

Port Waste Management

FOCUS ON IMPROVING THE MANAGEMENT OF END-OF-LIFE FISHING GEAR AND
PASSIVELY FISHED WASTE ON IRISH PORTS & HARBOURS

FREE LITTER-AT WORKSHOP REVIEW BY AN TAISCE

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Free Litter-At Workshop attendees, including member of BIM, Cork County Council and An Taisce.

1. Introduction

On April 28, 2026, An Taisce hosted a '**Fishing Gear Waste Management Workshop**' on behalf of Free Litter-AT at the Kingsley Hotel, Cork. **Free Litter-AT** is an Atlantic Area INTERREG project, aimed at tackling marine litter.

The workshop focused specifically on improving the management of waste fishing gear and passively fished waste. Discussions were guided by two key European frameworks, the EU Single-Use Plastics Directive and the Port Reception Facilities Directive.

To develop practical, real-world solutions to fishing waste challenges, the event brought together key industry stakeholders, including fishermen, port authorities, policy makers, regulators, recyclers, manufacturers, and researchers.

1.1 Workshop Objectives

The primary goals of the workshop were to:

- Share successful initiatives and best practices for managing fishing gear waste.
- Launch tools developed through the Free Litter-AT project.
- Provide progress updates on the "Fishing for Litter" (FfL) and "Legacy Fishing Gear" initiatives.
- Facilitate direct communication between industry stakeholders.
- Identify the specific needs and expectations of those working in the sector.

1.2 Workshop Overview

1.2.1 Talks

To provide context, the first half of the workshop featured several presentations led by **Irish project partner An Taisce** and international partners **Southern Brittany University (France)** and **CETMAR (Spain)**. Together, they shared key findings from the Free Litter-AT project, focusing on fishing gear waste management data from regional port surveys, collaborative cross-border research results, and the newly developed project toolkits and operational guides.

Following project updates and insights, presentations were delivered by:

Bord Iascaigh Mhara (BIM), Catherine Morrison provided an update on the progress of the 'Fishing for Litter' initiative.

Department of Climate, Energy and the Environment (DCEE): Colm Lambert delivered an overview of the recent 'Legacy Fishing Gear Programme.'

1.2.1 Breakout Sessions

In addition to sharing information on waste management across the region, a primary objective of the event was to directly address issues relating to this theme. Following the presentations, attendees broke into three interactive workshops utilising Design Thinking and LEGO® Serious Play® methodologies. These creative, collaborative sessions allowed stakeholders to visually map out the industry's specific needs, behaviours, and current procedures. Working in groups, attendees addressed targeted questions to uncover systemic barriers and identify the core motivations needed to drive practical, actionable solutions forward.

Breakout sessions topics

- Topic 1: Incentivising participation in 'Fishing for Litter'.
- Topic 2: Collection, sorting and preparation of waste fishing gear/ passively fished waste for recycling.
- Topic 3: Treatment and recovery of waste fishing gear/ passively fished waste related waste.

2.0 Review of Breakout Sessions

2.1. Breakout Session Topic 1: Incentivising Participation In 'Fishing for Litter'(FfL).



Free Litter-At Workshop attendees presenting ideas to encourage participation in FfL

"Fishing for Litter" is a European initiative, operated by BIM in Ireland, that encourages fishers to bring marine litter back to port for disposal. Since its launch in 2015, maintaining long-term engagement and driving new involvement have become key priorities for the schemes ongoing success.

Free Litter-At, in partnership with BIM, facilitated a breakout session aimed at finding new solutions to increase and sustain participation in the initiative.

A day in the life of a fishermen:

Participants utilised a design thinking approach to map a typical day in the life of a fisherman, creating a persona that captured their daily reality. With these insights, the teams identified the core motivations and barriers fishermen face regarding participation in the 'Fishing for Litter' initiative.

The participants identified the following motivations and barriers to engagement.

Motivations	Barriers/ Pain Points
Local pride	Lack of time/ space on board to sort waste effectively.
Recognition	Staff not willing to participate
Feel good factor	Takes up
Community involvement	Inconvenient
Protect the environment	Lack of space on ports to sort/ store FFL waste.
Pride of place	Regulations
Love of nature/ sealife	Insurance
Contribute to cleaner oceans	Poor wages
Protect for future generations	Feeling that the waste ends up in landfill, no value stream.
Pride in your work	Bad Publicity
Improved stocks	Lack of Trust
Improved market	Prosecution
Improved wages	Not interested in participating
Improved facilities	Apathy

Designing Solutions

Following the identification of motivations and barriers, attendees worked in small groups to design solutions aimed at increasing participation in Fishing for Litter, that could be practically applied in the coming months. These plans aimed to increase motivation and find solutions to the barriers holding participants back.

The primary areas of focus from this exercise were:

1. **Communication, Visibility, and Accessible Information Systems.**
2. **Recognition, Visibility, and Crew-Level Incentives**
3. **The Need for Immediate and Individual Rewards for Crew**
4. **Inshore Fisher Perspective: Reducing Risk Through Shared Insurance Solutions**
5. **Future-Focused Fishing Communities: Making Participation Easy, Trusted, and Visible**

1. Communication, Visibility, and Accessible Information Systems.

One of the discussions highlighted the need to strengthen communication and promote 'Fishing for Litter' (FfL) at ports and surrounding areas. A major issue identified was the lack of clear, consistent signage at participating piers and ports. As a result, fishers and crew members often do not know:

- where litter should be deposited,
- how materials should be sorted,
- or how the system operates locally.

The group noted that high crew turnover and language diversity create additional challenges. Given that many crew members work temporarily, move between ports, or speak English as a second language, communication materials must be highly visual, simple, and multilingual.

Communication on ports:

- Improved signage throughout participating harbours and piers.
- Clear visual instructions for waste handling and disposal.
- Use of symbols, colour coding, and multilingual materials to improve accessibility.
- Digital access to information on local collection figures, environmental impacts, and participation rates.

Promotion in the locality:

- QR codes linked to programme information and local updates.
- QR codes placed on reusable coffee cups, posters, harbour signage, or beer mats in local businesses.

Data Sharing & Progress Updates: Attendees emphasised the importance of providing regular updates on the results of work carried out by contributors to maintain engagement. Sharing local facts, statistics, and success stories could help create a stronger sense of ownership and pride among fishers and harbour communities

2. Recognition, Visibility, and Crew-Level Incentives

The importance of recognising the practical effort involved in collecting and handling marine litter onboard vessels was raised. The free collection and disposal of "Fishing for Litter" waste was highlighted as essential and should remain a core support mechanism within the programme.

A strong, recurring theme throughout the discussion was the lack of visible recognition for fishers participating in environmental initiatives. One group suggested that waste should be measured in a consistent way to support tracking and reporting, this measurable contribution could help strengthen recognition and demonstrate the value of fisher

participation. Proposals were also made to implement recognition schemes using bronze, silver, and gold levels based on participation or the quantities collected.

Strengthening engagement with seafood processors and other corporate stakeholders was suggested in an effort to explore sponsorship, visibility, and partnership opportunities that could help support incentives and public recognition.

A special focus on incentivising the crew members supporting the scheme was also highlighted, rather than just the skippers or boat owners, as ultimately, they are the ones collecting and sorting the waste onboard.

Suggested crew-focused incentives included:

- High-quality PPE
- Branded hoodies or workwear
- Practical onboard equipment
- Recognition items linked to participation

3. The Need for Immediate and Individual Rewards for Crew

Rewarding FfL participants featured heavily in group conversations, and ensuring that incentives reach individual crew members, who carry out the day-to-day handling of marine litter onboard vessels was highlighted as a priority.

Participants acknowledged that while increased wages would be the strongest motivator, this is generally outside the control of Fishing for Litter schemes, and skippers may not be able to provide additional pay.

It was also felt that vessel-level rewards distributed annually may feel too distant or indirect for crew to remain motivated. Quick and visible rewards would create a stronger connection between participation and benefit. To keep interest high, the scheme could offer rewards at two key stages:

Signing up: Give participants a ‘welcome pack’, such as branded gear or PPE, as soon as they join.

Docking: Provide small, regular incentives when boats return to harbours to thank them for their continued support, including:

- Restaurant or café vouchers
- Harbour shop vouchers
- Fuel or grocery vouchers
- Instant reward cards
- Small, branded rewards linked to participation milestones

By rewarding both at the start and the daily effort, the program stays in focus for the crew.

4. Inshore Fisher Perspective: Reducing Risk Through Shared Insurance Solutions

Insurance was raised as an obstacle to participating fishermen, skippers and boatowners, with potential liability and safety risks involved in handling and storing marine waste on board. The uncertainty around who is responsible in the event of an accident was raised, resulting in hesitation and reduced participation.

Based on this, the group proposed exploring whether a similar shared or umbrella insurance model, such as Tidy Towns and Public Participation Networks could support participating fishermen/ boats in the ‘Fishing for Litter’ initiative.

It was suggested that the scheme could potentially be provided by:

- Local Authorities
- BIM
- Port Authorities
- Fishermen’s co-op
- industry groups

Participants also discussed providing practical training for fishermen on the best ways to handle, sort, and store marine waste, ensuring efficiency and reducing safety risks on board.

5. Future-Focused Fishing Communities: Making Participation Easy, Trusted, and Visible

Supporting those in the fishing sector that want to protect the future of the industry and the marine environment for the next generation, was raised as an important motivation. Fishers want clean seas, take pride in their role as environmental stewards, and value positive recognition and good news stories associated with participation in 'Fishing for Litter'.

However, to achieve this, discussions emphasised that participation must be practical, streamlined, and supported operationally, to help reduce the burden placed on fishers during collection and disposal activities.

Key recommendations included:

- Improving onboard storage and sorting facilities to make litter collection easier during normal fishing operations.
- Ensuring BIM collection bags are practical and fit-for-purpose, particularly narrower bags that work better onboard vessels.
- Reducing or eliminating the need for sorting waste at the pier by introducing clearer, more efficient systems earlier in the process.
- Improving onshore waste infrastructure, including separate and clearly labelled bins for materials such as plastics, cardboard, and other recyclables.

The group also identified several social and governance barriers that reduce participation:

- Negative media narratives around the fishing industry.
- Lack of trust between fishers and authorities.
- Fear that collected waste, reporting, or engagement could lead to penalties, inspections, or prosecution.

Positive reinforcement and public recognition were viewed as important non-financial incentives.

Conclusion

To successfully increase participation in the 'Fishing for Litter' initiative, the programme should adapt to the practical realities of the fishing sector.

This can be achieved by focusing on four key areas:

1. removing language barriers with simple, highly visual port signage,
2. implementing a system to recognise the effort involved in collecting and handling marine litter onboard vessels,
3. driving immediate rewards directly to the crew members handling the waste,
4. and reducing concerns about liability through a shared insurance model.

2.2. Breakout Session Topic 2: Management of Waste Fishing Gear (LSP System Analysis)



Free Litter-At Workshop attendees, using LEGO® Serious Play (LSP)

Introduction

The management of passively fished waste and waste fishing gear on Irish ports presents a complex and multi-dimensional challenge, involving a wide range of stakeholders, processes, and environmental considerations. Gaps remain in how this waste material is sorted, managed, and reported once it reaches end of life.

To explore these challenges in depth, a participatory workshop was conducted using the LEGO® Serious Play (LSP) methodology. LSP is a structured facilitation approach designed to support collective thinking, shared understanding, and problem-solving, particularly in situations where there is no single correct answer. Through a process of building, sharing, and reflection, participants were able to '3D print' their perspectives and experiences, making complex systems visible and open to discussion.

Participants were guided through three key stages:

- The State of the Actual – exploring how fishing related waste is currently collected, sorted, and reported
- The State of the Possible – envisioning an ideal, fully functioning system
- What is Needed – identifying the supports required to bridge the gap between the two

The outputs from these builds, combined with facilitated discussion, provide a rich insight into both the current system realities and the collective vision for improvement. As highlighted in the analysis, the issue is not simply one of waste management, but of system design, encompassing governance, behaviour, infrastructure, and collaboration.

This report synthesises these insights to identify the key gaps and opportunities for developing a more effective, coordinated, and sustainable system for the management of fishing related waste

1. The State of the Actual:

Purpose

To understand how 'Fishing for Litter' and waste fishing gear waste is currently collected, sorted, and reported in Irish ports and harbours, based on stakeholder mental models expressed through LEGO® Serious Play.

System Reality (What's Actually Happening)

- Across all builds, a consistent picture emerges:
- Fishing for Litter is happening physically, however, it is not functioning as a system.
- Litter is brought ashore by fishermen
- Waste is often dumped, mixed, or abandoned
- Sorting is inconsistent or non-existent
- Reporting is minimal or disconnected
- Infrastructure exists, but is underused or mismanaged

Key Insights

1. Lack of Ownership & Coordination

Repeated themes: 'unmanaged', 'abandoned', 'no one responsible'.

Facilities exist, but no clear roles or accountability

Core issue: Governance gap, not just operational failure

2. Sorting is the Critical Failure Point

Most waste is mixed and contaminated

Ideal models show segregated streams (plastic, metal, timber, oil)

Without sorting: Waste = cost

With sorting: Waste = resource

3. Human Factor is Missing or Undefined

Some models show no people at all

Others introduce roles: harbour master, admin, workers

The system currently relies on:

- Assumption
- Goodwill
- **Not:** Defined responsibilities

4. Behavioural Barriers (Fishermen Engagement)

Low participation in reporting ("fishermen didn't even read an email")

Key concern: "What's in it for me?"

System assumes compliance, but behaviour shows low motivation

5. Infrastructure is Inconsistent (but not the main issue)

Three realities exist:

1. No facilities → dumping / littering.
2. Basic facilities → unmanaged skips.
3. Advanced (idealised) → cranes, sorting systems.

Problem is not absence of infrastructure. It's lack of system around it

6. Reporting & Data are Weakest Links

- Few models included reporting flows.
- Data collection is manual, fragmented, or absent.

Reporting is treated as optional, not embedded

Stakeholder Perspectives

Harbour Masters

- Frustrated, overstretched
- Lack authority to enforce systems

Fishermen

- Passive participants
- Low incentive to engage beyond disposal

System Thinkers (DCEE/DCU/BIM)

- See potential for circular economy
- Focus on flow, sorting, reuse

Environmental Lens

- Strong emotional response
- Visible impact of unmanaged waste

2. The State of the Possible:

The Ideal System (Shared Vision)

- Across all builds, a clear and consistent system emerges:
- A structured, end-to-end process from collection to recycling, supported by people, infrastructure, and clear roles.

Core flow:

Boat → Segregation → Managed Facility → Collection → Recycling → Reporting

Key Features of the Ideal System

1. Segregation at the Core

- Waste is sorted into clear streams (plastic, metal, timber, oil)
- Often colour-coded and easy to use
- Seen as the most critical improvement

2. Active Human Involvement

- Fishermen participate in sorting and reporting
- Harbour staff manage and oversee
- Admin roles track data and coordinate removal
- Shift from no ownership → shared responsibility
-

3. Designed & Managed Facilities

- Clean, organised, clearly labelled
- Covered and weather-proof
- Often accessible 24/7
- Shift from dumping space to a functional system

4. Clear Waste Flow

- Dedicated transport removes waste
- Materials go to recycling or reuse facilities
- Waste becomes part of a circular process

5. Embedded Reporting

- Systems to track what is collected and by whom
- Includes both manual and digital approaches
- *Data becomes part of the system, not an afterthought*

Key Tensions

People vs Technology

- Some favour community, staffing, social interaction
- Others propose QR codes, scanning, automation

Infrastructure vs Behaviour

- Investment in facilities vs education and behaviour change

Ideal vs Reality

- Constraints: cost, staffing, space limitations

Broader Vision

- Some models extend beyond waste:
- Reuse into community assets (e.g. playgrounds)
- Cleaner harbours for recreation and tourism
- Stronger community engagement and pride

Key Takeaway

- The ideal system is cleaner, it is structured, visible, and shared.

Gap Analysis Summary - Fishing for Litter System (Current vs Ideal)

Overview

This analysis identifies the key gaps between the current reality and the ideal system for passively fished waste and waste fishing gear on Irish harbours, based on stakeholder LEGO® Serious Play insights.

Core finding: The challenge is not a single issue, but a system-wide gap across governance, resources, infrastructure, and coordination.

Key Gaps

1. Governance & Structure

Current: Informal, inconsistent processes with limited authority

Ideal: Clear rules, co-created and supported by policy

Gap: Lack of structured, enforceable system

2. People & Capacity

Current: Severe staff shortages; harbour masters overstretched

Ideal: Dedicated roles (waste managers, admin, support staff)

Gap: Under-resourced system

3. Funding & Investment

Current: Limited or unclear funding

Ideal: Targeted investment in staff, infrastructure, and operations

Gap: Insufficient financial support

4. Space & Infrastructure

Current: Lack of space and inadequate facilities

Ideal: Designated, covered areas for sorting and storage

Gap: Physical constraints limiting system effectiveness

5. Operational Process

Current: Fragmented, unclear workflows

Ideal: Defined process (collect → sort → store → transport → recycle)

Gap: No consistent end-to-end system

6. Logistics & End Destination

Current: Unclear waste pathways; risk of landfill

Ideal: Reliable transport and clear recycling/reuse routes

Gap: Lack of guaranteed material flow

7. Collaboration & Integration

Current: Siloed stakeholders

Ideal: Connected system across harbours, government, and industry

Gap: Limited coordination and shared ownership

8. Administration & Data

Current: Manual, burdensome reporting

Ideal: Dedicated admin and structured data systems

Gap: Weak data management and visibility

9. Knowledge & Awareness

Current: Limited understanding of processes and impact

Ideal: Clear guidance, signage, and shared learning

Gap: Low awareness and clarity

10. System Vision

Current: Linear disposal mindset

Ideal: Circular economy (reuse, recycling, local value creation)

Gap: Missed opportunity for value and impact

Summary Statement

“Moving from current to ideal requires a fully resourced, coordinated system, not just better infrastructure, but clear roles, processes, and collaboration.”

Conclusion

The findings from this workshop clearly demonstrate that while the collection of some fished related waste is already taking place, the broader system required to support it is fragmented, inconsistent, and under-resourced. The gap between current practice and the ideal scenario is not defined by a single weakness, but by a combination of interconnected challenges across governance, capacity, infrastructure, logistics, and stakeholder engagement.

Participants shared a strong and consistent vision of what an effective system should look like: one that is structured, well-resourced, and collaborative, with clear roles, standardised processes, and integrated reporting. Central to this vision is the transition from a linear ‘collect and dispose’ approach to a more circular system, where waste is properly sorted, tracked, and reused wherever possible.

However, achieving this vision will require more than incremental improvements. It calls for a system-level response, including:

- Clear governance frameworks and shared accountability
- Investment in people, infrastructure, and logistics
- Simplified and embedded processes for sorting and reporting
- Stronger collaboration across harbours, government bodies, and communities

Ultimately, the key insight from this work is that this is not just a waste management issue, it is a system design challenge. Addressing it successfully will depend on the ability to align stakeholders, resources, and processes into a coherent and functioning system.

The opportunity now lies in translating these insights into practical, scalable solutions that can support harbours across Ireland in moving from isolated efforts to a coordinated, circular, and sustainable model for managing fishing waste and litter.

2.3. Breakout Session Topic 3:

How Might We Improve 'The Processing and Recycling of Fishing Related Waste' Once Collected?



Processing and recycling fishing gear waste and passively fished waste is highly complex due to material degradation, mixed polymers, and the logistical challenges of collection, storage, and transport. This session utilised a 'backcasting' approach to obtain solutions to improving the process. Attendees were asked to envision a successful 2031, a future where Ireland has become a global leader in processing fishing-related waste, and work backward. From this future vantage point, participants identified the key barriers overcome, the 2026 triggers that resulted in progress, and the immediate actions required over the next six months. The group were asked to come up with ideas for a newspaper headline and selected their favourites for two news articles in 2031, outlined below.

1. The Vision: Ireland 2031

The groups capture the future success with two primary headlines:

- 'Solution to fishing gear litter is a great catch'
- 'The net that caught all' 2. Overcoming the Barriers (2026–2031)

Participants identified logistical and cultural hurdles that initially slowed progress.

Category	Key Barriers Identified
Logistics & Space	Lack of storage, poor signage, and time constraints at busy ports.
Socio-Cultural	Profit vs. Convenience mindsets, language barriers, and a lack of community buy in or trust regarding ghost net reporting.
Systemic	Fragmented end-to-end solutions and a lack of dedicated staff to manage waste streams.

2. The Breakthroughs:

Success was achieved by shifting waste from a liability to an asset. Key drivers included:

- **Economic Shifts:** The Strait of Hormuz crisis spiked raw material costs, making recycled fishing gear economically valuable.
- **Operational Support:** BIM-funded skips, dedicated port staff, and a Deposit Return Scheme for gear.
- **Communication:** Replacing dense text with pictograms to solve language barriers and launching school led social responsibility campaigns.

3. The 2026 'Tipping Point'

Looking at the current year, the groups identified the specific triggers that are currently turning the tide:

- **Policy & Penalty:** The removal of landfill options and the introduction of strict Extended Producer Responsibility schemes.
- **Public Health:** Growing alarm over microplastics in the food chain and their direct impact on human health.
- **Financial Flow:** Legislation that ensures funding and rewards flow directly back into coastal and fishing communities rather than being lost in central coffers.

4. Immediate Action Plan (Next 6 Months)

To maintain the momentum generated today, the following 'Quick Wins' were proposed:

- **Establish a National Fishing for Litter Awards:** Modelling a scheme after the Tidy Towns initiative, complete with a public scoreboard and annual rewards night to foster healthy competition between ports.
- **Building Community Trust:** Launching a 'No-Blame' reporting system for ghost nets to ensure gear can be recovered without penalizing vessel owners.
- **Policy Acceleration:** Moving from planning phases to active 'Action Groups' that focus on the immediate rollout of retired gear collection points.

Conclusion

The workshop identified that becoming a world leader by 2031 requires a blend of financial incentives, transparency, and community led rewards. By treating End of Life gear and passively fished waste as a resource rather than a burden, Ireland is positioned to turn an environmental challenge into an economic success.

3. Resource links:

For information on the Free Litter-AT project:

www.freelitterat.eu

For information on waste management and recycling, including presentations from previous EOL & PRF webinars:

www.freelitterat.eu/waste-management-and-recycling/

For resources related to port surveys in participating countries:

www.goodpractices.freelitterat.eu/

For information on the An Taisce:

<https://www.antaisce.org/>

For information on the Clean Coasts programme:

www.cleancoasts.org