



Commissioners of  
**IRISH LIGHTS** | Navigation  
and Maritime  
Services

2020/21 Report

on

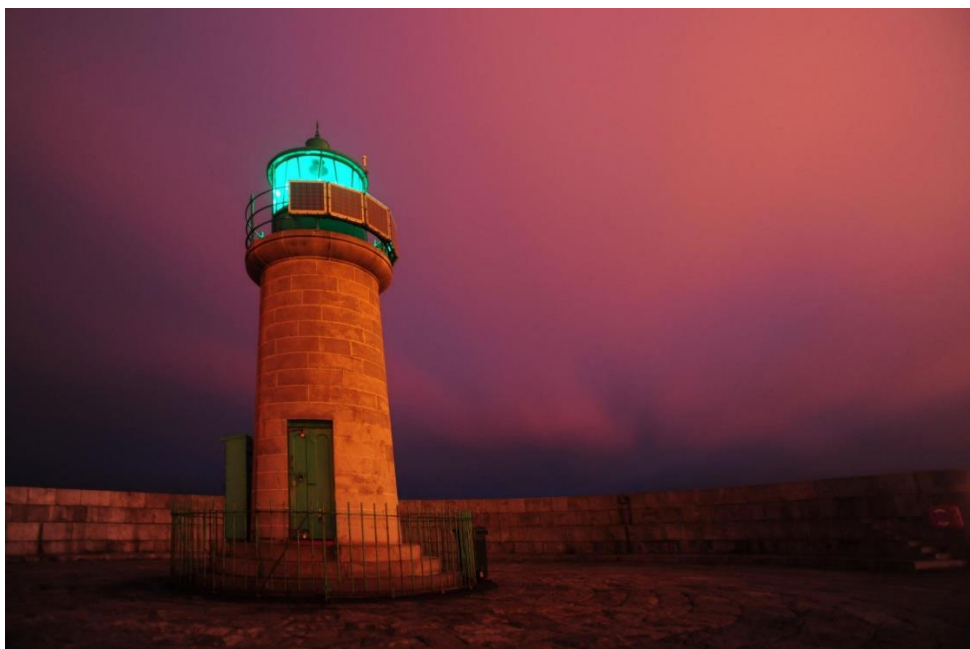
Local Aids to Navigation Inspections

&

Audits of Local Lighthouse Authorities

in

Ireland



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## **Acronyms**

AtoN	Aid to Navigation
BIM	Bord Iascaigh Mhara
DAFM	Department of Agriculture, Food and the Marine
FHC	Fishery Harbour Centre
GLA	General Lighthouse Authority
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ILV	Irish Lights Vessel
IMA	Irish Maritime Administration
LAtN	Local Aid to Navigation
LLA	Local Lighthouse Authority
MSO	Marine Survey Office
NTM	Notice to Mariners
OREI	Offshore Renewable Energy Installations
RNW	Radio Navigational Warning
SMS	Safety Management System
SS	Safety Statement

## Executive Summary – All Island

The reporting period April 2020 to March 2021 saw some challenges introduced around face-to-face meetings and travel restrictions for audits and inspections due to the COVID pandemic, although these have been mitigated and resolved using remote meetings. These mitigations have enabled Irish Lights to continue with our inspections of local aids to navigation while adding a renewed emphasis on auditing against the requirements stipulated by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

The year commenced with exceptional Government levied travel restrictions as a result of the global COVID-19 pandemic<sup>1</sup>. Irish Lights was granted 'Essential Movement Status', in order to carry out its statutory functions in line with dynamic Public Health advice<sup>2</sup>. Irish Lights wishes to express our sincere gratitude for the support we received from the Local Lighthouse Authorities during the year. It is a testament to the assistance provided by those authorities and to the professionalism of Irish Lights staff that despite the pandemic and the delayed start to local AtoN inspections, Irish Lights achieved 100% of our intended local AtoN inspections and audits. Meaning that for the year 2020/21 Irish Lights inspected a total of 1,618 Local AtoN and audited 28 of the 56 Local lighthouse Authorities on the island of Ireland as well as installations in adjacent seas and islands. As a result of the inspections and audits conducted during the year, Irish Lights issued five Corrective Action Requests to Local Lighthouse Authorities. Irish Lights also introduced a new mobile tool (GeoPal) for recording inspections and audits allowing for more efficient record keeping and data sharing.

This year has been a busy year in provision of local aids to navigation. In the aquaculture sector Irish Lights processed applications for: 110 new LAtoN, the disestablishment of 83 LAtoN and the amendment to 26 existing LAtoN. This represents a significant increase in activity for this area as Irish Lights continues to work with Bord Iascaigh Mhara (BIM) throughout the year to focus on improving the marking and lighting of licensed aquaculture sites around our shores. Irish Lights, as a statutory consultee under the Foreshore Act 1933, reviewed and responded to 29 aquaculture site applications. Irish Lights, working with Local Lighthouse Authorities (LLA) also processed applications for: 47 new permanent LAtoN, disestablishment of 8 LAtoN and approved amendments to 29 existing LAtoN. Irish Lights additionally sanctioned 41 temporary LAtoN. Elevated interest in wind farm site investigations within the Offshore Renewable Sector resulted in the number of statutory sanctions for data collection buoys increase by 9 on the previous year.

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<sup>1</sup> <https://www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/>

<sup>2</sup> S.I. No. 121 of 2020 Health Act 1947 (Section 31A- Temporary Restrictions) (COVID-19) Regulations 2020

Minor Discrepancies of local AtoN increased by 7% when compared with last year's figures. COVID restrictions both in terms of availability of trained personal and in terms of travel restrictions were cited as causes, which affected the general maintenance of local AtoN and lead to these minor discrepancies. Painting of local AtoN was noted to have been particularly affected while many local authorities also reported experiencing logistical and supply chain issues in the provision of new and replacement parts, with Covid-19 and Brexit cited as leading causes for these issues. These factors combined contributed to an increase of minor discrepancies for local AtoN during 2020/2021.

Major Discrepancies have increased by 6% in last year when compared with the previous year's figures. In 2020/21 to help simplify and improve local navigation markings, (BIM), Ireland's Seafood Development Agency, in association with Irish Lights launched a new Special Unified Marking Schemes (SUMS) standard operating procedure. Where multiple aquaculture sites are arranged adjacent to each other, this procedure groups these sites into a unified lighting and marking plan for navigation safety purposes, thus reducing the requirements for marking of individual sites. In support of this initiative, Irish Lights has focused on improving the marking and lighting of licensed aquaculture sites around our shores. This has led to an increased number of major discrepancies recorded against aquaculture AtoN in the year 2020/21.

Separately Irish lights conducted a targeted review in order to assess previously sanctioned temporary AtoN. Through this review, Irish Lights also recorded a higher percentage of major discrepancies against temporary AtoN in the year 2020/21.

This has also been an exciting year in term of progress and development with Irish Lights nearing completion on the delivery of a new LLA online portal. This new portal will provide Geographic Information System (GIS) functionality allowing the user to more easily identify their LAtoN set against a geographical map display. The new portal will also streamline the process of applying for Statuary Sanction approval, allowing more visibility for the LLA on the status of their applications. The new portal has been designed to be more user friendly, allowing for quicker and easier reporting of outages by the LLA. In addition, Irish Lights has been working with IALA and the National Maritime College of Ireland to develop an LLA specific training programme. The aim of this programme is to improve marine and technical knowledge associated with the safe, efficient and effective provision of Local Aids to Navigation.

Annual Summary of AtoN Inspected on the Island of Ireland		
(Financial Year)	2019/20	2020/21
As Required	1,450 (89%)	1,232 (76%)
Minor Discrepancy	45 (3%)	166 (10%)
Major Discrepancy	132 (8%)	220 (14%)
<b>Total AtoN Inspected</b>	<b>1,627</b>	<b>1,618</b>

*Table 1 - Summary of AtoN Inspected on the Island of Ireland*

## Legislative Background – Ireland

Section 652(1) of the Merchant Shipping Act 1894, empowers the General Lighthouse Authority (GLA) to inspect all lighthouses, buoys and beacons under Local Lighthouse Authority management. 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 Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). The GLA requires Local Lighthouse Authorities to be responsible for ensuring that any third party AtoN, within their area of responsibility, are also established and maintained to the same standards.

Before any aid to navigation can be established, altered or disestablished, consent in the form of Statutory Sanction under the Merchant Shipping Act must be obtained from the Commissioners of Irish Lights. This application is submitted through a Local Lighthouse Authority. A Statutory Sanction can be granted for four classes of AtoN (*Table 2*).

AtoN Categorisation	
Permanent AtoN	AtoN established to mark a known navigational hazard. Example – Channel lateral marks.
Aquaculture AtoN	AtoN established to mark licenced aquaculture sites.
Temporary AtoN	AtoN temporarily established for a period not exceeding 12 months. Example – Turbidity buoy deployed for three month dredging campaign.
Seasonal AtoN	AtoN established for a given period each year. Example - Swim zone buoys deployed from May to September.

*Table 2 - AtoN Categorisation*

The levels of compliance for these AtoN categories are examined below by Local Lighthouse Authority.



## Local Aids to Navigation Inspections - Ireland

Irish Lights' inspection target of 1,618 (100%) AtoN on the island of Ireland was achieved in 2020/21. Of this target, 1,340 (82.8%) of the AtoN inspected were in Ireland. It is important to note that the number of physical inspections which took place exceeded this number as several follow up inspections were conducted of AtoN which were found with an initial discrepancy.

There are three outcomes which result from an Irish Lights inspection of an AtoN.

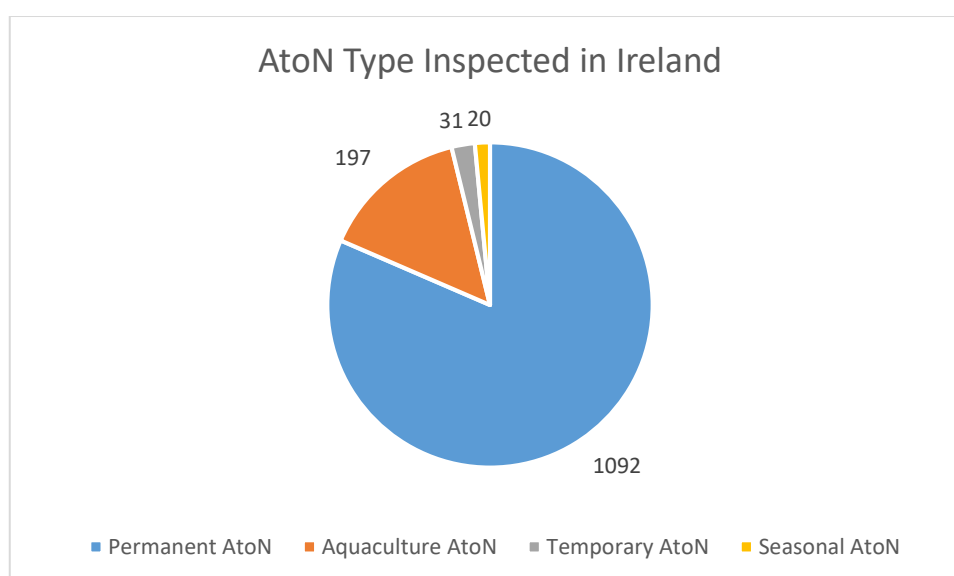
Inspection Outcomes	Explanation of Outcomes
As Required	Where the AtoN is as described in the Statutory Sanction.
Major Discrepancy	Where the AtoN is not compliant and considered a risk to navigation.
Minor Discrepancy	Where the AtoN is not fully compliant but not a risk to navigation.

*Table 3 – Categories of Inspection Outcomes*

Summary of outcomes for AtoN inspected in Ireland.

Year 2020/21	AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
Permanent AtoN	1,092	856 (78%)	109 (10%)	127 (12%)
Aquaculture AtoN	197	93 (47%)	77 (39%)	27 (14%)
Temporary AtoN	31	15 (48%)	16 (52%)	0
Seasonal AtoN	20	19 (95%)	1 (5%)	0

*Table 4 – Result of inspections in Ireland*



*Figure 1*

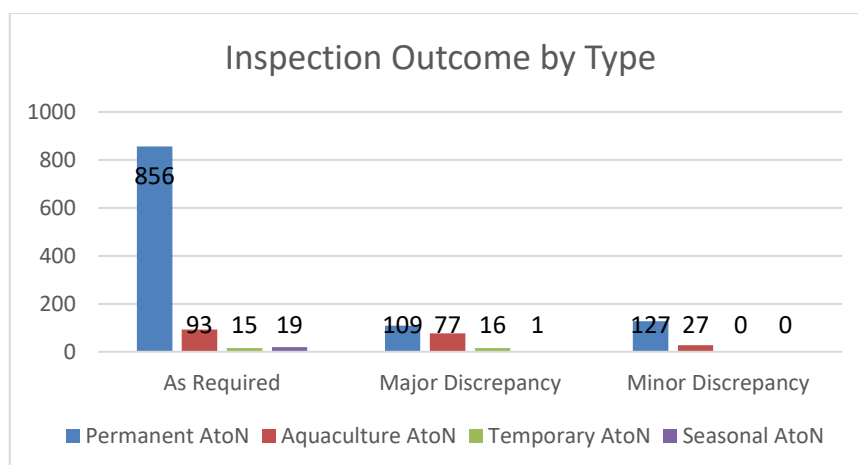


Figure 2

The inspection outcome has a number of detailed descriptions recorded against it. These descriptions are shown in *Table 5* for the 357 discrepancies observed:

Outcome detailed descriptions for 2020/21	Major Discrepancies	Minor Discrepancies
Bent / Defective Top mark	1	2
Leaning / Not Upright	1	1
Light Character Incorrect	0	23
Light Extinguished (Unlit)	40	4
Light Not Seen	2	0
Lights Not Synchronised	0	2
Maintenance Required	0	1
Name Board Missing	2	1
Not Seen (Not Found / Not Located)	156 (85 Aquaculture AtoN)	12
Other (light not fitted)	1	2
Out of Position	7	6
Renewal Required (condition deteriorating)	5	39
Requires Cleaning	0	2
Requires Painting	0	48
Top Mark Missing	1	0
<b>2020/21 Totals</b>	<b>203</b>	<b>154</b>

Table 5 - Number and type of discrepancies – Ireland

## **Unsanctioned Local Aids to Navigation - Ireland**

During the course of local AtoN inspections in Ireland a total of 31 unsanctioned AtoN were observed visually by an inspector and reported to the LLA in whose jurisdiction they were located (Annex C, *Figure 5*). An unsanctioned AtoN is where Irish Lights has observed a navigation mark through physical inspection, however no corresponding Statutory Sanction permission had been granted for the establishment of the AtoN. The detection of these unsanctioned AtoN during physical inspections is a positive indicator of the efficacy of the inspection process, however points towards a requirement for wider stakeholder engagement and education of both LLAs and the general public on the legal requirements concerning aids to navigation.

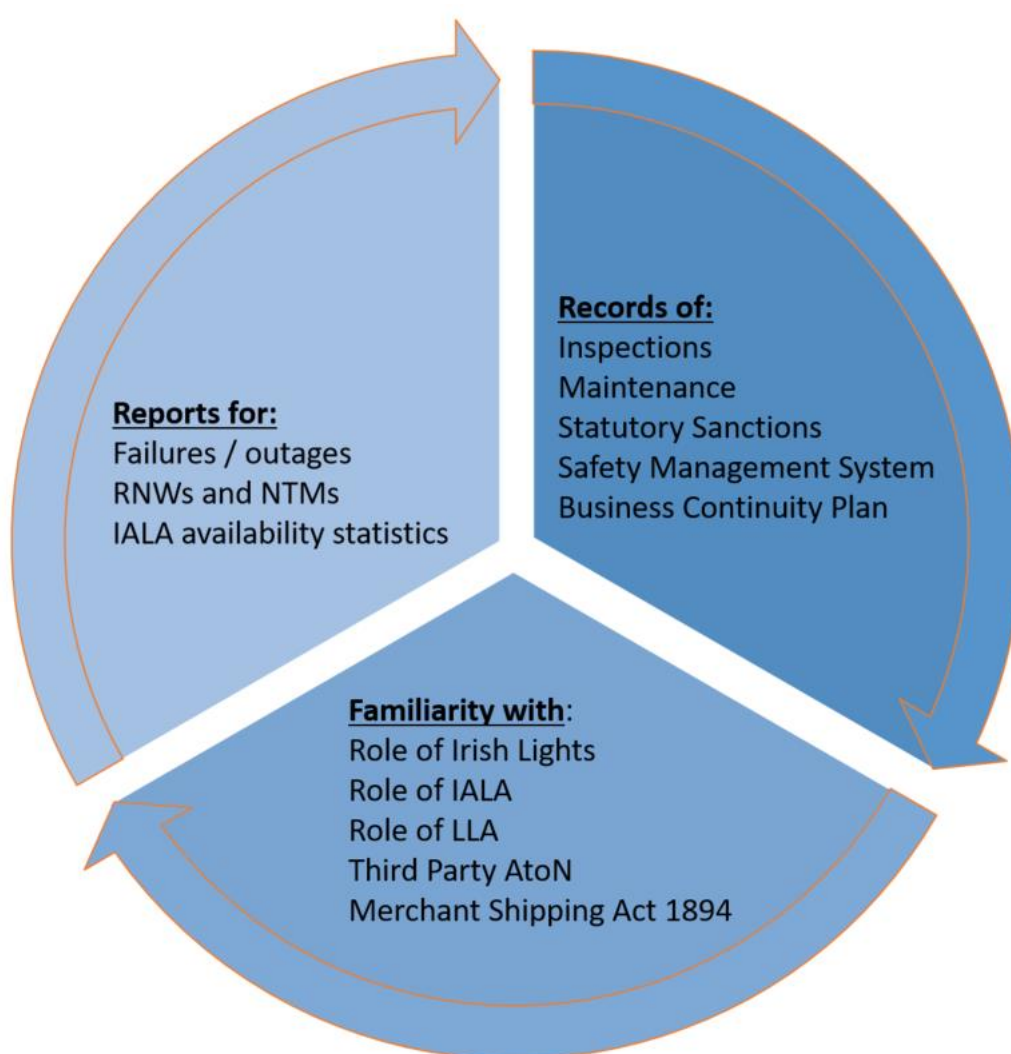
These 31 unsanctioned AtoN were primarily related to recently completed coastal projects in which LLAs had constructed public access pontoons and established AtoN without applying for the necessary Statutory Sanction approval. There was also one AtoN found to have been privately established by a member of the public without the knowledge of the LLA and without the corresponding Statutory Sanction permission having been granted. Following the observation of these unsanctioned AtoN, Irish Lights have engaged with the Local Lighthouse Authorities and requested commencement of the statutory sanction process in respect to the establishment of these AtoN.

These kind of unsanctioned AtoN are provided with good intent and aimed at increasing safety of navigation, however the correct process was not followed resulting in a lack of oversight and awareness of these changes on the part of the hydrographic authority tasked with updating nautical charts and publications.

## Local Lighthouse Authority Audits - Ireland

Audits of Local Lighthouse Authorities policies and procedures assist in the fulfilment of Irish Lights' duties of superintendence and management of Local Aids to Navigation. There are 36 Local Lighthouse Authorities within Ireland. The Audit cycle involves auditing each LLA every two years with intermediate audits to resolve any outstanding issues. Irish Lights audited 23 of the 36 LLAs during 2020/21 (*Table 6*). Due to Government travel restrictions many of the LLA audits took place remotely, via online web services.

The focus areas discussed with an LLA during the audit are shown in *Figure 3*:



*Figure 3 - Items covered by the LLA Audit*

23 Local Lighthouse Authorities Audited in 2020/21 (64% of LLAs in Ireland)	
Clare County Council	Galway County Council
Cork County Council	Kerry County Council
DAFM – Castletownbere Fishery Harbour Centre	Marine Institute
DAFM – Dingle Fishery Harbour Centre	Mayo County Council
DAFM – Howth Fishery Harbour Centre	Port of Cork Company
DAFM – Killybegs Fishery Harbour Centre	Port of Galway
DAFM – Rossaveel Fishery Harbour Centre	Port of Waterford
Department of Agriculture, Food and the Marine	Rosslare Europort
Donegal County Council	Shannon Foynes Port Company
Dublin Port Company	Sligo County Council
Dun Laoghaire Rathdown County Council	Wicklow County Council
Fingal County Council	

*Table 6 - LLAs audited in Ireland*

Following an audit, a detailed report is provided to the LLA to assist with maintaining or improving compliance. There are three outcomes which result from an audit is detailed in Annex D, *Table 8*.

- **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 LLAs jurisdiction.
- **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. An intermediate audit is planned for 12-months' time to monitor progress.

## Assistance Provided to Local Lighthouse Authorities - Ireland

Irish Lights provide assistance to Local Lighthouse Authorities in many forms. Several examples of this assistance is detailed below.

**Aquaculture** - We work closely with Bord Iascaigh Mhara (BIM) in assisting the aquaculture industry in applying for Statutory Sanction as part of Special Unified Marking Schemes (SUMS). These licences assess the cumulative impact of adjacent sites and mark the boundaries accordingly, resulting in a reduction in the overall number of AtoN required. In 2020/21 a redrafting of SUMS took place in Clew Bay and the Shannon Estuary. The UK Hydrographic Office is subsequently informed of any changes so that navigation charts and publications can be updated.



Figure 4

**PSE Kinsale Energy Limited** - Natural gas production first begun in 1978 off the coast of Cork. In July 2020, PSE Kinsale Energy commenced decommissioning<sup>3</sup> the two gas platforms. Statutory Sanction was approved to alter the current AtoN to solar power in preparation for de-manning the platforms, which was completed in August 2021. Irish Lights continue to work with the LLA in preparation for temporary AtoN applications in 2022 as a third party contractor<sup>4</sup> will remove the platforms to the sea bed.

**Offshore Renewable Energy Installations (OREI)** – The reporting year 2020/21 was very significant for the offshore renewable energy sector in Ireland, with a number of milestone policy and legislative developments triggering a significant level of activity. In May 2020, the Government announced the transition of seven offshore renewable energy projects (managed by five developers) to the designation of ‘Relevant Project’.

<sup>3</sup> <https://www.kinsale-energy.ie/decommissioning-2.html>

<sup>4</sup> <https://www.heerema.com/>

This meant that those projects, which previously either applied for or were granted a lease under the Foreshore Act 1933<sup>5</sup>, could continue their work in order to be in a position to apply for development consent under the new marine planning regime to be introduced by the Marine Area Planning Bill, 2021<sup>6</sup>. These seven Relevant Projects have the potential to deliver 3.8GW of capacity as part of Ireland's strategy to support the deployment of offshore wind projects between now and 2030.

Project	Location	Capacity	Developer(s)
Oriel Windfarm	East Coast (Irish Sea)	330MW	Parkwind NV / ESB
Dublin Array (Bray and Kish Banks Projects)	East Coast (Irish Sea)	600MW	Innogy
Codling Bank Wind Park (Codling Phase I and II Projects)	East Coast (Irish Sea)	2,100MW	Fred Olsen / EDF
Skerd Rocks	West Coast (Atlantic Sea)	100MW	Fuinneamh Sceirde Teo
North Irish Sea Array	East Coast (Irish Sea)	750MW	Statkraft

Irish Lights is in regular contact with each of these companies in order to ensure that safety of navigation requirements are fully met during all stages of the planned projects. In addition, Irish Lights is in contact with other ORE development companies in this space with projected later start dates. In total, Irish Lights provided 10 responses to navigation risk assessment consultation requests connected with the development of offshore wind projects during the period and four formal written responses to consultations on Environmental Impact Assessment Scoping Reports for specific sites. This activity resulted in 14 Statutory Sanctions applications for data collection buoys proceeding to the Board of Irish Lights for decision.

<sup>5</sup> <http://www.irishstatutebook.ie/eli/1933/act/12/enacted/en/html>

<sup>6</sup> <https://www.oireachtas.ie/en/bills/bill/2021/104/?tab=documents>

## Conclusion

This annual report provides a high level summary of the performance of local AtoN within Ireland, in accordance with Irish Lights' statutory responsibilities for the superintendence and management of all lighthouses, buoys and beacons managed by Local Lighthouse Authorities. These responsibilities are the cornerstones of Irish Lights' role in ensuring that mariners using the waters around the island of Ireland can do so safely.

2020/21 Summary of AtoN Inspected in Ireland			
AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
1,340	983 (73%)	203 (15%)	154 (12%)

Table 7

The majority of local authorities that we attended during this year have managed to weather the restrictions and difficulties placed upon them by the COVID pandemic, although many reported shortfalls in the availability of their workforce and difficulties including supply chain issues in obtaining spare parts for their AtoN. Irish Lights believes that the continuation of physical inspections and the provision of virtual audits throughout this year has assisted Local Lighthouse Authorities in maintaining a focus on the safety of mariners and that collectively we have all assisted in keeping the island of Ireland running through these difficult and challenging times.



**Ronan Boyle**

**Director of eNavigation and Maritime Services**

20 Oct 2021

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## **Annexes**

### **Annex A – Extract from IMO SOLAS**

Available at:

<http://www.imo.org/en/OurWork/facilitation/documents/solas%20v%20on%20safety%20of%20navigation.pdf>

#### **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 obtain the greatest possible uniformity in aids to navigation, Contracting Governments undertake to take into account the international recommendations and guidelines\* 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 effected after timely and adequate notice has been promulgated.

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

## **Annex B – IALA Categorisation and Availability Objectives for Short Range Aids to Navigation**

Available at:

<https://www.iala-aism.org/product/r0130o-130-categorisation-availability-objectives-short-range-aids-navigation/>

Within these IALA guidelines, Aids to Navigation are categorized 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 considered essential for marking landfalls, primary routes, channels, waterways, dangers or the protection of 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.

**Table 1 Categories of percentage availability**

CATEGORY	AVAILABILITY OBJECTIVE	CALCULATION PERIOD
1	99.8%	Availability Objectives are calculated over a continuous three-year period, unless otherwise specified
2	99.0%	
3	97.0%	

Calculations principles according to IALA Guideline on Availability and Reliability of Aids to Navigation.

The minimum availability of any individual AtoN should be 95.0%.

Where the availability of an individual AtoN consistently falls below 95.0%, 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** – 17.3 hours per annum or 52.59 hours over three years

**Category 2** – 3.65 days per annum or 10.95 days over three years

**Category 3** – 10.96 days per annum or 32.88 days over three years