



Commissioners of
IRISH LIGHTS | Navigation
and Maritime
Services

2024/25

**Irish Lights report on
Quality Assurance
of the
Local Aids to Navigation service for Ireland**



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Acronyms

AtoN	Aid to Navigation
AIS	Automatic Identification System
DAFM	Department of Agriculture, Food and the Marine
FHC	Fishery Harbour Centre
GLA	General Lighthouse Authority
IALA	International Organisation for Marine Aids to Navigation
LLA	Local Lighthouse Authority
MAC	Maritime Area Consent
MARA	Maritime Area Regulatory Authority
MUL	Maritime Usage License
ORE	Offshore Renewable Energy

Executive Summary

This report is submitted to the Minister for Transport in Ireland pursuant to section 652(4) of the Merchant Shipping Act 1894. This report covers the period April 2024 to March 2025 inclusive.

Irish Lights as the General Lighthouse Authority for Ireland fulfils the requirements of the International Convention for the Safety of Life at Sea (SOLAS), 1974, Chapter V, Regulation 13 to provide “such aids to navigation (AtoN) as the volume of traffic justifies and the degree of risk requires.”. In addition to the provision of landfall and other significant AtoN around the coast of Ireland, Irish Lights also provides a superintendence and management service for Local Lighthouse Authorities (LLA) to ensure that the recommendations and guidelines published by the International Organisation for Marine Aids to Navigation (IALA) are followed.

Each LLA is required to seek a Statutory Consent from Irish Lights to add, change or remove marine aids to navigation within their control around the coast. During this reporting year Irish Lights processed applications in Ireland under the Merchant Shipping Act 1894 for the establishment of 48 new AtoN, the amendment of six (6) existing AtoN, and the disestablishment of seven (7) existing AtoN through the Statutory Consenting process. This consent from Irish Lights ensures that the proposed change is risk assessed from a safety of navigation perspective and that Appropriate Assessment screening is conducted under the Birds & Habitats Directives and SI 477/2011. Once approved, the changes to AtoN are communicated to the relevant hydrographic organisation so that they can be included in weekly updates to nautical charts used by all commercial, fishing and leisure vessels to navigate around the Irish coast.

In addition, Irish Lights conducts physical site visits to inspect over 2,100 of these local AtoN in Ireland annually and periodically audits each LLA to ensure adherence to international IALA requirements and standards. Allowing for annual variations due to the two-year cycle, the local AtoN inspections results from the reporting year show that the level of compliance is being maintained by LLA in Ireland. Focusing on the higher risk local AtoN, which are inspected annually, an increase in compliance is evident over the last three (3)¹ reporting years.

¹ Full year data for higher versus lower risk local AtoN inspections is available for the previous 3 years.

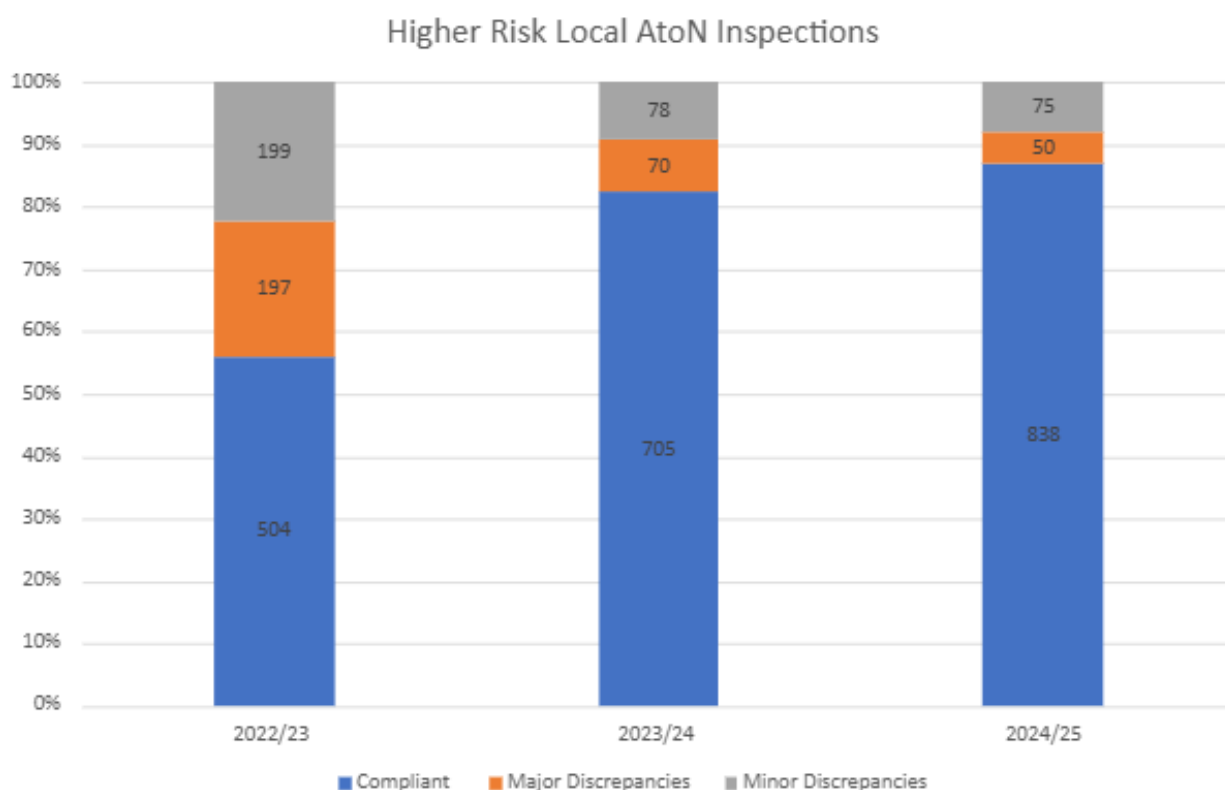


Figure 1 – Inspection results from higher risk local AtoN - Ireland

Observations gathered during the audit process show a better understanding amongst LLA of the need for and utility of local AtoN provision to reduce risk. The LLA Training Course provided by Irish Lights, coupled with improvements to the Local AtoN Management portal (to provide scheduled reminders to LLAs to follow up on outstanding items) have both been cited by LLA as enabling them to raise the standard of their Local AtoN service provision. LLA indicate an increasing recognition of the need to secure adequate internal budget to maintain and improve their Local AtoN service. As such, where a deficiency has been identified through the inspection and audit service, the LLA is generally receptive to the constructive improvement advice provided in the form of a Corrective Action Request (CAR) and will work with Irish Lights to resolve the issues identified.

Separately, in the wider context of Marine Spatial Planning, the duties assigned to Local Government Authorities to act as Coastal Planning Authorities under the Maritime Area Planning Act 2021, coupled with increasing interaction between these organisations and MARA since its establishment in 2023, has improved LLA understanding of the maritime domain.

Results of Local AtoN Inspections in Ireland

To prioritise safety of navigation, Irish Lights categorises Local AtoN as higher, or lower risk based on defined criteria. Higher risk local AtoN are inspected annually while lower risk local AtoN (typically aquaculture and AtoN in areas of lower traffic density) are inspected every second year. The criterion in use includes the volume of traffic in the area, the IALA category and criticality of the AtoN, importance of the AtoN to major shipping routes and whether the AtoN is located within an environmentally sensitive area.

In the reporting year, there were 2,852 Local AtoN under the authority of 35 LLA around the Irish coast. Of these, Irish Lights inspected 2,136 AtoN, which is 74.9% of the total number. Of the 963 Local AtoN designated as higher risk, Irish Lights inspected 100% of these AtoN.



*Figure 2 – One of two Occulting White Leading Lights, marking the entrance to Kileany Pier, Kilronan, Inis Mor
(Aran Islands)*

Overall, when viewed across higher and lower risk AtoN, the inspection results from the reporting year show a slight increase in discrepancies found this year, and a corresponding reduction in fully compliant AtoN. This small annual variation is consistent with expectations due to the two-yearly inspection cycle and the inclusion of different subsets of lower-risk AtoN in the different reporting periods². When viewed as a time series including the previous four (4) years, a positive trend of increased compliance is evident, moving from a low point of ~60% in 2021/22 during the COVID period, to ~80% compliance in the two most recent reporting years.

Inspection Outcomes	Explanation of Outcomes
Compliant	Where the AtoN is as described in the Statutory Consent
Major Discrepancy	Where the AtoN is not compliant and is considered a risk to navigation
Minor Discrepancy	Where the AtoN is not fully compliant but is not a risk to navigation

Table 1 – Description of major and minor discrepancies

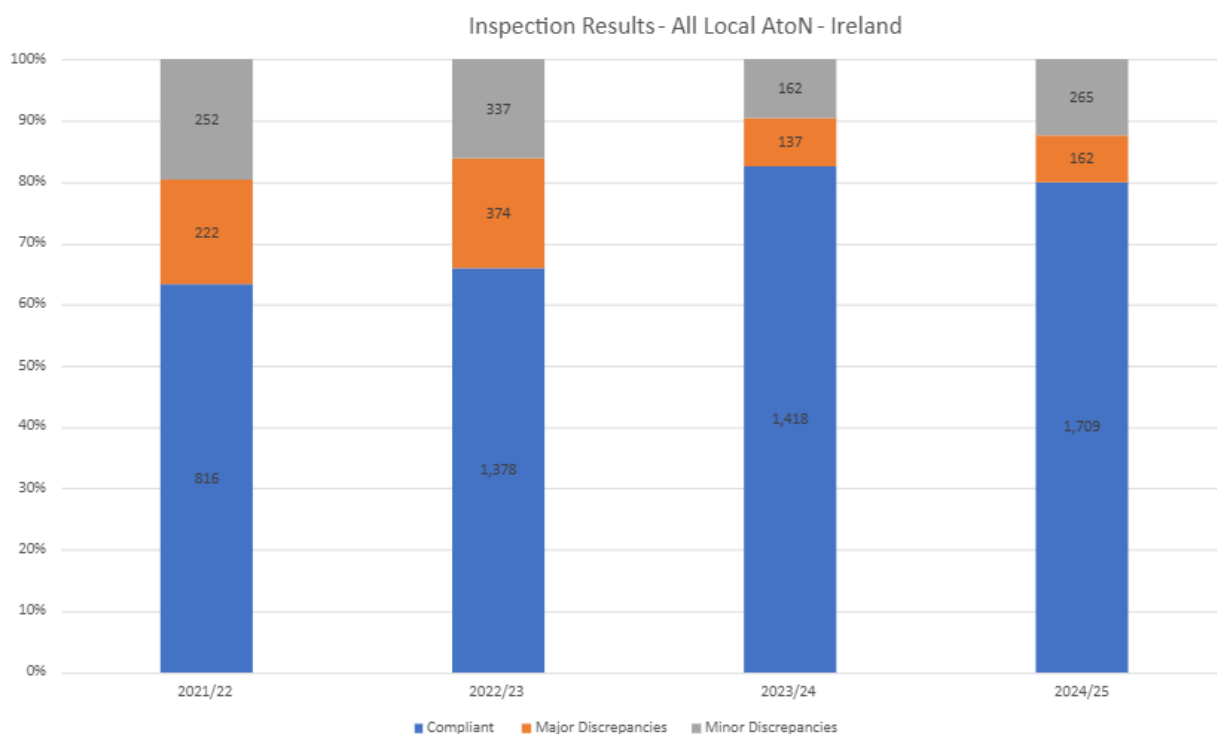


Figure 3 – Inspection Results – All Local AtoN - Ireland

² For example, the inclusion or omission of a larger number of aquaculture AtoN in a certain reporting period, can cause a slight variation in discrepancies observed.

Irish Lights adopts a collaborative approach to assist and support LLA in delivering the Local AtoN service under their remit. In addition to hosting an annual Local AtoN Providers meeting for LLA, Irish Lights meets with individual LLA on a regular basis to gather feedback and offer professional advice and support. Based on these discussions with LLA, the improvement in compliance in recent years demonstrates an increased awareness, at the management level of these organisations, of the risk posed to life, property and the environment resulting from poor standards in local AtoN provision. This awareness of risk has been improved through initiatives such as the Irish Lights LLA Training Course, plus enhancements to the Irish Lights Local AtoN Management Portal, which is a web-based GIS tool provided at no charge by Irish Lights to assist LLA in the performance of their duties. In addition, LLA who are also Coastal Planning Authorities under the Maritime Area Planning (MAP) Act 2021 have benefited from the coordination and outreach provided by the Maritime Area regulatory Authority (MARA) since the establishment of that body in 2023.



Figure 4 – Image showing a collection of Local AtoN at the entrance to Drogheda Port on the River Boyne, Co. Louth. From left: Port entry Light to delineate the narrow entrance channel, the Aleria Beacon marking the Northern breakwater and a Port Hand Beacon inside the channel

Aquaculture AtoN Inspection Results in Ireland

Aquaculture Licensing in Ireland is currently legislated under the Fisheries (Amendment) Act, 1997 as amended and the Foreshore Act, 1933 as amended. Irish Lights is a statutory consultee for Foreshore licensing of aquaculture sites in Ireland, ensuring that the licence conditions include a requirement to mark the site with marine AtoN as appropriate to the volume of traffic and the degree of risk, meeting the requirements of SOLAS Convention V/13 and international IALA standards. The MAP Act 2021 envisions a future transfer of aquaculture licensing responsibilities to MARA as part of a broader overhaul of marine governance.

Irish Lights closely monitors the development of both Extensive Aquaculture sites (typically mussel trestles, seed beds, oyster beds, etc) and Intensive Aquaculture sites (typically moored floating structures comprised of ring cages often accompanied by sizeable steel or concrete feed barges) to ensure that these are correctly marked with AtoN, but in addition that the proposed placement of the licenced site allows sufficient sea room for passing vessels to navigate safely and to ensure that any vessels seeking refuge during adverse weather continue to have access to protected and charted safe anchorages.

The 2024 *Business of Seafood* report from An Bord Iascaigh Mhara (BIM) highlights an overall 25% increase in value of the Irish aquaculture market last year, largely driven by a rebound in salmon production at Intensive Aquaculture sites. The corresponding increase in production volume was lower at 6%. In future years, Irelands National Strategic Plan for Sustainable Aquaculture Development contains a target to increase the quantity of salmon produced to organic standards, which may result in a gradual increase in the number of Intensive Aquaculture sites and a consequent reduction over time in navigable sea room. Irish Lights will continue to monitor these developments through the provision of statutory consultation advice to the licencing authority and through close collaboration with MARA as the transition of licencing, monitoring and enforcement powers is progressed.

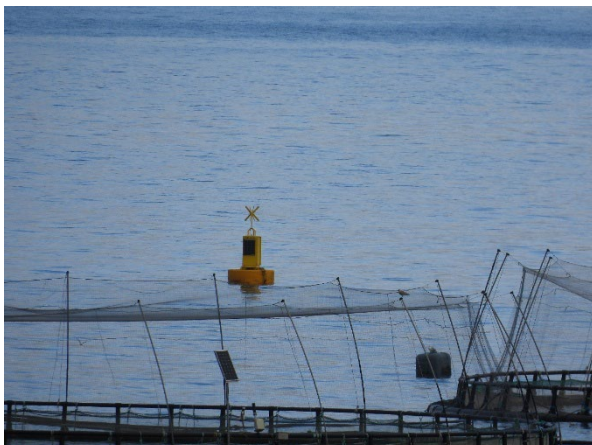


Figure 5 – Special Mark AtoN showing the perimeter of a Finfish Intensive Aquaculture site, North of Clare Island in Clew Bay, Co. Mayo

Based on previous local AtoN inspection reports, aquaculture AtoN have historically shown a higher percentage of minor discrepancies, relative to the other types of local AtoN use cases. The risk to safe navigation is presently mitigated as the majority of aquaculture sites in Irish waters are Extensive in nature, meaning that they are generally located in shallow water and deliberately placed outside of navigable channels. However, both seaweed and line grown rope mussel sites are exceptions as these are typically located in sheltered bays in deeper water. This type of development has the potential to encroach on charted safe anchorage areas as well as areas frequented by smaller fishing vessels and leisure craft, and as these types of aquaculture sites are less conspicuous, they require careful AtoN marking including buoyage.

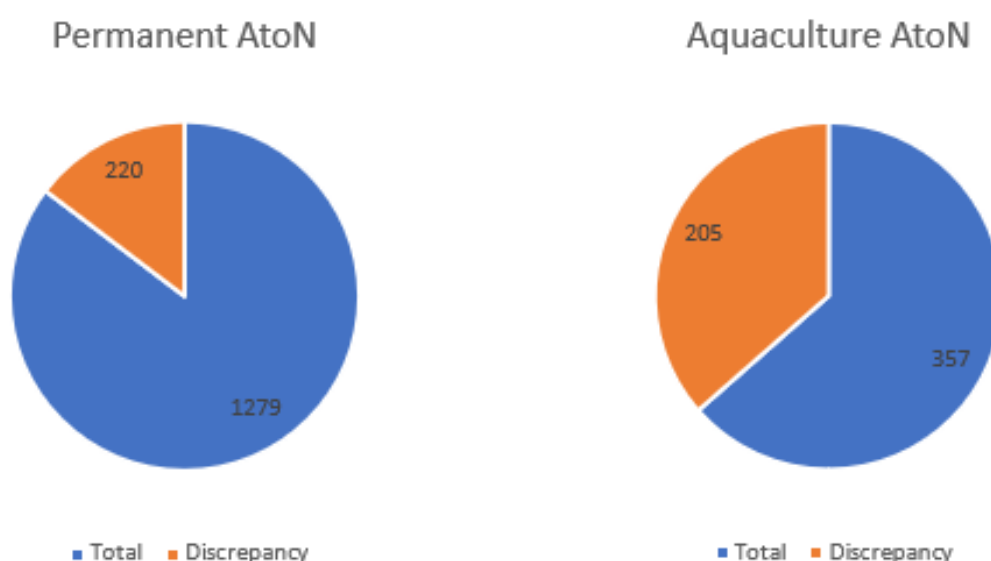


Figure 6 – 2024/25 Local AtoN inspection results showing a higher % of discrepancies in aquaculture compared with other permanently placed local AtoN

Previous Irish Lights Local AtoN annual reports have highlighted the central role played by Bord Iascaigh Mhara (BIM) in developing and supporting Ireland’s aquaculture sector. In addition to funding supports, training & certification, technical advisory and other services, BIM had previously agreed to take on the role of LLA for 30% of the aquaculture local AtoN deployed in Irish waters, in cases where the County Council was unwilling to act as the LLA for aquaculture sites in their nearshore area. However, BIM has informed Irish Lights that it is unable to continue acting as the LLA for these sites in future and an alternative LLA will be required. In the majority of coastal counties, the County Council has accepted the role of LLA for aquaculture sites in their nearshore area, but a number of significant exceptions remain. Irish Lights is actively seeking a resolution to this issue to ensure that standards of provision for aquaculture local AtoN do not deteriorate.

Local AtoN without consent

Aids to Navigation (AtoN) without consent are discovered by Irish Lights personnel while conducting routine local AtoN inspections or are observed by the ILV Granuaile during the conduct of buoy maintenance on the general AtoN network. These AtoN have been placed in the water, usually as part of a Foreshore (or in future a MAC/MUL) consented development, but without first applying for statutory consent from Irish Lights under the Merchant Shipping Act. This means that the new AtoN is not normally shown on nautical charts and may present a hazard to vessels in the area, who will be unaware of its presence initially.

As the search area for finding a new AtoN without consent is linked to the routes taken to conduct inspection visits to existing local AtoN, only those coasts, bays and harbours adjacent to an existing consented AtoN are routinely checked. Occasionally, Irish Lights may receive a report of a new AtoN from a 3rd party observer and will investigate these reports. To date, this has resulted in the identification of 123 AtoN without consent in Irish waters. The majority of these AtoN are located in lower risk areas, away from shipping lanes or deeper navigable channels. If maintained and serviceable, their presence should not increase risk significantly, apart from on first encountering the AtoN as the purpose or position will be unclear without a charted reference. Irish Lights has identified three (3) main clusters of such AtoN without consent, within the nearshore areas of County Councils ashore, but the process to locate the original AtoN developer plus a willing LLA to accept the unplanned AtoN (particularly in the case of aquaculture AtoN without consent) is proving to be prolonged.

Further work is planned to develop an information campaign targeted at LLA stakeholders, companies or individuals engaged in the development of the marine space and the wider public, regarding the statutory role of Irish Lights and the legal requirements related to AtoN consenting.

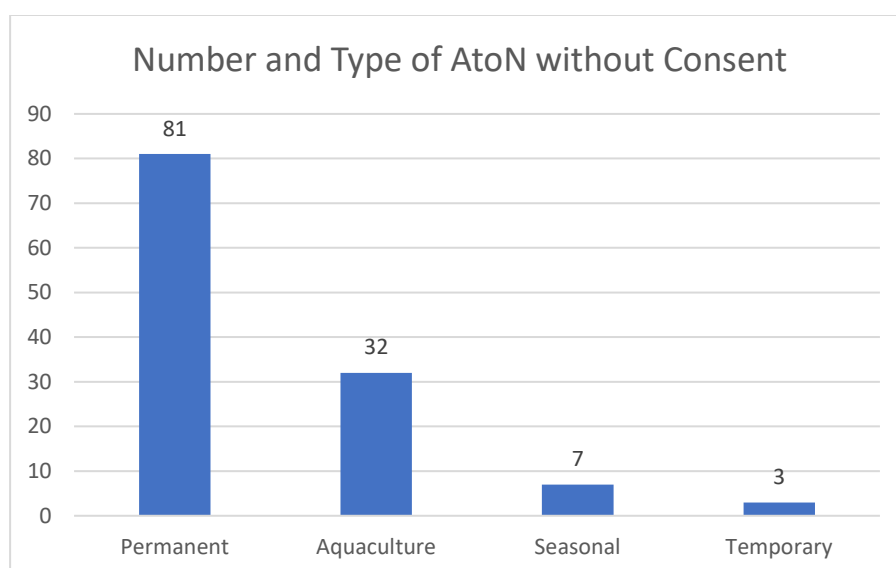


Figure 7 - Graph showing the number and type of AtoN without consent in Ireland

LLA Audits

In the reporting year Irish Lights conducted local AtoN audits of twenty (20) LLA in Ireland from a total number of 35. These audits are conducted in accordance with Para 652(3) of the Merchant Shipping Act 1894 and are designed to ensure that the LLA is aware of and following best practice for AtoN provision, including preventative maintenance visits, periodic inspections of AtoN, rolling budgetary provision for repairs and eventual replacement.

There are three possible outcomes from an audit.

- **Compliant** - Appropriate standards observed in respect of records of inspections and maintenance as evidenced during the audit. The LLA has in place comprehensive policies and procedures for the management of AtoN.
- **Compliant with Advisory** – The LLA partially meets the required standards. Partial records of inspections and maintenance were evidenced during the audit. The audit report will contain advice and guidance on how to improve processes and develop policies to form a more robust management system for AtoN within the LLA area.
- **Corrective Action Request** – The LLA does not meet its obligations in respect of the required standards and urgent action is required on the part of the LLA. Irish Lights provide guidance and assistance on the appropriate improvement measures and required timelines.

Irish Lights conducts these LLA audits every two years, unless an LLA has been issued with a Corrective Action Request (CAR) due to a safety critical failure during AtoN inspections or a failure to action previous advice in relation to a “Compliant with Advisory” finding from a previous audit³. Where a CAR has been issued the audit frequency reduces to annual. Of the 20 LLA audited by Irish Lights in 2024/25, six (6) were issued with a new CAR [plus three (3) LLA had a CAR which had carried over from 2023/24]. Four (4) of the nine (9) were resolved during the reporting period, leaving five (5) LLA with CAR remaining open.

³ Depending on the degree of navigation risk associated with a failure, a CAR may be issued immediately or may follow due to inaction on the part of the LLA to resolve a previously identified defect. Irish Lights expects that a CAR will be resolved within six (6) months of receipt and in the interim that the correct Maritime Safety Information (MSI) including Radio Navigation Warnings (RNW) will be broadcast to alert mariners of any danger arising from the defect.

Assistance Provided to LLA

In addition to quality assurance through the Local AtoN inspection and LLA audit service, Irish Lights provides expert navigation advice and assistance to all LLA as required. This constructive approach is useful to LLA, particularly during large capital works, to ensure that the project as delivered will meet the standards for AtoN and enhance safety of navigation. In the reporting year, Irish Lights continued engagement with two (2) such projects, which had both commenced during the previous reporting year 2023/24.

The Waterford Sustainable Transport Bridge moved from the construction of foundations requiring the placement of temporary AtoN buoyage, to the installation of the main structure and associated permanent AtoN marking and lighting the bridge, including the opening section and marine traffic light arrangement to allow for vessels to pass safely through the bridge. Irish Lights provided support to Waterford City and County Council LLA in this regard.



Figure 8 – Construction phase of Waterford Sustainable Transport Bridge showing consented permanent AtoN

Irish Lights also provided ongoing advice to Louth County Council on the large capital project, supported by the Irish Government Shared Island Fund to deliver the Narrow Water Bridge between Cornamucklagh near Omeath, Co Louth with Narrow Water near Warrenpoint, Co. Down. When complete and in operational use, the bridge will provide for at least a 20m wide navigational channel when in the open position, allowing navigational movements along the Newry River for accessing Victoria Lock and the Albert Basin. To date, Irish Lights has provided advice in relation to the provision of temporary AtoN during construction.



Figure 9 – Narrow Waters Bridge temporary AtoN while under construction, Louth

Offshore Renewable Energy Sector

The reporting period from April 2024 to March 2025 inclusive was a busy period for the Irish ORE sector, as the six (6) Phase 1 projects prepared their development consent/planning permission applications to be submitted to An Bord Pleanála (ABP)⁴ in line with the deadlines set out in their respective Maritime Area Consents from MARA. For Irish Lights, this involved the provision of advice and guidance regarding the required elements to be contained in the navigation risk assessments (submitted as part of the Environmental Impact Assessment Report (EIAR) documentation) and the elements for inclusion in the draft Lighting & Marking Plan (LMP). Once each application for Development Consent was submitted, Irish Lights reviewed all documentation and provided observations to ABP.

If all six of the submitted sites are successful in securing a Development Consent from An Coimisiún Pleanála, it is estimated that ~70 AtoN in the form of construction buoyage will need to be consented during the construction phase, while 83 Wind Turbine Generators (WTG) will require marine AtoN during the operational phase.

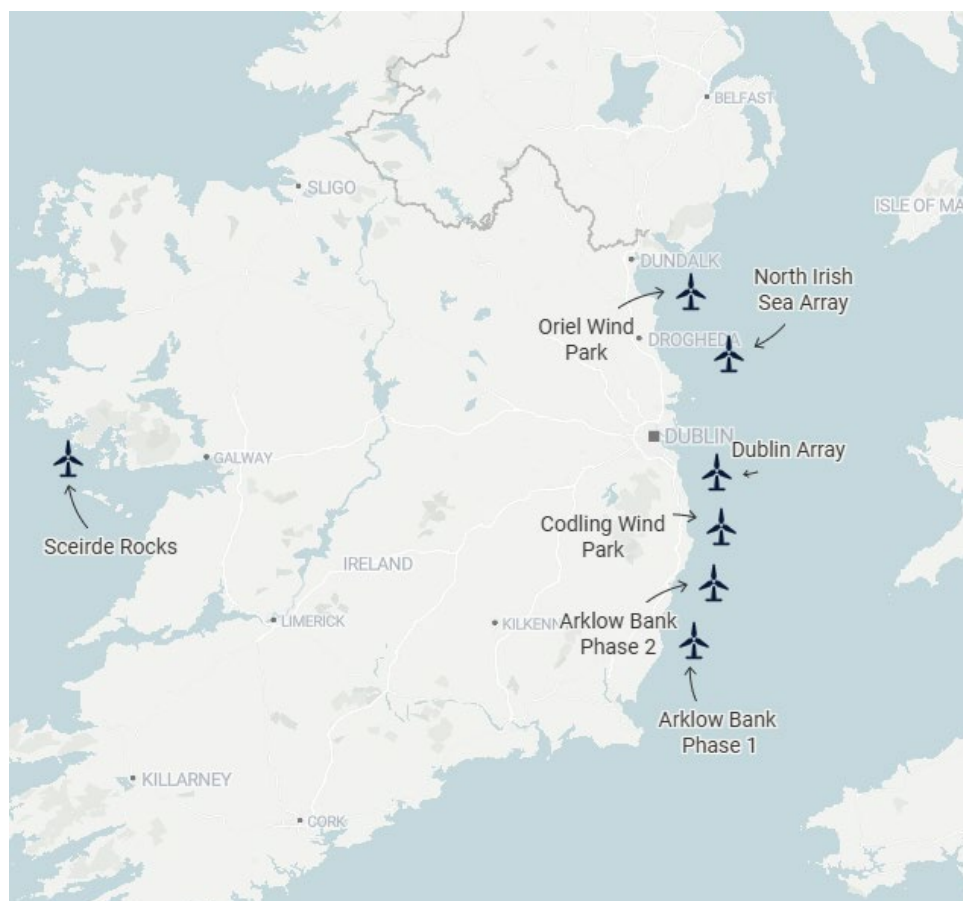


Figure 10 – Map showing the six Phase 1 relevant projects, plus the existing Arklow 1 site (due to be decommissioned)

⁴ Now operating as An Coimisiún Pleanála since 18th June 2025, since the commencement of Part 17 of the Planning and Development Act 2024

In addition to the Phase 1 sites, in October 2024 the Irish Government approved the creation a South Coast Designated Maritime Area Plan (DMAP) for Offshore Renewable Energy, incorporating maritime areas A to D, where Area A, also known as Tonn Nua, is identified to be developed by the winner of Ireland's second offshore wind auction ORESS2, to be held later in 2025. Irish Lights is in consultation with relevant parties to ensure safe lighting and marking of these future sites.

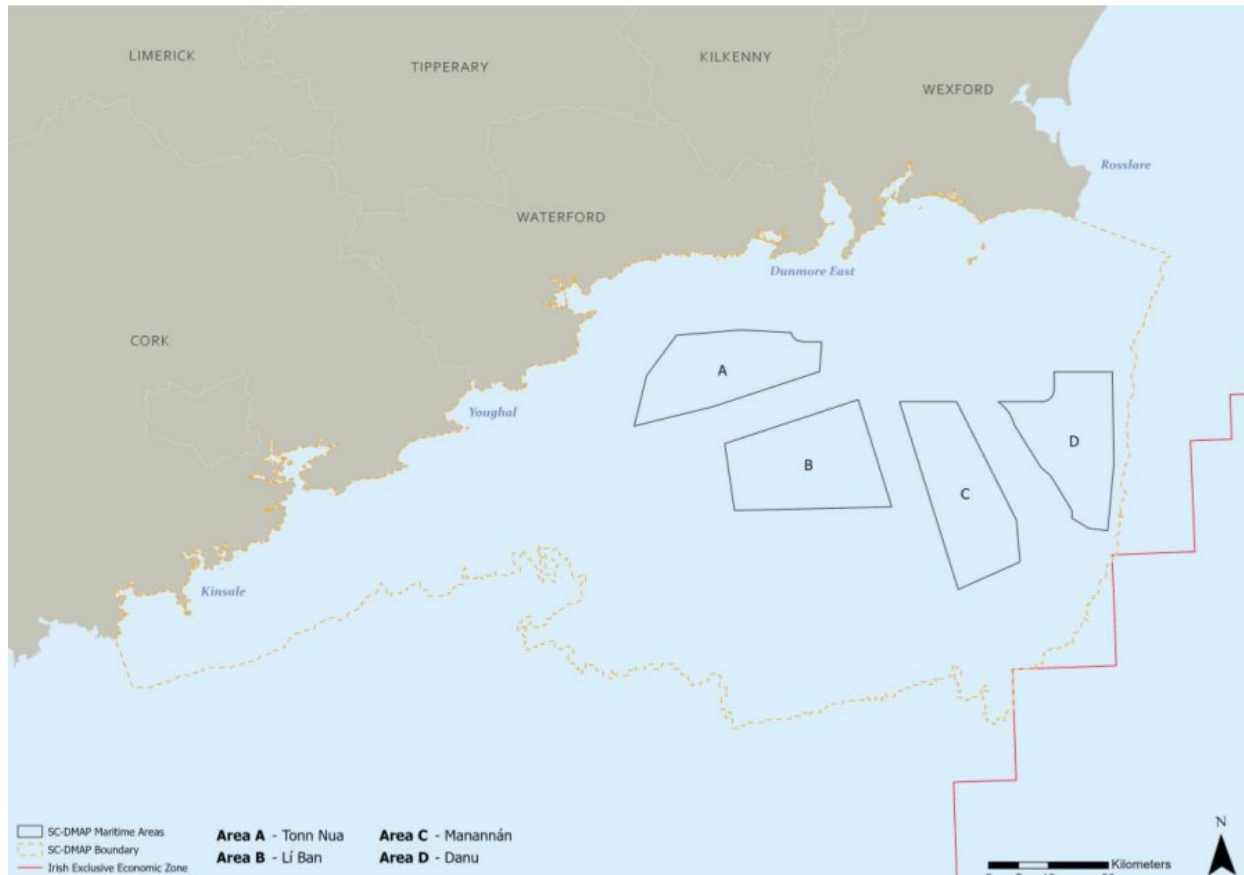


Figure 11 – South Coast DMAP showing Maritime Area A, Tonn Nua

Conclusion

The International Convention for the Safety of Life at Sea 1974 (SOLAS Convention) is an international convention of the International Maritime Organization (IMO) relating to the safety of ships (both passenger ships and cargo ships of >500 gross tonnes) that are engaged on international voyages. The Convention entered into force in 1980, and Ireland is a party to it since 1983. As a party to the Convention, and in its role as a Coastal State, Ireland is responsible for ensuring marine aids to navigation are provided as the volume of traffic justifies and the degree of risk requires. Under the Merchant Shipping Act and the National Marine Planning Framework, Irish Lights is charged by Government with the superintendence and management of all marine aids to navigation in the Irish maritime area. This report provides a quality assurance mechanism to ensure that the aids to navigation provided by Local Lighthouse Authorities meet international IALA best practice. The report is submitted to the Minister for Transport in Ireland annually pursuant to section 652(4) of the Merchant Shipping Act 1894.

The inspections of the Local AtoN and the audits of the Local Lighthouse Authorities from 24/25 have shown that there is improvement in the results of inspections on the year on year, there is an increase in 'Compliant' aids and the number of 'Major Discrepancy' has gone down in this period also. Over the biannual inspections of the all the aids there is reduction in 'Minor Discrepancy' also which shows good work by the LLA in ensuring that their aids are compliant.

From the audits, overall, it shows the majority of the LLA are compliant and have good policies & procedures in place. There are 35 LLA in Ireland and out of those six have a CAR issued and considered higher risk, these are moved to or remain on the annual audit schedule. The majority of findings in the audits are related to lack of policy documentation and planned maintenance schedules.



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Annexes

Annex A – Legislative Background

Section 652 (1) of the Merchant Shipping Act 1894⁵, empowers the General Lighthouse Authority (GLA) to inspect all lighthouses, buoys, and beacons in Local Lighthouse Authority management. In accordance with the Merchant Shipping Act the GLA shall make a general report of the results of the inspections of the local lighthouses, buoys, and beacons to the relevant Minister.

In addition, Section 652 (1) of the 1894 Act vests in the GLA the superintendence and management of all lighthouses, buoys, and beacons within their areas. The characteristics of these AtoN must comply with guidelines and recommendations as laid down by the International Organisation for Marine Aids to Navigation (IALA). The GLA requires Local Lighthouse Authorities to ensure that any third party AtoN, within their area of responsibility, are also established and maintained to the same standards.

The National Marine Planning Framework Section 18 – Ports, Harbours, and Shipping – Policy 4, details that any proposals within ports limits, beside or in the vicinity of ports, and/or that impact upon the main routes of significance to a port, must demonstrate within applications that they have consulted the Commissioners of Irish Lights. Applicants must continue to engage parties identified in pre-application processes as appropriate during the decision-making process. Additionally, Section 19 – Safety at Sea – Policy 4 notes that establishing, changing, or disestablishing Aids to Navigation (AtoN) must be sanctioned, in advance of works, by the Commissioners of Irish Lights.

Consequently, before any aid to navigation can be established, altered, or disestablished consent in the form of a Statutory Consent under the Merchant Shipping Act must be obtained from the Commissioners of Irish Lights. The applicant must submit this application through a Local Lighthouse Authority.

⁵ [Merchant Shipping Act, 1894, Section 652 \(irishstatutebook.ie\)](https://www.irishstatutebook.ie/1894/act-11/section-652/)

Annex B – Extract from IMO SOLAS

Available at: [Regulation 13 - Establishment and operation of aids to navigation \(imorules.com\)](https://www.imorules.com/Regulation-13-Establishment-and-operation-of-aids-to-navigation/)

REGULATION 13 - Establishment and operation of aids to navigation

1. Each Contracting Government undertakes to provide, as it deems practical and necessary either individually or in co-operation with other Contracting Governments, such aids to navigation as the volume of traffic justifies and the degree of risk requires.
2. In order to maintain the greatest possible uniformity in aids to navigation, Contracting Governments undertake to consider the international recommendations and guidelines⁶ when establishing such aids.
3. Contracting Governments undertake to arrange for information relating to aids to navigation to be made available to all concerned. Changes in the transmissions of position-fixing systems which could adversely affect the performance of receivers fitted in ships shall be avoided as far as possible and only be affected after timely and adequate notice has been promulgated.

⁶ Refer to the recommendations and guidelines of IALA and SN/Circ.107–Maritime Buoyage System

Annex C – IALA Categorisation and Availability Objectives for Short Range AtoN

Available at:

[R0130 Categorisation and Availability Objectives for Short Range Aids to Navigation \(O-130\) - IALA AISM \(iala-aism.org\)](#)

Within these IALA guidelines, Aids to Navigation are categorised into three types - Cat 1, Cat 2, Cat 3:

- CATEGORY 1 - An AtoN or system of AtoN that is considered by the Competent Authority to be of vital navigational significance. For example, lighted AtoN, AIS AtoN and racons that are essential for marking landfalls, primary routes, channels, waterways, dangers or protecting the marine environment.
- CATEGORY 2 - An AtoN or system of AtoN that is considered by the Competent Authority to be of important navigational significance. For example, it may include any lighted AtoN, AIS AtoN and racons that mark secondary routes and those used to supplement the marking of primary routes.
- CATEGORY 3 - An AtoN or system of AtoN that is considered by the Competent Authority to be of necessary navigational significance.

Categories of percentage availability

Category	AVAILABILITY OBJECTIVE	CALCULATION PERIOD
1	99.80%	Availability Objectives are calculated over a continuous three-year period, unless otherwise specified.
2	99.00%	
3	97.00%	

Table 2: Categories and availability percentages

Calculations principles according to IALA Guideline on Availability and Reliability of Aids to Navigation. The minimum availability of any individual AtoN should be 95.00%. Where the availability of an individual AtoN consistently falls below 95.00%, consideration should be given to the discontinuance or replacement/ modification of that AtoN.

Maximum permissible downtime per AtoN by category to remain IALA compliant:

Category 1 – 17.5 hours per annum

Category 2 – 3.6 days per annum

Category 3 – 10.9 days per annum