NET FREE SEAS

From waste to waves of change

NET FREE SEAS

A program of

ENVIRONMENTAL JUSTICE FOUNDATION

Protecting People and Planet

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ENVIRONMENTAL JUSTICE FOUNDATION

Protecting People and Planet

About EJF

Our work to secure environmental justice aims to protect our global climate, ocean, forests, wetlands, wildlife and defend the fundamental human right to a secure natural environment, recognising that all other rights are contingent on this.

EJF works internationally to inform policy and drive systemic, durable reforms to protect our environment and defend human rights. We investigate and expose abuses and support environmental defenders, Indigenous peoples, communities, and independent journalists on the frontlines of environmental injustice.

Our campaigns aim to secure peaceful, equitable and sustainable futures. Our investigators, researchers, filmmakers, and campaigners work with grassroots partners and environmental defenders across the globe.

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Executive summary

Launched in July 2020, the Net Free Seas (NFS) project addresses the growing challenge of abandoned, lost, or otherwise discarded fishing gear (ALDFG) in Thailand through community leadership and sustainable supply chain development.
The project has so far established 20 community centers across both the Gulf of Thailand and the Andaman Coast, serving as collection hubs where fishers and local communities deliver used fishing gear for cleaning and preparation for recycling.

To date, 200 tonnes of fishing nets have been collected and recycled through an environmentally sound recycling system in partnership with a Thai recycling company, generating over 2.3 million THB (USD 70,000) in revenue for participating communities.

In parallel, NFS has worked closely with key government agencies, including the Department of Fisheries (DoF) and the Department of Marine and Coastal Resources (DMCR), to amplify its impact. Through workshops, national dialogues, and international forums, NFS shares lessons learned and advocates for systemic, sustainable ALDFG management policies.

As the NREF grant period concludes, this report outlines strategic recommendations for scaling the project and institutionalizing NFS as a national model for sustainable fishing gear management in Thailand and Southeast Asia.

Glossary

1. ***ALDFG (Abandoned, lost, or otherwise discarded fishing gear)*** – Fishing nets, lines, and other gear that have been left in the ocean, either intentionally or unintentionally, contributing to marine pollution and ghost fishing.

2. ***Ghost fishing*** – The process by which lost or discarded fishing gear continues to trap and kill marine life, often leading to ecosystem damage.

3. ***Circular economy*** – A model of production and consumption where waste is eliminated and nature is regenerated. Under such a system, materials are kept in use for as long as possible, through sustainable product design, reuse, repair, refurbishment, remanufacturing and repurposing, and, as a last resort, recycling and energy recovery. Consumption is reduced and economic activity is decoupled from resource extraction. Circular economy systems are resilient, based on low-carbon, resource-efficient actions that benefit nature, people and business.

4. ***Extended producer responsibility (EPR)*** – A policy framework that extends a producer's accountability for a product across its entire life cycle, with the overarching goal of protecting the environment and human health. This responsibility encompasses not only the pre-consumption phases but also extends to the post-consumption stage. Within this framework, producers are required to redesign their products to minimise avoidable waste and take responsibility for managing their product's post-consumption management. EPR shall also internalise the environmental cost and damage of a product through its life cycle.

5. ***Just transition*** – A way of transitioning from a society reliant on an extractive economy that damages health and the environment to a regenerative economy focused on the restoration, protection and maintenance of nature and the realisation of an equal society, enacting change through meaningful participation of all sectors in the society and leaving no one behind.

6. ***Marine debris*** – Human-created waste that has been deliberately or accidentally released into the ocean, including plastics, fishing gear, and other pollutants.

7. ***Fishing gear marking*** – A system for labelling fishing gear to track ownership and prevent illegal dumping, often required in sustainable fisheries management.

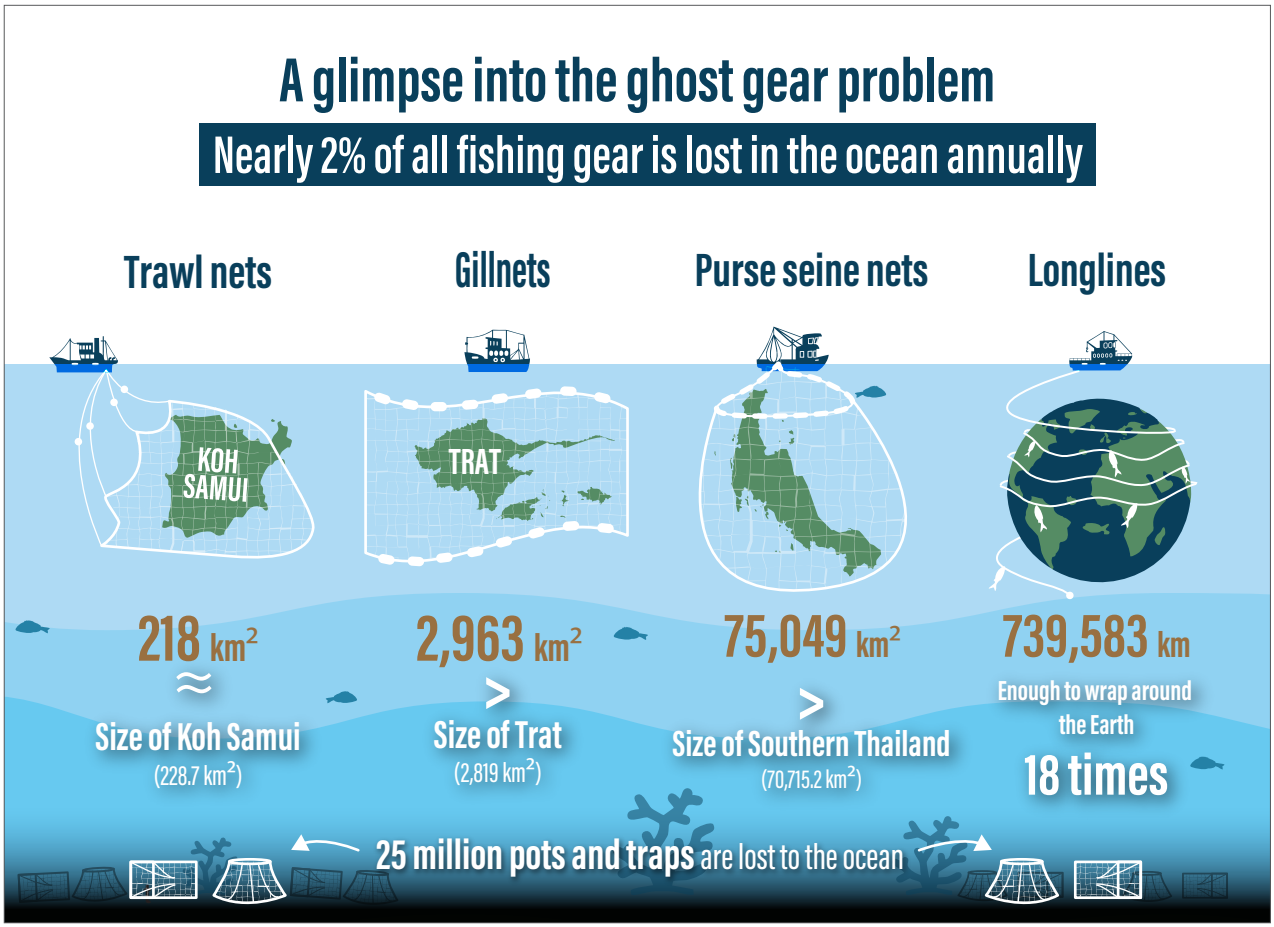
8. ***Gear buyback program*** – A system where fishers can return old or damaged fishing gear in exchange for incentives, reducing ALDFG pollution.

9. ***Recycling supply chain*** – The process through which discarded fishing gear is collected, transported, processed, and transformed into new products, reducing waste and promoting circularity.

10. ***National Marine Debris Action Plan (NMDAP)*** – Thailand's strategic policy framework aimed at reducing marine plastic pollution, including ALDFG management initiatives.

Why do we do it?

ALDFG is a major threat to marine ecosystems, entangling marine life, damaging habitats, and contributing to plastic pollution.[1] It also poses economic risks to fishers by reducing fish stocks and creating navigational hazards.[2] Estimating the rate of gear loss to the ocean has been academically challenging, but the most recent estimate indicates that "nearly 2% of all fishing gear, comprising 2,963 km² of gillnets, 75,049 km² of purse seine nets, 218 km² of trawl nets, 739,583 km of longline mainlines, and more than 25 million pots and traps are lost to the ocean annually."[3]



Thailand lacks a structured ALDFG management system, with limited regulations and collection mechanisms. According to the DoF, as of 2024, there are 55,501 registered fishing vessels in Thailand, more than 80% of which are artisanal and small-scale fishing vessels.[4] According to the DMCR, fishing-related wastes is the category of marine debris most commonly found on reefs in Thailand. Nets, ropes, and other fishing-related waste also ranked as the category of marine debris that has caused the most damage to rare marine organisms in Thailand.[5] A citizen science study assessed that corals in Thailand are regularly affected by ALDFGs.[6]

In early 2020, EJF's baseline pre-survey (before project implementation) of 75 respondents revealed that most fishers lack accessible disposal options. 21.3% indicated that used fishing gears are discarded, 5.3% indicated that fishing gears are buried, and 65.3% indicated that used fishing gears are burned. Additionally, ALDFG recovery and recycling were largely informal, with few incentives for responsible gear management.

Recognizing this gap, EJF launched Net Free Seas in summer 2020 to provide a sustainable, community-driven solution to ALDFG. The project established a structured collection and recycling supply chain, incentivizing fishers to take leadership in addressing the on-going issue of ALDFG.

Our goals

Reduce marine pollution
from ALDFG through accessible disposal points and a standardized recycling supply chain.

Empower fishers and communities
with economic incentives, technical support, and infrastructure to take part in ALDFG management.

Advocate for policy integration of ALDFG management
into national waste management-related frameworks.

Our impact

200 tonnes of fishing nets
are prevented from entering the ocean, reducing marine plastic pollution at its source.

Over 2.3 million THB (USD 70,000)
in alternative income generated for participating communities through net collection and recycling.

Growing replication
of net recycling initiatives across Thailand, inspired by the NFS model.

Increased awareness & behaviour change
among coastal communities, shifting perceptions of ALDFG from waste material to valuable resource.

Enhanced community capacity & local leadership
in sustainable ALDFG and marine litter management.

Facilitate dialogues
on the technical, practical, and policy dimensions of ALDFG management at both national and international levels through workshops co-hosted with agencies such as the Coordinating Body on the Seas of East Asia (COBSEA).

"Throwing of fishing gear, burning and burying them causes negative environmental impacts. It will lead to pollution. With the NFS project, people in the community have become interested and have learned more about the environment..."

- Bae Seng, Bang Tawa, Pattani province.

Our journey

NFS is introduced at a regional training of Thai Smart Master Fisher for Sustainable Fisheries hosted by the DoF in Songkhla province, December 2024

Discarded fishing nets are collected, cleaned, and packed in Bang Tawa, Pattani province

2019 Conduct feasibility and scoping studies in Rayong, Chanthaburi, and Trat in collaboration with DoF and DMCR

2020 Project kicked off in the Gulf of Thailand

2021 Project expansion to the Andaman Coast

2022 Establishment of "Thailand's NFS community network"

2023 100 tonnes collected and recycled through the project and expansion to Indonesia

2024 20 NFS community centres working actively to enhance the ALDFG management in Thailand

2025 **200 tonnes collected and recycled**

"Before this, I didn't have any income at all [as a homemaker]. But this project has given me the chance to earn my own income... For me, loving the oceans is like loving myself, so I will continue to help protect them."

- Ja Lia, Koh Mook 2, Trang province

Where and who we work with

NFS community mapping

Scan for more details

https://shorturl.at/WQwSP

"What we are doing in the community is if you turn in your waste, you get money. Plus, you are helping less fortunate people who have trouble getting to hospitals. Now each household recognizes the value of each waste and will continue to preserve our clean home."

- Bang Saidey, Laemsak, Krabi province

Our approach

NFS recognizes the vital role of local communities - those on the frontlines of plastic pollution - as key partners in driving change. Rather than imposing a one-size-fits-all model, NFS supports communities in designing and shaping their own locally relevant approaches.

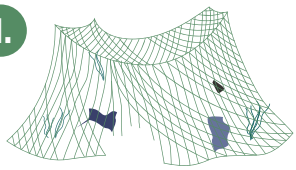
NFS provides technical assistance, financial support, and infrastructure development based on each community's needs. By partnering directly with a local recycling company, NFS eliminates reliance on intermediaries, enabling a more transparent and self-sustaining supply chain.

This community-led model ensures that the benefits from net sales flow back into areas communities prioritize, whether for household income, community welfare, or local development initiatives.

Community coordinator presents his accounting book and records of the ALDFG he collects in Tha Sala, Nakhon Si Thammarat province

How does it work?

Net Free Seas supply chain

1. 

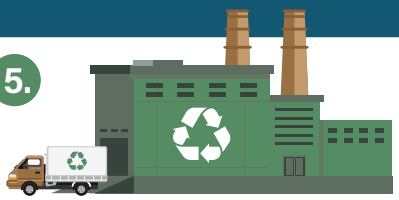
Collection: Fishers and locals collect discarded and end-of-life nets from coastal areas and communities

2. 

Drop-off: Nets are delivered to 20+ community-run collection centers

3. 

Sorting and cleaning: Nets are sorted by type and cleaned of debris and non-recyclables

5. 

Recycling: Nets are recycled into plastic pellets by our local recycling partner

4. 

Transport: Cleaned nets are packed and shipped to recycling facilities

Community benefit:

Communities earn a fair income from net sales and cleaner environment in their homes.

Product manufacturing:

Recycled materials are used to produce industrial components and sustainable projects.

Important note:

NFS acknowledges that recycling is not a silver bullet. To truly end plastic pollution, priority must be given to reducing plastic production and promoting alternative systems such as reuse, refill, and repair. We do not support the recycling of non-essential, single-use plastics. However, fishing nets are considered essential for fishers' livelihoods and non-plastic alternatives are either cost-prohibitive, ill-developed, or have functionality drawbacks at the moment. Therefore, NFS focuses on the environmentally and socially responsible management of ALDFG as a critical step toward addressing this specific waste stream.

"Since the project started supporting us, everything from coordination to operations has become much smoother. We've also received great support from our community network. I hope this continues."

- Bang Us, Nai Nang, Krabi province

Meet the humans of NFS:

LEADER IN ACTION

SOMKID PHUANGMULI

A NFS LEADER FROM HAD YAO, TRANG

Bang Eiad has turned his passion for a cleaner ocean into action. After storms, he sails out to retrieve discarded PP/PE ropes, cutting and hauling them aboard with just a knife and life jacket. Back home, he sorts, cleans, and dries the recovered gear before coordinating with NFS for recycling. As both a conservationist and plastic-sorting expert, he proves that true environmental leadership begins with action.

WOMEN LEADING CHANGE

MODTANOI WOMEN

A GROUP OF LEADER FROM MODTANOI, TRANG

A group of housewives gathered to keep their fishing village clean, launching a waste bank to buy recyclables from villagers every Friday. The group manages discarded fishing nets, an activity they embraced through sorting and cleaning. Their dedication transformed them into a model community, attracting visitors. What began as a small cleanup effort has become a mission of purpose and pride, protecting both their home and environment.

YOUTH ENGAGEMENT

KARING SA-A

A NFS LEADER FROM YARING, PATTANI

In Yaring, Bae Karing tackles youth engagement and economic hardship by hiring local teens to manage discarded fishing nets. Through cleaning, sorting, and packaging, they earned fair wages while learning the value of recycling nets. This initiative also helped reduce crime, the community's second-biggest concern after drug issues. Today, the community center serves as both a learning hub and an income source, empowering youth while strengthening local waste management.

LAEMSAK MODEL

SAIDEY ROMIN

A NFS LEADER FROM LAEMSAK, KRABI

In Laem Sak, Bang Saidey led a conservation group to tackle plastic pollution by creating a membership system where villagers earned benefits by collecting and selling recyclables. Part of the profits funded a community ambulance, providing free medical transport for members, especially the elderly and bedridden. This proves that waste management can drive both environmental and social change.

Turning the tide: years of action

NFS community network

The NFS community network is a platform for participating communities to connect, learn from one another, and support smooth project implementation. Once a year, members come together to strengthen the network and build their capacity by gaining communication skills and knowledge on plastic pollution across its lifecycle. The gathering empowers NFS members to identify and promote effective, context-specific solutions, while fostering collaboration among frontline communities across Thailand's coastal provinces in the fight against marine plastic pollution. The NFS community network brings local leaders together—strengthening community power, facilitating knowledge exchange, and providing access to updated information on best practices, practical skills, and relevant laws and policies. It is a space for power and empowerment.

Site inspection and initial design of storage hubs consultation in Saiburi, Pattani province, January 2025

Community coordinators equipped with safety gear at Modtanoi workspace, in Trang province

Fueling ALDFG management infrastructure

The NFS sub-grant program (launched in August 2024) provided direct funding to communities, enabling them to improve sustainable fishing gear management by addressing one of the key barriers to success: inadequate infrastructure.

Through this program, three new ALDFG storage hubs were built, and three existing hubs were renovated—bringing the total to 13 hubs that now serve as standard infrastructure for ALDFG collection across participating communities. The new hubs were designed through close collaboration between architect consultants, waste management specialists, and local communities, ensuring each layout was tailored to local needs, and operational realities and adhering to environmentally and socially sound management standards.

New storage hubs in Saiburi, Pattani province, Koh Mook 2, Trang province, and Laemsak, Krabi province, April 2025

Dive for change

NFS organizes cleanup dive activities to train divers in the safe retrieval of discarded fishing gear, using the Marine Science Citizens Initiative (MARsCI) protocols developed by the Aow Thai Marine Ecology Center (ATMEC). These events have helped build a network of skilled divers equipped with the knowledge of how to remove ghost gear while minimizing harm to marine ecosystems. In addition to cleanup efforts, divers collect critical data on marine debris and its impacts, supporting scientific research and informing policy efforts to prevent fishing gear pollution at its source.

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Bringing Net Free Seas to your community

STEP 1 Understand the local context

- Identify key coastal communities and assess the scale of ALDFG in the area.
- Map local fishing practices, gear types, and existing waste management infrastructure.
- Review relevant domestic and international environmental and labor safety regulations to develop practical, environmentally and socially sound management protocols that are ready for adoption and enforcement at project launch.

STEP 2 Build community partnerships

- Engage fishers, community leaders, and local organisations as project co-designers, not just participants.
- Provide training on ALDFG collection, sorting, and the environmental and social impacts of marine plastic pollution.

STEP 3 Do it with what you have first!

- Establish local drop-off centres where fishers and communities can bring end-of-life or recovered fishing gear. Use existing infrastructure first!
- Equip centres with basic sorting and cleaning tools, environmental and labor safety protocols, and promote clear guidelines for net collection and storage.

STEP 4 Conduct training on collection & sorting

- Support net sorting and cleaning methods to ensure they are ready for recycling.
- Support the design of bookkeeping systems and conduct environmentally and socially sound storage management training.

STEP 5 Establish logistics & traceability

- Coordinate reliable transport from collection centres to recycling facilities.
- Implement record-keeping systems for traceability, inventory tracking, and impact monitoring.

Community coordinators discuss solutions for reducing single-use plastics at EJF's first Train the Trainers session in Trang province, September 2024

STEP 6 Partner with standardised & environmentally sound recyclers

- Develop an environmental and social standard for robust recycling that is in line with best practices on the international level and prioritise the protection of human rights.
- Select recycling partners that comply with national/international environmental and social standards.
- Conduct due diligence fieldwork and desk-based research to ensure the partner is in compliance with these standards.
- Ensure they have the capacity to process mixed fishing gear materials efficiently.
- Work with recyclers to improve their environmental standards where necessary.

STEP 7 Enable revenue sharing / anti-corruption protocols

- Set up a transparent system to ensure income from net sales benefits the community directly.
- Develop a collection of proven environmental and social good practices/initiatives that communities can replicate or invest in when seeking inspiration.

STEP 8 Link recyclers with communities

- Establish direct and transparent communication channels to ensure long-term project sustainability.

STEP 9 Advocate for policy support

- Work with government agencies to integrate ALDFG management into national marine conservation strategies.
- Promote policy incentives that support sustainable fishing gear disposal and circular economy models.

STEP 10 Document, share & scale

- Collect data, measure outcomes, and share lessons learned with other communities and stakeholders.
- Use feedback to refine the model and support expansion or adaptation in new regions.

Policy recommendations

International level

1. **Support a binding Global Plastics Treaty and incorporate a full lifecycle approach to tackling ALDFG**
   Advocate for a robust and legally binding Global Plastics Treaty that includes specific provisions on fishing gear, addresses the entire plastic lifecycle, and centers the participation of frontline and coastal communities in implementation.

2. **Establish global baseline standards for sustainable fishing gear design**
   Promote the adoption of global baseline standards for designing fishing gear that is non-toxic, easy to recover, is conducive to local marine ecosystems is less likely to cause environmental harm if lost, and works with the local social and cultural contexts. Encourage innovation in low-impact materials.

3. **Mandate gear labelling and traceability systems**
   Support international policy that requires all fishing gear to be labeled with unique identifiers linked to producers, distributors, and users. This facilitates gear recovery, accountability, and extended producer responsibility (EPR).

4. **Encourage Extended Producer Responsibility (EPR)**
   Push for international agreements that require gear producers and suppliers to participate in take-back schemes and contribute to the cost of gear recovery and recycling.

5. **Prioritise a just transition for coastal communities, artisanal and small-scale fishers**
   Ensure that international climate and marine funding mechanisms support grassroots infrastructure and livelihoods, whilst backing community-led solutions for ALDFG and plastic pollution. This should be achieved through the establishment of a dedicated programme of work on fishing gear management that implements a multistakeholder approach, with an emphasis on the meaningful participation of local and indigenous communities, recognising their knowledge and citizen science initiatives.

Over 70kg of ghost nets retrieved from Skull island in Chumphon province, September 2024

ASEAN

1. **Develop a regional action plan for ALDFG and gear traceability**
   Coordinate through ASEAN to implement a regional framework for ALDFG prevention and protocol for response. (i.e., collection or reporting protocol etc.)

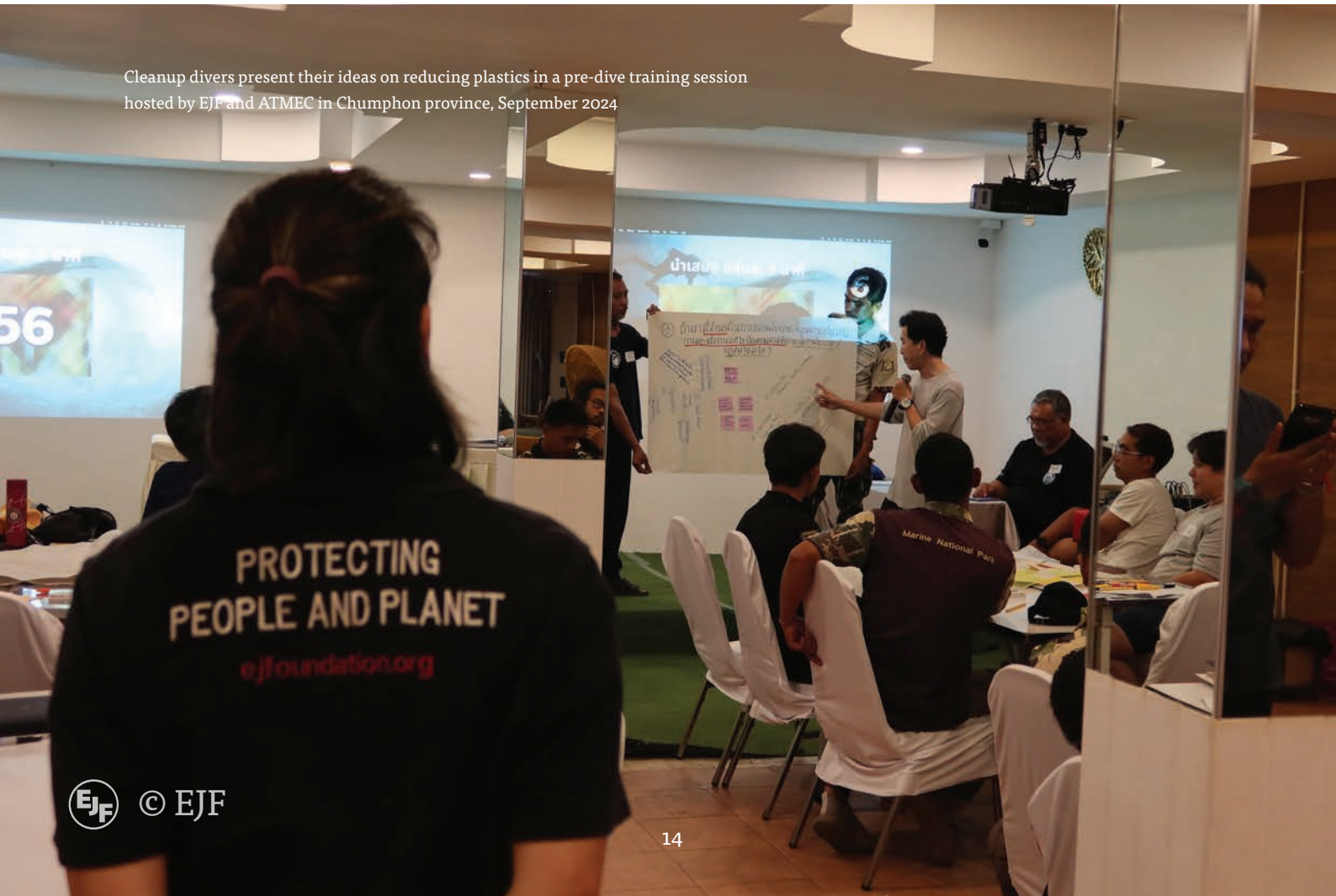
2. **Standardise gear labelling across the region**
   Promote a regional mandate for gear labelling that identifies the manufacturer and user (i.e., fishing operators, recreational fishers etc.), improving traceability and cross-border enforcement to reduce ghost gear pollution.

3. **Strengthen regional capacity-building and cleanup collaborations**
   Support regional training programs for divers, local governments, and communities using protocols like MARsCI, while coordinating joint retrieval and research missions to protect shared marine ecosystems.

Nets cleaning process in Khanom, Nakhon Si Thammarat province

"No matter how much effort a single community puts into collecting and managing ALDFG, the problem will persist if other areas continue to discard fishing gear. A more unified and systematic approach, backed by policy enforcement, is seen as essential to making a lasting impact."

- Parkpoom Withantirawat, Save Andaman Network



Cleanup divers present their ideas on reducing plastics in a pre-dive training session hosted by EJF and ATMEC in Chumphon province, September 2024

Over 70kg of ghost nets retrieved from Skull island in Chumphon province, September 2024

Thailand

1. **Institutionalise sustainable ALDFG management**
   Recognize and publicly endorse sustainable ALDFG management as essential waste management policy. Provide consistent funding and integrate it into national provincial marine waste and fisheries management plans. Ensure ALDFG prevention and response measures are reflected in marine spatial planning, MPA management, and national fisheries strategies, with clear roles for communities and government actors. A specific instrument pertaining to the full lifecycle management of fishing gear must be promulgated and enforced.

2. **Adopt and enforce gear labelling regulations**
   Mandate that all fishing gear produced, imported, or sold in Thailand is labeled with traceable identifiers. Ensure monitoring and enforcement through port inspections, licensing processes, and gear distribution channels.

3. **Promote sustainable design of fishing gear**
   Introduce national standards for gear that is safer for marine environments, easier to retrieve, and made from low-impact materials. Partner with local innovators and fishing communities to ensure feasibility. Provide incentives for innovations towards sustainable design of fishing gears.

4. **Expand EPR to cover fishing gear**
   Include fishing gear explicitly in Thailand's EPR roadmap, holding producers and distributors accountable for gear collection, disposal, and recycling, in partnership with community networks like NFS.

5. **Safeguard a just transition for coastal communities and artisanal and small-scale fishers**
   by ensuring their meaningful participation in the establishment of instruments and mechanisms related to fishing gear management and ALDFG prevention.

6. **Sustain community-led approaches through direct support mechanisms**
   Institutionalise sub-granting models to enable community groups to access direct funding for gear collection, infrastructure, education, and policy engagement, ensuring long-term impact and community ownership.

Reference

1. Carmen Morales-Caselles, Josué Viejo, Elisa Martí, Daniel González-Fernández, Hannah Pragnell-Raasch, J. Ignacio González-Gordillo, Enrique Montero, Gonzalo M. Arroyo, Georg Hanke, Vanessa S. Salvo, Oihane C. Basurko, Nicholas Mallos, Laurent Lebreton, Fidel Echevarría, Tim van Emmerik, Carlos M. Duarte, José A. Gálvez, Erik van Sebille, François Galgani, Carlos M. García, Peter S. Ross, Ana Bartual, Christos Ioakeimidis, Gorka Markalain, Atsuhiko Isobe & Andrés Cózar (2021) An inshore–offshore sorting system revealed from global classification of ocean litter, https://doi.org/10.1038/s41893 021-00720-8 ; Francois Galgani, Angiolillo Michela, Olivia Gérigny, Thomas Maes, Eric Tambutté, Peter T. Harris (2022) Marine litter, plastic, and microplastics on the seafloor, https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119768432.ch6

2. Liu, W. H., Fabilane, J. A., & Hsu, W. K. K. (2024). Mitigating marine debris: Addressing abandoned, lost, and discarded fishing gears (ALDFGs) in the Sulu-Sulawesi Seas through trilateral cooperation between the Philippines, Indonesia, and Malaysia. Marine Pollution Bulletin, 208, 116913.

3. Richardson, K., Hardesty, B. D., Vince, J., & Wilcox, C. (2022). Global estimates of fishing gear lost to the ocean each year. Science Advances, 8(41), eabq0135. DOI:10.1126/sciadv.abq0135

4. Department of Fisheries (2024) Thai Fishing Vessels Statistics 2024, https://www4.fisheries.go.th/local/file_document/ 20240822145029_ new.pdf

5. Department of Marine and Coastal Resources (2024) State of Marine and Coastal Resources and Coastal Erosion Thailand National Report 2022, https://www.dmcr.go.th/detailLib/8098

6. Mehrotra, R., Monchanin, C., Desmolles, M., Traipipitsiriwat, S., Chakrabongse, D., Patel, A., Kasemsant, M., Pitt, S.M., McCabe, T., McGrath, T., Marcellucci, C., Japakang, S., Real, T.T., Echaubard, P., Magson, K., Dowling, J., Dowling, S., Sriaram, S., Suraswadi, P. & Jualaong, S. (2024). Assessing the scale and ecological impact of derelict and discarded fishing gear across Thailand via the MARsCI citizen science protocol. Marine Pollution Bulletin, 205, 116577.

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