



Net Free Seas Progress Report

2020-2021



Introduction:

The Environmental Justice Foundation (EJF) is a UK registered non-profit organisation working internationally to protect natural environments and the human rights of people who depend on them.

Discarded fishing nets and ghost fishing gears are an extremely harmful source of marine litter that can have devastating consequences for marine ecosystems and the animals that live in them. The non-profit organisation, World Animal Protection, estimates that abandoned nets kill at least 136,000 seals, sea lions and whales every year. They also injure or kill thousands of other animals including birds, turtles, fish, and other species¹.



Ghost nets cover a staghorn coral garden at Losin Island, Pattani province, Thailand.

The Net Free Seas project (NFS) aims to stop this flow of plastic material into our oceans whilst empowering local communities to feel that they are part of the recycling solution. Currently, EJF works with 105 artisanal fishing communities in Rayong, Chanthaburi, Nakhon Si Thammarat, Songkhla, Surat Thani, Ranong, Phuket, Trang and Phang Nga. These communities collect and clean abandoned fishing nets, ready to be picked up by recycling partners. Between June 2020 and July 2021, we had already recycled 16 tonnes of nets into new household items as well as face shields and push sticks - designed to prevent the transmission of COVID-19.

The Net Free Seas project is kindly supported through funding by the Norwegian Retailers' Environment Fund and the Rufford Foundation.



Norwegian Retailers'
Environment Fund



The COVID-19 pandemic has shown how important it is for vulnerable communities to secure diverse sources of income that can help them alleviate unforeseen calamities or economic downturns. Both the commercial and small-scale fishing industries of Thailand have been significantly impacted by reduced market demand for seafood products, worker shortages as migrant fishers from Myanmar or Cambodia return to their home countries and working restrictions preventing vessels from leaving port. Without the means to adapt to such crises, vessel owners have been forced to sell their vessels and find alternative sources of employment.

NFS aims to provide participating communities a secondary source of income that can provide tangible financial benefits for the collection and selling of discarded fishing nets. Given the looming threat of climate change and the likely impacts it will bring including sea level changes, shifting weather patterns, and altered fish migratory seasons - now more than ever it is crucial that these coastal communities are able to adapt to future events to survive.



The NFS team visits a community-established cleaning station in Bo Son subdistrict, Songkhla province, Thailand.

“I see this as a career opportunity for my community. Those who cannot go out fishing can collect and clean nets for a living”

Imron Baikharee, Fisher from Songkhla province, Thailand

Harmful impacts of discarded fishing gears:

At least 10% of all marine litter is estimated to originate from the fishing industry meaning that between 500,000 and 1 million tons of fishing gears and nets are entering our oceans every year.² Fishing nets contribute to this waste through loss of material while at-sea due to storms or currents, through illegal, unreported, or unregulated (IUU) fishing, and through gear conflicts with other fishing gears such as static traps or hook lines.

Nets can also become snagged on underwater features such as rocks, mooring buoys, or coral formations³. A 2016 study of marine plastic impacts on wildlife found that 45% of species listed on the IUCN red list of threatened species had been reported to have interactions with marine plastics, including ingestion or entanglement in ghost gears⁴.

Thailand is known for being one of the world's largest seafood exporters with exports in 2018 totalling approximately 1.56 million tonnes of seafood valued at USD\$6.9 billion⁵. Thailand also has a considerable domestic fishing fleet with 56,858 fishing vessels as of 2020⁶. This is split into 38,473 artisanal vessels (under 10 gross tonnes – GT) and 17,386 commercial vessels (over 10GT). Over 85% of the Thai commercial fleet uses some form of netting as their primary fishing gear. Likewise, artisanal fishing fleets in Thailand also predominantly use fishing nets such as crab gill nets, shrimp gill nets, and mackerel gill nets.

This contributes to a high turnover of netting material. These nets, if lost or discarded at-sea, pose a serious threat to marine ecosystems and wildlife that can become entangled in them. The Thai Department of Marine and Coastal Resources (DMCR) reported that for the year 2019, 547 charismatic species were found stranded (352 turtles, 184 cetaceans, and 11 manatees) across the country and that the main cause of death was due to fishing gear entanglement.^{7,8}



A turtle which lost its fin due to fishing net entanglement. Phuket Marine Ecology Centre, Thailand.

“When charismatic marine species are entangled by fishing gears, there is a possibility that they will become disabled and can no longer survive in the ocean. For us humans, if we were to lose our limbs and we can no longer walk, it would be a tragedy.”

Patcharaporn Kaewmong, Veterinarian at Phuket Marine Biological Center



Staghorn coral begin to bleach after having been covered by massive ghost nets at Losin Island, Pattani province, Thailand.

Net rescue operations pick up speed

In June 2021 abandoned fishing nets covering an area of 2,750 sq.m. weighing approximately 3 tonnes were found covering coral reefs around Losin Island - a protected area 72 km off the coast of Thailand's southern Pattani province. After the nets were removed, DMCR researchers discovered that 500 sq.m. of coral reefs in the area had become bleached or broken due to the nets. Just two weeks later, another ghost fishing net totalling 414 sq.m. weighing around 100 kg was found covering coral formations at Marnwichai Island located in Chonburi province.

Within one year (July 2020 - June 2021), NFS has organised four cleanup dives to remove ghost nets from famous dive sites in Thailand and recovered approximately 500 kg of material. These recent collections show the sheer size and magnitude of fishing gears. These cases also illustrate the devastating impacts that they can have on sensitive marine ecosystems if potentially illegal fishing activities are not sufficiently deterred through enforcement or lost gears go undetected.



Ghost fishing nets covering 500 sq.m of coral reefs at Losin Island, Pattani province, Thailand.

In addition to these environmental impacts, lost and discarded fishing gears also have significant socioeconomic impacts on both the fisheries and tourism sectors. Ghost nets continue to fulfil their original purpose, effectively competing with fishers for their catch. This could lead to young juveniles of economically valuable species being ensnared or trapped within such nets before they have had a chance to reproduce. Lost nets can continue to catch commercial crustacean species for at least nine months after initial loss⁹. Globally, around USD\$250 million in marketable lobster is believed to be lost each year because of ghost fishing nets¹⁰.

Objectives of Net Free Seas

1. Remove discarded fishing net waste and ghost fishing gears to prevent the ingestion of fishing net material by animals and entanglement of charismatic species in drifting nets;
2. Remove such nets from both marine and coastal ecosystems to prevent coral reefs, seagrass meadows and other vulnerable habitats from being affected or damaged;
3. Provide economic benefits to local communities for the collection and cleaning of nets so that they can become ready to be recycled.
4. Provide communities with a secondary source of income to build resilience in the face of unforeseen calamities such as COVID-19 or environmental threats such as climate change.
5. Change consumer and industry perceptions of fishing net waste around the world and drive further progress in the research and development, recycling and manufacturing of products made from discarded or ghost fishing nets.

NFS achievements: (June 2020 - present)

- 105 communities (over 1,500 fishers) from both the Gulf of Thailand and the Andaman Sea coasts have been recruited to be part of the NFS network. Communities choose implementation strategies to fit their needs – empowering ownership to ensure long lasting and sustainable project growth.
- 16 tonnes of discarded fishing nets have been recycled and prevented from entering Thailand's marine ecosystems, sent to landfill, or burnt in communities. This has been achieved through three net collection trips since July 2021.
- Approximately 500 kilograms of ghost fishing nets were removed from popular dive sites in Thailand through NFS cleanup dives in cooperation with the Thai diving community.
- EJF has secured partnerships with relevant government agencies such as the Department of Fisheries (DoF), Department of National Parks and Department of Marine and Coastal Resources who have provided tremendous support to introduce NFS to their networks of fishing communities and to provide access to conduct cleanup activities.
- Three recycling partners, four civil society organizations, one commercial company, and the Thai diving community have partnered with the NFS project to rid Thai seas of fishing gear waste.

- NFS has generated over 170,000 Thai Baht (USD\$5,000) in financial incentives paid to fishers for their nets, offering higher than market price for such materials. Communities can then allocate this extra revenue towards community emergency funds, conservation activities or use it as a supplementary income.
- Change in perception amongst small-scale communities. Net waste collection/management is increasingly being recognised as a tangible source of income that can create jobs for community individuals.



A fisher repairs his damaged fishing nets which is often done every 15 – 30 days.

2020 - 2021 activities

EJF aimed to achieve seven activities during the implementation of Phase I of NFS. These are as follows:

Activity 1: Securing partnerships and creating a network of relevant stakeholders in the fishing net recycling supply chain in Thailand to build an effective recycling scheme (recruit at least 5 participating communities).

Achieved. NFS is a multi-stakeholder project. So far, EJF has been able to secure partnerships with 105 local fishing communities across the country which includes 19 communities from 17 islands. Among these, 15 communities have supplied nets to the project's supply chain, 45 communities are in the process of collecting and cleaning their discarded fishing nets, and 45 communities are going through onboarding training and are designing implementation strategies that work for them. EJF has also joined forces with civil society organisations (Jan & Oscar Foundation, NatureMind-ED,

and the Save Andaman Network), government agencies (Department of Fisheries), the Thai diving community and five private companies – Qualy, Kitamura UMC-Micro Precision, Teampas, Asia Fiber and Thai Union. Each stakeholder provides unique expertise on net collection, cleaning, recycling, manufacturing, and advocacy enabling EJF to learn and adapt the project as necessary.

Province	Location	Total no. of communities	No. of island communities
Rayong	Upper Gulf of Thailand	7	0
Chantaburi		2	0
Nakhon Si Thammarat	Lower Gulf of Thailand	22	0
Songkhla		14	0
Surat Thani		5	0
Pattani		7	0
Phuket		Andaman Sea	10
Ranong	11		6
Trang	10		4
Phang Nga	2		1
Krabi	15		3

Activity 2: Launching a traceable and realistically sustainable fishing net recycling scheme that covers wide-ranging coastal communities in the east and west coast of Thailand.

Achieved. Since the project’s launch, 16 tonnes of fishing gears (mostly gill nets and polypropylene ropes) have been collected from Songkhla (making up 60% of total weight), Nakhon Si Thammarat (15%), Rayong (10%), Chanthaburi (5%), Surat Thani (4%) and Phang Nga (6%) and turned into multiple consumer products. EJF conducts onboarding training for every participating community which focuses on net cleaning, appropriate segregation, and collection process.

Activity 3: Secure the creation of a robust fishing net recycling scheme that is sustainable, transparent, and traceable.

Achieved. EJF keeps records of fishing gear volume and incentives received by each participating community for transparency and traceability purposes. This is kept in the form of an online spreadsheet. EJF has also conducted several site visits to participating communities and recycling facilities to ensure that the quantities of nets collected match the quantities received and that pellets and products made are produced from materials supplied from NFS communities. EJF also conducts surveys with participating community members to understand their capacity and needs. This is to ensure future uptake and retention of the recycling project once initial funding ends.

Activity 4: Grow awareness and interest by the private sector to participate in or replicate a fishing net recycling scheme (recruit at least 2 partners from the private sector).

Achieved. In less than a year, NFS has already built relationships with three recyclers and two product manufacturer to become part of our network. Our equal participation approach allows private sector partners to see first-hand how their involvement can achieve a triple bottom line with environmental, social, and economic benefits. This motivation has paved the way for other companies to follow suit and EJF is already in discussions with a number of new companies as we seek to scale the project further.



The NFS team introduces NFS to Bang Khon Tee community in Phuket province, Thailand.

Besides these achievements, there have been some activities that have faced challenges as follows:

Activity 5: Install drop off containers in communities for the collection of used fishing nets.

Pending. EJF has put the local needs of participating communities first and encouraged communities to design their own collection strategies and tailor their own incentive model. So far, only one community in Rayong province has expressed the need for drop off containers. EJF is in discussion with the community regarding the design of the containers. This includes considerations such as the location for such containers, suitability for weather conditions and installation. This operation is also delayed by COVID-19 inter-provincial travel restrictions.

Activity 6: Install hydraulic compression machines in strategic communities to enhance the logistics

Pending. EJF is in discussions with communities/CSOs in Nakhon Si Thammarat, Songkla, Phuket and Krabi provinces which have the capacity to become NFS hubs where discarded nets are gathered before shipping to recycling partners. Once the communities/CSOs agree, hydraulic compression machines will be placed in each location to reduce the volume of discarded nets so that nets can be shipped to recycling partners more efficiently. EJF has recently encountered delays in this activity due to the COVID-19 situation.

Activity 7: Sign Memorandum of Understanding (MOU) with the Thai Department of Fisheries (DOF)

Pending. The MOU between DOF and EJF to execute NFS across Thailand and extend the project to commercial fishing ports is currently being reviewed by DOF. The review process might take several months due to complications in Thai law. The DOF and EJF are currently discussing potential alternatives to such a formalized MOU. EJF and DOF have already built a strong relationship over the years so it is forecast that even without an MOU, the NFS project and its deliverables will not be affected.



Fishing net collection at Hua Sai community, Nakhon Si Thammarat province, Thailand.



Without proper waste disposal systems, end-of-life fishing nets are often found disposed near the beach. Photo from Phayam Island Moken Village, Ranong province, Thailand.

Besides these achievements and progresses, there have been some challenges faced by the project as follows:

Cleaning complications

Cleaning fishing nets can be a challenging and time-consuming process. This is due to the tangled nature of the material making it easily soiled by organic matter or debris. However, in order to achieve marketable and high-quality recycled pellets the nets need to be as clean as possible. Impurities in the plastic can lead to reduced quality and product structural integrity.





Net Free Seas Handbook 2021
FOR FISHERS



To overcome this issue, EJF and recycling partners have offered higher economic incentives to communities to encourage them to clean the nets before sending it to the recyclers. EJF is also working to train community members in how to clean nets ready to be recycled. In 2020 EJF also produced a NFS handbook for fishers to supply to communities which provides guidelines on cleaning, identifying, separating, and storing nets.

Scan here for the 'Net Free Seas Handbook 2021'



In parallel, the project aims to incorporate new emerging cleaning technologies which will revolutionize the way communities clean fishing nets. EJF is already in talks with several start-ups and research institutions that would facilitate these cleaning methods. By experimenting with new technologies EJF hopes to be the catalyst for further innovation and progress in making recycling of valuable plastic materials more cost effective and accessible.

Logistics

Most NFS communities are located in remote areas, far from traditional waste collection systems. This means that they are also far away from EJF's recycling partners. Some communities may be as far as over 800 km from our recycling partners. In order to overcome this challenge, EJF is attempting to use a hub and spoke model for communities whereby outlying communities send nets to one central hub for pre-processing. It is hoped that through this system EJF can achieve greater project efficiency as well as reduce logistics costs and carbon emissions.

COVID-19

Thailand, which had largely controlled the virus by mid-2020 was unfortunately hit by several new waves of COVID-19 from December 2020 onwards. Three lockdowns have been put in place since the pandemic started in early 2020 with the highest spike in cases and most severe restrictions imposed on Bangkok and surrounding provinces coming in June 2021.

These restrictions have greatly affected our ability to conduct project-related activities such as organizing events, workshops and visiting communities. EJF has also determined in the interests of health and safety for both its staff and NFS communities that fieldwork should be suspended until it is deemed safe to continue. It is hoped that with the eventual roll out of a vaccination program and full vaccination of NFS staff, EJF will be able to resume its fieldwork activities soon.

Lessons learned:

1. Fishing net as a marketable material

Fishing nets in Thailand are predominantly made from nylon (PA6), high-density polyethylene (HDPE), and polypropylene (PP). Nylon PA6 or Polyamide 6 (PA6) is a stiff and strong plastic with a melting point between 220-240°C.^{11/12} PA6 is used to produce gillnets, trammel nets (the inner parts) and surrounding nets. Trawl nets are made of HDPE. Ropes are made of PP. Fishing net producers use differing materials for their varying physical properties including density, weight, flexibility, and colours.

These materials are extremely hard wearing and durable, making them ideal for use in harsh sea environments and offer unique properties for different fishing practices. This means that after extended use they maintain their form and quality, making them easily recyclable and allowing them to be reprocessed into new products.¹³

Within the course of one year, NFS recycling partners have collected and recycled a total of 16 tonnes of discarded fishing nets. The collected nets have been processed through these companies into pellets which are then used to produce prototypes such as surfboard fins and cloth hangers as well as COVID-19 face shields and household items to show proof of concept for future products. Over 100,000 pieces of products made from discarded fishing nets collected through NFS have been sold domestically and internationally through our partner - Qualy.



A soap dispenser by Qualy made entirely from discarded fishing nets collected under the Net Free Seas project (Left), Turtle coaster made from discarded fishing nets by Qualy in collaboration with the NFS project (Right)

In June 2021, E.J.F. attended a workshop to upcycle PP ropes using cold-pressed technology into a surf skate. These efforts have expanded the NFS product portfolio and continue to prove to the market that fishing nets can serve as an alternative to virgin plastics.



Surf skate upcycled from PP ropes through collaboration between FabCafe, E.J.F., and Teampلاس

2. Flexible incentive schemes

NFS is designed for communities to tailor an economic incentive model and collection strategy that fit their needs.

The two existing payment systems include:

1. Direct payments to fishers as they deposit nets into a centralised location or container. 95% of communities choose this method.
2. Money from net sales is deposited into a community fund. Communities can then allocate this extra revenue towards their community emergency funds, conservation activities or use it as a supplementary income. 5% of communities choose this method.

“Income from selling discarded fishing nets lightens the burden of the costs our association has to cover each month like electric bills.”

Mr. A-Nan Jaitang, Deputy Director of Ban Nong Feb Fisherman Association, Rayong province

3. Equal participation approach

Our equal participation approach allows partnered fishing communities, private companies, local government agencies and civil society organizations to see first-hand how their involvement with the project can achieve a triple bottom line with environmental, social and economic benefits.

Multi-faceted communication is one of the most important aspects in the NFS project development. Project updates are communicated on a monthly and a quarterly basis - via telephone with fishing communities and a mixture of both online and in person meetings with private partners, CSOs, and government agencies. Opportunities and challenges encountered by the project are openly discussed and decisions are made from feedback across the board of partners. One example is ensuring that the universal incentive for discarded fishing nets - set higher than the market price to boost community participation - is still competitive enough for businesses to consider using fishing nets as a material for production.

EJF ensures communities are part of the solution from the very start. After hearing about complications faced by the project, the Bo Son community located in Songkhla province has even taken the initiative to build their own net cleaning station which cleans and dries fishing nets, so they are ready to be recycled. This community can collect up to 5 tons of discarded fishing nets over the course of three months.



Cleaning station initiated by the Bo Son Community, Songkhla province

“Artisanal fishers play a huge role in animal conservation. We saw them as villains in the past, but now they are heroes. They form a strong network and collaborate with us to rescue injured animals and to release them back into their home”

Patcharaporn Kaewmong, Veterinarian at Phuket Marine Biological Center, Thailand

This testimony also proves that coastal communities play a crucial role in marine ecosystem and animal protection. This is especially pertinent as these fishers rely on the health and survival of these sensitive marine ecosystems in order to sustain their fishing way of life.

4. Adopting a Circular Economy approach

Thailand is home to numerous recycling facilities and waste management projects. These facilities are located throughout the country, and all possess varying degrees of expertise. However, synergy between the various projects are needed to meet all of Thailand's waste management problems (i.e., cleaning complications and logistics) as the projects actually complement one another's strengths.

EJF has joined forces with three CSOs: Ranong Recycle for Environment Social Enterprise (Ranong Recycle) by Jan & Oscar Foundation, NatureMind-ED (NM-ED), and Save Andaman Network (SAN) who have extensive experiences working with local organizations and groups of actors on marine plastics in Ranong, Krabi, and Trang provinces consecutively. These collaborations have allowed NFS to expand sustainably and to adapt its implementation strategies to match the diversified contexts within different fishing communities across Thailand.

The core principle of a circular economy is that products should be designed to last, with component parts or materials that can be used again. Throughout the year, EJF has been in touch with several research institutions, start-ups, think tanks and businesses to exchange knowledge and collaborate on advancing the cleaning technology to decrease the contamination rate in end-products from discarded fishing nets and enhance the material properties to prolong its recyclability. At the moment, products from fishing nets collected under NFS are 100% recyclable.

As the project proceeds, a key stakeholder that must get involved for project synergy to occur and for a country to achieve a close-loop circular economy is both local and national government. This can be done through involving multi-layered stakeholders in policy dialogues and creating systemic incentivise schemes that would encourage collection, sorting and recycling of waste on a local and national scale. A synergised approach could offer any country or project with a holistic solution that is both cost effective and efficient.

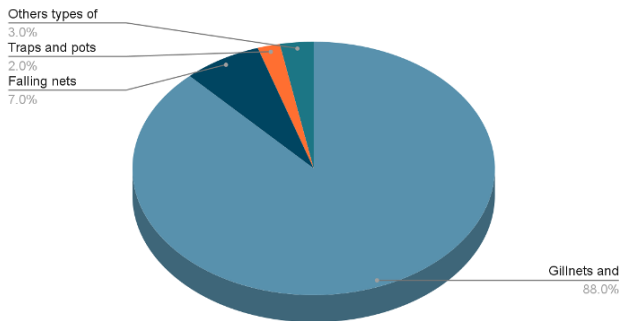
“It’s good that now fishing gear has value. If someone buys it, who would burn it? Who would burn money?”

Mr. Kanongdech Bua-cheun, Chief of Ban Kai community, Pha-Ngan island, Surat Thani province

NFS expansion (survey analysis):

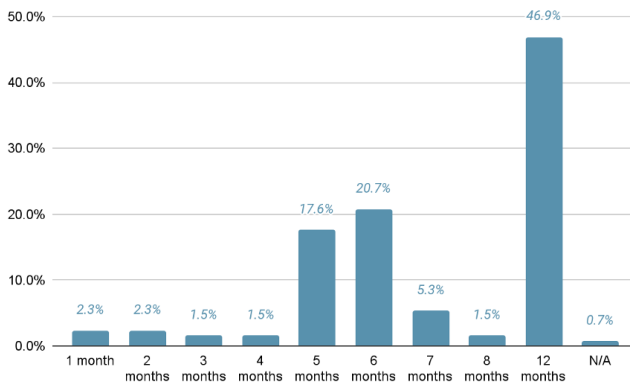
In order to better understand project uptake and opportunities for project scaling across additional provinces, EJF designed a survey to be sent to prospective artisanal fishing communities across Thailand. At the time of writing the survey had been sent to 29 communities in five provinces based along the coasts of the Gulf of Thailand and Andaman Sea e.g. Ranong, Surat Thani, Phuket, Krabi and Pattani.

Survey results from communities (80 respondents) from Surat Thani, Phuket and Krabi:



Classification of fishing gears found in surveyed communities (80 respondents).

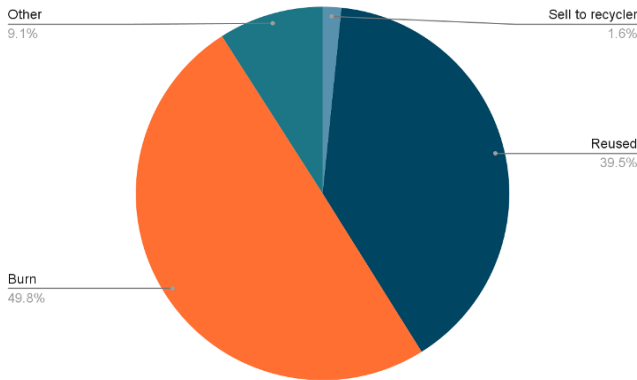
Survey results from these three provinces showed that 88% of fishing gear are gillnets and entangling nets which are made from Nylon PA6. Full dataset is available from EJF upon request.



Period of time fishers use fishing nets before they replace them.

Fishers change fishing nets every year whilst also continually repairing them. The number of discarded fishing nets on land increases once the fishing season is over. This is usually when they will replace their nets entirely. Survey results show that 46.9% of fishers use their fishing gear up to 1 year before changing whilst 45.9% of fishers use their nets for less than 6 months. 0.7% of respondents replied 'not applicable' because some fishers have additional occupations in the tourism industry during the high season working as a merchant, taxi driver or tour leader.

Seasonal variations in monsoon rains across the Andaman Sea and Gulf of Thailand coasts mean that fishing seasons can vary with some areas stopping fishing activities for several months altogether to avoid the worst storms. This variation also means that supplies of fishing nets from coastal communities can fluctuate throughout the year depending on location.



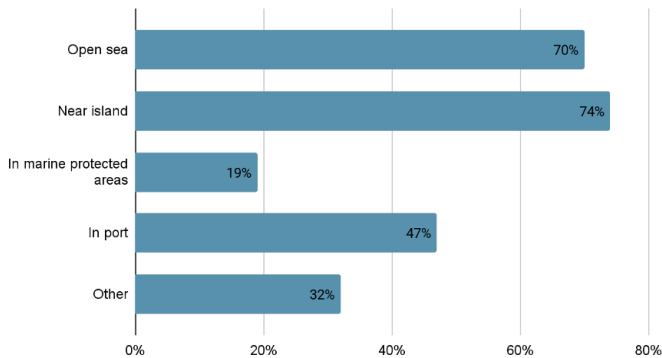
Existing discarded fishing gear disposal methods in communities before NFS.

Almost 50% of respondents told EJF that they burned their fishing nets in order to discard them. Such a practice is harmful to both the environment and to peoples' health through the release of toxic fumes. Gillnets are made from Nylon PA-6 which typically burns at approximately 240-260°C. When it burns it releases gases including Carbon Monoxide, Nitrogen Dioxide and Hydrogen Cyanide among others¹⁴. These chemical compounds are extremely hazardous to human health with all three gases capable of proving fatal if inhaled in sufficient quantities.¹⁵



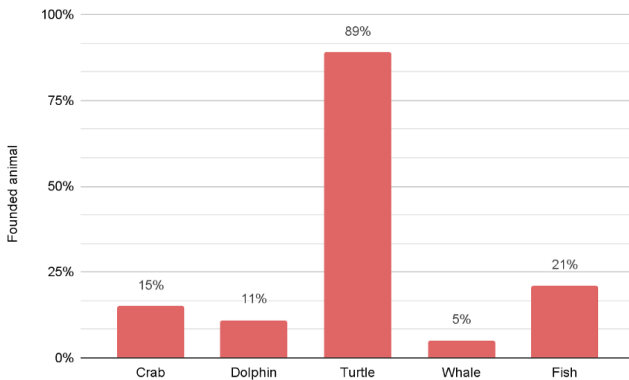
Burning of plastic waste including discarded fishing gear due to the lack of a proper waste disposal system.

Besides burning, reusing and selling nets to recyclers some fishers (Other - 9.1%) may repurpose discarded nets for use as fence netting and as barriers in shrimp ponds or rice paddies. However, these largely informal 'upcycling' efforts may still constitute improper waste disposal eventually leading to the leakage of the netting into the natural environment.



Where discarded fishing gears are most likely to be lost (Multiple choice).

According to survey respondents the most likely areas to lose nets were at sea (70%) and near islands (74%). 32% of respondents stated 'other' including entanglement on coral reefs. Only 19% of respondents said that they were likely to lose nets in marine protected areas.



The most commonly found animals found in discarded fishing nets according to respondents (Multiple choice)

Within 3 nautical miles, survey respondents stated that the most common animals that they found in discarded ghost fishing gears included turtles (89%), fish (21%), dolphins and whales - cetaceans - (16%) and crabs (15%). Respondents stated that 69% of these animals were found alive, 16% were dead and 16% were a mixture.



NFS cleanup dive in Rayong province, 150 kg of ghost fishing nets removed from Hin Pleong – the most visited dive site in the province.

Next steps:

In 2021-2022, EJF aims to form partnerships with at least 100 coastal communities in Thailand with a focus on the Andaman Sea coast and islands which were previously unattainable due to logistical challenges in Phase I. This would allow NFS to supply more netting for larger scale productions. EJF will also put a greater focus on material research and development to prove the versatility of fishing nets as an alternative material for commercial scale product development.

EJF is looking to experiment with new cleaning technologies which will revolutionize the way communities clean fishing nets and other forms of plastic waste. We hope to be the catalyst for further innovation and progress in making recycling of valuable plastic materials more cost effective and accessible.

NFS is designed to be flexible and is easily applied to different circumstances and geographies. EJF has recently received funding from NREF to conduct a one-year pilot of NFS in Ghana. It is hoped that this pilot study will pave the way for NFS to become a model circular economy concept for fishing net recycling which can be implemented anywhere in the world.



Ghanaian fishers preparing their fishing nets for fishing



Moken fishers unloading their catch, Lhao Island, Ranong province, Thailand

Recommendations:

As part of EJF's growing advocacy campaign concerning the responsible and sustainable disposal and recycling of fishing nets, EJF has prepared the following recommendations. These are designed to tackle specific gaps identified through the implementation of the NFS project as well as build regional and international cooperation towards effective marine litter management systems. It is important to note that these recommendations are not exhaustive.

Thailand

The Royal Thai Government should:

- Implement a gear marking strategy that can address both IUU fishing and facilitate fishing net recycling. Such a scheme can utilise cost-effective QR code attachments or RFID tags built into nets;
- Put in place waste sorting and cleaning facilities in coastal areas and enforce regulations on waste segregation countrywide to facilitate community and fishing sector access to waste management systems;
- Subsidise recycling businesses and/or formulate tax schemes that would encourage the move towards a circular economy across industries;
- Add waste from fisheries to the Circular Economy waste list - a list of plastic waste to be recycled at least 50% from 2022 onward listed by the Pollution Control Department, Ministry of Natural Resources and Environment¹⁶and;
- Publish annual statistics on estimates of lost fishing gears in Thailand as well as the recorded impacts of discarded fishing nets on marine ecosystems and charismatic species. Through such transparency, the DMCR and other RTG agencies can establish crucial baselines for measuring future progress;
- Encourage and work with Thai fishing net manufacturers to move towards a circular economy approach towards fishing net design and manufacturing.

ASEAN

EJF calls on ASEAN and Member States to:

- Develop a regional action plan and agreement on management of marine debris pollution by applying integrated land-to-sea policy approaches;
- Establish regional trade agreements that would facilitate the import and export of products made from or packaged with compostable and recyclable materials to discourage the use of virgin plastic in production and;
- Encourage Member States to publish annual statistics on estimates of lost fishing gears as well as the recorded impacts of discarded fishing nets on marine ecosystems and charismatic species;
- Create an open access marine litter database of ASEAN Member States which includes information such as sources, type and distribution of marine litter in ASEAN Seas. This will provide an evidence base to support appropriate actions and to provide a baseline against which change can be measured.

International community

Marine litter is a trans-regional issue requiring international cooperation to address fully. EJF calls on the international community to:

- Call for the United Nations to develop a global treaty on plastic pollution. A coordinated international response is crucial and by harmonizing regulatory standards and defining common metrics and methodologies, such a UN treaty would drive a global transition towards a circular economy approach for plastic consumption and waste management;
- Make knowledge of efficient waste management systems public and easily accessible;
- Promote enforcement of existing laws related to waste management in one's country to prevent marine litter;
- Invest on research and development of cleaning/recycling technologies for the move towards circular economy;
- Enhance the understanding of scope, origin, global impacts of ghost gears as one of the most destructive forms of marine litter.



Net collection in Nakhon Si Thammarat province, Thailand

Endnotes

- 1 Fishing's phantom menace: How ghost fishing gear is endangering our sea life, World Animal Protection (2014) URL: https://www.worldanimalprotection.org/sites/default/files/media/int_files/sea-change-campaign-tackling-ghost-fishing-gear_o.pdf
- 2 WWF (2020) Stop Ghost Gear: The most deadly form of marine plastic debris URL: https://wwfeu.awsassets.panda.org/downloads/wwfintl_ghost_gear_report_1.pdf
- 3 FAO (2009) Abandoned, lost or otherwise discarded fishing gear URL: <http://www.fao.org/tempref/docrep/fao/011/i0620e/i0620e.pdf>
- 4 Werner S, Budziak A, van Franeker J, Galgani F, Hanke G, Maes T, Matiddi M, Nilsson P, Oosterbaan L, Priestland E, Thompson R, Veiga J and Vlachogianni T (2016). Harm caused by marine litter. JRC Technical report; EUR 28317 EN; doi:10.2788/690366
- 5 Sengtin, P. (2018) Trade in Thai Fishery Products: fourth quarter of 2018 URL: <https://www.fisheries.go.th/strategy-tradestat/images/pdf/journal/v134612.pdf>
- 6 Marine Department (2020) Thai Fishing Vessel Statistics
- 7 DMCR (2019) URL: http://www.onep.go.th/env_data/O1_O2/49-ra-re-sea-creatures-stranded-aground/
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“If no one bought my fishing nets, they would just pile up like a mountain”

Mr. A-Nan Jaitang, Deputy Director of Ban Nong Feb Fisherman Association, Rayong province



For more information about the Environmental Justice Foundation or if you have questions about the project please visit:

-  ejffoundation.org
-  facebook.com/EJFThailand
-  nfs@ejffoundation.org
-  [nfsproject](https://line.me/tv/nfsproject)

