



catchgreen

BIODEGRADABLE NETS AND ROPES FOR FADS

10th FAD Working Group (FAD-WG)
– 4 June 2026



Sustainable today.
Better tomorrow.





catchgreen

Sustainable solutions. Stronger performance. Designed to degrade.

Catchgreen manufactures high-performance **biodegradable** ropes, fishing nets and nets for **land rehabilitation** from PBS (Polybutylene Succinate).



 Ropes



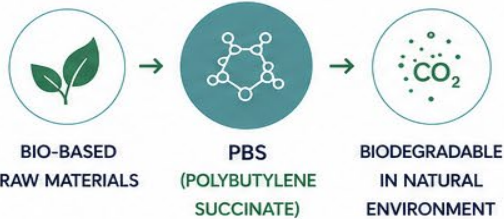
 Fishing Nets




 Nets for Land Rehabilitation

1. OUR MATERIAL: PBS

We use PBS (Polybutylene Succinate), a **biodegradable** polymer that breaks down naturally in the environment.



 A proven, safe and sustainable alternative to conventional plastics.

2. WHAT WE MANUFACTURE

We turn PBS into durable, high-quality products for demanding applications.

<p>ROPES</p>  <p>Strong. Reliable. Built for performance.</p>	<p>FISHING NETS</p>  <p>Durable. Flexible. Built to last – and designed to degrade.</p>	<p>NETS FOR LAND REHABILITATION</p>  <p>Stabilises land. Reduces erosion. Returns to nature.</p>
--	--	---

3. OUR PURPOSE

To enable a circular future for the fishing and land management industries by **reducing plastic pollution and ghost gear**.

 <p>PERFORMS DURING USE</p> <p>Engineered for strength and durability.</p>	 <p>DEGRADES IF LOST</p> <p>Breaks down naturally in the environment.</p>	 <p>REDUCES ENVIRONMENTAL IMPACT</p> <p>Lower long-term persistence and ghost gear risk.</p>	 <p>SUPPORTS SUSTAINABLE FUTURES</p> <p>Helping industries protect our planet for generations.</p>
---	--	---	---

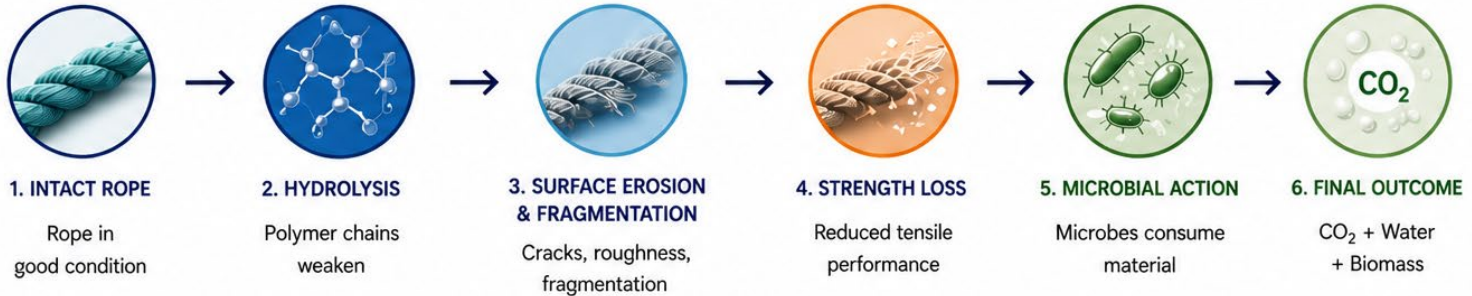


BIODEGRADABLE ROPES IN THE OCEAN

What the evidence shows

DEGRADATION PATHWAY

Biodegradation is a process – not a yes/no claim



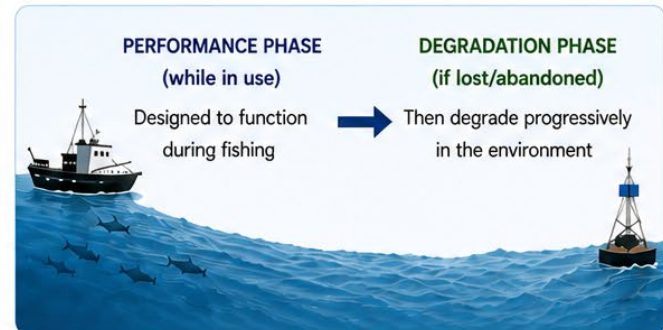
WHAT WE ARE ALREADY SEEING IN TESTS

- ✓ Surface wear & material loss
- ✓ Reduction in tensile strength
- ✓ Chemical changes (FTIR signals)

These are accepted early-stage indicators of marine biodegradation.

KEY OPERATIONAL REALITY

- Degradation depends on:
- Temperature
 - Depth & exposure
 - Biofouling





SINTEF BIODEGRADABILITY TESTING (24 MONTHS)

Independent results from lab and field exposure (Norway & Kenya)

KEY FINDINGS

Across laboratory conditions and marine field sites (Norway & Kenya), the material shows:



Reduction in tensile strength
Measurable decrease over time



Surface material loss and erosion
Visible wear and degradation of the rope surface



Increased roughness and fragmentation
Material becomes more brittle and breaks down



Chemical changes (FTIR)
Detected changes consistent with polymer breakdown (e.g. carbonyl shifts)

SCIENTIFIC INTERPRETATION

The observed changes indicate that the material is:



Undergoing active degradation in marine-relevant environments



Following established degradation behaviour of biodegradable polyesters (e.g. PBS-based materials)



Progressing through early to intermediate stages of material breakdown

DEGRADATION PROGRESSION (CONCEPTUAL)



WHAT THIS MEANS FOR APPLICATION



Loss of mechanical performance over time
As expected for degradable systems



Practical evidence of behaviour
Under real environmental conditions



Supports continued validation
Through controlled pilot deployment



IMPORTANT CONTEXT

- Results reflect partial progression, not full biodegradation completion
- Environmental degradation rates depend on conditions and exposure duration



KENYA PILOTS:

 Field-tested in Kenya across multiple applications



SEAWEED FARMING KIBUYUNI, KENYA



Women in Kibuyuni village have been piloting **biodegradable ropes** for seaweed farming. The ropes, planted by side with plastic ropes as a comparison, have been functional for over 3 years.



CORAL RESTORATION WASINI ISLAND, KENYA



The Wasini Beach Management Unit has been piloting **biodegradable ropes** for coral restoration. The piloted method offers a cost-effective and sustainable solution to accelerate coral restoration and bring back thriving ecosystems.



GILL NETS MOMBASA, KENYA



Fishermen from the Mikindani Beach Management Unit have been using our **biodegradable, modified gill nets** in their fishing operations. The nets remain functional while being designed to prevent ghost fishing and marine plastic pollution.



**OUR BIODEGRADABLE ROPES AND NETS
HAVE BEEN FULLY FUNCTIONAL FOR
OVER 3 YEARS
IN HARSH MARINE CONDITIONS IN KENYA.**



Tested in real-world environments with high UV, saltwater, biofouling and constant mechanical stress.



Supporting local livelihoods and strengthening sustainable marine practices.



Built to perform, designed to degrade, better for our oceans.



CRAB & LOBSTER POT PILOTS:

 Field-tested in Norway and South Africa for commercial fisheries



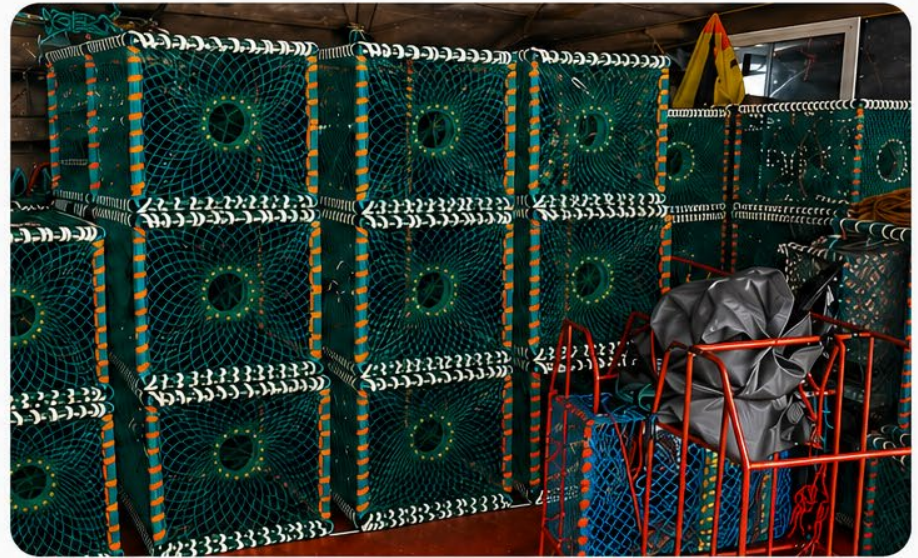
NORWAY
COMMERCIAL FISHERIES



In collaboration with Norwegian Dsolve and commercial fishers in Norway, we have been testing various **crab pots** in real-world conditions.



SOUTH AFRICA
COMMERCIAL FISHERIES



In partnership with commercial fishers in South Africa, we have piloted our **lobster pots** in real-world conditions, demonstrating strong performance and reliability.



These pilots demonstrate the effectiveness and reliability of our **biodegradable crab and lobster pots** in harsh marine environments.



FAD PILOTS: FROM TESTING TO REAL-WORLD VALIDATION

🌿 Moving from controlled results to ocean conditions

1. LAB TESTING



Controlled studies and material analysis

2. SIMULATION TESTS IN TANKS



Test environmental variability in tanks (waves, currents, UV, temperature, salinity)

3. PILOT DEPLOYMENT



Real fishing operations with biodegradable components

4. REAL OCEAN CONDITIONS



Exposure to UV, biofouling, currents, depth and use

5. LONG-TERM OUTCOME



Progressive degradation if lost or abandoned

WHAT WE CAN TEST

-  **Operational performance**
How components perform during deployment and retrieval.
-  **Environmental durability**
Response to UV, biofouling, temperature, salinity, depth and ocean currents.
-  **End-of-life behaviour**
Degradation progression when FADs are lost or abandoned.
-  **Non-entanglement performance**
Design effectiveness in minimising entanglement risk to marine life.
-  **Environmental impact**
Pathway and rate of biodegradation and potential ecological effects.



WHY THIS MATTERS

-  **Bridging the gap**
Moving from laboratory results to real fisheries conditions.
-  **Building confidence**
Generating credible, real-world evidence for industry and regulators.
-  **Reducing long-term impact**
Lower persistence of lost or abandoned FADs in the ocean.



Pilots are the critical step to prove that biodegradable FAD components work in real fisheries — not just in controlled testing.



FAD COMPONENTS: WHAT CAN BE REPLACED TODAY, AND WHAT REMAINS CHALLENGING

Safe and Sustainable by Design

Building FADs with natural and biodegradable materials



COMPONENTS WE CAN REPLACE TODAY (natural materials)



RAFT / FLOATING STRUCTURE

Bamboo or balsar wood



VERTICAL STRUCTURE

Bamboo or balsar wood



HANGING LINES (STRUCTURE)

Natural fibres (sisal)



RUBBER COMPONENTS & COATINGS

Natural rubber (connectors, shock absorption, waterproofing)



COMPONENTS MORE CHALLENGING TO REPLACE WITH NATURAL MATERIALS



TOP MESH COVER

Requires durability, UV resistance and long service life



CORDS / LASHING LINES

High strength, abrasion resistance and durability required



TIE-TIES / FASTENERS

Need high strength, consistent performance and ease of use



BUOYANCY COMPONENTS (PVC PIPES)

Provide reliable flotation and durability over time



Our aim is to replace remaining synthetic components with biodegradable polymers, without compromising the functionality and performance of FADs in real fishing conditions.



THANK YOU



Together, let's build FADs that are
Safe and Sustainable by Design
for a healthier ocean and fisheries.



LET'S STAY IN TOUCH



Emma Algotsson
CEO, Catchgreen



www.catchgreen.net



emma@catchgreen.net



[linkedin.com/in/emma-algotsson](https://www.linkedin.com/in/emma-algotsson)



INNOVATING TODAY
FOR A SUSTAINABLE TOMORROW