EPA Green Enterprise

Project: NetMap – managing waste fishing nets

Project Objective: Investigate potential uses for abandoned, lost, discarded and end-of-life fishing gear.

Amount Of Grant Aid Awarded: €60,000

Background:

The idea for the project emerged from conversations with harbourmasters who contacted Macroom-E's SMILE Resource Exchange to explore potential outlets for waste fishing nets and ropes. Polyethylene (PE) fishing nets were the most problematic - European recycling companies have not been interested in PE nets due to their lower material value and tendency to bring in debris.

Project activities:

The project assessed the situation regarding management of fish nets at Irish ports, and the considerations relating to a potential waste fishing net social enterprise. An investigation of strength and mortar cracking using various mixes of concrete incorporating waste material from fishing gear was also carried out.

The process of breaking down retired fishing gear is labour intensive, as they include various mixed materials. Social enterprise can provide an effective solution for management of bulky or problematic waste streams in Ireland, where due to the size of our country and the labour intensive nature of the work, some loops will never be closed in a commercial sense. The project identified a selection of enterprises working internationally in this area making products, primarily nylon filament and yarn.

Fishing nets' twisted or braided fibres are similar in shape to those used for fibre reinforcement of concrete. Macroom-E commissioned a field trial in 2017 to investigate variation in strength and shrinkage cracking of mortar using four different mixes: mortar with commercial virgin polypropylene fibre, mortar with new fishnet polyethylene fibre, mortar with waste fishnet polyethylene fibre and mortar without fibre (blank).

The results from tests with two construction companies show that the

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Project Outcomes:

If a market was to emerge for waste fishing net fibres in the construction industry, investment would be required to establish facilities suitable for re-processing fishing net materials. Following investigations with waste management companies in Ireland, it was established that their current plastic/paper shredding machinery may not be suitable for fishing nets, as particular high velocity machines would be required to manage the "knots" within the nets.

There was insufficient information available during the project to map the waste fishing nets generated in Ireland.

Work in this area since the project:

Bord Iascaigh Mhara (BIM) has been working with a number of ports to improve management of waste fishing gear. Pilot recycling programmes for nylon and more recently polyethylene fishing nets have ensured that large volumes of nets have been redirected from landfill. BIM is also involved in a pilot project to manufacture commercially-viable products from recycled nylon and polyethylene fishing gear.

Next steps needed:

Collaborative work across the sector is needed to increase recycling and re-use of waste fishing gear in accordance with the circular economy. Recent developments at EU level include the Plastics Strategy 2018, the Single Use Plastics Directive and measures on Port Reception Facilities. Gear Marking and Producer Responsibility Schemes are set to bring considerable positive change in how waste fishing nets are managed, potentially streamlining routes for re-processing, recycling and re-use, allowing a wider second-life market.

For more on the EPA's Green Enterprise programme visit here