

NET FREE SEAS

HANDBOOK



ABOUT THE PROJECT

The Net Free Seas project (NFS) is a one-year pilot project started by the Environmental Justice Foundation (EJF) in Ghana in 2021. EJF is an international non-profit organisation that is working to protect the natural environment and the people and wildlife that depend upon it. The NFS project is funded by the Norwegian Retailers' Environment Fund.

The main objectives of the NFS project are to:

1. Rid Ghana's waters of fishing net waste and its harmful impacts on marine ecosystems and wildlife.
2. Provide tangible financial benefits to coastal communities to collect and clean nets, ready to be recycled.
3. Provide communities with a secondary source of income to build resilience in the face of environmental threats and climate change.

INTRODUCTION

Ghana's marine fisheries provide livelihoods for over 2.7 million people¹ yet are in sharp decline, with incomes of small-scale fishers declining by an estimated 40% between 2001 and 2011². Nearly 200 fishing communities, which are severely impacted by illegal fishing and overfishing, are also having their livelihoods threatened by ghost fishing gear.

The United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO) estimate that some 640,000 tonnes of fishing gear – around 10% of total marine debris – are left in the ocean each year³. According to World Animal Protection, ghost gear kills at least 136,000 seals, sea lions and whales every year, forming floating death traps which entangle and choke marine wildlife⁴. An inestimable number of birds, turtles, fish, and other species are also injured and killed⁵.

Most fishing nets in Ghana are not properly disposed of – they are discarded or cut off at sea, end up in landfill or are burnt. If nets are recycled, they are done so informally, often with low margins for fishers. As a result, large quantities of high-quality recyclable material are discarded in the natural environment or ineffectively recycled with limited financial benefit, community participation or efficiency.



The NFS project aims to connect small-scale fishers with plastic recycling companies, providing them with a channel to manage fishing net waste responsibly, whilst benefiting directly from their involvement. Fishers gather discarded nets, which are collected for processing into pellets. The pellets are then transported to buyers to produce end products, including high-quality consumer goods. Nets are traced throughout the supply chain to ensure transparency.

During the pilot phase, the project aims to establish initiatives in five fishing communities in the Central Region of Ghana, ensuring that often the poorest, most disenfranchised members of these communities can receive the maximum benefits from participating in our project.

EJF has successfully piloted the NFS initiative in Thailand. As of June 2021, 76 communities in Thailand were participating in the project, reaching approximately 1,500 fishers, with 16 tonnes of discarded fishing nets collected and recycled within the course of just one year. The project is working with three recycling partners based in Thailand, with over 100,000 products sold to date. Communities have set up their own cleaning stations for processing nets due to the benefits they have seen from the project.

What are the expected outcomes of the project?

- Decrease in discarded fishing net-related fatalities of marine fish and wildlife
- Reduction in dumping of fishing gears at sea
- Improved collection and recovery of discarded fishing gears at sea and at the landing beaches
- Safe disposal of damaged nets through installation of collection points
- Promotion of methods for safe use of stationary and drifting fishing gears at sea
- Promotion of behavioural change by sensitising coastal communities to properly dispose of derelict fishing gears
- Generation of tangible incentives to support local livelihoods of coastal communities



How does Net Free Seas work?

- Local communities collect and clean used fishing nets and are paid by the project.
- Used nets are dropped off at collection containers installed at the landing sites. Local officers record the amounts of nets collected (see **Appendix 1** for data to be collected electronically using the Collect app).
- Used nets are shredded and melted into pellets by recycling partners.
- Recycled fishing net pellets are sent to companies to be used in the production of high-quality consumer goods e.g., spectacles.



What can be made from fishing nets?

The project is working with local companies to recycle used nets into granules which will be transformed into useful consumer products such as spectacles.

Types of nets accepted by the NFS project

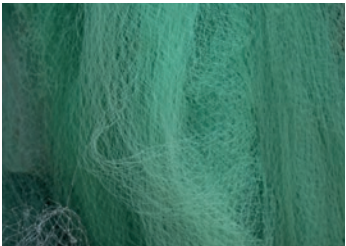
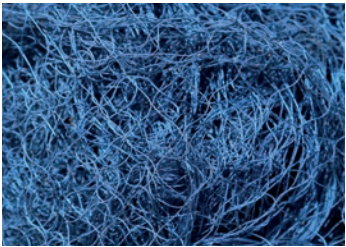


The project collects and recycles monofilament gill nets made from nylon (PA 6). This includes:

- Drifting gill nets (“Nifa nifa”)
- Bottom set gill nets (“Tenga”)
- Surface gill nets (“Ali”)

Monofilament nets are especially suitable for recycling because:

- They are made of nylon materials which are non-biodegradable
- They are extremely durable and have a long life span
- The properties of the nets make recycling possible
- Recycling nylon causes less air, water and soil contamination compared to using non-recycled nylon.

The net identification guide below includes other types of net that we currently do not accept but which are included to help fishers identify what is and what is not accepted.

Type of net	Description	Material	Accepted by NFS project?
<p>Monofilament gillnet</p> 	<p>White/blue/green colour, very fine filament of 0.25 - 1 mm and 2.5 - 10 cm mesh size.</p>	<p>Nylon</p>	<p>YES</p>
<p>Multifilament net</p> 	<p>Green/blue/white colour. Each string/filament is a thin braided or twisted twine.</p>	<p>Cotton or nylon</p>	<p>NO</p>
<p>Fishing rope</p> 	<p>Green/grey colour. Stiff and thick plastic</p>	<p>Polypropylene, polyethylene</p>	<p>NO</p>
<p>Trawl net</p> 	<p>Green/blue/grey colour. Double and single twine, 2.5 - 5 cm mesh size, stiff plastic, can be both fine and thick.</p>	<p>Polypropylene, Polyethylene</p>	<p>NO</p>

Duties of NFS community representatives

Community representatives are expected to:

1. Identify fishers that may be interested in participating in the project
2. Coordinate the purchase of waste fishing nets from fishers
3. Ensure nets are clean, void of twigs, leaves or any foreign materials and dry before weighing and purchasing
4. Carry out inspections before weighing sacks containing nets to ensure there are no foreign materials concealed which may add to the weight
5. Ensure collection/storage unit is cleaned, maintained, and always locked
6. Bundle the collected nets for recycling
7. Maintain records on net collections and purchases using the Collect app
8. Coordinate with the Net Free Seas project team on a monthly basis for the collection of nets and provide weekly updates to the team on progress
9. Establish information sharing and reporting with the project team for updates on duties at the landing site
10. Transport purchased nets to EJF office at agreed intervals

How to prepare nets for recycling

Fishing nets should be cleaned and dried before transportation. This increases the quality of pellets produced from the discarded nets and means that recycling partners are more likely to accept nets in the future.

Here are some tips on how to clean nets.

1. Remove ropes (often a different material) and lead weights - NFS only collects nets.
2. Separate the different types of nets (check the guide above).
3. Remove any fish or other animals, twigs, leaves, pebbles, or other debris from the nets.
4. Clean the nets with salt or rainwater. We advise against using chemicals or freshwater.
5. Dry the nets and keep them in a clean and sheltered place.



How to weigh the nets

1. Tie a rope on the stern/rear end of a canoe or another object such as the branch of a tree. Hang the scale's suspension hook onto the rope so that it turns freely without any obstruction.
2. Pick the open ends of the sack and tie into a knot.
3. Using the suspension hook on the scale, hook the sack with the nets through the knot.
4. Check the weight of the sack of nets on the screen of the scale.
5. Record and make payment based on the weight of nets provided.



How to record data via the Collect app

- Launch the app on the home screen and navigate to Net Free Seas Ghana on the mobile device.
- Note that all fields marked with a red asterisk are mandatory and must be completed.
- Click on Location to acquire the GPS coordinates of the place of event/activity.
- Date and Time, fisher's name, telephone number should be collected as well for regular follow ups for additional nets for purchase.
- Click Community to select place of event/activity
- Quantities of nets collected, and sums of money paid should be entered.
- Supplementary images should be captured.
- Include a brief audio commentary on activity when necessary or useful for reporting.
- After fulfilling all mandatory requirements, click Submit to send the completed form.

The full list of survey fields are set out in **Appendix 1**.

Net Free Seas - Ghana

0/14 questions answered

1 Location *
HIGH accuracy
Tap to get location

2 Date *
DD/MM/YYYY
Tap to enter date

3 Time *
12 hr
Tap to select the time

4 Fisher name *
30 characters allowed
Tap to enter text

5 Telephone number *
Default Country: Ghana (Ghana)
Tap to enter mobile number

6 Community *

SUBMIT

Net Free Seas - Ghana

0/14 questions answered

7 Quantity of net collected (kg) *
Between 1 and 500
Tap to enter number

8 Price paid (GHS) *
Between 1 and 1000
Tap to enter number

9 Image (nets collected) *
HIGH resolution
USE CAMERA USE GALLERY

10 Image (weight) *
HIGH resolution
USE CAMERA USE GALLERY

11 Supplementary image *
HIGH resolution
USE CAMERA USE GALLERY

SUBMIT

11 Supplementary image *
HIGH resolution
USE CAMERA USE GALLERY

12 Supplementary image *
HIGH resolution
USE CAMERA USE GALLERY

13 Further information (audio)
e.g. condition of nets, whether fisher interested in participating in project, availability of nets, etc.
Tap to record audio.

14 Notes
Any further notes on quantity of nets available, interest of fisher in participating in project, etc.
Tap to enter text

SUBMIT

Payment arrangements for collected nets

- Each net will be purchased at a rate of GHC 3 per kilogram using the project's standard weighing scale.
- Nets will only be accepted for purchase on the basis that:
 - It is not a stolen net.
 - It is clean, void of foreign materials and dry at the time of the purchase.
 - It falls in the category of nets accepted for the project.
- Fishers who have submitted nets will have their data collected and payment will be made, at most, a week after purchase.

How to prevent fishing net loss at sea

There are several ways to stop nets from harming our natural environment. Here are some tips:

- Ensure submerged stationary fishing gear or surface drifting gear bears a conspicuous surface lit marker which is visible in clear weather to at least one nautical mile to avoid destruction by other vessels.
- A reflective marker should be placed at intervals of twenty-five metres along the length of the net.
- If lost nets are found in the sea, bring them back to shore so that the NFS project can recycle them.
- If your nets are damaged at sea, please do not throw them into the sea. Instead, keep the nets and bring them back to shore.
- If you repair your nets at shore, make sure that your discarded net does not fall in the sea. Keep and store the net so that it can be recycled by the NFS project.

Connecting net recycling and safe release of sea turtles

At Senya Bereku, Gomoa Fetteh and Nyanyano, we will be trialling an initiative to connect fishing net recycling with EJF's community work on sea turtle conservation.

EJF's surveys at Gomoa Fetteh have identified surface ("Ali") gill nets as associated with particularly high rates of turtle by-catch. 90% of fishers said they had previously caught turtles as by-catch, with at least 125 turtles estimated as captured in fishing nets in 2019. Turtles are mainly captured during the dry season (December to March).

Nets from the safe release of sea turtles in these communities will be collected and transported for recycling into consumer products. Each release will need to be documented with key data points (time, location, species, etc.) as well as quality videos and photos. Nets which have the necessary data on the turtle release, including quality photos and videos, will attract a higher price than nets supplied without this information. The idea is for the "story" of each turtle release to accompany each of the products sold.



Further information on the safe release project may be found in EJF's "**Guidelines for the safe release of sea turtles**", available on EJF's website: www.ejfoundation.org

How communities can get involved

NFS aims to empower communities to feel that they are part of the recycling solution. Currently, EJF is seeking to collaborate with artisanal fishers from coastal communities in the Central Region of Ghana to collect and prepare discarded nets for recycling in return for payment. Fishers or fishing communities who wish to participate in the collection and recycling of waste nets can get in touch with their **Chief fisherman** or contact **EJF** on **0332150119**.



Net Free Seas environmental and social compliance

We ask that participating fishers and communities adhere to a set of minimum standards that safeguard the natural environment whilst also protecting contributing individuals. These have been established in collaboration with local partners and international consultants.

It is important to note that EJF operates a zero-tolerance policy towards the use of child labour or corruption. If individuals or communities are suspected of engaging in either practice, EJF reserves the right to terminate the relationship immediately.

Environmental compliance:

- Nets, ropes, and other plastic materials should never be burned as this can give off harmful fumes which are damaging to health.
- No chemicals should be used to clean the nets. These could contaminate the environment and harm wildlife. EJF advises communities to use sea water or rainwater to clean nets.

Social compliance:

- The buying price of discarded gillnets under the project is guaranteed at 3 cedis per kilogram. EJF will conduct unannounced inspections to ensure that the price is paid.
- A person hired under the project must be paid no less than the National Daily Minimum Wage established by the National Tripartite Committee in accordance with Section 113(1) of the Labour Act, 2003.
- Working hours should not exceed eight working hours per day and workers should receive a one hour rest period during the working day.
- EJF encourages the use of gloves while cutting, collecting and transporting the nets to avoid injuries.

Child labour and young workers:

- EJF forbids the use of child labour at any point in the Net Free Seas supply chain. EJF defines a child as being any young person under the age of 18 years old. EJF follows the International Labour Organisation's definition of child labour to be any work that deprives children of their childhood, their potential and dignity, and that is harmful to physical and mental development.
- EJF encourages communities to offer children internships or training as this is a useful way of building skills and knowledge. However, their work must not:
 - Be work that should be conducted by core workers or community members.
 - Interfere with their schooling by depriving them of the opportunity to attend school.
 - Involve long working hours or work during the night.
 - Involve handling of hazardous chemicals or dangerous machinery, equipment and/or tools.

Appendix 1

Survey for capturing net collection data electronically using the Collect mobile app

	Question	Responses	Question type
1	Location	Fetch current location	Location
2	Date	Enter date in format DD/MM/YYYY	Date
3	Time	Enter time in 24-hour format	Time
4	Community	Select community	Single choice
5	Fisher name	Type fisher name	Text
6	Telephone number	Type phone number	Phone
7	Quantity of net collected (kg)	Insert weight of net assessed using handheld weighing device	Number
8	Price paid (GHS)	Insert price paid in GHS	Number
9	Image (nets collected)	Upload photo via app of net collected	Image
10	Image (weight)	Upload photo via app of weight shown on handheld weighing device	Image
11	Supplementary image	Upload photo via app	Image
12	Supplementary image	Upload photo via app	Image
13	Further information (audio)	Record additional audio comments	Audio
14	Notes	Make additional written notes if needed	Note

Endnotes

¹ Ghana Statistical Service (GSS) (2014), cited in Fisheries Commission (2018). *2018 Annual Report*. Ministry of Fisheries and Aquaculture Development. Unpublished; FAO (2016a). 'Fishery and aquaculture country profiles: the Republic of Ghana', *Food and Agriculture Organization of the United Nations*. Available at: <http://www.fao.org/fishery/facp/GHA/en>. Accessed 3.6.21

² Fisheries and Aquaculture Sector Development Plan for 2011-2016

³ Macfadyen, G., Huntington, T., and Cappell, R. (2009). 'Abandoned, lost or otherwise discarded fishing gear'. *UNEP Regional Seas Reports and Studies, No. 185; FAO Fisheries and Aquaculture Technical Paper, No. 523*. Rome: UNEP/FAO

⁴ World Animal Protection (2014). *Fishing's phantom menace. How ghost fishing gear is endangering our sea life*. https://www.worldanimalprotection.org/sites/default/files/media/int_files/sea-change-campaign-tackling-ghost-fishing-gear_o.pdf

⁵ *Ibid.*



For more information about EJF or if you have questions about the project please visit:

Website: www.ejfoundation.org
Facebook: facebook.com/ejfoundation
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