

PIRATES AND SLAVES

How Overfishing in Thailand Fuels Human Trafficking
and the Plundering of Our Oceans



A report produced by the Environmental Justice Foundation

Protecting People and Planet



Protecting People and Planet

The Environmental Justice Foundation is a UK-based environmental and human rights charity registered in England and Wales (1088128).

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This document should be cited as: EJF (2015)

PIRATES AND SLAVES:

How Overfishing in Thailand Fuels Human Trafficking and the Plundering of Our Oceans

Environmental Justice Foundation: London
ISBN 978-1-904523-36-9



OUR MISSION

To Protect People and Planet

EJF believes environmental security is a human right.

EJF strives to:

- Protect the natural environment and the people and wildlife that depend upon it by linking environmental security, human rights and social need
- Create and implement solutions where they are needed most – training local people and communities who are directly affected to investigate, expose and combat environmental degradation and associated human rights abuses
- Provide training in the latest video technologies, research and advocacy skills to document both the problems and solutions, working through the media to create public and political platforms for constructive change
- Raise international awareness of the issues our partners are working locally to resolve

Our Oceans Campaign

EJF's **Oceans Campaign** aims to eradicate Illegal, Unreported and Unregulated (IUU) or 'pirate' fishing. We are working to create full transparency and traceability within seafood supply chains and markets. We actively promote improvements to policy-making, corporate governance and management of fisheries along with consumer activism and market-driven solutions.

Our ambition is to secure truly sustainable, well-managed fisheries and with this the conservation of marine biodiversity and ecosystems and the protection of human rights.

EJF believes that there must be greater equity in global fisheries to ensure developing countries and vulnerable communities are given fair access and support to sustainably manage their natural marine resources and the right to work in the seafood industry without suffering labour and human rights abuses.

We believe in working collaboratively with all stakeholders to achieve these goals.

For further information visit

www.ejfoundation.org/campaign/Oceans

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Abbreviations

CPUE	Catch per unit of effort
DoF	Department of Fisheries
EEZ	Exclusive Economic Zone
IUU	Illegal, Unregulated and Unreported
ILO	International Labour Organization
MoAC	Ministry of Agriculture and Cooperatives
MCS	Monitoring, control and surveillance
FAO	United Nations Food and Agriculture Organisation
TIP	US State Department Trafficking in Persons

Glossary of terms

Catch per unit of effort	Total catch divided by the total amount of effort (fishing time and power) used to harvest the catch.
Demersal fish	Fish dwelling at or near the bottom of the ocean.
Fishing effort	The amount of fishing gear of a specific type used on a fishing ground over a given unit of time.
Fishing capacity	The amount of fish that can be produced over a period of time by a fishing fleet (or vessel).
Open-access resource	A resource which can be accessed by anyone at anytime without restraint.
Pelagic fish	Fish that spend most of their time swimming in open water away from the bottom of the ocean.
Territorial waters	A belt of coastal waters extending at most 12 nautical miles (22.2 km) from the baseline of a coastal state.
Trash fish	Small-sized, low-value and juvenile wild-caught fish often used as raw material to produce various animal feeds. Also known as 'bycatch'.
'Trash fish' (ปลาเบ็ด)	Trash fish as defined within Thailand. Specifically referring to the volumes of wild-caught fish unfit for human consumption which are utilised in animal feeds, typically excluding the portion of low-value fish elsewhere defined as 'trash fish'.
Trophic level	The position that an organism occupies in a food chain or web.

EXECUTIVE SUMMARY

OVERFISHING, PIRATE FISHING AND SLAVERY IN THAI SEAFOOD SUPPLY CHAINS MUST BE ADDRESSED AS INTERCONNECTED ISSUES



A migrant fisher pulls the nets on *Boonlarp 7*. Thailand's impoverished fishery is driving slavery and pirate fishing across Southeast Asia. © EJP

In the US Department of State's 2014 Trafficking in Persons (TIP) report, Thailand was downgraded to Tier 3, the lowest possible ranking, for its failure to address human trafficking – placing it alongside countries such as North Korea and Saudi Arabia. Behind this human tragedy lies an environmental catastrophe. The EJP report explores the interrelationship between overfishing, slavery and pirate fishing in Thailand to highlight how international demand for cheap seafood is perpetuating a brutal trade in vulnerable humans and the collapse of entire marine ecosystems.

The Thai fishing industry has undergone a textbook example of overfishing. Rapid industrialisation of the fishing fleet during the 20th Century has resulted in too many vessels using destructive and unsustainable fishing methods to catch too many fish. This industry has consistently failed to consider the true ecological costs of its unsustainable business model. With boats now catching the equivalent of just 14 per cent of what they were in the mid-1960s, Thailand's fish stocks and marine biodiversity are in crisis. Faced with depleted stocks, vessel operators have targeted so-called "trash fish" – a significant proportion of which is made up of juveniles of commercially important species – and created a self-reinforcing cycle which has accelerated the exhaustion of Thailand's marine resources.

Thailand's fleet has relied on an antiquated management regime alongside weak, sometimes non-existent enforcement measures, leading to extensive overfishing and the collapse of fish stocks and biodiversity. Successive Governments have failed to amend obsolete laws, control fishing fleets, enforce regulations and monitor and conserve marine resources. Authorities have little to no control over the number of fishing vessels flying the Thai flag, many of which openly employ destructive fishing methods in areas and at times ostensibly forbidden under law. Under-resourced and technically incompetent enforcement agencies are further undermined by a culture of corruption. Together, this has meant that Thailand's living marine resources have been openly and unsustainably exploited by all.

Market failure runs parallel to the failure of Thai governance systems. The pressure on Thailand's over-exploited fish stocks has been and continues to be due in large part to demand for animal feeds and farmed shrimp. The fishmeal industry has masked the economic costs of overfishing by over-valuing the trash fish which constitutes one of its key raw materials. Huge quantities of trash fish are landed in Thai ports, processed into fishmeal and fed to shrimp destined for export to the international market.

There are currently no robust certification or traceability schemes which can reliably ensure the sustainability of the wild fish at the root of Thailand's shrimp supply chain. Consumer demand for cheap seafood – particularly in Europe and the US – has therefore become an engine driving a huge industry dedicated to maximising catch volumes at the expense of environmental security and human dignity.

Overfishing in Thailand has generated economic pressures which fuel the ongoing, widespread use of slave labour. Exhausted fish stocks mean that vessels are staying at sea longer and going further afield for ever diminishing returns. In turn, operators are using human trafficking networks to crew their vessels and depress costs – forcing people to work for little or no money for years and even decades at a time. They use debt bondage, violence, intimidation and murder to keep crews in line and cheap seafood on supermarket shelves.

Slavery in the industry, fuelled by the impacts of overfishing, coincides with widespread pirate fishing – which is itself both a driver of and response to the over-exploitation of fish stocks. The status of Thai law and enforcement means that much of what is internationally considered Illegal, Unreported and Unregulated (IUU) fishing is permissible in Thailand. Long-haul vessels fishing in distant waters present the highest risk of slavery. This fleet largely operates as it always has – by plundering the waters of neighbouring countries and landing stolen fish back in Thai ports. The practice of transshipment at sea – where larger cargo vessels re-supply fishing boats and pick up their catches – allows commercial fishing vessels to stay out at sea indefinitely and turns boats into floating prisons for trafficked and abused workers. IUU, transshipment at sea and weak documentation systems undermine private sector efforts to verify whether Thailand's export-oriented seafood supply chains are free of abuse.

Overall, there has been a complete lack of political will to address the social and environmental impacts of overfishing. Successive Governments have appeared more concerned about working in concert with industry to reassure international purchasers of Thai seafood and maximise catch volumes, at any expense. Concerted action is needed from Thailand and an international coalition of partners in the public, private and third sectors to address overfishing, pirate fishing and slavery as one interconnected problem. Without this, producers, retailers and consumers of Thai seafood will continue to be embroiled in one of the most outrageous social, ecological and economic crimes of the 21st Century.

INTRODUCTION

The harvest of wild animals, including fish, contributes \$400 billion* to the global economy each year, supports the livelihoods of 15 per cent of the world's population and provides the main source of protein for more than a billion of the world's poorest people.^{1/2} All of the Earth's inhabitants are dependent on the health of the planet's terrestrial and marine ecosystems. The international community is increasingly aware of the linkages between environmental degradation and human rights abuses.³ However, the specific connection between ecosystem decline and labour exploitation, and modern slavery in particular, has received comparatively little attention.

Competition over a dwindling pool of natural resources implies one obvious relationship – in an extensive review of evidence from around the world, the International Labour Organization (ILO) concludes that competitive pressures have negative impacts on the conditions of employment and can lead to forced labour.⁴ From illegal logging and charcoal production in Brazil to the aftermath of extreme weather events, the links between environmental degradation, poverty and increased vulnerability to human trafficking is another relationship which is widely recognised among international civil society actors.^{5/6} These relationships are often forged by international supply chains; meaning that consumers unwittingly provide incentives for the destruction of both human life and the environment.

According to the ILO, workers in the fishing industry are especially vulnerable to abuse.⁷ Exploitation, trafficking and forced, bonded and child labour are all on the rise in the global fishing industry and often intersect with a range of other social and environmental problems, including: overfishing, pirate fishing, migrant rights issues, corruption and organised crime.^{8/9} From Chile to South Africa to New Zealand, vulnerable people are being imprisoned – even locked in chains – and forced to work aboard vessels which are plundering the world's oceans, often illegally.^{10/11/12} The severity of abuse is shocking and nowhere more so than aboard Thailand's fishing fleet, as previous EJP reports have highlighted.^{13/14}

“

Exacting profits from exploiting people will often go hand in hand with illegal, unsustainable and unregulated industries.

”

US Secretary of State John Kerry, 2014¹⁶

This report brings together, for the first time, a detailed explanation of exactly how ecosystem decline generates pressures fuelling the widespread use of slavery throughout an industry.

It outlines how the collapse of fish stocks in Thailand's marine capture fisheries has directly contributed to the widespread use of modern slavery in the fishing industry as well as uncontrolled pirate fishing; all in order to meet the demands of the country's highly lucrative, export-driven seafood sector. In turn, the normalisation of Illegal, Unreported and Unregulated (IUU) fishing and a thriving slave trade have further driven overfishing by masking the true economic costs of ecosystem collapse. At the root of this social and ecological tragedy has been the long-running failure of Thailand's governance systems and weak enforcement which is further undermined by corruption and crony capitalism. Trafficking and forced labour in the fisheries sector are complex and multi-faceted problems. At the same time, EJP believes that real solutions become available, cost-effective and achievable when, backed up by the necessary political will, stakeholders adopt a “joined-up” approach to address the problems systematically.

“

I thought I was going to die. They kept me chained up, they didn't care about me or give me any food ... They sold us like animals, but we are not animals – we are human beings.

”

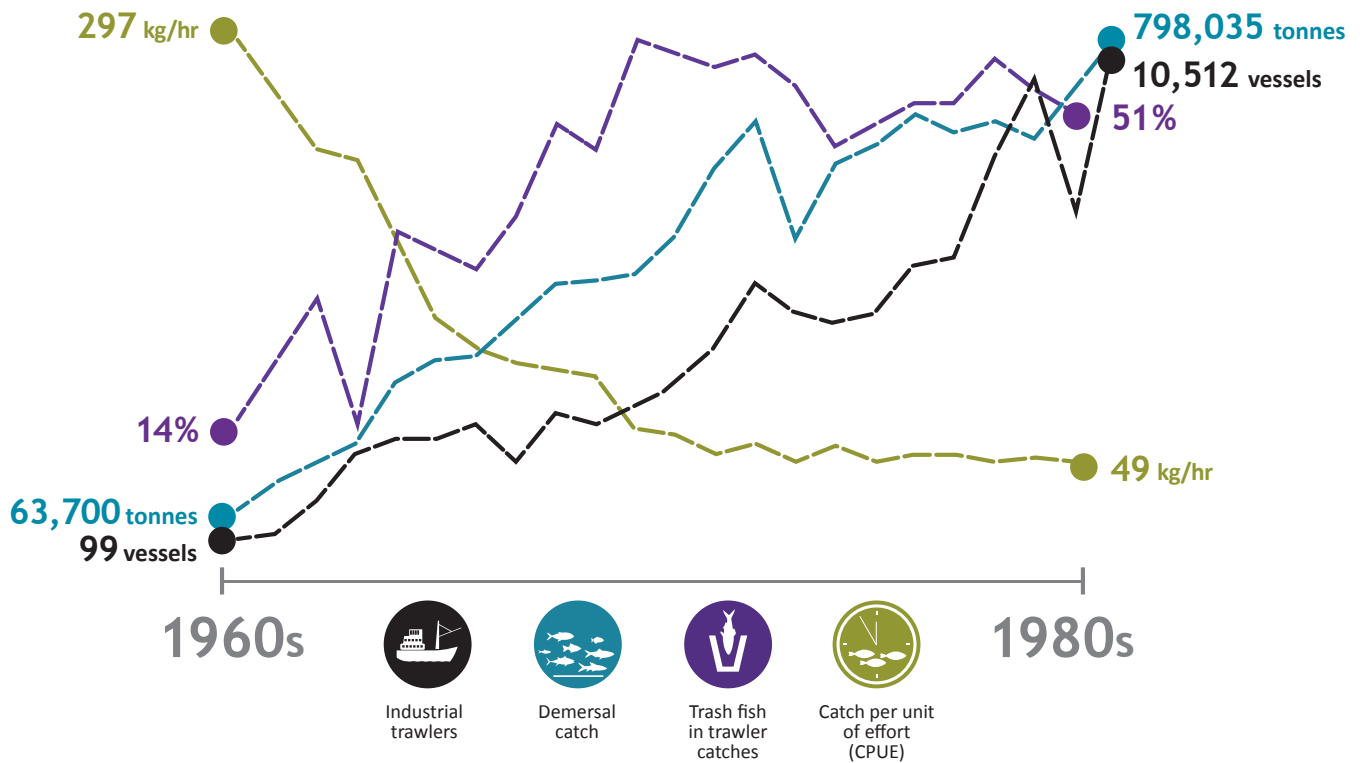
Cambodian migrant trafficked into the fishing industry¹⁵














Workers in the global fishing industry, particularly migrants, typically face dangerous working conditions for low pay. But the severity of abuse and exploitation in Thailand is unique. © EJP

* All monetary values throughout this report are in US dollars, converted at current or adjusted exchange rates where applicable.

A history of Thai fishing



1980s - 2000s

	 Thai vessels seized	  Thai crew detained
 Vietnam	752	8998
 Myanmar	878	4960
 India	110	1083
 Indonesia	288	3906
 Bangladesh	47	460
 Malaysia	964	8552
 Cambodia	99	368
 Australia	4	120



In the 1980s
approximately
33%
of fish landed
in Thailand
came from outside
of Thai waters

THE DECLINE OF THAILAND'S MARINE CAPTURE FISHERIES

Until the mid-20th Century, Thailand's fishing industry was dominated by non-powered boats and the use of simple gears, such as bamboo traps, to catch fish inhabiting the upper levels of the ocean (pelagic species). In 1945, there were just 65 powered vessels in the entire country and early attempts to introduce trawling during the 1950s failed.¹⁷ However in 1960, the West German government sent experts to provide training on trawl fishing and a joint German-Thai government initiative to develop an inshore trawling industry targeting bottom-dwelling (demersal) species met with enormous success. In the six years from 1961, the number of Thai trawlers skyrocketed – rising from 99 to 2,695 – whilst marine production increased seven-fold.¹⁸

The rapid introduction of new technology marked a profound shift for an industry traditionally dominated by poor artisanal fishers and began a process which would have a devastating impact on Thailand's marine resources. The high cost of mechanised vessels, far beyond the resources of most fishers at the time, attracted investments from powerful businesspeople in Thailand's urban centres. With access to venture capital, entrepreneurial skills and up-to-date information on technology, these investors gained a competitive advantage in the race for Thailand's offshore resources, which required increasingly longer fishing trips to deeper and rougher waters.

Thailand's marine capture production steadily increased for decades after the introduction of trawling – rising from 63,711 tonnes in 1960 to over 2 million tonnes in the late 1980s, when it started to level off.¹⁹

THE TRAGEDY OF THE COMMONS

Resources which can be accessed by anyone at anytime without restraint, such as Thailand's offshore marine resources in the latter half of the 20th Century, are known as 'open-access resources'. In an open-access fishery, no fisher has an incentive to limit catches to a sustainable, economically-efficient level because no single person has exclusive rights over the remaining fish stocks. As a result, fishers ignore the consequences of harvesting marine resources without restraint and continue fishing until there is no longer any profit to be collected.²⁰

This type of first-come, first-served system often results in a problem known as the 'tragedy of the commons': individuals acting rationally according to their own interests behave in ways which damage collective long-term interests by depleting a shared resource. This situation is often created when coastal and artisanal fishing communities are dispossessed of their rights to use and control access to marine resources.²¹ With measurements so far indicating that one third to over half of the fish stocks in the world's oceans are fully exploited, over-exploited or already in decline the problem of the tragedy of the commons is by no means unique to Thailand's waters.²²

After 15 years at a roughly constant level, production began to decline to just over 1.5 million tonnes per year.²³ Throughout this period, however, the catch per unit of effort (CPUE) – measured by kilograms of fish caught in one hour of fishing – has been in constant and sharp decline. For example, in the Gulf of Thailand, CPUE plummeted by 84 per cent between 1961 and 1981.^{24/25}

The fact that Thailand's marine capture production increased while CPUE dramatically declined during these first two decades of industrial fishing suggests not only rampant overfishing but also that total marine capture production in Thailand has been dependent on fish caught in other countries' waters for a long time. The dramatic 'crash' in marine capture production statistics after 2004, for example, was partly the result of Indonesia and Malaysia introducing regulations requiring Thai vessels fishing in their waters to register as Malaysian and Indonesian boats, thereby forcing a significant portion of Thai catch to be considered as "imported fish".²⁶

Thailand's squandering of its living marine resources prompted Thai trawler operators to begin moving further afield to Vietnam, Myanmar, Malaysia and Indonesia as early as 1968. Malaysia's fish stocks quickly began to deteriorate. By the mid-70s – having either copied the Thai model or adopted a domestic trawling industry in response to the rampant activity of Thai vessels in its waters – Malaysia was landing virtually half of its entire marine catch from trawl fisheries. By 1981, overall CPUE in the northern Straits of Malacca and the eastern Malay Peninsula had been reduced by two-thirds compared with 1970, in part due to the activity of Thai trawlers.²⁷

In the late 1970s, Myanmar, Vietnam, Cambodia, the Philippines, Indonesia and then Malaysia declared exclusive economic zones (EEZ), which gave them the sole right to exploit all resources in the seas bordering their territorial waters. The Thai Government was initially reluctant to declare its own EEZ, fearing that it would legitimise the claims made by neighbouring states. This was due to the fact that Thailand's enormous fishing fleet had now been deprived, on paper at least, of vast tracts of sea off the coasts of these countries. Some distant water vessels reportedly returned to fish in Thai waters and, in the three years during which these declarations were made, Thailand's marine capture production dropped by just under a quarter. However, this was more likely related to the rising cost of fuel and the global oil crisis rather than improvements in monitoring, control and surveillance (MCS) in the waters of Thailand's neighbours.²⁸

The decline in catch landings of the late 1970s was only temporary. The establishment of EEZs – which became part of international law after the signing of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982 – did not stop Thai trawlers from entering neighbouring waters without permission. Large numbers of Thai trawler operators moved from central to southern Thailand and from the Gulf to Andaman coast in order to exploit new fishing grounds.²⁹ Thailand's marine capture production soon reached new heights, arguably almost entirely from landing fish caught in the territorial waters and EEZs of neighbouring countries. The Asian Development Bank estimated that as much as a third of the fish landed in 1982-83 came from outside Thai waters.³⁰

“

*There are more fish anywhere else
than in our territorial waters.*

”

Director-General, Department of Fisheries
Plodprasop Saraswati in 1994³¹

However, from the mid-80s, the governments of neighbouring countries granted themselves stronger powers to aid in the detection and apprehension of intruding vessels. Stringent new controls on boats entering Malaysia's EEZ were enforced with spotter plane patrols which resulted in the arrest of over one thousand Thai fishers in 1986-87.³² In the same year, Myanmar began a joint venture with Japan, which included the provision of helicopters and patrol boats to enhance Myanmar's capacity to spot and seize Thai trawlers. This led to a 40 per cent reduction in catch landings at Ranong, a major port on the southern Thailand-Myanmar border.³³ In 1993, the Vietnamese government seized and held 11 Thai trawlers and their crews to ransom, pending full payment of \$370,000 worth of fines.³⁴ By 1994, local Indonesian fishers were attacking Thai vessels with petrol bombs and light arms while Thai officials had admitted that Malaysian authorities were impounding at least two Thai boats a day.³⁵

“

*The big boats have rocket-propelled grenades
and heavy machine guns. It's so easy.*

”

Anonymous vessel operator in 1997³⁶

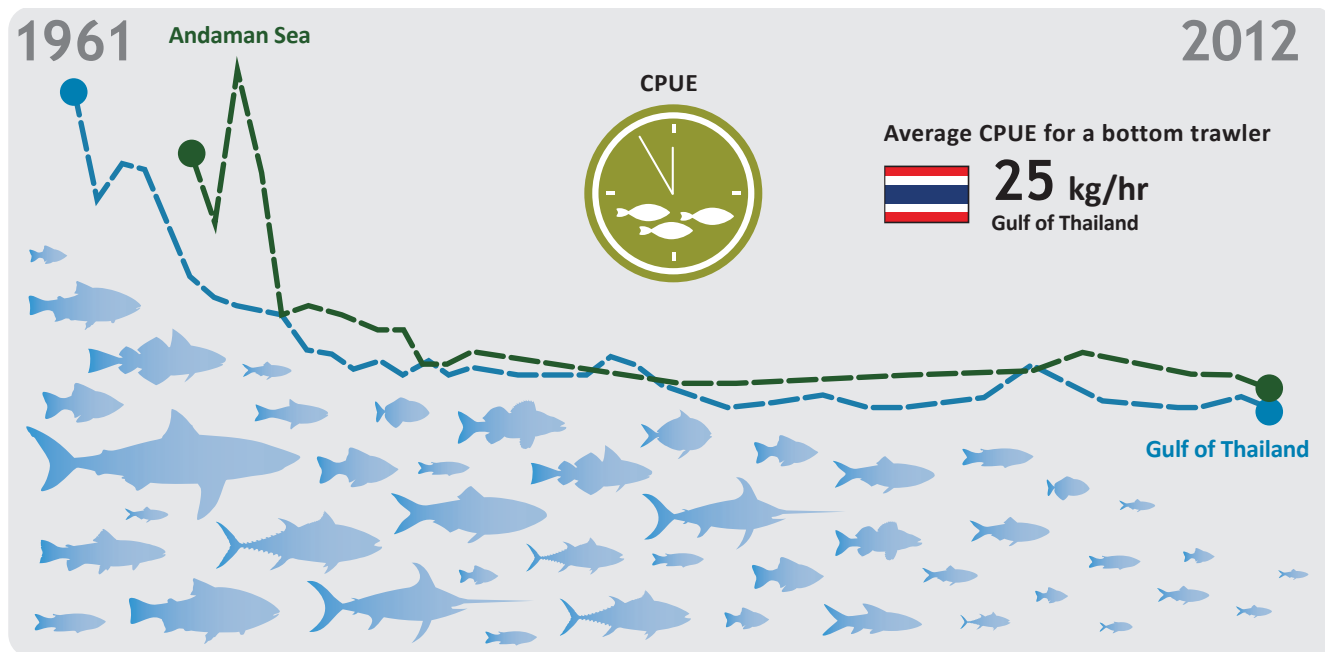
Since the 1990s, Thailand's distant water fishing fleets have increasingly entered into both formal and informal licensing and joint venture arrangements with neighbouring countries. For several states, the granting of fishing concessions to Thai vessels has remained a sensitive political issue which has ignited strong opposition at home.³⁷ As this report details, the semi-formalisation of Thailand's fishing ventures into the EEZs and territorial waters of its neighbours has not eradicated pirate fishing. In Myanmar and Indonesia in particular, the 1990s saw pirate vessels use sophisticated communication equipment to evade naval patrols and weapons such as “rocket-propelled grenades and heavy machine guns” to directly engage and fight with the authorities.^{38/39}

As well as using force to evade capture, Thailand's trawlers have relied on fragmented and weak governance systems at home and abroad to exploit marine resources until exhaustion. Where controls have been put in place or monitoring and enforcement capacity has improved, Thai vessels have simply moved elsewhere. In 1999 for instance, following a ban on Thai boats imposed by Myanmar's military regime, Indonesia arrested 56 Ranong-based trawlers and 1,200 crew who had moved south in search of new fishing grounds within Indonesia's territorial waters.⁴⁰

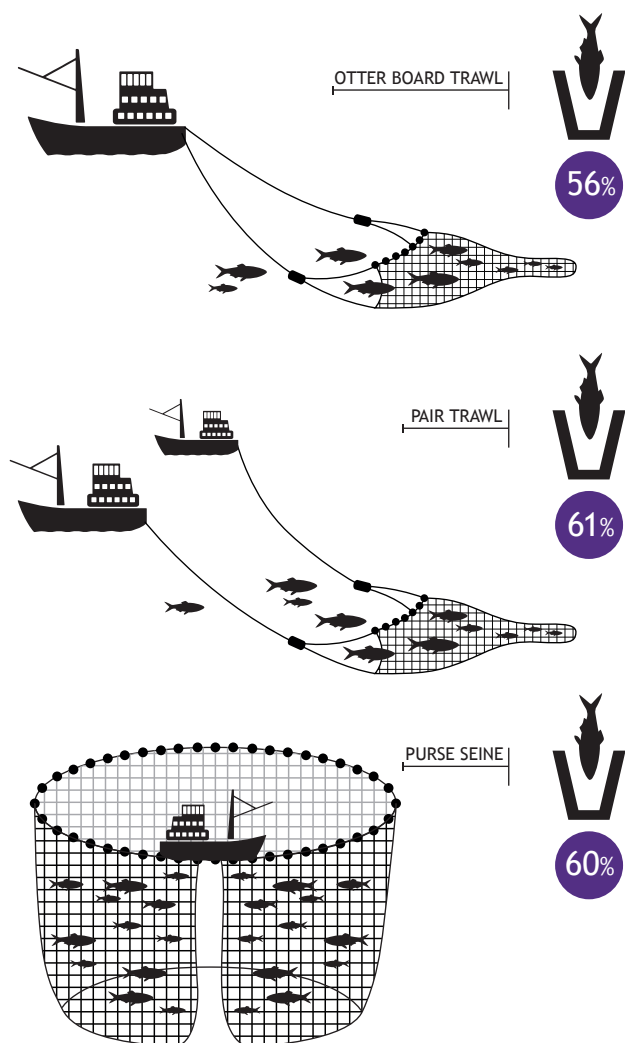
Over the last quarter century, Thailand's fleet has undoubtedly faced increasing restrictions which have slowed expansion and curtailed the rampant plunder of neighbouring countries' waters. Vessels have moved further afield to fish as far away as Puntland, Madagascar and Russia. But now, just as three decades ago, the devastated fishing grounds in Thailand's territorial waters continue to exert a downward economic pressure on vessel operators, driving them to fish further afield and often illegally, while reinforcing the environmental destruction and human rights abuses within the business model of the Thai fishing industry.



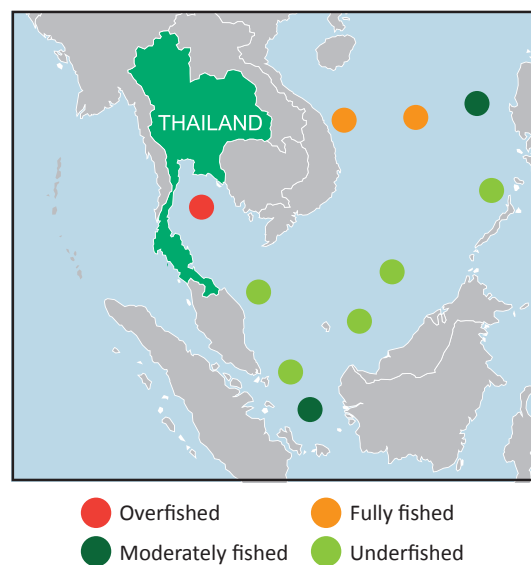
Thailand's industrial fishing industry exploded in the 1960s. Within two decades, neighbouring countries were waging war against a sophisticated fleet of Thai pirate fishing vessels which were fleeing the country's overfished waters. © EJP



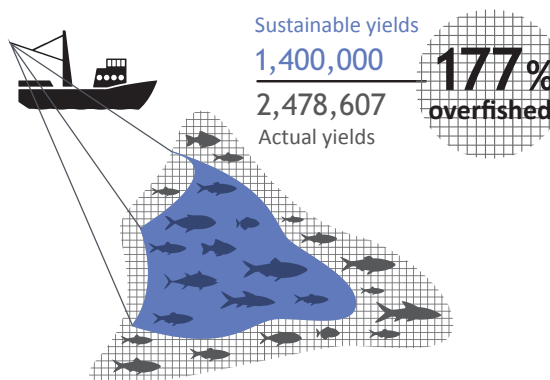
Trash fish in catch compositions



Pelagic overfishing in Southeast Asia



Sustainable vs actual yields



The overall CPUE in both the Gulf and Andaman Seas has plummeted by more than 86 per cent since 1966, making Thai waters among the most overfished regions on the planet.⁴¹

CURRENT STATE OF THAILAND'S MARINE CAPTURE FISHERIES

In January 2014, EIJ boarded a trawler operating out of Kantang in Trang province. The vessel, *Boonlarp 7*, is owned by the same company investigated for using trafficked and forced labour in EIJ's *Sold to the Sea* and *Slavery at Sea* reports.⁴² As EIJ boarded, *Boonlarp 7* was pulling up its nets to unload a catch. Six hours of trawling had netted approximately 200 to 280 kg of trash fish – worth between \$42 to \$59 at market.⁴³ The captain of the vessel informed EIJ that they typically trawl two to four times a day for four or five hours at a time. A day's worth of the catch volume witnessed by EIJ wouldn't have covered the operating costs of the vessel; diesel alone for a trawler of *Boonlarp 7*'s size is approximately \$920 a day.⁴⁴ Sompon Jirimontree, the owner of this fishing company (Boonlarp Fishing Co. Ltd.) subsequently admitted to EIJ that low catch volumes were crippling his business, forcing him to keep a portion of his fleet docked at port.⁴⁵

The most recent figures for the region in which *Boonlarp 7* was fishing show trash fish catches declining a stunning 41.9 per cent in just two years (2010-2012).^{46/47/48} The overall CPUE in both the Gulf and Andaman Seas has plummeted by 86 per cent since 1966, making Thai waters an example of one of the most overfished regions on the planet.^{49/50/51/52} However, official figures underestimate the real extent of the decline; as commercial landings continue to come from un-policed areas of other countries' EEZs, the high seas and areas not covered by trawl surveys.^{53/54} Further, the 25mm mesh sizes on the "cod-end" of trawl nets – where fish are retained – used by Government research vessels can be as much as 40 per cent larger than those used by commercial fishers, meaning they allow a lot more fish to slip through the net.^{55/56} Because of these differing mesh sizes, historical figures demonstrate that Government research vessels have consistently underestimated the amount of trash fish being landed by commercial trawlers by around half.⁵⁷

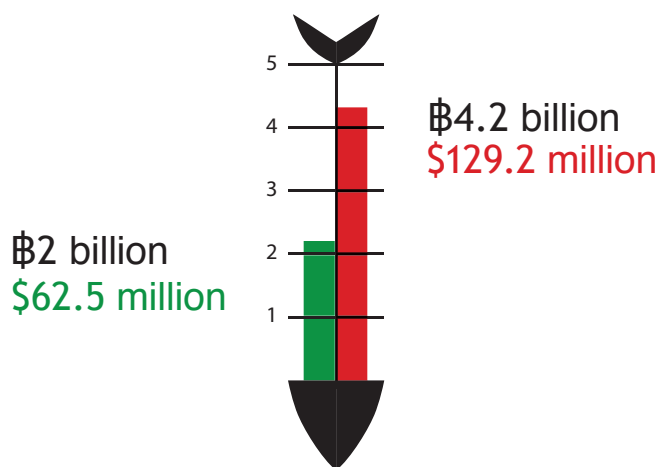
Thai Department of Fisheries (DoF) figures from 2012 record that the quantity of marine fish species being landed has decreased by almost 50 per cent since the early 1990s.⁵⁸ As catches have declined, the composition of catches has also changed in an important way. The proportion of commercially important species has plummeted whilst the volume of smaller-sized and low-value species or (trash fish) has increased.

Beyond being a strong indicator of overfishing, this is significant because approximately one third of trash fish catches are comprised of juveniles of commercially important species.^{59/60/61}

With the decline of target and high-value species in Thailand's increasingly impoverished fishery, trash fish has provided an important source of revenue for vessel operators – one that has further contributed to the decimation of fish stocks by wiping out commercially important species before they reach maturity.⁶² Industrial trawlers dominate the market for trash fish – the FAO estimates that 95 per cent of total trash fish landings come from trawlers.⁶³ As this report details, trash fish has become a major industry in Thailand. Although the total quantity of trash fish being landed has declined considerably since the late 1980s, DoF figures from 2012 still record trash fish making up one fifth of total marine capture production.^{64/65} In the Gulf of Thailand it has been estimated that as much as 60 per cent of total catches are comprised of trash fish.⁶⁶

Thailand's industrial fishing industry has long failed to consider the true ecological (and economic) costs of its unsustainable business model. The widespread adoption of unselective fishing methods aimed at maximising total catch has devastated the marine food web. Too many fishing vessels catching too many of the "high trophic level" species (larger fish occupying positions towards the top of the food web) have caused smaller fish and invertebrates to dominate the ecosystem.^{67/68} This has resulted in the industry literally "fishing down the food web" by targeting fish at progressively lower trophic levels. Marine biodiversity has crashed, with some research claiming that 60 per cent of large finfish, sharks and skates in the Gulf of Thailand were lost during the first five years of industrial trawl fishing.⁶⁹ Simulations capable of accurately mapping the historical depletion of fish stocks to increased fishing effort demonstrate that reductions in effort would allow larger fish and others species such as lobsters, rays and sharks to recover.⁷⁰

Thailand's fishing industry earns the country roughly half of what it would if it were managed sustainably⁷¹



Business as usual will eventually lose the country at least \$121-136 million every year in dissipated economic rents⁷²

OVERFISHING AND THE THREAT TO BIODIVERSITY AND COASTAL ECOSYSTEMS

By sweeping everything into nets, including juvenile commercial fish, non-selective trawl fishing seriously threatens the integrity of marine ecosystems. But trawlers don't just catch fish and other marine fauna living near the seafloor. Trawling, particularly within inshore areas, causes major damage to fragile coastal and marine ecosystems by reducing the topography of the seafloor to a smooth, flat, muddy surface. These areas act as nurseries and breeding grounds for fish and provide habitats for endangered marine species.^{73/74/75/76}

Seagrass ecosystems are especially vulnerable to trawling due to the heavy nets and weights which are dragged along the seabed, creating large scars in their wake.⁷⁷ Thailand's multi-species seagrass beds are a global ecological asset – there are twelve reported seagrass species present in the Andaman Sea and Gulf of Thailand out of a total 58 species worldwide – but only 34 per cent of Thailand's 149.97 km² of seagrass is protected.^{78/79} Seagrass beds are found in shallow, coastal waters between the intertidal area at around 5 metres in depth.⁸⁰ Thai regulations prohibit trawlers from fishing in an area extending 3 km beyond the shoreline, meaning that the instances of trawl fishing in seagrass beds reported by

Thai artisanal fishers are all illegal without exception.^{81/82} Trawling nets also affect fragile seagrass ecosystems by burying or re-suspending organic material and silt. This affects nutrient cycles in seagrass ecosystems and causes adverse shifts in algae abundance. Re-suspension of particles also leads to light limitation, which inhibits growth patterns. This increases shoot mortality and decreases shoot density, resulting in an overall decline in seagrass habitat area.⁸³

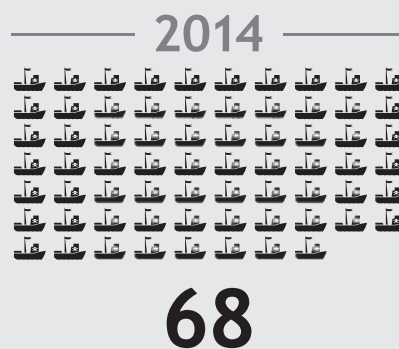
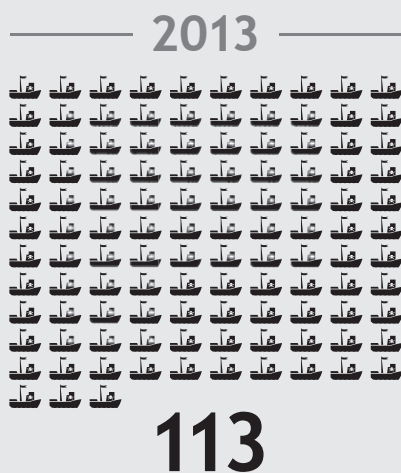
Thailand's seagrass beds are a crucially important ecosystem for some 149 fish species as well as a feeding ground for several endangered species such as dugongs, several species of dolphin and sea turtles.^{84/85} In most cases, there is very little reliable data on the populations of these endangered and vulnerable species.^{86/87} Data on the number of sharks caught by fishing vessels is also unreliable because sharks which are caught in gillnets, trawl nets or longlines are often finned and then discarded.^{88/89} Nevertheless, sharks of various species can be found for sale in many of Thailand's major fishing ports. Whale sharks, which are legally protected in Thailand, have also been reported as bycatch in trawling nets but, due to their migratory nature and rarity, are very difficult to accurately track.^{90/91}

SPECIES	POPULATIONS	GEARS OF CONCERN
Dugongs	200 individuals in Andaman Sea; 50 in Gulf of Thailand ⁹²	Long-lines; Bottom gillnets ⁹³
Hawksbill, Green, Leatherback and Olive Ridley Turtles ⁹⁴	Nesting data for turtles in the Andaman Sea and the Gulf of Thailand show declines of around 80 per cent since the 1990s. ^{95/96}	Long-lines; Bottom gillnets ⁹⁷
Irrawaddy, Bottlenose and Indo-Pacific Humpback Dolphins, Finless Porpoise ⁹⁸	There is little reliable data on dolphin populations in Thai waters with only localised studies of small dolphin pods. ⁹⁹	Pair trawl nets; Bottom gillnets ^{100/101/102}
Bamboo, Blue, Hammerhead, Mako, Spot-tail, Tiger and Whitetip Sharks ¹⁰³	4,800-8,600 tonnes of sharks are caught each year with otter board trawl nets (OBT) catching 80 per cent of the total. ¹⁰⁴	Long-lines; Trawl nets; Bottom gillnets ¹⁰⁵
Whale Sharks	Sightings of Whale Sharks in the Andaman Sea have dropped by 96 per cent between 1998 and 2001. ¹⁰⁶	Long-lines; Trawl nets; Bottom gillnets



Typical fine for Thai boats caught fishing illegally

\$75 - 90



Trawlers penalised by Thai authorities for violating fishing regulations

1.6%



Thailand

8%



United Kingdom

18%



United States

70%



Finland

Government expenditure on fisheries management as a percentage of total gross revenues from marine fish landings



Thailand's massive purse seine fleet uses light lures to raise catches beyond sustainable levels. Government failure to control these vessels means that there are now so many that they can be seen from space. ©JSC/NASA 2015

PURSE SEINES

Purse seiners employing light lures to catch anchovies and squid are extremely damaging to juvenile stocks of many economically important fish species.¹⁰⁷ This is because light lures attract a diverse number of fish species and cephalopods, resulting in high proportions of by-catch. By-catch of juvenile fish of commercially important species caught using light lures can vary from 1.7% to as high as 30% by weight.¹⁰⁸ By using light lures to significantly raise catch rates, purse seiners gain a competitive advantage – vessels without lures have to fish longer and harder in a more impoverished fishery while other operators face incentives to adopt light-luring technologies. This cycle results in further increases in both fishing effort and capacity.

Light luring purse seiners operating within Thailand's inshore exclusion zone are a constant source of conflict with local artisanal fishers. Local communities have complained that trawlers and purse seiners are depleting fish stocks at a faster rate than their recovery time.^{109/110} Official figures demonstrate that the fleet has grown by 20 per cent since the issuing in 1996 of a regulation prohibiting new entry for purse seines into the industry.^{111/112} In 2012, purse seiners caught 35 per cent of all the wild fish landed in Thailand, making this fleet another good example of the Government's failure to adequately regulate entry into the industry and control the use of destructive fishing methods.^{113/114} Recent night-time satellite imagery shows the shocking scale of Thailand's light luring purse seine fleet, which can clearly be seen from space operating across the Gulf of Thailand and Andaman Sea.

GOVERNMENT FAILURE TO MANAGE AND CONTROL FISHING FLEETS

The tragic destruction of Thailand's marine environment has been fuelled by the failure of successive governments to introduce a strong regulatory framework limiting the number of vessels, defining access rights, and controlling fishing gears. Further, lax enforcement of the regulations that are in place has meant that, according to a recent report by Oxfam and Sal Forest, an "almost ubiquitous culture of violation" has exacerbated the "Malthusian extraction of marine resources" in Thailand.¹¹⁵ The country's coastal fisheries continue to be managed as an open-access resource, creating instability and conflict between industrial trawlers and local artisanal fishing communities.¹¹⁶ The wholesale infringement of Thai fisheries and maritime laws and Government failure to curb fishing practices which are considered internationally unacceptable means that pirate fishing is a systemic feature of the Thai fishing industry.

According to a Government survey conducted in 2011, Thailand's fishing fleet numbers 57,141 vessels – over 70 per cent of which are classified as 'small-scale'; referring to non-powered, outboard powered, and inboard powered boats of less than five gross tonnage (GT).^{117/118} Recent DoF figures show that over two thirds of this fleet remains unregistered and therefore operates largely outside of Government regulation while recent comments from senior Government officials suggest that only one-sixth of the true fleet is registered.^{119/120} To address this issue, the DoF set a target to register 40,000 vessels between 2010 and 2013 – as of 2014 however, just under half this amount had been registered.¹²¹

The most recent publicly available statistics from the Government record 18,089 registered vessels.¹²² The Thai Vessels Act, B.E. 2481 (1938) requires all motorised vessels and all non-motorised vessels above 6 gross tonnes to be registered with the Marine Department. But the entire registered fleet weighs an average of 4.8 gross tonnes. Most Thai commercial fishing vessels are from 14 to upwards of 24 metres in length yet well over half of the 18,089 registered boats are under 14 metres in length. These two facts suggest that many industrial fishing vessels remain unregistered.¹²³ Although representing only around 30 per cent of the fishing fleet, industrial vessels land about 90 per cent of Thailand's total marine catch – estimated in 2012 at 1.5 million tonnes with a value of \$1.6 billion.^{124/125/126} This means that the Government has long been essentially unaware of the size of this critically important sector of the economy and lacks the most basic data to enable effective regulation and control.¹²⁷

3,384 vessels of the vessels in Thailand's registered fleet are trawlers (comprising 2,238 otter board trawls, 1,052 pair trawls and 94 beam trawls). This means that, according to official figures at least, some 6 per cent of the *known* fishing fleet – some 57,000 vessels – lands just under half of the country's total marine capture production.¹²⁸ The trawl fishery is evidently much larger, even senior Government officials have estimated that there are more like 10,000 Thai trawlers in operation.¹²⁹ Although trawlers have been at the centre of the historical development of Thailand's industrial fishing sector, it is worth noting that they are not the only type of vessel which has contributed to the decimation of fish stocks and the destruction of the country's marine and coastal ecosystems; other types of fishing gears, particularly purse seines and push nets, are also responsible.

In the late 1960s, a German fisheries scientist and two DoF officers became concerned about the exponential decline in catches from the Gulf of Thailand, advising the government not to grant licences to any new trawlers. Instead, the government – fearful of the impact of entry restrictions on the increasingly influential trawling bloc and ancillary industries such as shipbuilding – provided loans, offered tax incentives and reduced import tariffs on specialist detection and navigation equipment to encourage the construction of larger vessels which could fish outside of overexploited areas.¹³⁰

Thailand has long failed to regulate the capacity of its trawl fisheries – estimates indicate that in 1995 the Gulf of Thailand alone had an excess fishing effort equivalent to 3,414 trawlers.¹³¹ Too many vessels plying the Gulf’s waters leads to \$230 million worth of losses in potential revenue every year.¹³² The absence of strict licensing policies and the division of responsibility between the DoF (which licences fishing gears and fishing permits) and the Marine Department (which licences fishing vessels) has exacerbated the uncontrolled expansion of both fishing capacity and effort by allowing registered fishing vessels to operate without licensed gears and permits.

“

Would you obey a law if, one day, you knew you would be pardoned anyway?

”

Sirasa Kantaratanakul, Thai campaigner¹³³

Another of Thailand’s strategies to respond to the uncontrolled expansion of the trawl fisheries has been to periodically offer amnesties to operators using unregistered vessels and therefore fishing illegally. After three unsuccessful amnesties in the early 80s and with over 13,000 trawlers operating in Thailand’s territorial waters, in 1989 the Government threatened owners of unregistered vessels with heavy penalties should they fail to enter the system.¹³⁴ In 1996, a Ministry of Agriculture and Cooperatives (MoAC) Regulation prohibited the issuing of licences to new trawlers but simultaneously granted pardons to the owners of all unregistered vessels.^{135/136} In 2012, a DoF proposal to offer amnesty to 2,107 illegal trawlers – an attempt to comply with the European Union’s IUU Regulation (1005/2008) – was defeated by Thai civil society representing artisanal fishing communities.^{137/138/139} In 2014, the MoAC re-floated the idea of pardoning illegal vessels (this time in order to combat both illegal fishing and human trafficking) but the proposal was again met with campaigns from civil society organisations and then hastily abandoned.^{140/141}

In 1972, the Government prohibited the use of trawl nets within three kilometres from the shoreline. Since then, additional regulations have been introduced – principally aimed at facilitating the recovery of Indo-Pacific mackerel stocks. Newer regulations have imposed controls on the use of certain gears during spawning seasons in key areas, and expanded closed areas in, for instance, Phang Nga bay and the upper southern zone of the Gulf of Thailand.¹⁴² Despite these efforts, local fishing authorities are ill-equipped to enforce the exclusion zone, with many provincial patrol teams lacking even basic equipment such as boats and radios.¹⁴³ Violations of fishing regulations within Thailand’s territorial waters remain widespread and trawlers continue to damage the nursery grounds of commercially important fish; contributing to the destruction of fragile marine ecologies such as coral reefs, and creating unending, and sometimes violent, conflicts with local fishing communities.^{144/145}



Big-eye snapper congregate around an abandoned fishing trap in one of Thailand’s national marine parks. ©Alan Duncan

Thailand's outdated regulations mean that many destructive fishing practices are not considered illegal and fish caught by pirate fishing vessels can be legally landed.¹⁴⁶ In particular, Thailand's principal piece of legislation – the Fisheries Act B.E. 2490 (1947), which was established before the development of an industrial marine capture fishery – requires that fishers need to be caught in the actual act of illegal fishing or other violations in order for the evidence to stand up in a court of law.¹⁴⁷ Experts estimate that illegal fishing in the Andaman alone costs Thailand upwards of \$2.5 million annually.¹⁴⁸ Common infringements of the Fisheries Act include illegal trawling within closed areas (typically the inshore exclusion zone), fishing during closed periods, the use of illegal mesh sizes and fishing gears, and the illegal use of lures and fish aggregating devices (FADs).

“

There are laws but they aren't enforced. You get fined 5,000 baht (\$152) for fishing within three kilometres of the coast, but this is like a grain of sand for the larger fishers; they might as well just pay up before they head out for the night.

”

Sirasa Kantaratanakul, Thai campaigner¹⁴⁹

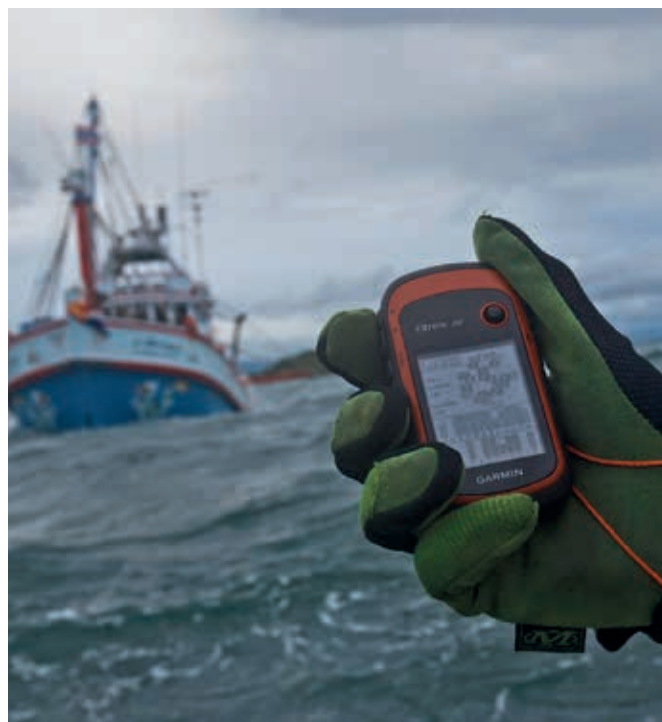
In response to criticism directed at the Government for failing to control illegal fishing, in 2014 the DoF announced the punishment of 6,420 fishing crew connected to 1,226 violations of the Fisheries Act over the three financial years spanning 2012 to 2014.¹⁵⁰ Almost a quarter of cases involved trawlers. While officials point to several barriers to effective action – such as the extensive geographic areas under regulation, a huge fishing fleet using multiple gear types, insufficient patrol boats, inadequate fuel allowances, and staff issues – other stakeholders feel differently. As the 2014 figures were released, the head of a provincial artisanal fishers' association described to the press how – despite years of financial support to local enforcement agencies aimed at wiping out illegal fishing in closed areas – the trawlers remain, unafraid of weak law enforcement which levies arbitrarily small fines before releasing the vessels, allowing them to immediately return to the same illegal activities.¹⁵¹ Research in other coastal fishing communities has confirmed that enforcement efforts are undermined by corruption between DoF officials and industry actors.¹⁵²

“

These trawlers are operating in a prohibited area and no officials are taking legal action against them. The authorities always claim that they have no budget, and lack manpower to enforce the law.

”

Banjong Nasae, Thai campaigner¹⁵³



Activists document a trawler fishing illegally within the three kilometre exclusion zone near Chumphon. Vessels caught fishing illegally are typically fined less than \$100 and usually able to return to fishing immediately after paying the fine. © Athit Perawongmetha / Greenpeace

One especially negative result of Thailand's unregulated fishing sector is the use of destructive gears – particularly the small mesh sizes on trawl nets, which have gradually decreased in size so that more trash fish can be caught to compensate for the decline in higher-value species. Trawlers may use meshes as small as 25mm for fish and 15mm for shrimp while other gears can employ mesh sizes as tiny as 5mm.¹⁵⁴ The ecological impacts of these gears are profound. Small mesh sizes in the cod-end of nets makes fishing highly unselective, removing small and large species alike as well as young and underdeveloped fish. Adults of commercial species caught in trawl nets are often too damaged or putrefied to be considered as anything other than trash fish. The economic implications of these practices are also staggering. Thai activists claim, for example, that 1,000 mature mackerel are worth 80 times more than 1,000 juvenile mackerel mixed up in catches of trash fish.¹⁵⁵

Although the 1947 Fisheries Act contains a provision requiring the licensing of gears – vessels using trawl nets, for instance, are required to pay a mere \$0.15 per year – the MoAC record that vessels using gears for which they are not licensed is also a common problem.^{156/157} This makes enforcing gear restrictions all the harder. The DoF admits that one of the primary sources of illegal fishing in the Gulf of Thailand is non-compliance with a regulation requiring the use of larger mesh sizes (more than double the average) during certain seasons.¹⁵⁸ Research indicates that even outside these seasons, most fishers are employing gears with mesh sizes far below the 25mm limit.^{159/160} After ignoring for decades recommendations from scientists to mandate minimum trawl net cod-end mesh sizes of 45 to 55mm in order to preserve Thailand's fisheries, the Government has only recently initiated research on introducing 40mm meshes.^{161/162}

The Government accepts that the 1947 Fisheries Act is outdated and does not reflect the current status of either industry practices or marine resources.^{163/164} The DoF has been attempting to update the Act over the last decade and, in 2015, a draft replacement law was approved by Thailand's National Council for Peace and Order (NCPO) and submitted to the National Legislative Assembly.¹⁶⁵ According to a draft copy reviewed by EJF, the new Act will aim to redress conflicts by clearly demarcating industrial and artisanal fishing zones, increase the coastal exclusion zone to 3 nautical miles (5.5km), and impose harsher penalties for violations of fisheries regulations. The bill also aims to introduce measures to improve the participation of fishing communities in the management of local marine resources and the planning of regulations.^{166/167} This will be done through the establishment of provincial fishery committees; potentially exacerbating corruption within local government where oversight and accountability are already underdeveloped. However, the empowerment of Thailand's small-scale fishers through the granting of fishing rights and the development of co-management systems is an encouraging first step in regulating Thailand's fisheries, and has long been recognised as key to ameliorating conflict, reducing waste and protecting against environmental degradation.^{168/169/170} But Thailand's record of weak enforcement and local-level corruption further calls into question the efficacy of the reforms enacted by the new Act. The new Act is relatively non-committal – most of the details regarding enhanced MCS will be determined by future Ministerial Regulations – and it remains likely, according to the drafts seen by EJF, that it will categorically fail to address some forms of IUU fishing.

“

Look at the mesh of our nets and theirs and you can see how we are different to these fishers. Nothing can get through their net; they take everything out of the water.

”

Piya Tesayem, Thai activist fisher¹⁷¹

“

Everyone just takes and takes. And what really hurts is that the Government never helps.

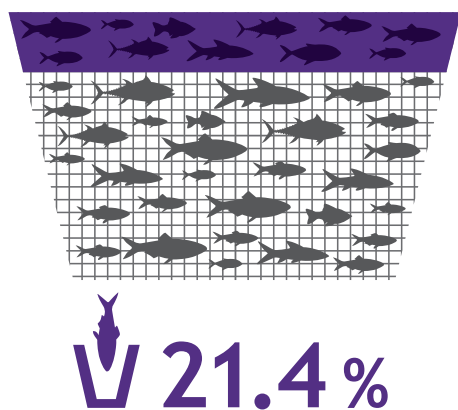
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Piya Tesayem, Thai activist fisher¹⁷²

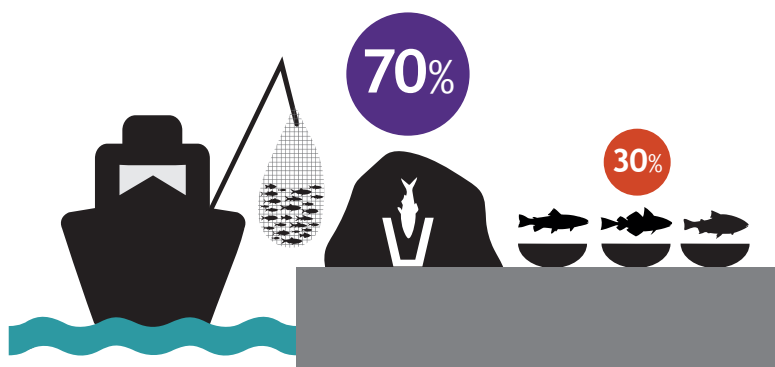


A whale shark, considered a vulnerable marine species, swims with fishing gear attached to its tail. ©Alan Duncan

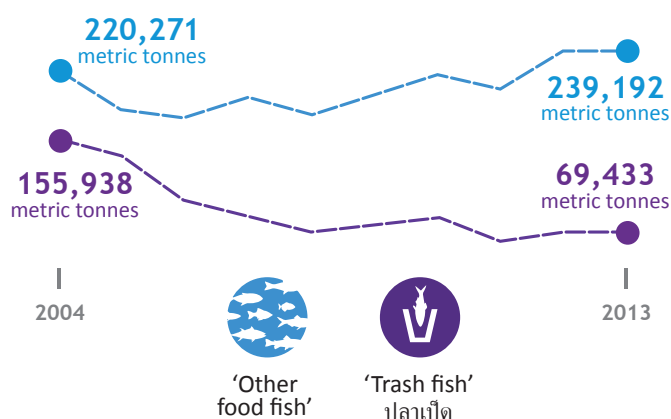
Trash fish in Thailand's total marine production



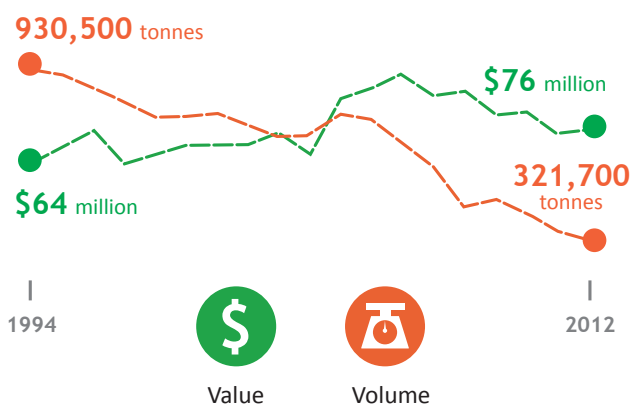
Most of the fish landed by Thai trawlers is trash fish



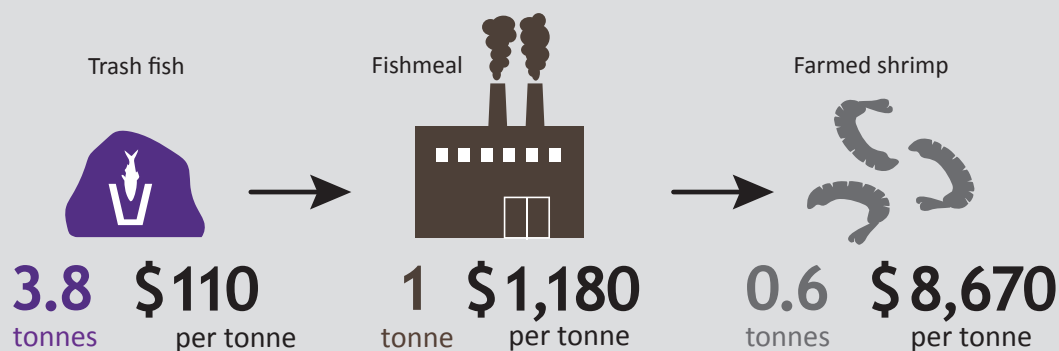
How trash fish gets renamed as fish stocks collapse



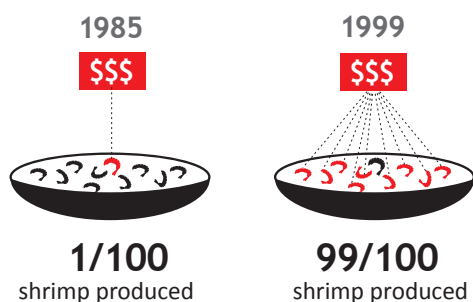
Trash fish has become scarcer over time but also more expensive



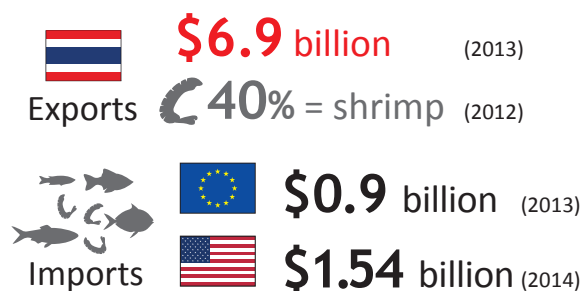
Squandering our seas: How almost four tonnes of wild-caught fish makes around half a tonne of shrimp



Changes in production of high-value shrimp for export



Thailand's international seafood trade



All sources and data used in the infographics featured throughout this report are available on request.

MARKET DRIVERS OF DECLINING FISH STOCKS

The trash fish which EJF witnessed *Boonlarp 7* unload in January 2014 was destined for Kantang, a small fishmeal processing hub on southern Thailand's Andaman coast. EJF's investigations had already linked trash fish catches from the company which owns *Boonlarp 7* to fishmeal producers supplying major companies farming shrimp for export – a fact later confirmed by Sompon Jirimontree, the director of Boonlarp Fishing Co. Ltd.¹⁷³ In 2009, Thai authorities rescued 56 victims of trafficking and abuse from trawlers and a fishmeal factory owned by a separate Kantang-based company also known by EJF as a supplier of feed inputs to major global shrimp producers.^{174/175} This section explores how industrial trawlers targeting trash fish provide key raw materials for Thailand's export-oriented shrimp industry to underline how ecological crisis has generated economic pressures which are driving a brutal trade in modern-day slaves.

The Thai idiom “To venture a small fish to catch a great one” (เอากุ้งฝอยไปตกปลากระพง) expresses the exact opposite of the Thai fishing industry's business model – which has for some decades focused on maximising catch volumes with little regard for catch composition. As stock levels in Thailand's fisheries have declined and the fleet has fished further down the marine food web, species that were previously considered trash fish became valued as target species for both consumption and as raw material for fishmeal. This reflects a broader global trend, where increases in the value of small fish have masked the effects of a drastic transformation in marine food webs and thereby ‘subsidised’ the unsustainable overfishing of larger finfish.^{176/177} In short, the demand for trash fish used in fishmeal for animal feeds is increasing pressure on overexploited fish stocks.¹⁷⁸

During the development of Thailand's trawl fisheries in the early 1960s, at least 40 per cent of trawler landings were already regarded as trash fish.¹⁷⁹ The majority of early trash fish was sold either to duck farms or feedmills for the production of fishmeal. The FAO note that large landings of trash fish helped develop feed industries when they would otherwise have been unprofitable.¹⁸⁰ In reality, the fledgling feed industry – along with the industrial trawl fishery – was also heavily protected and subsidised by the Government.¹⁸¹ The growing feed industry “further encouraged the expansion of trawling by helping to sustain the price of that portion of the catch that might otherwise have been discarded”.¹⁸² Indeed, in Thailand, over time the practice of discarding any portion of the catch has been eliminated.¹⁸³

“

If current fishing effort is maintained at this level...there is a loss due to the cost of fishing being greater than fishing revenues. This loss is calculated to be [\$30 million] per year.

”

Agricultural scientist Kwankamol Klinsresuk in 1996¹⁸⁴

TRASH FISH

The meaning of the term ‘trash fish’ varies significantly from country to country, particularly within Asia.¹⁸⁵ In Thailand the meaning has changed considerably over time and remains different between stakeholders and even amongst Government agencies. A recent report from Oxfam and Sal Forest describes the Thai term for ‘trash fish’ (ปลาเบ็ด) as referring to:

- Fish (including crustaceans) of commercial species that are unsaleable because they are damaged or degraded by poor post-capture handling;
- The mashed-up detritus of fish, crustaceans and other marine biota that coats the back of the cod-end of the net after a prolonged trawl.¹⁸⁶

Oxfam and Sal Forest note that because Thailand's modern trawl fisheries do not target specific species nor discard any portion of their catch – due to the fact that any species in good condition can be sold to fishball processors – ‘trash fish’ (ปลาเบ็ด) in Thai has come to refer exclusively to marine products which are utilised for animal feed and are not suitable for human consumption. This means that much of the low-value fish in Thailand's ‘food fish’ market would actually be classed as ‘trash fish’ elsewhere.¹⁸⁷ Like ‘trash fish’ (ปลาเบ็ด), low-value food fish in Thailand also ends up being processed into fishmeal. Researchers have found as much as 65 percent of low-value food fish being sold to fishmeal processors, where its comparably higher protein content is used to produce the premium grades of fishmeal which are sought after by shrimp farmers.¹⁸⁸

Consequently, this report uses the term ‘trash fish’ to refer to both the marine catch considered unsuitable for human consumption which is utilised for animal feed as well as the portion of low-value food fish which is diverted to the Thai feed industry. When referring exclusively to the former, this report uses ‘trash fish’ (ปลาเบ็ด). As noted by Oxfam and Sal Forest, these terminological nuances reveal important information about the catch statistics recorded by Thailand's DoF.¹⁸⁹ The apparent ‘decline’ in trash fish landings after 2005, for example, is actually the result of a reclassification of several species from ‘trash fish’ (ปลาเบ็ด) to ‘food fish’ – a trend demonstrated by a decade of data from Thailand's Fish Marketing Organization, which shows a decrease in the volume of trash fish being traded at Thailand's 11 major markets and ports at the same time as the volume of ‘other food fish’ is increasing.

Research shows that marine catch landings from Thailand's trawl fisheries contain between 36 and 71 per cent trash fish.¹⁹⁰

In Songkhla, one of Thailand's major seafood hubs, recent figures demonstrate that during peak seasons, up to 62 per cent of the total catch landed in the commercial port was trash fish.¹⁹¹ All in all, the most recent figures from Thailand's DoF suggest that at least one fifth of the country's entire marine capture production is made up of 'trash fish' (ปลาเบ็ด) – although, as we have already seen, much of what was once regarded as trash fish has been reclassified as 'low-value food fish', accounting for the apparent decline in trash fish landings since 2005.¹⁹²

“

[When I was a young man] there were a lot of fish. We could catch a lot and the price was cheap but now there is less and the price is high...

”

Sompon Jirimontree, Boonlarp Fishing Co. Ltd.¹⁹³

Trash fish remains a big industry in Thailand. Over the last two decades, production of 'trash fish' (ปลาเบ็ด) – as defined by the DoF – has declined by 65 percent yet its value has increased by a fifth.¹⁹⁴ Although trash fish is worth only around \$0.12 to \$0.22 per kilogram, it still comprises a significant proportion of trade in some of Thailand's most important markets and ports, including Samut Sakhon and Chumphon, where it makes up six and 13 per cent respectively of the entire trade in marine catch by value.¹⁹⁵ In Pattani, Thailand's biggest seafood trading hub by volume in 2013, almost one in every 100 fish sold were trash fish.¹⁹⁶ Of course, these figures don't account for the unknown proportion of trash fish which has been reclassified over the last decade and which is also being processed into fishmeal.

According to the DoF, Thailand produced 312,585 tonnes of fishmeal in 2012 – the most recent year for which figures are available – although this differs markedly from the United States Department of Agriculture's (USDA) estimate of almost half a million tonnes.^{197/198} Most Thai fishmeal is destined for domestic consumption, the DoF record fishmeal exports of only 58,038 tonnes in 2012 (although the USDA estimates 63,184 tonnes).^{199/200} All of Thailand's 'trash fish' (ปลาเบ็ด) is fully utilised by the fishmeal industry. Fishmeal is graded by quality, so variable amounts of trash fish are used to produce different grades of meal, depending on the protein content and condition of the catch. Of the 1,200,327 tonnes of marine biota disposed of by Thai fishmeal producers in 2012, 27 per cent was made up of trash fish according to the DoF.²⁰¹ This represents a dramatic decrease from the peak of 97 per cent in the mid-1990s; which is mainly due to the increased utilisation of trimmings from fish processors. Industry sources meanwhile estimate that the proportion of Thai fishmeal which is made up of trash fish is between 35 and 39 per cent.²⁰²

Although fishmeal is used by other industries – such as factories which produce pet food or livestock feed – aquaculture consumes around 60 per cent of global fishmeal production.²⁰³ Shrimp aquaculture in Thailand tends to use higher quality fishmeals and estimates suggest that around half of Thailand's total fishmeal production is used for aquaculture.²⁰⁴ Accounting for the higher grade fishmeals produced from 'low value food fish', Government researchers have concluded that as much as 78 per cent of Thai fishmeal is headed to shrimp farms.²⁰⁵ The world's largest shrimp farmer – Charoen Pokphand Foods (CPF) – buys up 40 to 50 per cent of Thailand's annual production of fishmeal, almost 60 per cent of which it admits is produced from trash fish.^{206/207}

Shrimp farmers mix fishmeal with other types of feed to increase yields, so the amount of fishmeal used in aquafeeds varies. Globally, fishmeal content in aquafeeds ranges from between five and 35 per cent.²⁰⁸ Thai researchers have found that fishmeal content in feed mixtures for giant freshwater prawn (*Macrobrachium rosenbergii*) will tend to be around



Trash fish comprises over a fifth of Thailand's total marine production and makes up as much as 70% of a typical trawl catch. © EIJ

24 to 52 per cent fishmeal while, for black tiger shrimp (*Penaeus monodon*), this ranges between 30 to 48 percent.²⁰⁹ For more than a decade now however, shrimp aquaculture in Thailand has been dominated by the production of white leg shrimp (*Litopenaeus vannamei*). Figures from the Thai Feed Mill Association show that over the last 15 years, the average proportion of fishmeal in Thai shrimp aquafeeds has been 18 per cent – although for each year anywhere between 53 and 72 per cent of the composition of shrimp aquafeeds remains completely unaccounted for in the Association’s statistics.²¹⁰ CPF, Thailand’s leading producer of shrimp, maintains that its aquafeeds are 10 per cent fishmeal.²¹¹

Thailand’s export-oriented shrimp industry is one of its most valuable economic sectors. According to the DoF, shrimp commodities made up 40 per cent of the value of all foreign exchange earnings from seafood exports in 2012.²¹² The total value of Thai seafood exports in 2013 was \$6.9 billion – with imports to the EU reportedly valued at \$0.9 billion and, in 2014 those to the US valued at \$1.54 billion.^{213/214} Thailand was the world’s second largest producer of farmed shrimp until 2013, when a severe epidemic of Early Mortality Syndrome (EMS) slashed production by more than half.²¹⁵

Thailand nevertheless remains the fifth largest producer of shrimp globally, and the fifth leading exporter of shrimp to the US – making up 11% of total volume.^{216/217} Fishmeal producers were also hit hard by EMS, with fishmeal use in aquafeeds crashing by 46 per cent between 2012 and 2013.²¹⁸ The proportion of fishmeal used in aquafeeds is expected to recover considerably in 2015, rising to make up 20 per cent of feed mixtures, after having hovered around 10 per cent for eight years.^{219/220} Although the amount of trash fish used to produce fishmeal and the quantity of fishmeal used by Thailand’s enormous aquaculture industry has seemingly declined over the last two decades, the irrational subsidising of wholesale ecological devastation in order to produce smaller volumes of higher-value seafood commodities for export persists.

The relationship between the growth of the shrimp aquaculture sector and increased demand for trash fish over time is directly correlated.²²¹ From the mid-1980s, shrimp aquaculture exploded across Southeast Asia, but most spectacularly in Thailand, owing to the adoption of productivity enhancing technologies and generous assistance from international development agencies, governments and conglomerates with interests in the animal feed sector such as Thailand’s CPF.²²² Between 1985 and 1990, Thailand’s production of penaeid shrimp grew by over 1,600 per cent. From 1985 to 1995, Thailand restructured its aquaculture sector to focus almost exclusively on the production of high-value black tiger shrimp (*Penaeus monodon*) for export before beginning intensive production of white leg shrimp (*Litopenaeus vannamei*) from the early 2000s.²²³

Price incentives have also contributed to the large volume of trash fish utilised by Thailand’s fishmeal industry and the unsustainable fishing which has brought the country’s marine ecosystems to the brink. Large animal feed producers determine purchasing criteria by the quality of fishmeal alone and not on how the fish used to produce the meal has been caught. CPF – the company which effectively determines market rates for fishmeal in Thailand due to its purchasing power – has only recently introduced a purchasing policy requiring (and offering a premium for) full traceability down to the boat for its fishmeal suppliers and documentation evidencing inspections of catch and crew to guard against pirate fishing and modern slavery.^{224/225}



Fishmeal produced from trash fish is fed to shrimp for export, but it takes almost four tonnes of trash fish to raise just over half a tonne of shrimp. © EJP

“

People think aquaculture is a good thing but it is not sustainable because it still takes from the sea.

”

Sirasa Kantaratanakul,
Thai campaigner²²⁶

CPF’s new purchasing policy immediately wiped out all but one of its 50 fishmeal suppliers and prompted producers to complain that the dire state of monitoring, control and surveillance (MCS) in the Thai fishing industry meant that compliance was a long way off for any fishmeal producer which doesn’t directly own and control fishing vessels.^{227/228}

The rapid expansion of aquaculture across the developing regions of Asia and Latin America – fuelled by technological developments, international investment and the availability of cheap land and labour – has coincided with significant decreases in price and increases in demand from more advanced economies such as the US, Europe and Japan.²²⁹ While the expansion of aquaculture, with its increased demand for fishmeal, has placed significantly more pressure on Thailand’s fisheries, demand for a ready supply of cheap shrimp from consumers in more developed markets has in turn driven the expansion of aquaculture.

What was once viewed as a luxury food item has become an increasingly common and affordable part of diets in more developed economies. Shrimp is now the single most valuable fisheries product, accounting for approximately 15 per cent of the total value of internationally traded fisheries products in 2012.²³⁰ Shrimp is also the most consumed seafood in the United States, with the average American consuming nearly 2 kilograms per year; almost twice as much as the next most popular product, canned tuna.²³¹ In the UK, the value of imported shrimp and prawns exceeded \$828 million in 2011, while Spain, the EU’s largest seafood buyer, imported approximately \$1.2 billion worth of shrimp in the same year.^{232/233}

SLAVERY IN THAILAND'S FISHING INDUSTRY

Previous EJP reports have highlighted the widespread nature of human trafficking, forced and bonded labour in Thailand's seafood industry. The rescue of 14 victims in March 2013 from boats owned by Boonlarp Fishing Co. Ltd. – which also operates the trawler *Boonlarp 7* boarded by EJP in 2014 – demonstrated a brutal case of exploitation involving physical abuse, forced confinement, torture and murder. Despite this being one of Thailand's most high profile human trafficking cases in recent years, since March 2014 at least a further six victims of modern slavery have been rescued from boats operating from the pier owned by Sompon Jirimonree, the same person implicated in the previous abuses documented by EJP.^{234/235} Instances of extreme violence in Kantang's fishing industry also seem to continue unabated – as the recent discovery of the corpse of a murdered Burmese fisher found floating near the piers lining the city's river evidences.²³⁶

In 2014, the US State Department's Office to Monitor and Combat Trafficking in Persons downgraded Thailand to Tier 3 in its Trafficking in Persons (TIP) report. The TIP report stated that

the Thai government had demonstrated insufficient efforts to address trafficking, particularly as a result of its systematic failure to "investigate, prosecute, and convict ship owners and captains for extracting forced labor from migrant workers, or officials who may be complicit in these crimes."²³⁷ The inadequate response from Government and industry to the systematic abuse in the seafood industry jars with the scale and severity of the problem, as highlighted in a recent EJP briefing recommending that Thailand remain on Tier 3 in the 2015 TIP report.²³⁸

Over the last few years, numerous reports from industry, media and civil society organisations – including EJP – have sought to bring the issue to the attention of decision-makers.^{239/240/241/242/243/244} Global actors such as the ILO and the International Organization for Migration (IOM) have recorded in detail the process by which migrants are trafficked and abused aboard Thailand's fishing fleets.^{245/246} Major reports have also focused on the upstream supply chain, including those of the United Nations Inter-Agency Project on Human Trafficking (UNIAP) which estimated that 33 percent of seafood workers in Thailand's principal processing



Many trafficked workers end up on vessels catching trash fish, which eventually ends up in Thailand's export-oriented shrimp supply chain. © EJP

region had been trafficked and 57 percent had experienced one or more conditions of forced labour.²⁴⁷ Thailand is reeling from a recent exposé revealing, not for the first time, the hundreds of escaped Thai and foreign victims of trafficking into the country's distant water fishing fleet who are now stranded in Indonesia.²⁴⁸

Thailand's commercial fishing sector has always depended on inexpensive labour drawn from impoverished areas to meet the high demand for workers in the industry. During the first decades of rapid expansion of the commercial fleet, much of the industry's workforce was drawn from Isaan. This poor region in the northeast of Thailand – where even today the percentage of people living in poverty remains 11 times higher than in Bangkok – is a well-established point of origin for internal migrants working in a range of labour-intensive industries.²⁴⁹ Isaan's underdeveloped rural economy provided a ready supply of cheap surplus labour and "impoverished and adventurous youth...in search of employment and adventure often found on the offshore and distant-water fishing fleet."²⁵⁰



Thai officials situate the start of human trafficking in the fishing industry around the mid- to early 1990s.²⁵¹ In fact, migrants from Isaan were already being trafficked to work on fishing boats during the 1980s and some of the earliest testimonies from non-Thai victims of trafficking date as far back as 1989.^{252/253} Thai nationals – particularly migrants from impoverished rural areas – continue to be trafficked onto fishing vessels from key transit hubs around Bangkok.^{254/255/256} However, two key factors emerged in the 1980s to dramatically change the composition of the labour force in Thailand's commercial fishing industry. The first was strong economic growth, related to a shift in the mid-1970s towards an economy focusing on attracting foreign capital and producing goods for export.²⁵⁷ The second was Typhoon Gay in 1989, which sank or damaged 639 boats and resulted in 833 confirmed deaths and a further 134 people missing and presumed dead.²⁵⁸

The fallout from Typhoon Gay was immediate, causing a large exodus of Thai fishers and creating a shortfall of labour in the industry.²⁵⁹ A reluctance to invest in labour-saving technologies and the use of gears such as purse seines requiring large crews, meant that vessel operators had grown heavily reliant on abundant labour and began turning instead to informal networks of labour brokers to recruit migrant workers – primarily from Myanmar and Cambodia – into the fishing industry.²⁶⁰ This was aided by rapid growth in the Thai economy. Between 1987 and 1996 Thailand's gross domestic product (GDP) grew by an average rate of 9.5 per cent year on year – peaking at 13.3 per cent in 1988 – while the export sector also grew by an average 14.8 per cent, reaching a zenith of 26.1 per cent in 1988.^{261/262} The new export-oriented industries presented attractive employment opportunities for the hundreds of thousands of low-skilled, irregular migrants from Thailand's poorer neighbours; who began to enter the country in the 1980s.²⁶³



- 94% had no contract
- 80% reported never feeling free
- 68% reported sexual/physical violence
- ▲ 59% witnessed executions at sea
- 52% witnessed their boss/trafficker harming someone
- 47% reported at least one injury
- 44% reported lack of food
- 42% experienced wage reductions
- 23% were locked in a room during trafficking situation
- 17% worked against their will
- 17% were threatened with violence
- 11% attempted escape
- 10% were severely beaten
- 5.8% reported being forced to use drugs

Sources:

- ▲ UNIAP (2009); (n = 49)
- ILO (2013); (n = 596)
- Zimmerman et al (2014) (n = 275)

“

*It's hard [to get workers to go out to sea].
If they've never been before,
they don't want to go.*

”

Sompon Jirimontree, Boonlarp Fishing Co. Ltd.²⁶⁴

As increased investment in human capital and broader economic development brought new opportunities for higher-skilled employment in Thailand's services sector, the outward pressures draining Thai workers from the fishing industry increased; particularly given the occupation's association with a low social status and difficult, dangerous work for irregular pay.²⁶⁵ The Government estimates that there are now approximately 145,000 people working in the fishing industry, of which 80 per cent are migrant workers.²⁶⁶ Raks Thai Foundation (CARE International) has estimated that as many as 200,000 migrants work aboard Thai fishing vessels.²⁶⁷ An ongoing reluctance to invest in technological solutions to increase labour productivity has created a structural dependence on migrant labour in the fishing industry.^{268/269} But the sector also suffers from a chronic deficit of workers, with the National Fishing Association of Thailand estimating in 2012 a labour shortfall as high as 50,000.²⁷⁰ As part of an apparent effort to fill worker shortages (and combat human trafficking) the Government announced in 2014 alarming plans to go ahead with a scheme to crew fishing vessels with inmates on early release from Thailand's overcrowded jails.²⁷¹

“

*In the past, we used to go out
and fill our holds in five to seven days.
Now we are out for at least 15 days
and the hold is still not full.*

”

Sompon Jirimontree, Boonlarp Fishing Co. Ltd.²⁷²

Senior Thai officials regularly assert that because fishing as an occupation has become unattractive to foreign migrants – who are increasingly integrating into Thai society and able to access an expanding range of employment opportunities, such as semi-skilled work in the services industry – trafficking networks have stepped in to supply workers to the industry through deceit and coercion.^{273/274} This is certainly true, particularly for new migrants to Thailand who are often deceived by brokers promising jobs in other sectors such as food processing, agriculture and manufacturing.²⁷⁵ However, it also overlooks an important part of the analysis: why has the fishing industry in particular become so unattractive to migrant workers so rapidly, particularly when many still work in the 'difficult, dangerous and dirty' jobs in Thailand's labour-intensive agricultural, construction, food processing and light manufacturing sectors?

The shortfall in the fishing industry – in a country with close to full employment and a migrant workforce which makes up around 10 per cent of the working age population – is likely explained by the declining willingness of migrants within Thailand to take up employment in an industry characterised by poor working conditions, exploitation, and frequent abuse.^{276/277}



The working and living conditions aboard Thai fishing vessels are appalling and accidents, illness and deaths at sea are a frequent result. © Ian Buswell

At the same time, social networks are key drivers of cross-border migration and information from community members who have already made the journey abroad informs the decisions of would-be migrants at home. During investigations in Myanmar, EJP met individuals who said they planned to travel to Thailand with a broker in order to find work but had heard stories of Burmese workers being exploited and even killed aboard Thai fishing boats and that they would therefore not accept work in the fishing industry.

Poor working conditions, exploitation, and abuse aboard Thai fishing boats can be linked to one common factor: declining catch rates. With fish stocks exhausted, vessels have had to increase 'fishing effort' to remain competitive.²⁷⁸ Boats are deploying nets more often and for longer and have to travel further out to sea for greater periods of time in order to land sufficient catches. Declining catch revenues has amplified competition amongst companies engaged in exploiting a depleting stock of resources.²⁷⁹ At the same time, fishing costs have increased over the last decade due to increased fishing effort as well as rising costs for wages and fuel.

The Thai fishing fleet has adapted to these pressures in a number of ways. In his response to a Government order that all fishers be registered by mid-July 2014, Sompon Jirimontree of Boonlarp Fishing Co. Ltd. head of the local Fishing Association – also the head of Kantang's Fishing Association – highlighted one fuel-saving transformation in the industry.²⁸⁰ He described how declining fish stocks had forced fishing vessels out to extraordinary distances from port where they rely on cargo vessels (เรือท้าว) to pick up catches and bring supplies to boats staying out for months or even years to fish. Association members were consequently unable to bring fishers for registration by the required deadline. Similar excuses were echoed by presidents of other Fishing Associations around Thailand; reflecting, at least, the fact that transshipment at sea has become a mainstay of the industry.^{281/282}

In an extensive global review, the ILO concludes that competitive pressures can have negative impacts on the terms of employment and lead to the use of forced labour within industries.²⁸³ For Thai fishing vessels, labour costs rank second only to expenditure on fuel and vessel operators have actively sought to make savings in both areas.²⁸⁴ In a separate report on the global fishing sector, the ILO note that if "labour costs reflected the true minimum wage, there are concerns that the fishing industry might lose its competitive edge".²⁸⁵ According to the ILO, declines in catch due to overfishing and higher operating costs have led to "dramatic changes in the workforce and working conditions" evidenced by the many reports documenting "gruelling and exploitative working conditions for fishers."²⁸⁶ Currently, no authoritative empirical research on working conditions, terms of employment and incidences of trafficking and abuse aboard Thai fishing vessels exists. A recent ILO study provides a good foundation in this respect but the research is limited by its focus on short-haul vessels – the ILO acknowledge that the evidence suggests that abuse and exploitation is much more likely aboard long-haul vessels.²⁸⁷

The ILO's research demonstrates that on average migrant workers aboard Thai fishing vessels get paid less than half the monthly wage received by Thai fishers and around 25 per cent less than Thailand's national minimum wage of 300 baht or \$9.20 per day.²⁸⁸ A third of respondents interviewed during the course of the study received monthly salaries of less than 5,000 baht (\$153). Due to the shortage of labour and the lack of legal limits to the amount of hours someone can work aboard a Thai



A young worker aboard a Thai fishing vessel at night. Declining catch revenues have caused vessel owners to slash wages and turn to trafficking to maintain profits. © Ian Buswell

“

...the worst was when I saw one of my co-workers fall in the sea. We were ordered to continue to work and prevented helping him... He drowned. That is when I decided to escape.

”

Burmese victim of trafficking²⁸⁹

fishing vessel, a quarter of respondents reported working 17 to 24 hours per day (including time 'on-call') and a further 40 per cent reported 'indefinite' working hours.²⁹⁰

Although the true number of victims of modern slavery aboard Thai fishing boats remains unknown, previous EJP reports have emphasised the scale of abuse; recording 201 rescues of Burmese victims by just one severely under-resourced organisation in the year 2013 to 2014. During this same period, Thailand's Marine Police and Navy claim to have inspected 10,427 vessels and found no suspected instances of trafficking.²⁹¹ EJP investigations and reports from local partners throughout the year 2014 have demonstrated that little has changed since Thailand's downgrade to Tier 3 in the TIP report – which was highlighted in an EJP briefing in early 2015.²⁹² Despite ongoing high profile announcements from senior figures in the Government, many other reports and pieces within the international media and Thai press demonstrate that many of the issues identified in EJP's Slavery at Sea report in early 2014 remain unsolved.^{293/294/295}

“

*I killed the guy that you are replacing,
if you try to flee I will take care of you too...
Your broker took your advance, so you are not
allowed to go anywhere and will be here
for many years.*

”

Threats from Thai captains, as reported by migrant victims
of trafficking²⁹⁶

It is clear that working conditions and wages in the industry have been degraded as a result of the cost pressures facing vessel operators, which have arisen in large part from the exhaustion of Thailand's marine capture fisheries. The fishing industry has adapted in a number of ways.²⁹⁷ It has, for instance, increased its reliance on cheap migrant labour and adopted transshipment at sea as a means to depress expenditure on wages and fuel. But with an abundant supply of irregular migrants from Thailand's neighbouring countries, an unregulated labour brokerage industry, and systematic human trafficking networks facilitated by a pervasive culture of corruption amongst Thai officials; vessel operators are also able to retain profit margins by resorting to deception, coercion and violence to source workers.

SYSTEMIC CORRUPTION

Corruption is an important vector enabling and perpetuating both human trafficking and pirate fishing. EJF's March 2014 report *Slavery at Sea* highlighted the close relationship between unscrupulous vessel operators – who often hold or are close to positions of political power – and Thai police and Government officials. Corruption is essential at all stages of the trafficking process – with police cars being used to transport victims of trafficking to fishing ports, vessel operators offering local police 'a good price' to return escaped victims, and business owners manipulating the judicial system to intimidate claimants. The Ministry of Labour – whose various Departments are tasked with ensuring the welfare and protection of migrant workers – openly acknowledges the endemic corruption in its ranks. Thailand's new Permanent Secretary for Labour and his Deputy have made 'zero corruption' a cornerstone of their respective administrations.^{298/299} In November 2014, Lt. Gen. Pongpat Chayapan – the chief of Thailand's Central Intelligence Bureau under which the Anti-Human Trafficking Division operates – was arrested on (politically motivated) corruption charges, along with the head of the Marine Police.³⁰⁰

"We have to take the involvement of state officials [in human trafficking] especially seriously, irrespective of whether they are the ringleaders or engaged in corruption, and ensure that they are punished through both disciplinary and criminal means."

Prime Minister Gen. Prayuth Chan-ocha³⁰¹

Thailand's largest media organisation recently disclosed evidence of high-level corruption between senior Thai and Indonesian officials, Indonesian gangsters and Thai fisheries magnates involved in the trafficking of workers to Thai-flagged vessels operating in Indonesia; a likelihood which was subsequently acknowledged by Thai Prime Minister General Prayuth Chan-o-cha, as well as the Minister of Interior and Defence.^{302/303/304} Following these announcements, Thailand's National Anti-Corruption Commission has established an investigation into the allegations.³⁰⁵ But this example of the corrupt involvement in human trafficking amongst the upper echelons of Thailand's political elite is not an isolated occurrence.

In December 2013, Reuters disclosed evidence of the systemic trafficking of Rohingyas by Thai immigration, police and Navy officials – facilitated by a covert policy intended to rid Thailand of the burden of Rohingya asylum seekers.³⁰⁶ EJF investigations have similarly pointed to the direct collusion of Thai Navy vessels in the transport and sale at sea of Rohingyas to Thai trafficking networks.³⁰⁷ This lucrative, wholesale trade in Rohingyas – who are reportedly sold to Thai and Malaysian fishing boats when their families fail to pay ransoms – has continued throughout 2014. High demand among Thai traffickers has now resulted in men from Bangladesh being kidnapped and forced aboard Thai fishing and cargo vessels docked outside the Bangladeshi EEZ. They are then transported in appalling conditions to prison camps in southern Thailand – with traffickers paying corrupt police up to \$9,000 per truckload.^{308/309} Yet, as older reports from the US government and others demonstrate, in reality this is only the latest iteration of a highly-integrated transnational trade in humans among Southeast Asian traffickers – involving corrupt Thai, Malaysian, and Burmese officials selling to fishing boat operators in need of cheap labour.^{310/311}

PIRATE FISHING IN THAILAND'S FISHING INDUSTRY

Maung Toe had never seen the sea before being threatened at gunpoint and forced to board a boat belonging to Boonlarp Fishing Co. Ltd. – the company investigated by EJF in 2013 and 2014. The traffickers told him that his life was worth no more than 12 baht (\$0.37) – the cost of a bullet – although he later discovered that he had been sold to the captain for 30,000 baht (\$914). This was to be the last time he would set foot on land until his rescue. For the next five months and 24 days, Maung Toe would work without pay aboard a vessel fishing illegally in Indonesian waters. His least favourite task was transferring the fish and ice every 10 days when the cargo vessel (เรือพักร) arrived to tranship supplies and the fishing boat's catch whilst at sea. The vessel's captain kept constant watch for Indonesian enforcement agencies and whenever a suspected Navy vessel showed up on the radar, he would order the nets to be immediately pulled and they would flee.

“

Our boat was stealing fish from Indonesian waters. We were chased many times by the Indonesian Navy. It was very dangerous. If we had been caught by the Indonesian authorities, we would have been sent to prison.

”

Maung Toe



Indonesia has recently resorted to seizing and blowing up the Thai pirate fishing vessels it is able to capture stealing fish from its waters.
© European Press Agency

In order to examine the interface between pirate fishing and slavery in Thailand's fishing industry, it is helpful to treat the distant water fleet (those vessels fishing outside of Thailand's EEZ) separately to those fishing within Thai waters – although in practice this distinction is not always clear. This report has already gone into some detail about the failure of successive governments to control pirate fishing within Thai waters. Thailand has no specific law or regulation concerning IUU fishing – Oxfam and Sal Forest have observed that the status of Thai law and the nature of enforcement efforts mean that much of what is internationally considered as IUU fishing is permissible in Thailand and pirate fish can be legally landed in Thai ports.³¹² The Bangkok Post, a prominent Thai media outfit, alleges that 10 to 12 per cent of the fish in Thailand's fishmeal comes from IUU vessels.³¹³ These problems are recognised by the international community: according to Thailand's media the European Union recently issued Thailand with a 'yellow card' due to its long-standing failure to combat pirate fishing, warning that insufficient improvement in 2015 could lead to trade sanctions on Thai seafood products.^{314/315}

Pervasive violations of Thailand's weak and outdated fishing regulations mean that *illegal* fishing is a worryingly frequent occurrence. An enormous proportion of the Thai fishing fleet remains unregistered and outside of Government control, and even those vessels that are registered often operate without robust or systematic catch documentation and certification processes. There is also a widespread use of unmonitored transshipments at sea. Thailand's fishing sector is therefore widely *unreported* or misreported. Combined with the above, the Thai Government's failure to curtail the wholesale devastation of fish stocks and the use of destructive fishing methods (both within and outside of Thai waters) is inconsistent with Thailand's responsibilities to conserve living marine resources under international law. Therefore a significant amount of Thai fishing activity can be considered *unregulated*.

Thailand has not ignored the problem of IUU. In fact, Government documents express the fact that integrating measures to counter pirate fishing into national action plans is necessary in order to maintain the vitality of Thailand's critically important seafood exports.³¹⁶ Government efforts to control IUU fishing ostensibly intensified after the establishment of a Catch Certification Coordination Center following the implementation of the European Commission Regulation (1005/2008) on IUU fishing in 2012. Despite poor progress, Thailand also recognises the necessity of formalising its fleet. Under the 2011 *Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020* and through ongoing projects with the Southeast Asian Fisheries Development Center (SEAFDEC), Thailand clearly acknowledges its responsibility to implement measures under domestic law to manage fishing capacity as the basis of efforts to counter pirate fishing.^{317/318}

Unfortunately, the outward pressures generated by Thailand's exhausted fish stocks have – in combination with anaemic monitoring, control, and surveillance systems as well as inadequate or compromised enforcement efforts – pushed vessel operators abroad. As this report has detailed, the incursion of Thai fishing vessels into the waters of neighbouring countries has been common since the 1960s. Evidence from Southeast Asia over the last five decades – which details a high number of crew arrests, vessel seizures, and operator fines – clearly demonstrates the historical extent of pirate fishing by Thai vessels.

Currently, around 40 to 50 per cent of the fish landed in Thailand comes from outside of the Thai EEZ – mostly from Myanmar, Cambodia, India, Bangladesh, Indonesia, Malaysia, Papua New Guinea and Vietnam although long-haul vessels have expanded their territorial range to as far away as East Africa.^{319/320/321}

In recent official documents, the Government claims that Thailand's distant water fleet numbers almost 300 fishing boats and 98 cargo vessels but even the Deputy Director-General of the DoF acknowledges that the true number of boats is probably more like 2,000. Many of these vessels have re-flagged to other countries yet still land their catch in Thai ports.³²² Other DoF officials estimate around 4,000 vessels operating outside of the Thai EEZ, only half of which are registered.³²³

Many of Thailand's unregistered vessels – known as 'ghost ships' (เรือผี) – operate by assuming the identity of other fishing boats which are registered and licensed.^{324/325/326} Recent seizures of Thai vessels by Indonesia demonstrate how pirate ships fly fake

“

If you have 10 boats, you buy a licence for just two or three boats. Then you'll have two boats with the same name, and two with no name...If they get stopped, they have a licence to show the authorities, but really it's a fake licence.

”

Senior officer in the Thai marine police³²⁷



Complex supply chains and poor documentation inhibits traceability and exacerbates the risk of products sourced from pirate fishing and slavery ending up on supermarket shelves. © EJF

flags and conceal their identity in order to raid foreign waters.³²⁸ Thailand's 'ghost fleet' also plunders the waters of neighbouring countries while legal vessels keep watch for patrolling authorities. The encroachment of unauthorised foreign vessels is considered a major cause of IUU fishing across Southeast Asia yet Thai pirate fishing vessels have also been identified as far away as Mozambique.^{329/330} IUU catches in the Asia-Pacific are estimated at 3.4 to 8.1 million tonnes every year – costing countries in the region around \$2.5 billion in 2007.^{331/332} Thailand is the leading supplier of seafood to the US (which is similarly its biggest customer) yet a 2014 study estimates 24-39 percent of wild-caught seafood entering the US market from Thailand is caught illegally.³³³ According to the most recent figures available, thousands of Thai vessels have been seized and tens of thousands of crew arrested over the last few decades.³³⁴ Malaysian authorities report sightings of approximately 2,000 Thai trawlers fishing illegally every year, however only around 10 per cent of sightings lead to further action such as arrests or vessel seizures.³³⁵

“

The registered vessels spread out in advance of the ghost ships and radio through to tell them to retreat when the authorities come. We Thais are clever.

”

Thai former fishing boat captain³³⁶



Indonesia estimates that more than 3,000 Thai pirate fishing vessels steal between \$1.2 to 2.4 billion worth of fish from Indonesian waters every year.³³⁷ Most of the Thai vessels operating in Indonesia are not registered with the Indonesian government and – in contravention of a 2006 agreement between the two governments – land their entire catches in Thai ports, thereby depriving Indonesia an estimated \$30 million a year in tax revenues and \$75 to 90 million a year in licensing fees.^{338/339} In a cruel twist of fate, Indonesian artisanal fishers in some areas are faced with such drastically depleted fish stocks that they have now been forced into supplying Thai vessels with basic supplies such as rice and soap in exchange for fish to sell in local markets.³⁴⁰ Media reports claim that hefty bribes and high-level corruption keeps pirate fishing off the Indonesian government's radar and ensures the smooth supply of trafficked workers onto Thailand's long-haul vessels.^{341/342}

“

Fishermen have to survive. They could not bear the loss in every trip out to the sea and we have to admit that almost no fish is left in Thailand.. Sometimes they have to take the risk.

”

Praporn Ekuru, MP for Songkhla province and Chairman of Songkhla Fishing Association³⁴³

Recent events however, suggest things are changing. Indonesia is now determined to get tough on IUU and has resurrected a 'seize and sink' policy for pirate vessels – resulting in the seizure and destruction of several Thai pirate vessels since late 2014.³⁴⁴ It is clear that Thailand's pirate fishing fleet is a source of considerable tension between the country and its neighbours, which sometimes results in violent confrontations. In early 2014, two Indonesian Navy officers were killed during an attempt to board a Thai ghost ship in Indonesian waters, Indonesia subsequently issued a temporary ban on all Thai trawlers.³⁴⁵ In July 2014, the Myanmar Navy fired upon two encroaching fishing vessels which were intending to trawl illegally in Burmese waters, sinking one and seizing the other.³⁴⁶ One trafficked Cambodian fisher recalls the Indonesian Navy firing upon and then throwing molotov cocktails at the Thai pirate fishing vessel upon which he was kept captive.³⁴⁷ As flames began to engulf the boat, the crew begged their Thai captain to surrender but the stolen fish and enslaved workers proved a strong incentive to attempt to outrun the Navy – the smouldering pirate vessel was pursued for 10 hours before escaping into Malaysian waters.

Thailand's long-haul fleet has followed the same pathway to the use of slavery as the industry plying the country's territorial waters. By the early 2000s, overfishing had caused the length of some long-haul fishing trips to increase by 50 per cent, CPUE to decline and catch composition to transform dramatically in favour of smaller, less-valuable species.³⁴⁸ Like their partners in the Thai EEZ, the long-haul fleet soon ceased the practice of discarding any portion of their catch. Conditions on many long-haul pirate fishing vessels are alarmingly substandard.

Thailand's distant water fleet has been identified as the highest risk sector of the industry for human trafficking, forced and bonded labour.³⁴⁹ Frequent reports continue to document the rescues and repatriations of trafficked migrants and Thai nationals from Thai vessels operating in distant waters as far away as Somalia.^{350/351/352/353} Fake documentation is produced on an industrial scale to mask the true identity of trafficked migrants.^{354/355/356} Until a change to the law in early 2015, this dire situation was perpetuated by the fact that any fishing vessel operating outside of Thailand for one year or more was exempt from Thai labour laws.³⁵⁷

“

We have to control the arrival and departure of vessels. Meaning that, when a vessel leaves a Thai port... we have to establish whether the departing vessel is operating legally. Is it registered? Do they have a licence? Do they have a fishing permit? And the people on the boat. Are they legal? We have to inspect them.

”

Surajit Intarachit, Deputy Director-General, Department of Fisheries³⁵⁸

The ability of the long-haul fleet to stay out at sea for long periods is supported by transshipments between vessels at sea, whereby larger cargo vessels (เรือท้าว) bring water, fuel and supplies to fishing boats and pick up fish to transport back to port in Thailand. Often fearful of going ashore due to tense relationships with local communities, Thai long-haul fishing vessels are acutely dependent on transshipment at sea. In 2007, 61 Burmese survivors sued the Thai owners of a fishing fleet left adrift in Indonesian waters without food or water for two months after cargo vessels failed to re-supply the boats, causing the death of 39 fishers.³⁵⁹

Transshipment at sea also serves another important purpose. By allowing vessels to effectively stay at sea indefinitely, trafficked crew members can be imprisoned aboard and rotated between vessels for years without any opportunity to go ashore. For business operators and vessel owners who have made considerable investments in the purchase of slave labour from brokers, this system serves as a means to minimise the risk of escape; captains have been known to sell or transfer trafficked workers between vessels when individual boats must return to the shore for repairs.^{360/361} This has been happening since at least the late 1990s and also occurs among vessels operating within the Thai EEZ.³⁶² The testimony of escaped Thai nationals, sold as slaves to fishing boats, who recently swam ashore in Pattani alleges a fleet of 50 vessels rotating around 100 workers among one another when they return to shore to land their catches every 15 days.³⁶³

In combination with weak catch certification and traceability systems, transshipment at sea enables both human rights abuses and the laundering of illegally caught fish at the root of supply chains exporting products to the international market. Paper-based systems for vessel logbooks, marine catch documents and captain's statements lead to systemic fraud and misreporting. One observer estimated that Thai vessels were exporting three times the amount of fish reported to authorities in the country where the fish was caught.³⁶⁴ Fishing and cargo vessels engage in a chaotic purchasing, transferring and mixing of catches while fishmeal producers buy trash fish not only from landing sites but also via smaller vessels which pick up shipments at sea or by directing fishing boats to privately owned piers adjacent to fishmeal factories.³⁶⁵ In November 2014, European Union officials expressed concern over severe weaknesses in Thailand's ability to reliably trace and document catches.³⁶⁶ In late 2014, such concerns prompted Thailand's Prime Minister to establish and chair new committees on human trafficking and IUU in the fishing industry, which have subsequently set their sights on improving traceability in the industry.³⁶⁷

“

[IUU fishing] is considered a serious threat to the sustainable development of fish stocks and marine resources and impacts Thailand's trade in fisheries products.

”

Pitipong Phuengboon na Ayudhaya,
Minister of Agriculture and Cooperatives³⁶⁸

**Up to
10-12%
of raw material
in Thai fishmeal
is from pirate
fishing vessels³⁶⁹**

ORGANISED CRIME AND LAWLESSNESS

The United Nations Office on Drugs and Crime (UNODC) notes how fishing boats around the world are vectors for organised crime – including the smuggling and trafficking of drugs and people, piracy and environmental crime – and how forced labour is in some circumstances used to perpetuate criminal activity on the high seas.³⁷⁰ In the 1980s, Thai fishers-turned-pirates indulged in the systematic robbery, torture, rape and murder of thousands of Vietnamese refugees fleeing across the Gulf of Thailand by boat.^{371/372} Thailand's fishing industry has long been integrated into organised criminal networks. Thai trawlers have been smuggling heroin to (and arms from) Hong Kong since the 1970s and are now implicated in the booming global methamphetamine trade as well.^{373/374} The Bangladeshi Department of Narcotics Control alleges that Thai trawlers provide a key source of heroin into the country.³⁷⁵

Like pirate fishing and the use of forced labour aboard vessels, involvement in broader criminal activities is also linked to the cost pressures facing the industry which have emerged in large part as a result of environmental degradation.³⁷⁷ Thai-flagged vessels are now engaged in the large-scale transport of victims of trafficking across the Bay of Bengal.³⁷⁸ Anchored outside of Bangladesh's EEZ, Thai fishing and cargo vessels are receiving shipments of trafficked and abducted Myanmar and Bangladeshi nationals for sale to traffickers in Thailand and Malaysia. Victims face such appalling conditions aboard these vessels – described as 'prison ships' – that there have even been mutinies. In June 2014, for example, 321 prisoners attempted to wrest control of a Thai-flagged trawler from its crew three days into the voyage.³⁷⁹ The crew were rescued by another vessel also engaged in the slave trade, which opened fire on the mutineers, killing six and injuring 27, before a Bangladeshi Coast Guard Vessel arrived on the scene to rescue the victims.^{380/381}

"The fishing business isn't so good so the fishermen make their boats people-carrying boats...Some converted Ranong boats can carry up to 1,000 people."

Sanya Prakobphol, Kapoe District chief of police³⁷⁶

CONCLUSION

Overfishing, illegal fishing, the resulting ecosystem decline and bonded, forced and slave labour exist in a vicious cycle in the Thai seafood industry.

Industrial overfishing in Thailand has exacerbated IUU 'pirate' fishing and accelerated the disruption of and degradation in Southeast Asia's marine ecosystems. These problems are fundamentally interconnected with human rights abuses, fuelling – in part – the use of forced, bonded and slave labour.

A coherent, joined-up approach to address the problems of overfishing, IUU and the human rights abuses in the Thai seafood industry is clearly needed. Without such an approach these problems will only persist and amplify.

Above all, the Royal Thai Government must accept and assume its responsibility to urgently and effectively introduce profound improvements in its legal, management and enforcement regimes to protect both the marine environment and the human rights of those in the Thai seafood sector. Nothing less than this should be acceptable to the workers and producers in Thailand's seafood sector as well as those who buy, sell and consume Thai seafood.

RECOMMENDATIONS

All public, private and third sector stakeholders both within and outside of Thailand must work together to tackle the problems of overfishing, pirate fishing and slavery in Thailand's seafood industry by acknowledging how these issues fundamentally intersect with and reinforce one another.

EJF believes that solutions are available, practical and achievable through a multi-track approach emphasising leadership, coordinated joint action and genuine commitment from all stakeholders. The starting point of such an approach must be an honest appraisal of the scale and extent of the social and environmental problems facing the Thai seafood industry.

The need to tackle overfishing, IUU fishing and slavery in Thailand's seafood industry as interconnected and interdependent problems is recognised by several stakeholders. In a response to a Guardian slavery exposé in 2014, major Thai conglomerate Charoen Pokphand Foods (CPF) emphasised the need to tackle slavery and poor fisheries management together by drawing clear links between IUU fishing and human rights abuses.³⁸² Thai industry bodies and senior Government officials have emphasised the need for new monitoring, control and surveillance systems as part of efforts to tackle labour abuses.^{383/384/385} The MoAC's 2014 Masterplan to Address Labour Issues in the Fishing Industry explicitly outlines a series of actions to combat pirate fishing and human trafficking in an integrated manner, an approach which has subsequently been adopted by PM Prayuth through the establishment of a high-level policy committee on IUU and human trafficking in the fishing industry.^{386/387}

However, the Thai Government should also recognise that – beyond responding to the problems of pirate fishing, slavery and biodiversity loss – effective fisheries management provides the best route to maximising revenue capture from the sector. For example, reducing fishing capacity in the trawler fleet by just 30 per cent would yield a net economic benefit of almost \$1 billion and many of the costs during the transition could be alleviated by increasing licensing and registration fees to more realistic levels.³⁸⁸

EJF offers the following recommendations as key components of an effective multi-track approach.

Political

- The Government must demonstrate high-level, coordinated and consistent political will to respond to these issues through a robust, calculated programme of action to urgently address the corruption amongst Government officials which facilitates overfishing, pirate fishing and slavery.
- The Government must strengthen the regulatory framework concerning marine capture fisheries by introducing a Fisheries Act B.E. 2558 (2015), which reflects the current realities of fish stocks and commercial fishing methods and rests upon an ecosystem-based approach to sustainable fishing and biodiversity conservation. It is uncertain as to how much of the current draft will remain once it becomes law, however, the new regulatory framework should:
 - Clearly demarcate commercial and artisanal fishing grounds and implement a limited access regime based on the granting of fishing rights;
 - Deliver mechanisms enabling locally appropriate solutions to overfishing and measures allowing for the participation of coastal fishing communities in decision-making processes and fisheries management systems;
 - Reinforce fish stock management measures based on scientific assessment:
 - Mandate minimum mesh sizes and mesh designs for different gear types;
 - Mandate minimum fish sizes for key commercial species;
 - Establish new Marine Protected Areas (MPA) and improve enforcement in existing MPAs;
 - Establish additional rights-based management measures such as catch quotas, closed seasons and no-take zones using a precautionary approach to define the sustainable exploitation of marine resources.



Trafficking, exploitation and pirate fishing cannot be divorced from the environmental crisis facing Thailand's fishing industry. © EJF

Enforcement

- Reduce excess capacity within a defined timeframe by limiting the number of vessels and controlling gears according to the size of sustainable fish stocks and introducing a vessel/license buyback scheme;
- Reinforce scientific knowledge of fish stocks by improving data collection on the industrial marine capture fishery;
- Establish and enforce penalties which act as effective deterrents for violations of fisheries regulations and allow for an evidence-based approach to prosecutions;
- Introduce a transparent, publicly-available and computerised system for the registration and licensing of fishing vessels, gears and activity under one competent authority.
- The Government should commit to improving working conditions aboard fishing vessels by:
 - Ratifying and implementing the 2007 ILO Work in Fishing Convention (C.188);
 - Assuring effective enforcement of the 2014 Ministerial Regulation Concerning the Protection of Workers in the Marine Fisheries; which removes prior exemptions for certain vessels, introduces a minimum legal age and offers workers greater protections.
- The Government should implement a flag State inspection regime in accordance with the ILO Maritime Labour Convention (2006).
- The Government must address the continued prevalence of informal labour brokers in the recruitment process by:
 - Amending The Recruitment and Job-Seekers Protection Act, B.E. 2528 (1985) to regulate the recruitment practices of brokers and sub-contracting agencies providing migrant labour to clients;
 - Providing both crew and vessel operators with a safe and equitable, formal system for labour recruitment that accurately reflects the needs of all parties;
 - Seeking to establish a long-term strategy for the formalised recruitment of migrant labour into the industry on the basis of informed consent through the establishment of intergovernmental agreements with countries of origin for migrant workers.
- The Government should undertake extensive diplomatic and technical exchange to enhance cooperation with neighbouring countries in whose waters Thai vessels are operating by:
 - Sharing information on vessel registration and crew manifests;
 - Developing guidelines for joint patrols and inspections of fishing vessels;
 - Establishing efficient procedures for the rescue and repatriation of trafficked and abused fishers.
- The Government must ensure a robust Monitoring, Control and Surveillance (MCS) system, which all stakeholders should work to actively support. Key priorities for MCS must include:
 - Installing Vessel Monitoring Systems (VMS) on fishing boats to monitor vessel activities and verify traceability documentation;
 - Requiring vessels to have a Unique Vessel Identifier, such as an IMO number.
- The Government must immediately introduce port in/port out controls on all Thai fishing and cargo vessels operating in distant waters, ensuring that:
 - Vessel operators are required to submit accurate crew lists to relevant authorities at least 72 hours in advance of their departure;
 - Officials from multiple statutory agencies have full legal authority and sufficient human, physical and financial resources to conduct unscheduled inspections;
 - Vessels are regularly inspected prior to the departure and following their return to port;
 - Crew members are interviewed by trained officers as part of the inspection process.
- The Government must ensure near-term ratification and implementation of the 2009 FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated fishing.
- The Government must tackle the shortcomings in current enforcement efforts against illegal fishing and the use of slavery in territorial waters by adequately resourcing maritime patrols and inspections and addressing corruption within statutory enforcement agencies.
- The Government must ensure that enforcement agencies use the powers under Section 27 of The Anti-Trafficking in Persons Act B.E. 2551 (2008) to systematically investigate and obtain evidence of the involvement of vessel owners and company owners in the use of trafficked, forced and bonded labour.
- The Government must expand the legal definition of who and under what circumstances a person can be considered a beneficiary of human trafficking and forced labour and record and publicise all arrests, prosecutions and convictions of those involved in facilitating these crimes.
- The Thai Navy must exercise its right under the United Nations Convention on the Law of the Sea (UNCLOS) to intercept and arrest Thai-flagged vessels engaging in the slave trade outside of Thailand's territorial waters.

Transparency and Traceability

- Retailers, buyers and producers of Thai seafood must acknowledge that serious human rights abuses, including forced labour and murder, continue to occur within Thailand's fishing industry.
- Retailers, buyers and producers of Thai seafood must acknowledge that current social and environmental certification schemes must be improved to reliably reflect the actual public and private sector systems in place to monitor and verify practices in the sector.
- Retailers, buyers and producers of Thai seafood must demand full traceability in the seafood supply chain down to fishing vessels supplying raw materials to fishmeal producers.
- Retailers, buyers and the Thai Sustainable Food Roundtable (TSFR) should work to establish binding policies covering each stage of the seafood supply chain and containing:
 - Time-bound commitments to support and capitalise on Government efforts to enhance MCS systems, drive down traceability and improve working conditions aboard vessels;
 - Provisions to enforce non-compliance through the immediate suspensions of purchases and the revoking of industry association membership where applicable.
- Retailers, buyers and producers of Thai seafood should drive traceability by requiring vessels supplying fishmeal producers in their supply chain to install VMS to act as a check and verification procedure for current paper-based certification systems.
- All stakeholders should support robust, authentic and accurate reporting mechanisms by promoting the implementation of systems for digital catch certification and MCS (e.g. the installation of VMS on boats).
- Retailers, buyers and producers of Thai seafood should cooperate to introduce an ambitious standard for the feed and fishmeal industry which:
 - Applies to all producers, thereby removing the market for irresponsibly-sourced raw materials;
 - Requires producers to source 100 per cent of marine ingredients (whole fish and by-product) from certified, well-managed stocks;
 - Requires producers to demonstrate traceability to origin, including the fishing area and fishing method used, verified by electronic vessel monitoring systems.
- The Government should strengthen capacity and systems for catch certification, documentation and traceability to improve compliance with EC regulation No. 1005/2008.





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*"Exacting profits from exploiting people
will often go hand in hand with illegal,
unsustainable and unregulated industries."*

US Secretary of State John Kerry, 2014