta Q nó sonraí MRP a úsáid chun géilliúntas a dhéanamh amach. Cé go bhféadfaí a rá go bhfuil na treochoita i ngéilliúntas foriomlán ann i bpáirt mar gheall ar leibhéil mhéadaithe de mhonatóireacht MRP, is dóigh go dtugann an measúnú ar ghéilliúntas le spriocanna bitheolaíochta na Rialachán léargas níos fearr ar threochoita sa stádas cáilíochta uisce iomlán. Comhlíonann 59.3 faoin gcéad ar an iomlán de stáisiúin aibhneacha spriocanna bitheolaíochta na Rialachán. Léiríonn sé seo méadú 3 faoin gcéad ar líon na stáisiún a chomhlíonann spriocanna bitheolaíochta na Rialachán ón tréimhse 2001-2003.

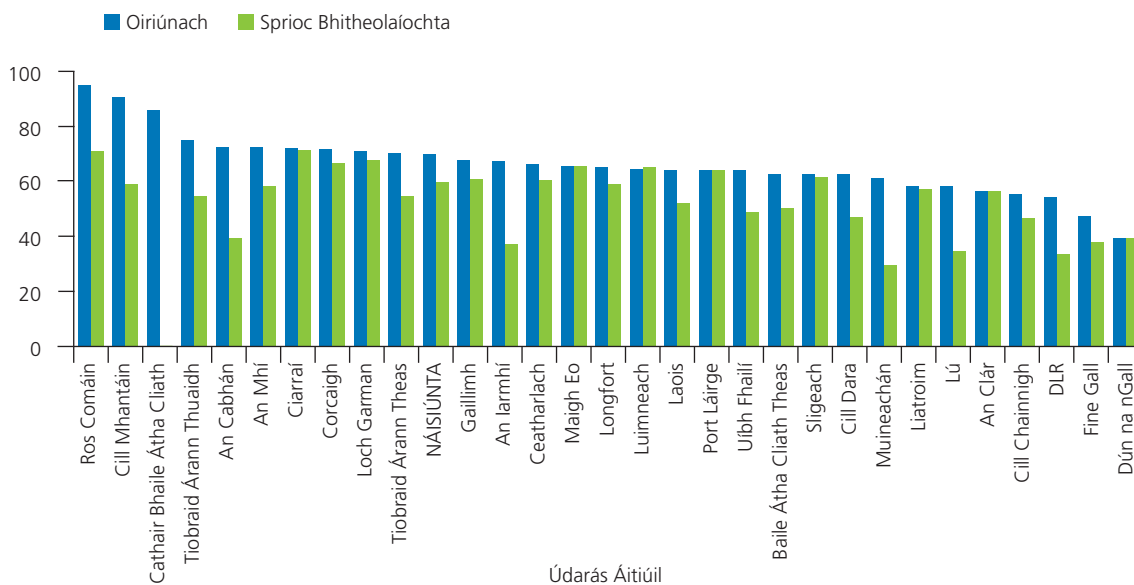
* Caithfear athruithe i gcéatadáin géilliúntais ag stáisiúin monatóireachta údarás áitiúla Bhaile Átha Cliath (.i., Cathair Bhaile Átha Cliath, Dún Laoghaire-Ráth an Dúin, Fine Gall agus Baile Átha Cliath Theas) a láimhseáil go cúramach, de bhí gur beag stáisiún monatóireachta atá ina gcuid limistéar feidhmíochta (<20). Mar sin bíonn athruithe céatadáin mhóra mar thoradh ar athruithe i gcáilíocht uisce ag roinnt stáisiún.

I measc na gcontaetha a bhfuil céatadán sách ard de stáisiúin ag comhlíonadh na spriocanna bitheolaíochta iontu tá (>60 faoin gcéad) Ceatharlach, Corcaigh, Gaillimh, Ciarraí, Luimneach, Maigh Eo, Ros Comáin, Sligeach, Port Láirge agus Loch Garman. I measc na gcontaetha a bhfuil céatadán sách íseal de stáisiúin ag comhlíonadh na spriocanna bitheolaíochta iontu tá (<40 faoin gcéad) an Cabhán, Dún Laoghaire-Ráth an Dúin, Dún na nGall, Fine Gall, Lú, Muineachán agus an Iarmhí.

Tá feabhsúcháin mhóra bainte amach i gcáilíocht uisce bitheolaíochta (>10 faoin gcéad) i nDún Laoghaire-Ráth an Dúin, Luimneach, an Longfort, an Mhí agus an Iarmhí. Is dóigh gur tharla sé seo mar gheall gur chuir na húdaráis áitiúla sin bearta a bhain go sonrach le dobharcheantair i bhfeidhm. Is léir áfach meath mór a bheith tagtha ar ghéilliúntas leis na Rialacháin i nDún na nGall. Is dóigh gur tharla na laghduithe i ngéilliúntas den chuid is mó mar gheall ar mheath i gcáilíocht uisce a fheictear go háirithe le cailteanas leanúnach de stáisiúin Q5/Q4-5 ar ardchaighdeán.

Tá sé molta ag na hÚdaráis Áitiúla nó tá raon leathan bearta curtha i bhfeidhm acu atá dírithe ar cháilíocht uisce a chosaint agus a fheabhsú. Rinneadh roinnt feabhsúchán go háitiúil i gcáilíocht uisce mar gheall ar bhearta a cuireadh i bhfeidhm. Tugann torthaí monatóireachta reatha le fios go dteastóidh iarrachtaí i bhfad níos mó chun spriocanna cáilíochta uisce na Rialachán a chomhlíonadh (agus go deimhin na spriocanna níos déine atá sa Chreat-Treoir Uisce).

Figiúr A1 Céatadán de stáisiúin aibhneacha de chuid an údaráis áitiúil a chomhlíon na Rialacháin Fosfair i 2004-06 agus céatadán de stáisiúin aibhneacha de chuid an údaráis áitiúil a chomhlíon spriocanna bitheolaíochta na Rialachán





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