



Morrisons

Morrisons is a major British supermarket retailer, with more than 100,000 colleagues in 494 stores serving over 11 million customers every week. Morrisons operates its own sites making meat, fruit and veg, fish, bakery and fresh food products - 17 in all - and is unique in preparing and making more than half of the fresh food sold in its stores, supported by over 9,000 trained butchers, bakers, fishmongers, cheesemongers and other skilled in-store specialists. Morrisons currently offers its customers a range of nearly 70 seafood species, with its range of wild caught seafood covering more than 50 species.

2019

Number of wild- caught species used	% volume from certified fisheries	% volume from a FIP	Number of farmed species used	% volume from certified farms	
57	73	8	16	99	
Production Methods Used					
 Midwater trawl 	Purse seine	eine • Hook and line		Rake / hand gathered /	
 Bottom trawl 	 Seine nets 	 Long line 	e I	nand netted	
Dredge	 Gillnets and enta 	angling • Handlines and pole-lines		Pots and traps	
	nets		. 1	Miscellaneous	
			. 1	Farmed	

Summary

Morrisons aims to source its seafood from fisheries and farms that use methods which are the least detrimental to the marine environment, provide equitable working conditions and stable incomes to those employed within them. All species must meet a set of sustainability criteria before they can be stocked in store, Morrisons partners with the Sustainable Fisheries Partnership (SFP) to inform its seafood source risks assessments, and works with suppliers to address issues where they are identified. In 2015, Morrisons became one of the first companies to disclose its seafood sourcing list through the Ocean Disclosure Project. This disclosure represents both wild caught and farmed fish and seafood used in Morrisons products and includes minor ingredients.

Morrisons is a member of the Sustainable Seafood Coalition (SSC), a partnership of UK businesses working together to support sustainable seafood, and has adopted the SSC voluntary codes of conduct for the environmental labelling and sourcing of seafood products.

Morrisons has a tuna-specific policy stating that it will only source tuna from pole and line fisheries or fisheries that do not use fish aggregating devices (FADs). In support of this commitment to sustainable tuna, the retailer also aims to source its tuna from vessels that are independently assessed and listed on the International Seafood Sustainability Foundation (ISSF)'s Proactive Vessel Register, which represents vessels that are engaged in tuna sustainability efforts.



https://www.morrisons-corporate.com/cr/seafood/



https://www.morrisons-corporate.com/cr/policy/

Associated Fisheries

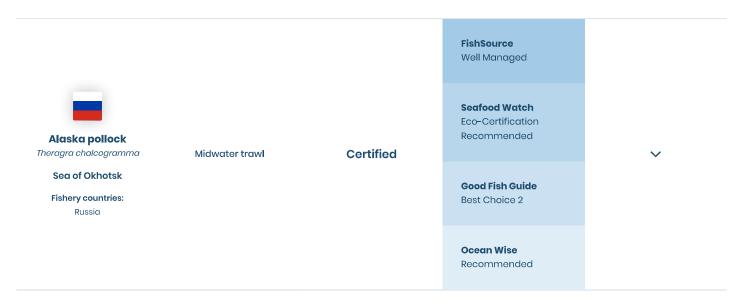


Species and Location	Production Methods	Certification or Improvement Project	Stock Status and Management	Notes
	Midwater trawl	Certified	FishSource Well Managed	~
Alaska pollock Theragra chalcogramma Aleutian Islands, E Bering Sea, Gulf of Alaska			Seafood Watch Eco-Certification Recommended	
Fishery countries: U.S.			Good Fish Guide Best Choice 1	
			Ocean Wise Recommended	
			NOAA FSSI 4	

- This fishery is unlikely to have direct impacts on PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- This fishery is unlikely to have direct impacts on PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- This fishery is unlikely to impact PET species.
- Information on bycatch is not available for this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• Morrisons are committed to promoting uptake of the ISSF Proactive Vessel Register (PVR), which independently verifies that the fishing practices of the boat meets the regional fishery requirements, and continue to work towards full registration of supply vessels. In 2015, Morrisons began to directly support ISSF in their advocacy to Governments to improve their tuna fishery management controls.

*	Long line	Not certified or in a FIP	FishSource Managed	~
Albacore Thunnus alalunga				
South Atlantic			Seafood Watch Avoid	
Fishery countries:				
Spain			Good Fish Guide	
			Think 3	
			Ocean Wise Not recommended	

- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed,

General Notes

Morrisons are committed to promoting uptake of the ISSF Proactive Vessel Register (PVR), which independently verifies that the fishing practices
of the boat meets the regional fishery requirements, and continue to work towards full registration of supply vessels. In 2015, Morrisons began to
directly support ISSF in their advocacy to Governments to improve their tuna fishery management controls.

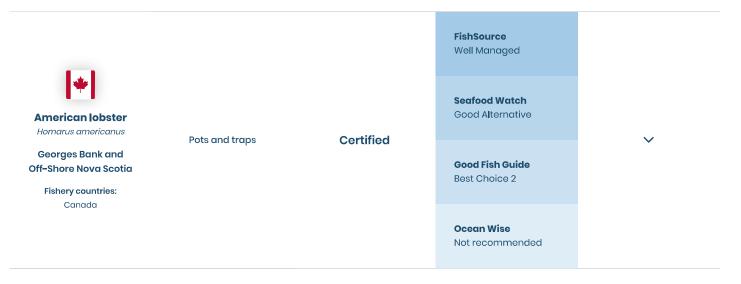


Environmental Notes

- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

• Direct effects of the fishery on PET species are thought likely to be low. While entanglement in lobster gear presents a risk to marine mammals, especially North Atlantic right whales, no entanglements of right whales were reported in the MSC public certification report.

- Measures are in place to prevent fishing from hindering the recovery and rebuilding of the main bycatch species.
- This fishery is unlikely to have a significant impact on the sea bed.

References

Intertek, 2015, MSC Public Certification Report for Eastern Canada Offshore Lobster Fishery



Environmental Notes

- This fishery is unlikely to impact PET species. The risk to marine mammals of entanglement in lobster gear is considered low.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes



Environmental Notes

- This fishery is unlikely to impact PET species. The risk to marine mammals of entanglement in lobster gear is considered low.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes



Fishery countries: Canada Best Choice 2

Ocean Wise

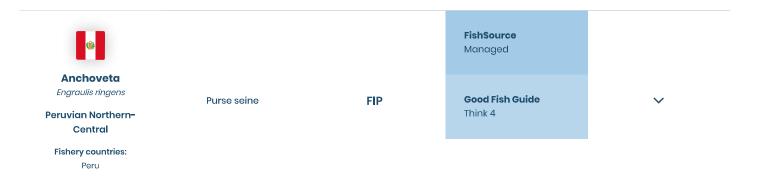
Not recommended

Environmental Notes

- This fishery is unlikely to impact PET species. The risk to marine mammals of entanglement in lobster gear is considered low.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.

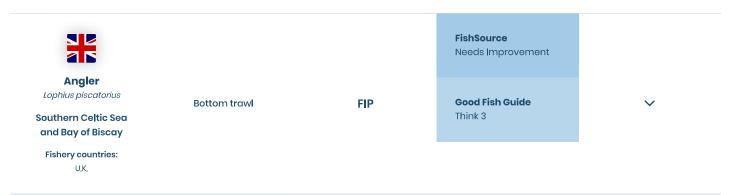


Environmental Notes

- This fishery is unlikely to have direct impacts on PET species but may impact food availability to PET species. The FIP aims to better understand the impacts of the fishery on PET species.
- Bycatch for this fishery is considered low. However, anomalous environmental conditons observed since 2013 have been associated with an
 increased catch of non-target species.
- This fishery is unlikely to have a significant impact on the sea bed. The FIP aims to better understand the impacts of the fishery on habitats.

General Notes

- This fishery entered into two FIPs in January 2017, one for the small scale purse-seine fishery, and one for the industrial purse-seine fishery.
- This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Certified

Environmental Notes

- There are risks to sharks, skates and rays with this fishery. Occasional interactions with marine mammals occur.
- Bycatch is a risk for this fishery, but there is insufficient data available to assess significance.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

General Notes

References

<u>FisheryProgress - UK monkfish - gillnet/trawl</u>







Argentine anchovy

Engraulis anchoita

North of 41°S to Santa Catarina

Fishery countries: Argentina

Seafood Watch

Eco-Certification
Recommended

Ocean Wise

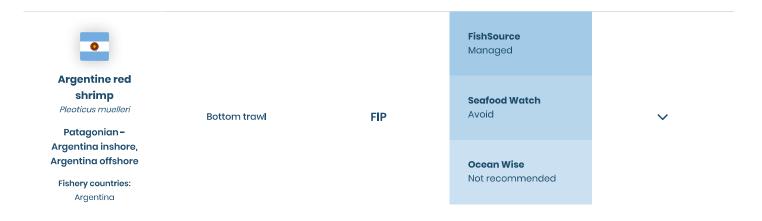
Not recommended

Environmental Notes

- Occasional interactions with seabirds and marine mammals are known to occur within this fishery, but data is too limited to state whether this hinders their recovery. An MSC condition is in place to provide evidence of effects on PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- There are risks to sharks and rays with this fishery.
- Bycatch of hake is a risk with this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

Fishery Progress, Argentina onshore red shrimp - bottom trawl FIP

<u>Fishery Progress, Argentina offshore red shrimp - bottom trawl FIP</u>



Environmental Notes

- There are risks to seabirds and marine mammals with this fishery, but there are mitigation measures in place.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.

• The impact depends on the gear type. Bottom trawls will have the greatest impact on the sea bed. MSC conditions and recommendations are in place to strengthen understanding of fishery interactions with sensitive habitat.

General Notes

• No additional notes.



Environmental Notes

- There are risks to seabirds and marine mammals with this fishery, but there are mitigation measures in place.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

- There are risks to seabirds and marine mammals with this fishery, but there are mitigation measures in place.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed. MSC conditions and recommendations are in place to strengthen understanding of fishery interactions with sensitive habitat.

General Notes

• No additional notes.



- This fishery is unlikely to impact PET species.
- Cod represent a majority of the catch. However, bycatch of golden redfish is a risk for this fishery although it accounts for less than 1% of the total catch.
- Bottom trawls will directly impact on the sea bed. But, the fishery is considered highly unlikely to irreparably reduce habitat structure and function.

General Notes

References

Bureau Veritas, April 2019, MSC Public Certification Report - Re-Assessment AGARBA Spain Barents Sea Cod Fishery



Environmental Notes

- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed. MSC conditions and recommendations are in place to strengthen understanding of fishery interactions with sensitive habitat.

General Notes

No additional notes.



Environmental Notes

- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed. MSC conditions and recommendations are in place to strengthen understanding of fishery interactions with sensitive habitat.

General Notes

No additional notes.



Barents Sea

Fishery countries: U.K.

dus morhua Bottom trawl

Certified

FishSourceWell Managed

Good Fish GuideBest Choice 2

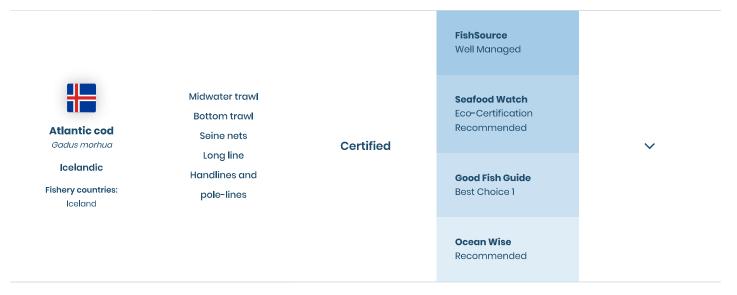


Environmental Notes

- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed. MSC conditions and recommendations are in place to strengthen understanding of fishery interactions with sensitive habitat.

General Notes

• No additional notes.

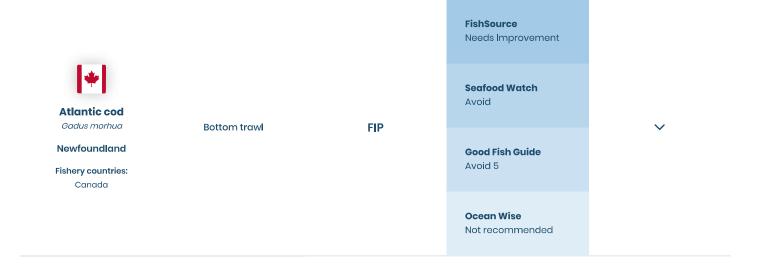


Environmental Notes

- This fishery is unlikely to have direct impacts on PET species.
- There is bycatch for this fishery but non-target species are retained. Management measures are in place to reduce impacts on retained species.
- The impact depends on the gear type. Bottom trawls will have the greatest impact on the sea bed.

General Notes

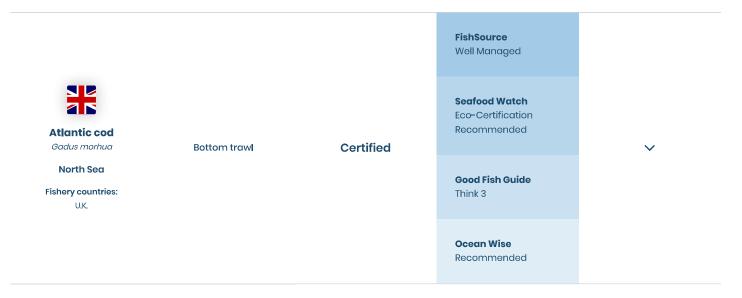
No additional notes.



- The fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact the sea bed. However, management measures are in place.

General Notes

• This fishery is in the Canada Atlantic cod (2J3KL) - longline/trawl/gillnet/hook & line FIP.

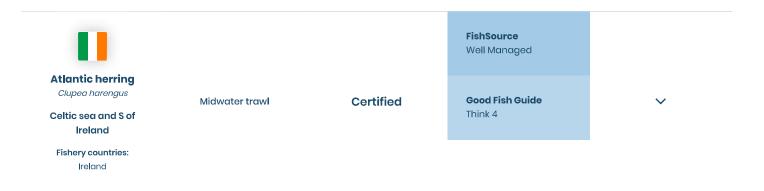


Environmental Notes

- This fishery is unlikely to have a significant impact on PET species but occasional interactions with elasmobranchs (skates, rays and sharks), grey seals, and allis shad may occur.
- The main bycatch species include haddock, whiting and saithe, among others. MSC conditions are in place regarding bycatch.
- Bottom trawls will directly impact on the sea bed. But, the fishery is considered highly unlikely to irreparably reduce habitat structure and function.

General Notes

No additional notes.



Environmental Notes

• Profile not yet complete.

General Notes

• This fishery was certified at the time of supply but has since withdrawn from the MSC programme.

Purse seine



Fishery countries:

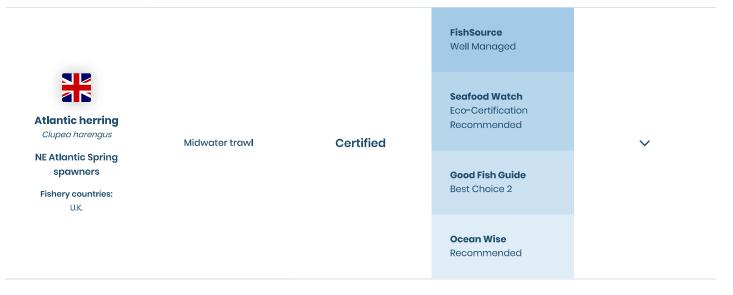
U.K.

Environmental Notes

- Profile not yet complete.
- Bycatch for this fishery is likely to be low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.

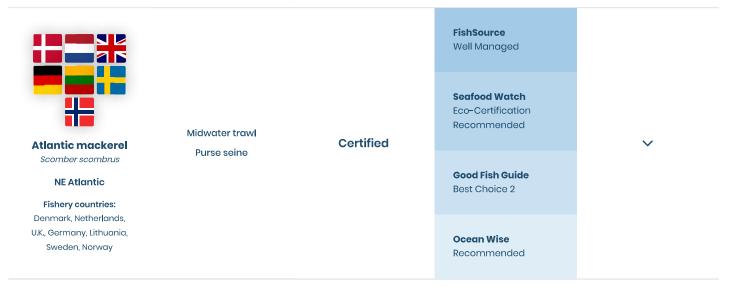


Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

- There are risks to PET species with this fishery, but there is insufficient data available to assess significance.
- Bycatch in this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• The MSC certificate for this fishery was publicly suspended in March 2019 (after the reporting period for this profile) due to concerns regarding overfishing.

Atlantic mackerel
Scomber scombrus

NE Atlantic
Fishery countries:
U.K.

FishSource
Needs Improvement

Atlantic
Fishery countries:

Environmental Notes

- There are risks to PET species with this fishery, but there is insufficient data available to assess significance.
- Bycatch in this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- Salmon rely on wild capture fisheries for feed, but responsible sourcing of inputs is encouraged for certified salmon.
- There are concerns about the impact of farmed salmon escapes and disease outbreaks on wild salmonids. In addition, concerns have been
 expressed about the impact on wild wrasse populations used as cleaner fish to control sea lice.
- Impacts on water quality are localized, but there is potential for cumulative impacts in densely farmed areas. Chemical inputs of pesticides used to control sea lice are of particular concern for farmed Norwegian salmon, but the use of non-chemical treatments for sea lice is increasing.

General Notes

The environmental impacts described are addressed to some degree by certification.

The Norwegian salmon industry has adopted a zonal approach to aquaculture management.

References:

Good Fish Guide - Salmon, Atlantic (Farmed)

Seafood Watch report for farmed salmon, Norway

FishSource - salmon, Norway



- Salmon rely on wild capture fisheries for feed, but inputs often come from IFFO RS-certified sources.
- There are concerns about the impact of farmed salmon escapes and disease outbreaks on wild salmonids. In addition, concerns have been expressed about the impact on wild wrasse populations used as cleaner fish to control sea lice.
- Impacts on water quality are localized, but there is potential for cumulative impacts in densely farmed areas. Chemical inputs of pesticides used to control sea lice are of particular concern for farmed Scottish salmon.

General Notes

The environmental impacts described are addressed to some degree by certification.

The industry follows a zonal approach to aquaculture management with respect to planning, siting, licensing, and operation.

References:

Good Fish Guide - Salmon, Atlantic (Farmed), Europe, GlobalGap certification

Seafood Watch report for farmed salmon, Scotland

FishSource - salmon, United Kingdom



Environmental Notes

• No information was found regarding impacts for this gear type.

General Notes

The fishery initially engaged in the WWF Seafood Savers programme and established the framework for a comprehensive Fishery Improvement Programme. However, progress and updates appear to have stalled with this work bringing the status of FIP participation into question.

References

<u>Fishery Progress - INACTIVE Indonesia South Kalimantan shrimp - trammel net</u>

Dredge



Environmental Notes

Profile not yet complete.

General Notes

No additional notes.



Certified

FishSource Well Managed



Limfjord

Fishery countries:

Denmark

Eco-Certification Recommended

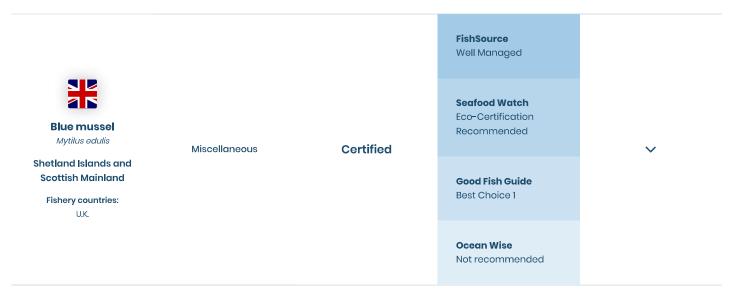
Ocean Wise
Recommended

Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch in this fishery is considered low.
- Dredges will directly impact on the sea bed. An MSC condition is in place to assess the impact of mussel dredges on the sea floor.

General Notes

No additional notes.



Environmental Notes

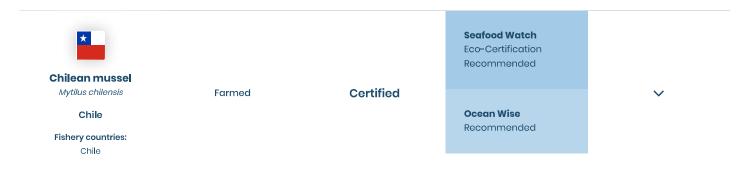
- This fishery is unlikely to impact PET species.
- Bycatch is not an issue for this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

This is an enhanced fishery, which comprises a wild harvest (seed collection) followed by a grow-out phase.

References

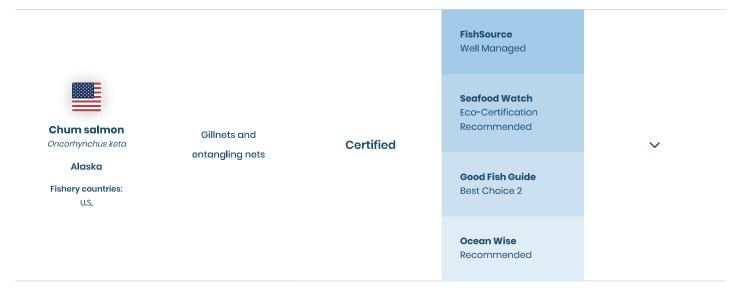
Acoura Marine, 2017, MSC Public Certification Report for Shetland and Scottish Mainland Rope Grown mussel Enhanced fishery.



Environmental Notes

- No feed inputs are used to support farmed mussels.
- The larval phase of mussels may be transported away from farm sites. The spread of non-native mussels and unintentionally introduced species beyond their natural range may be a cause for concern.
- There is no concern regarding pollution from nutrients or organic matter. No feed or nutrient fertilization inputs are used to support farmed mussels, and water quality has been shown to improve at farmed mussel sites.

General Notes



- This fishery is unlikely to impact PET species.
- Management measures are in place to minimise bycatch of non-target salmon stocks.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

MRAG Americas, 2019, 3rd Re-Assessment Report Alaska Salmon Fishery MSC Public Certification Report





Environmental Notes

• There are risks to skates and rays with this fishery.

- This fish is caught as a bycatch species.
- Bottom trawls will directly impact on the sea bed.

• No additional notes.



Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Dredges will directly impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

- Profile not yet complete.
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- There are risks to PET species including the angelshark, which is vulnerable to fishing in this area.
- Multiple species are likely to be caught in this fishery. This species is caught as bycatch.
- Bottom trawls will directly impact on the sea bed.

• No additional notes.

			Seafood Watch Best Choice	
Cupped oysters nei Crassostrea spp. United Kingdom	Farmed	Not certified or in an AIP	Good Fish Guide Best Choice 1	~
Fishery countries:			Ocean Wise Recommended	

Environmental Notes

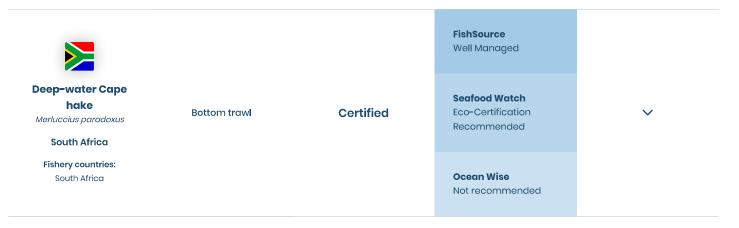
- No feed inputs are used to support farmed oysters.
- Pacific oysters are non-native to the UK and may compete with native oyster species.
- There is no concern regarding pollution from nutrients or organic matter. No feed or chemical inputs are used to support farmed oysters.

General Notes

References:

Good Fish Guide - Oyster, Pacific, oysters

Seafood Watch report for farmed oysters, Worldwide



Environmental Notes

- There are risks to seabirds with this fishery, but there are mitigation measures in place. An MSC condition is in place to gather information on fishery impacts on bird species.
- Bycatch is a risk for this fishery but there are mitigation measures in place.
- Bottom trawls will directly impact on the sea bed. An MSC condition is in place to investigate options for protecting benthic habitats.

General Notes

No additional notes.



- There are risks to sea turtles and marine mammals of entanglement in pot ropes with this fishery.
- Bycatch for this fishery is considered low. Non-target species are usually released alive.
- This fishery is unlikely to have a significant impact on the sea bed.

No additional notes.



Environmental Notes

- There are risks to sea turtles and marine mammals of entanglement in pot ropes with this fishery.
- Bycatch for this fishery is considered low. Non-target species are usually released alive.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

This fishery was in an FIP from 2012 to 2017.

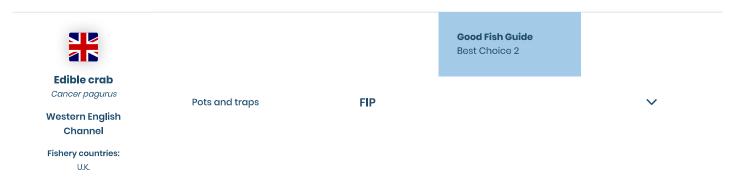


Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch in this fishery is likely to be low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

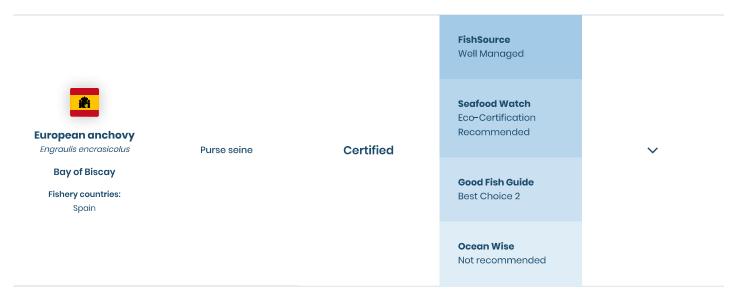
No additional notes.



Environmental Notes

- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes



- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- This fishery may impact food availability to PET species.
- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- This fishery is unlikely to have a significant impact on PET species.
- Bycatch is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

• Profile not yet complete.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.

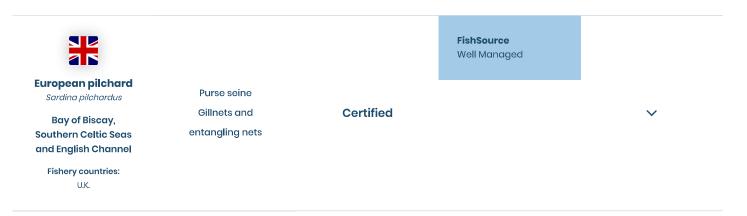


Environmental Notes

- There are risks to marine mammals, sharks, skates and rays with this fishery, but there is insufficient data available to assess significance.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- Available data is still limited, but work is underway in the Moroccan FIP to determine fishery interactions with PET species.
- Bycatch in this fishery is considered low, but available data is still limited. Work is in progress in the Moroccan FIP to identify and quantify discards,
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

- This fishery is covered by the Morocco sardine pelagic trawl and seine FIP.
- This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.

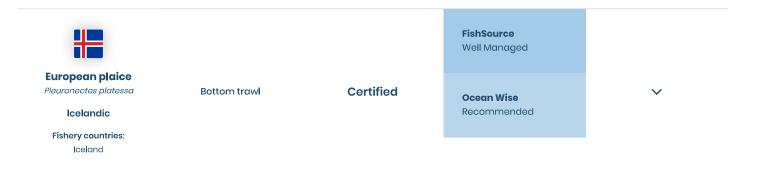


Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the seabed.

General Notes

No additional notes.



Environmental Notes

- This fishery is unlikely to cause unacceptable impacts to PET species.
- There is bycatch for this fishery but management measures are in place to reduce impacts.
- Bottom trawls will directly impact on the sea bed. But, the fishery is considered highly unlikely to irreparably reduce habitat structure and function.

General Notes

No additional notes.



European plaice

Pleuronectes platessa

North Sea and Skagerrak

Fishery countries: Denmark

Seine nets

Not certified or in a FIP

FishSource Well Managed

Environmental Notes

• Profile not yet complete.

General Notes

• No additional notes.



European plaice

Pleuronectes platessa

North Sea and Skagerrak

Fishery countries: Denmark, Netherlands,

U.K.

Bottom trawl

Certified

FishSource Well Managed

Seafood Watch

Eco-Certification Recommended

Good Fish Guide Best Choice 2

Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

• No additional notes.



European plaice

Pleuronectes platessa

North Sea and Skagerrak

Fishery countries: Netherlands, U.K.

Bottom trawl

Some product from FIP fisheries **FishSource** Well Managed

Good Fish Guide Best Choice 2

Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

The UK component of this fishery is part of the Project UK FIP.

References

<u>United Kingdom European plaice & lemon sole - seine/trawl</u>



FishSource Well Managed

North Sea and Skagerrak

Seine nets

Some product from FIP fisheries

Fishery countries:

Denmark, Netherlands,

U.K.

Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

The UK component of this fishery is part of the Project UK FIP.

References

<u>United Kingdom European plaice & lemon sole - seine/trawl</u>



Environmental Notes

- There are risks to PET species with this fishery, but there is insufficient data available to assess significance.
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact the sea bed.

General Notes

No additional notes.



Environmental Notes

- Seabass require fishmeal and fishoil from marine feed sources in their diet. Concerns about the sustainability of feed inputs are relatively minor though they are not necessarily certified sustainable.
- Escapes are a concern and little is known about the risk of disease transfer to wild species.
- Impacts on water quality are localized and have not been shown to have cumulative impacts beyond the immediate farm site. Chemical inputs are only used for health management and are applied in a controlled manner. Reports indicate responsible use, but there is a lack of

data on the quantity of chemical inputs.

General Notes

The environmental impacts described are addressed to some degree by certification.

References:

Good Fish Guide - Bass, seabass (Farmed)

<u>Seafood Watch report for farmed European sea bass and Gilthead sea bream, Mediterranean Sea</u>



Environmental Notes

- Seabass require fishmeal and fishoil from marine feed sources in their diet. Concerns about the sustainability of feed inputs are relatively minor though they are not necessarily certified sustainable.
- Escapes are a concern and little is known about the risk of disease transfer to wild species.
- Impacts on water quality are localized and have not been shown to have cumulative impacts beyond the immediate farm site. Chemical inputs are only used for health management and are applied in a controlled manner. Reports indicate responsible use, but there is a lack of data on the quantity of chemical inputs.

General Notes

The environmental impacts described are addressed to some degree by certification.

References:

Good Fish Guide - Bass, seabass (Farmed), Europe, Global GAP certified

<u>Seafood Watch report for farmed European sea bass and Gilthead sea bream, Mediterranean Sea</u>



Environmental Notes

- This fishery is unlikely to have direct impacts on PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



- Effects on protected, endangered and threatened (PET) species are considered highly likely to be within acceptable limits.
- The main bycatch species, Baltic herring, is well managed.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

Bureau Veritas, 2017, MSC Public Certification Report for SLFPO Pelagic Trawl Sprat (Sprattus sprattus)



Environmental Notes

• Profile not yet complete.

General Notes

• The fishery was initially engaged in the WWF Seafood Savers programme and established the framework for a comprehensive Fishery Improvement Programme. However, progress and updates appear to have stalled with this work bringing the status of FIP participation into question.



Environmental Notes

- Fishmeal and fishoil from marine feed sources are used. Feed inputs are generally not traceable to species level and are not certified sustainable.
- Disease transfer between farmed and wild prawns is a risk
- · Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality.

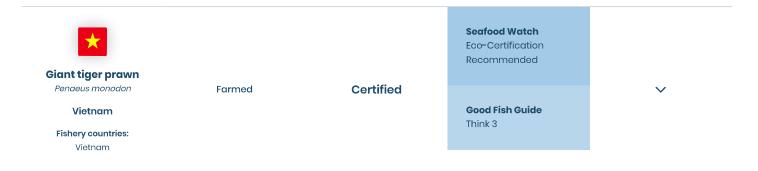
General Notes

The environmental impacts described are addressed to some degree by certification.

References:

Good Fish Guide - Prawn, Tiger prawns (Farmed)

Seafood Watch Recommended Eco-Certifications for Giant tiger prawn



- Fishmeal and fishoil from marine feed sources are used. Feed inputs are generally not traceable to species level and are not certified sustainable.
- Disease transfer between farmed and wild prawns is a concern.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality.

General Notes

The environmental impacts described are addressed to some degree by certification.

References:

Good Fish Guide - Prawn, Tiger prawns (Farmed), Global, ASC

Good Fish Guide - Prawn, Tiger prawns (Farmed), Global, GAA BAP certification (4*)

Seafood Watch Recommended Eco-Certifications for Giant tiger prawn



Environmental Notes

- Bream require fishmeal and fishoil from marine feed sources in their diet. Concerns about the sustainability of feed inputs are relatively minor though they are not necessarily certified sustainable.
- Escapes are a concern and little is known about the risk of disease transfer to wild species.
- Pollution from nutrients and organic matter are a concern with open net pens. But impacts from effluent are localized. Chemical inputs are only
 used for health management and are applied in a controlled manner. Reports indicate responsible use, but there is a lack of data on the
 quantity of chemical inputs.

General Notes

The environmental impacts described are addressed to some degree by certification.

References:

Good Fish Guide - Bream, Gilthead (Farmed)

<u>Seafood Watch report for European Sea bass and Gilthead Seabream, Mediterranean Sea</u>



- Bream require fishmeal and fishoil from marine feed sources in their diet. Concerns about the sustainability of feed inputs are relatively minor though they are not necessarily certified sustainable.
- Escapes are a concern and little is known about the risk of disease transfer to wild species.
- Pollution from nutrients and organic matter are a concern with open net pens. But impacts from effluent are localized. Chemical inputs are only used for health management and are applied in a controlled manner. Reports indicate responsible use, but there is a lack of data on the quantity of chemical inputs.

General Notes

The environmental impacts described are addressed to some degree by certification

References:

<u>Good Fish Guide - Bream, Gilthead (Farmed)</u>

Seafood Watch report for European Sea bass and Gilthead Seabream, Mediterranean Sea



Environmental Notes

- There is no information on the impact of this fishery on PET species.
- Information on bycatch is not available for this fishery.
- Benthic impacts are the primary risk in this fishery. Dredges will directly impact on the sea bed but gear and effort restrictions are in place to reduce impacts.

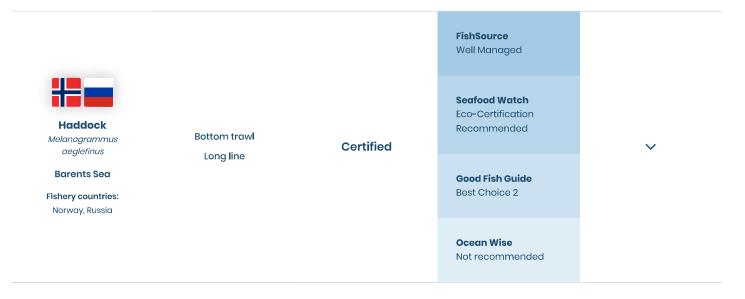
General Notes

Morrisons support improvements in the understanding of fishing impacts through sponsoring academic research. They also support <u>Project UK Eisheries improvement</u> to oversee the transition of the English channel fishery to third party certification.

References

MCS's Good Fish Guide - Scallop, King, scallops, Cornwall

Cornwall Good Seafood Guide - Scallop



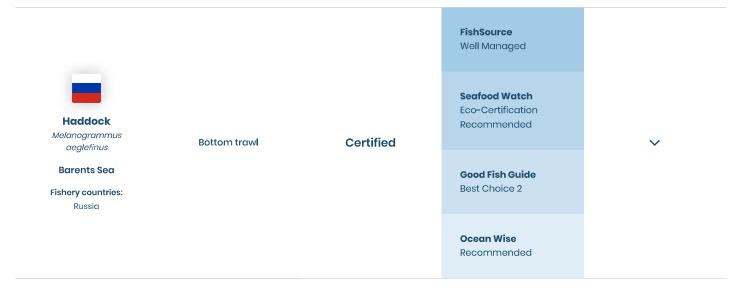
Environmental Notes

• Golden redfish is caught as bycatch, but it is thought that the fishery is unlikely to have unacceptable impacts on the PET species.

- Impacts on bycatch species are likely to be low.
- Bottom trawls will directly impact on the sea bed.

References

- MSC: Norway North East Arctic haddock
- MSC: Flun Barents & Norwegian Seas cod and haddock
- MSC: Arkhangelsk Trawl fleet Norwegian & Barents Seas cod, haddock & saithe



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

- MSC: Barents Sea cod, haddock and saithe
- MSC: Russian Federation Barents sea cod and haddock



Environmental Notes

- Gear specific information on interactions with PET species is limited, but an MSC condition is in place to address this.
- MSC conditions are in place to assess the impact of the fishery on bycatch species.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.



Haddock

Melanogrammus aeglefinus

Barents Sea

Fishery countries:

U.K.

Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.

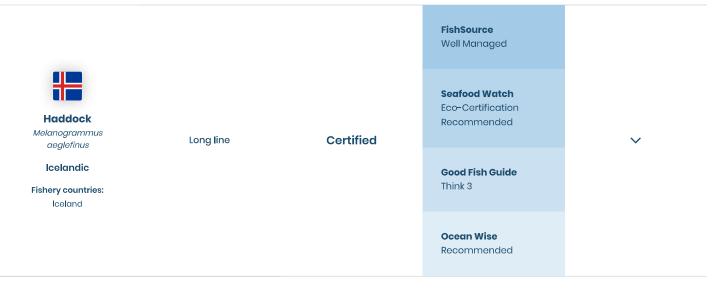


Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed. Measures to protect vulnerable habitats such as cold water coral reefs are in place.

General Notes

No additional notes.



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.

FishSource Well Managed **Seafood Watch Eco-Certification Haddock** Recommended Melanogrammus Seine nets Certified aeglefinus Icelandic **Good Fish Guide** Best Choice 2 Fishery countries: Iceland Ocean Wise Recommended

Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



Haddock *Melanogrammus*

Melanogrammus aeglefinus

Irish Sea

Fishery countries: U.K.

Midwater trawl

Bottom trawl

Seine nets

Not certified or in a FIP

Profile not yet complete

V

Environmental Notes

• Profile not yet complete.

General Notes

No additional notes.



Haddock

Melanogrammus aeglefinus

Northern shelf

Fishery countries:

U.K.

FishSource Well Managed

Seine nets Not certified or in a FIP

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Environmental Notes

- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but management measures are in place to reduce impacts on retained species.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• As a mixed fishery, the effects of management measures on other species need to be considered within an ecosystem context.

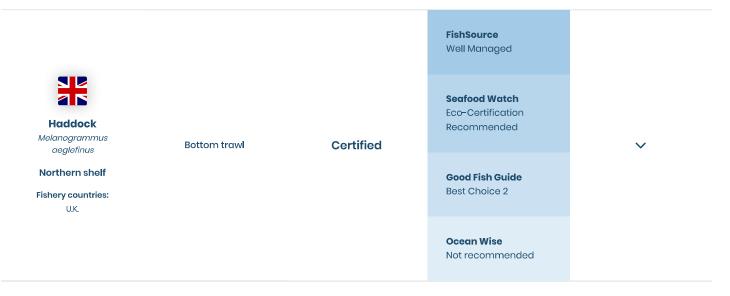


Environmental Notes

- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but management measures are in place to reduce impacts on retained species.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• As a mixed fishery, the effects of management measures on other species need to be considered within an ecosystem context.



Environmental Notes

- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed. But, the fishery is considered highly unlikely to irreparably reduce habitat structure and function.

General Notes

• As a mixed fishery, the effects of management measures on other species need to be considered within an ecosystem context.



- This fishery is unlikely to impact PET species.
- There is bycatch for this fishery but management measures are in place to reduce impacts on retained species.
- Bottom trawls will directly impact on the sea bed. But, the fishery is considered highly unlikely to irreparably reduce habitat structure and function.

General Notes

- This fishery became certified during 2018.
- As a mixed fishery, the effects of management measures on other species need to be considered within an ecosystem context.



Environmental Notes

• Profile not yet complete.

General Notes

No additional notes.



Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

• There are risks to marine mammals with this fishery.

- There is a lack of information on bycatch in this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

• No additional notes.



Environmental Notes

- There are risks to marine mammals with this fishery.
- There is a lack of information on bycatch in this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- There is no information on the impact of this fishery on protected, endangered and threatened (PET) species.
- Information on bycatch is not available for this fishery.
- The midwater trawl fishery is unlikely to have a significant impact on the sea bed, however, the combined impacts from the multi-gear fishery are unknown.

There is a lack of information on stock status and mortality rates for Japanese flying squid in Chinese waters. Japan's midwater trawl fishery for Japanese flying squid is considered Managed based on FishSource scores.

This fishery entered a FIP in November 2018.

References

Fishery Progress, East China Sea and Yellow Sea Japanese flying squid - trawl



Environmental Notes

- Interactions with PET species occur in this fishery.
- This species is usually caught as bycatch.
- Bottom trawls will directly impact on the sea bed.

General Notes

• As a mixed fishery, the effects of management measures on other species need to be considered within an ecosystem context.

References

MCS's Good Fish Guide - John dory, North East Atlantic, All areas, demersal otter trawl

MCS's Good Fish Guide - John dory, North East Atlantic, All areas, gill or fixed net



Environmental Notes

- There are risks to seabirds and marine mammals in Icelandic waters, but there is insufficient information available to assess risks in this fishery.
- Bycatch is a risk for this fishery, but available information is limited.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

<u>ICES Ecosystem Overviews - Icelandic Waters Ecoregion</u>



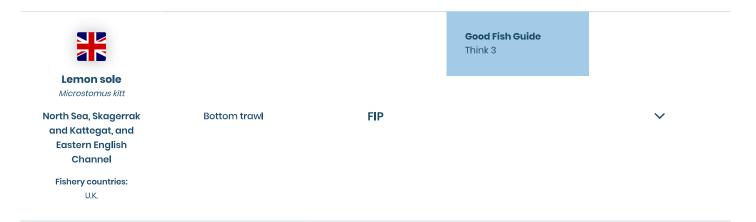
North Sea, Skagerrak and Kattegat, and Eastern English Channel U.K.

Environmental Notes

- There is insufficient information available to assess risks to PET species in this fishery.
- This fish is caught as a bycatch species in mixed fisheries.
- There is no information about impacts on the sea bed.

General Notes

This fishery is part of the North Sea plaice & lemon sole, mixed gear FIP operating under Project UK.



Environmental Notes

- There is insufficient information available to assess risks to PET species in this fishery.
- This fish is caught as a bycatch species in mixed fisheries.
- Bottom trawls will directly impact on the sea bed.

General Notes

This fishery is part of the North Sea plaice & lemon sole, mixed gear FIP operating under Project UK.



Environmental Notes

- There are risks to marine mammals, sharks, skates and rays with this fishery, but there is insufficient data available to assess significance.
- Bycatch is a risk for this fishery, but available information is limited.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

Cornwall Good Seafood Guide - Lemon Sole



Bottom trawl from

Some product from FIP fisheries

Profile not yet complete



Vietnam

Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

- This fishery is unlikely to have direct impacts on PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

• There are risks to PET species with this fishery but there is insufficient data available to assess significance.

Handlines and

pole-lines

- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



Prospective FIP

Profile not yet complete



Indonesian waters

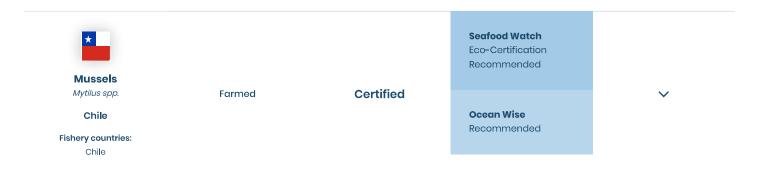
Fishery countries: Indonesia

Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- This fishery is unlikely to have a significant impact on the sea bed,

General Notes

• This species plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- No feed inputs are used to support farmed mussels.
- The larval phase of mussels may be transported away from farm sites. The spread of non-native musels and unintentionally introduced species beyond their natural range may be a cause for concern.
- There is no concern regarding pollution from nutrients or organic matter. No feed or nutrient fertilization inputs are used to support farmed mussels, and water quality has been shown to improve at farmed mussel sites.

General Notes

The environmental impacts described are addressed to some degree by certification.

References

Seafood Watch Recommended Eco-Certifications for Chilean Mussels

Ocean Wise ratings for mussels



Environmental Notes

- No feed inputs are used to support farmed mussels.
- As a native species found across New Zealand, the transportation of mussels away from farm sites is not likely to be a concern.
- There is no concern regarding pollution from nutrients or organic matter. No feed or nutrient fertilization inputs are used to support farmed mussels, and water quality has been shown to improve at farmed mussel sites.

General Notes

References

Seafood Watch report for farmed mussels, worldwide

Ocean Wise ratings for mussels

		Certified	FishSource Well Managed	
North Pacific hake Merluccius productus NE Pacific	Midwater trawl		Seafood Watch Eco-Certification Recommended	~
Fishery countries: U.S.			Ocean Wise Recommended	

- This fishery is unlikely to impact PET species.
- Bycatch in this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.

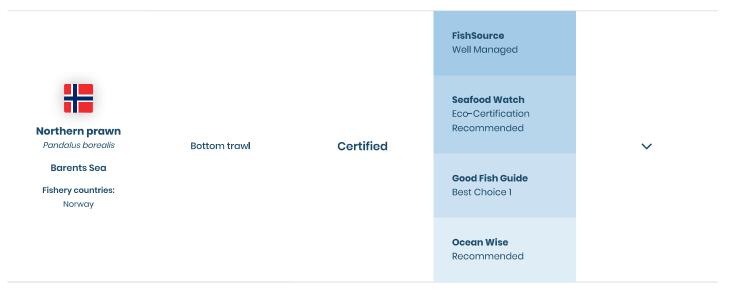


Environmental Notes

- Seabirds and marine mammals are present in the fishery area, but no information on interactions was found.
- Bycatch is a risk for this fishery, but there are mitigation measures in place.
- Bottom trawls will directly impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- Seabirds and marine mammals are present in the fishery area, but no information on interactions was found.
- Bycatch is a risk for this fishery, but there are mitigation measures in place.
- Bottom trawls will directly impact on the sea bed.

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Northern prawn

Pandalus borealis

Denmark Strait

Fishery countries:

Bottom trawl

Not certified or in a FIP

Profile not yet complete

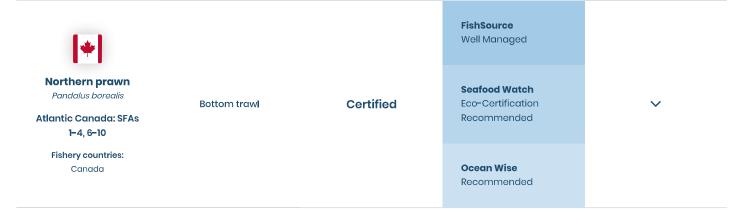
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Environmental Notes

• Profile not yet complete.

General Notes

• No additional notes.



Environmental Notes

- There are risks to seabirds with this fishery, but there is insufficient data available to assess significance.
- Bycatch of non-target species is considered low and mitigation measures are in place.
- Bottom trawls will directly impact on the sea bed.

General Notes

This species plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.

References

Seafish Risk Assessment for Sourcing Seafood (RASS) - Northern shrimp (Pandalus borealis), mutiple profiles.



Northern prawn

Pandalus borealis

Atlantic Canada: Labrador SFA 5; S Labrador & N Newfoundland SFA 6

> Fishery countries: Canada

Bottom trawl

Not certified or in
a FIP

Profile not yet complete

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Environmental Notes

• Bycatch of threatened wolffish species occurs in this fishery but is relatively low.

- Bycatch for this fishery is considered low and mitigation measures are in place.
- Bottom trawls will directly impact on the sea bed.

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.

References

Seafish Risk Assessment for Sourcing Seafood (RASS) – Northern shrimp (Pandalus borealis) in Canadian waters, Shrimp Fishing Areas (SFA) 5.

Demersal otter trawl

Seafish Risk Assessment for Sourcing Seafood (RASS) - Northern shrimp (Pandalus borealis) in Canadian waters, Shrimp Fishing Areas (SFA) 6.

Demersal otter trawl

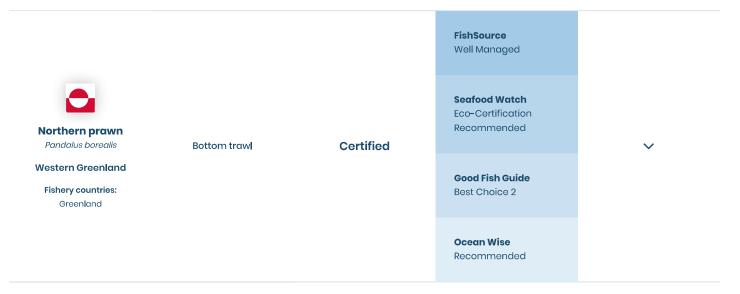


Environmental Notes

- This fishery is unlikely to have direct impacts on PET species. While halibut is landed by the offshore fleet, regulations are in place to manage impacts on the species. No interactions with any other PET species are thought to occur.
- Management measures are in place to reduce impacts on bycatch species. The most commonly caught bycatch species are cod and Greenland halibut. Fishing area closures are implemented if catches of small redfish, cod or halibut exceed thresholds.
- Bottom trawls will directly impact on the sea bed, however, this fishery is considered highly unlikely to have an irreversible impact on habitat structure and function.

General Notes

This species plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed.

General Notes

• This fish plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.

Norway lobster
Nephrops norvegicus
Botney Gut- Silver Pit, Firth of Clyde, South

Minch

Fishery countries:

U.K.

Bottom trawl

Prospective FIP

Seafood Watch Avoid

Good Fish Guide

Not recommended

Think 4

Ocean Wise

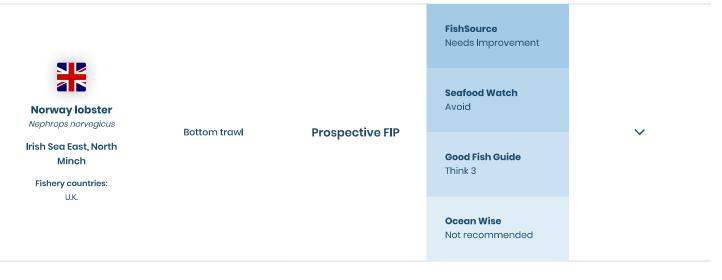
Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

General Notes

References

<u>Fishery Progress - UK Norway lobster - bottom trawl and creel</u>



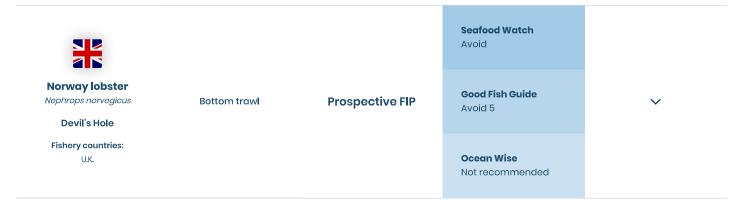
Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

<u>Fishery Progress - UK Norway lobster - bottom trawl and creel</u>



Environmental Notes

• Profile not yet complete.

- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

References

<u>Fishery Progress - UK Norway Jobster - bottom trawl and creel</u>



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

General Notes

References

Fishery Progress - UK Norway lobster - bottom trawl and creel



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery includes cod, haddock and whiting. Mitigation measures, including the use of more selective gears, have been implemented to reduce unwanted catch.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

General Notes

References

<u>Fishery Progress - UK Norway lobster - bottom trawl and creel</u>



- There is no specific information on the impact of this fishery on Protected, Endangered and Threatened species
- Bycatch is a risk for this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- Profile not yet complete.
- Bycatch for this fishery includes whiting, haddock, and cod. Some of the fleet uses bycatch reduction devices.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



- Pangasius feed includes low levels of fishmeal and fish oil from marine feed sources. Feed inputs are required to be responsibly sourced where possible.
- As a native species, the risk to wild populations from escapes is low. Juveniles used in pangasius farming come from Vietnamese hatcheries and the trade of wild-caught broodstock is limited.
- Panagsius farming in Vietnam is linked to illegal disposal of waste into adjoining waterways with cumulative impacts that contribute to water pollution. However, certified farms are assumed to dispose of waste properly.

General Notes

The environmental impacts described are addressed to some degree by certification.

The government requires pangasius farms to be managed under a zonal approach.

References:

Good Fish Guide - Basa, Tra, Catfish or Vietnamese River Cobbler, Global, ASC

<u>Seafood Watch report for farmed pangasius, Vietnam</u>

Ocean Wise ratings for catfish

<u>FishSource - Pangasius, Vietnam</u>



Environmental Notes

- Pangasius feed includes low levels of fishmeal and fish oil from marine feed sources. Feed inputs are not required to be responsibly sourced.
- As a native species, the risk to wild populations from escapes is low. Juveniles used in pangasius farming come from Vietnamese hatcheries
 and the trade of wild-caught broodstock is limited.
- Panagsius farming in Vietnam is linked to illegal disposal of waste into adjoining waterways with cumulative impacts that contribute to water
 pollution. However, certified farms are assumed to dispose of waste properly.

General Notes

The environmental impacts described are addressed to some degree by certification.

The government requires pangasius farms to be managed under a zonal approach.

References:

Good Fish Guide - Basa, Tra, Catfish or Vietnamese River Cobbler

<u>Seafood Watch report for farmed pangasius, Vietnam</u>

<u>FishSource - Pangasius, Vietnam</u>

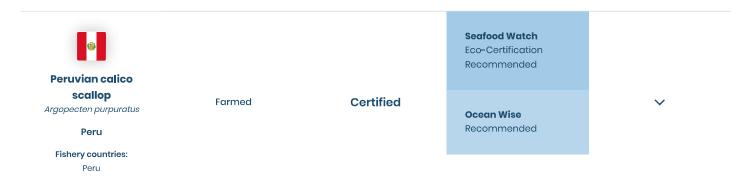


- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

General Notes

References

Organizacion Internacional Agropecuaria (OIA), June 2017, Public Comment Draft Report for Patagonian Scallop Bottom Otter Trawl Fishery in Argentine Sea



Environmental Notes

- No feed inputs are used to support farmed scallops.
- The larval phase of scallops may be transported away from farm sites. But, scallops are mostly farmed within their native range and pose little risk from escapes. Predator control methods used are low-impact and there is little risk of direct or accidental mortality of predators and other wildlife
- There is no concern regarding pollution from nutrients or organic matter as no feed or nutrient fertilization inputs are used to support farmed scallops.

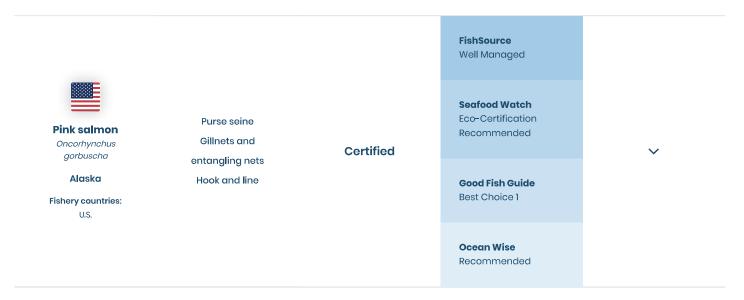
General Notes

The environmental impacts described are addressed to some degree by certification.

References:

<u>Seafood Watch Recommended Eco-Certifications for Peruvian Scallop</u>

Ocean Wise ratings for Scallops



Environmental Notes

- While encounters with marine mammals and birds have been documented in this fishery, the impact on PET species is not thought to be significant.
- There is no risk of bycatch for this fishery. Catches of other salmon species are accounted for in the pink salmon management.
- This fishery is unlikely to have a significant impact on the benthic habitat.

References

MRAG Americas, 2019, MSC 3rd Assessment Report Public Certification Report for the Alaska Salmon Fishery

SCS Global Services, 2017, MSC Fishery Assessment Report Annette Islands Reserve Salmon Fishery Public Certification Report



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low and non-target species are released alive.
- This fishery is unlikely to have a significant impact on the benthic habitat.

General Notes

References

SCS Global Services, 2015, MSC Public Certification Report for Iturup Pink & Chum Salmon Fisheries



Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact the sea bed.

General Notes

No additional notes.



- There are risks to skates and rays with this fishery.
- This fish is caught as a bycatch species of other whitefish fisheries.
- Bottom trawls will directly impact on the sea bed.

No additional notes.



Queen scallop

Aequipecten opercularis

Irish Sea and W of Scotland

Fishery countries:

U.K.

Dredge

Not certified or in a FIP

Profile not yet complete

~

Environmental Notes

- The impact on PET species is unknown.
- Bycatch is a risk for this fishery.
- Dredges will directly impact on the sea bed.

General Notes

• No additional notes.



Rainbow Trout, Steelhead Trout

Oncorhynchus mykiss

Turkey

Fishery countries:

Turkey

Farmed Certified

Profile not yet complete

~

Environmental Notes

- Trout have a high requirement for fish in their diet.
- Escapes are unlikely to have a significant impact on wild trout populations.
- Profile not yet complete.

General Notes

The environmental impacts described are addressed to some degree by certification.



Rainbow Trout, Steelhead Trout

Oncorhynchus mykiss

Farmed

Certified

Profile not yet complete

~

United Kingdom

Fishery countries:

U.K.

Environmental Notes

- Trout have a high requirement for fish in their diet.
- Escapes are unlikely to have a significant impact on wild trout populations. Producers are permitted to use lethal control on predators.

• Impacts on water quality depend on the farming method used. Production using open net cages and ponds results in the discharge of waste and nutrients directly into the surrounding water.

General Notes

The environmental impacts described are addressed to some degree by certification.

Peferences

Good Fish Guide - Rainbow trout



Environmental Notes

- Trout have a high requirement for fish in their diet.
- Escapes are unlikely to have a significant impact on wild trout populations. Producers are permitted to use lethal control on predators.
- Impacts on water quality depend on the farming method used. Production using open net cages and ponds results in the discharge of waste and nutrients directly into the surrounding water.

General Notes

The Good Fish Guide rates rainbow trout farmed in the UK differently depending on farming method.

- Rainbow trout farmed in freshwater ponds without recirculation are rated 2 (pale green).
- Rainbow trout farmed in open net pens and cages are rated 3 (yellow).

References

Good Fish Guide - Rainbow Trout

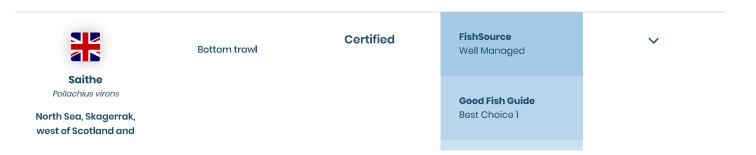


Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



UК

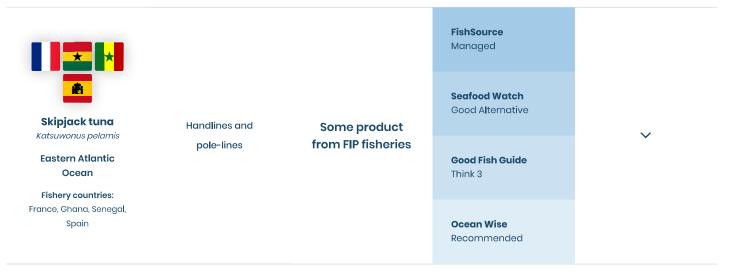
Ocean WiseNot recommended

Environmental Notes

- While bycatch of marine mammals may occur in this fishery it is considered rare.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

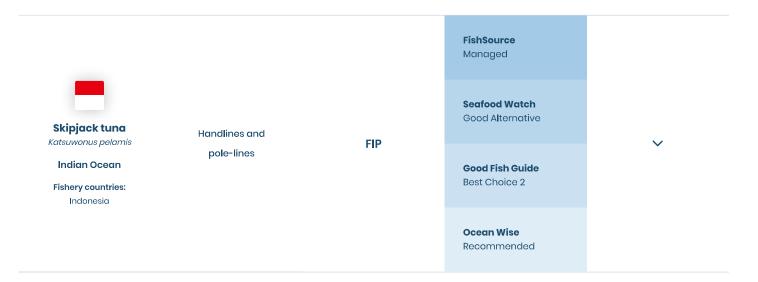
- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

<u>Fishery Progress - Eastern Atlantic Ocean tuna - pole and line</u>

<u>Fishery Progress - Ghana tuna - pole and line</u>



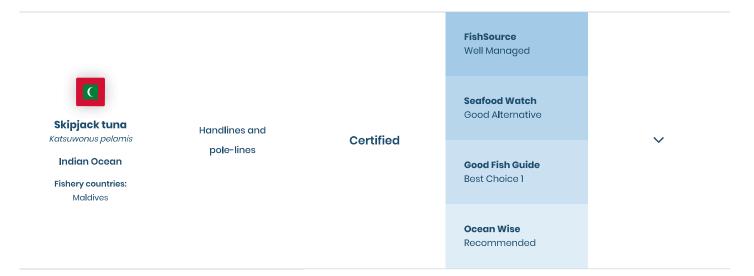
Environmental Notes

• This fishery is unlikely to impact PET species.

- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

References

<u>FisheryProgress - Indonesia Indian Ocean skipjack tuna - pole & line</u>



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.



Purse seine Gillnets and entangling nets Certified

FishSource Well Managed



Alaska

Fishery countries:
U.S.

Good Fish Guide
Best Choice 2

Ocean Wise
Recommended

Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the benthic habitat.

General Notes

References

MRAG Americas, 2019, MSC 3rd Assessment Report Public Certification Report for the Alaska Salmon Fishery.



Environmental Notes

- Profile not yet complete.
- Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

This fishery relates to multiple ratings from the Marine Conservation Society's Good Fish Guide: the Guide categorises the Bristol Channel fishery as "Rating 3 (yellow)", and the Southern Celtic Seas and Eastern English Channel fisheries as "Rating 4 (orange)".

- Good Fish Guide, Ray, spotted, Bristol Channel, Demersal otter trawl
- Good Fish Guide, Ray, spotted, Southern Celtic Seas, Demersal otter trawl
- <u>Good Fish Guide, Ray, spotted, North Sea, Skagerrak, Kattegat, and Eastern English Channel, Demersal otter trawl</u>



Environmental Notes

• Small inputs of fishmeal and fishoil from marine feed sources are required. Feed inputs are not required to be certified as sustainable or responsibly sourced.

- Pangasius is native to the Mekong and therefore escaped fish are unlikely to have direct impacts on local ecosystems. However, the effects of
 disease on pangasius farms upon wild fish populations is unknown. Juveniles used in pangasius farming come from Vietnamese hatcheries
 and the trade of wild-caught broodstock is limited.
- Pollution from nutrients and organic matter occurs on a relatively small scale when compared to the wider nutrient load in the Mekong.
 Nevertheless, the cumulative input of effluent from pond water exchange and the disposal of pond sludge contributes to the region's pollution problem. The improper disposal of sludge waste from pond bottoms is especially problematic. Environmental issues are mitigated by the certification standards but discharge limits need improvement, Chemical inputs to Vietnamese pangasius culture are high and there are concerns about the use of antibiotics important to human health.

The environmental impacts described are addressed to some degree by certification.

The government requires pangasius farms to be managed under a zonal approach.

References:

<u> Good Fish Guide - Basa, Tra, Catfish or Vietnamese River Cobbler</u>

Seafood Watch report for farmed pangasius, Vietnam

FishSource - Pangasius, Vietnam

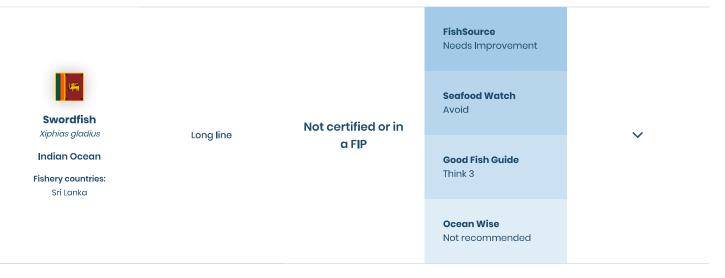


Environmental Notes

- Profile not yet complete.
- · Profile not yet complete.
- Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



Environmental Notes

- There are risks to seabirds and sea turtles with this fishery, but there are mitigation measures in place.
- Bycatch is a risk for this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

No additional notes.



- Tilapia require relatively low inputs of fishmeal and fishoil from marine feed sources in their diet.
- Tilapia has been introduced into Indonesian waterbodies, resulting in the establishment of resident populations. However, farm escapees may
 place additional pressure on native wild populations. The use of open net pens means that the risk of disease transfer to wild fish populations is
 relatively high.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. There is limited information regarding on-farm chemical use and the impact of effluent released by tilapia farms in Indonesia. Cumulative impacts may occur.

General Notes

The environmental impacts described are addressed to some degree by certification.

Although there is extensive legislation referencing area and zonal approaches to aquaculture planning and management, the tilapia farming industry still appears focused on farm-based approaches,

References:

Seafood Watch report for farmed tilapia, Indonesia

FishSource - Tilapia, Indonesia



Environmental Notes

- Tilapia require relatively low inputs of fishmeal and fishoil from marine feed sources in their diet.
- Tilapia has been introduced into Indonesian waterbodies, resulting in the establishment of resident populations. However, farm escapees may place additional pressure on native wild populations. The use of open net pens means that the risk of disease transfer to wild fish populations is relatively high.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. There is limited information regarding on-farm chemical use and the impact of effluent released by tilapia farms in Indonesia. Cumulative impacts may occur.

General Notes

The environmental impacts described are addressed to some degree by certification.

Although there is extensive legislation referencing area and zonal approaches to aquaculture planning and management, the tilapia farming industry still appears focused on farm-based approaches.

Certified

References:

Good Fish Guide - Tilapia (Farmed), Global, ASC

<u>Seafood Watch report for farmed tilapia, Indonesia</u>

<u>FishSource - Tilapia, Indonesia</u>







Turbot

Psetta maxima

Spain

Fishery countries:

Spain

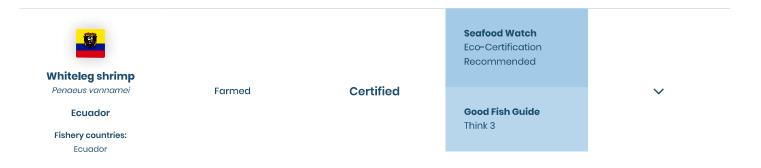
Environmental Notes

- Turbot require fishmeal and fishoil from marine feed sources in their diet. The sustainability of feed inputs is unknown.
- Impacts on wild species are prevented through the use of enclosed production systems.
- · Impacts on surrounding water quality are prevented through the use of enclosed production systems.

General Notes

References

Good Fish Guide - Turbot (Farmed), Europe, Global GAP



Environmental Notes

- Fishmeal and fish oil from marine feed sources are used. At least 50% of the feed used in certified production is required to be responsibly or sustainably sourced.
- Disease transfer between farmed and wild prawns is a concern but infrequent water exchange on whiteleg shrimp farms moderates the risk. Information on escapes is limited. Shrimp farmed in Ecuador are raised from hatchery-raised native broodstock, therefore lowering the risk to wild shrimp populations if interbreeding does occur, however, interbreeding may still result in reduced genetic fitness.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. Impacts on water quality vary depending on farm practices including the frequency of waste discharge from ponds.

General Notes

The environmental impacts described are addressed to some degree by certification.

The government has adopted a farm-based approach to aquaculture regulations and licensing.

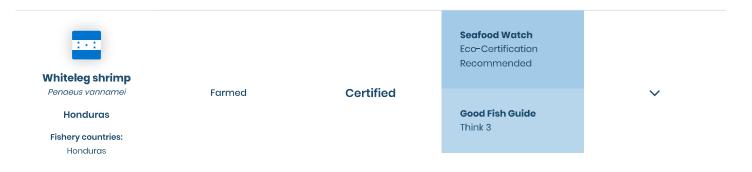
References:

<u>Good Fish Guide - Prawn, King (whiteleg), prawns</u>

Seafood Watch Recommended Eco-Certifications for Whiteleg shrimp

FishSource - Shrimp, Ecuador

<u>Seafood Watch report for farmed shrimp, Ecuador</u>



Environmental Notes

• The use of wild fish in Honduran shrimp feed inputs is low.

- Disease transfer between farmed and wild prawns is a concern and is exacerbated by the practice of frequent water exchanges. Information
 on escapes from shrimp farms is limited. Whiteleg shrimp are native to Honduras, therefore lowering the environmental risk from escapes,
 however there is still potential for interbreeding with wild shrimp populations to result in reduced genetic fitness.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. Impacts on water quality vary depending on farm practices including the frequency of waste discharge from ponds. Some farms have been found to exceed regulatory limits for waste discharge.

The environmental impacts described are addressed to some degree by certification.

References:

Good Fish Guide - Prawn, King (whiteleg), prawns

Seafood Watch Recommended Eco-Certifications for Whiteleg shrimp

<u>Seafood Watch report for farmed shrimp, Honduras</u>



Environmental Notes

- Fishmeal and fish oil from marine feed sources are used. At least 50% of the feed used in certified production is required to be responsibly or sustainably sourced.
- Disease transfer between farmed and wild prawns is a concern but infrequent water exchange on whiteleg shrimp farms moderates the risk. Whiteleg shrimp are not native to India and there is potential for ecological impacts from escapes.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. Waste discharge from whiteleg shrimp ponds is typically limited to once per production cycle.

General Notes

The environmental impacts described are addressed to some degree by certification.

The aquaculture industry is currently managed under a farm-based approach.

References:

<u>Seafood Watch report for farmed shrimp, India</u>

FishSource - Shrimp, India

Good Fish Guide - Prawn, King (whiteleg), prawns



Environmental Notes

- Fishmeal and fish oil from marine feed sources are used. The sustainability of feed inputs is unknown.
- Disease transfer between farmed and wild prawns is a concern but infrequent water exchange on whiteleg shrimp farms moderates the risk. Whiteleg shrimp are not native to India and there is potential for ecological impacts from escapes.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. Waste discharge from whiteleg shrimp
 ponds is typically limited to once per production cycle.

General Notes

The environmental impacts described are addressed to some degree by certification.

The aquaculture industry is currently managed under a farm-based approach.

References:

Seafood Watch report for farmed shrimp, India

FishSource - Shrimp, India

Good Fish Guide - Prawn, King (whiteleg), prawns



Environmental Notes

- Fishmeal and fish oil from marine feed sources are used. Certification criteria encourage the use of responsibly sourced marine products in feed.
- Disease transfer between farmed and wild prawns is a concern. Whiteleg shrimp are not native to Indonesia and there is potential for
 ecological impacts from escapes.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality and cumulative impacts across a region may occur.

General Notes

The environmental impacts described are addressed to some degree by certification.

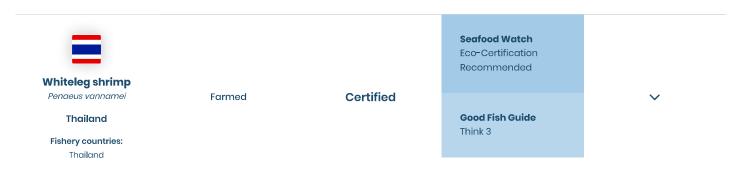
Legislation on zonal planning that is relevant to aquaculture does exist. A zonal approach to aquaculture is being introduced via an Aquaculture Improvement Project (AIP) in Muncar, Banyuwangi district, East Java.

References:

Good Fish Guide - Prawn, King (whiteleg), prawns, Global, ASC

<u>Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP certification (4*)</u>

Seafood Watch Recommended Eco-Certifications for Whiteleg shrimp, Farmed



Environmental Notes

- Fishmeal and fish oil from marine feed sources are used. At least 50% of the feed used in certified production is required to be responsibly or sustainably sourced.
- Disease transfer between farmed and wild prawns is a concern but infrequent water exchange on whiteleg shrimp farms moderates the risk. Whiteleg shrimp are not native to Thailand and there is potential for ecological impacts from escapes.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. Impacts on water quality vary depending on the frequency of waste discharge from ponds.

General Notes

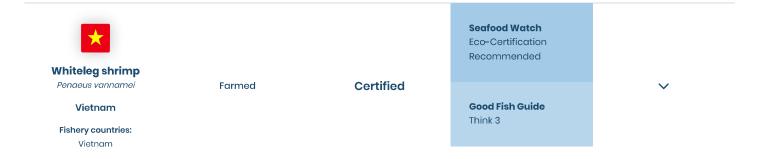
The environmental impacts described are addressed to some degree by certification.

Public information on zonal approaches to planning and production of shrimp farming in Thailand is limited.

References:

Seafood Watch Recommended Eco-Certifications for Whiteleg shrimp, Farmed

FishSource - Shrimp, Thailand



Environmental Notes

- Fishmeal and fishoil from marine feed sources are used. Certification criteria encourage the use of responsibly sourced marine products in feed
- Disease transfer between farmed and wild prawns is a concern but infrequent water exchange on whiteleg shrimp farms moderates this risk. Whiteleg shrimp are not native to Vietnam and there is potential for ecological impacts from escapes.
- Pollution from nutrients and organic matter, as well as chemical inputs, may affect local water quality. Waste discharge from whiteleg shrimp ponds is typically limited to once per production cycle, moderating the impact of effluents on water quality. There is a lack of data on the quantity of chemical inputs, but evidence suggests that illegal antibiotics are sometimes used on Vietnamese shrimp farms.

General Notes

The environmental impacts described are addressed to some degree by certification.

The aquaculture industry is currently managed under a farm-based approach

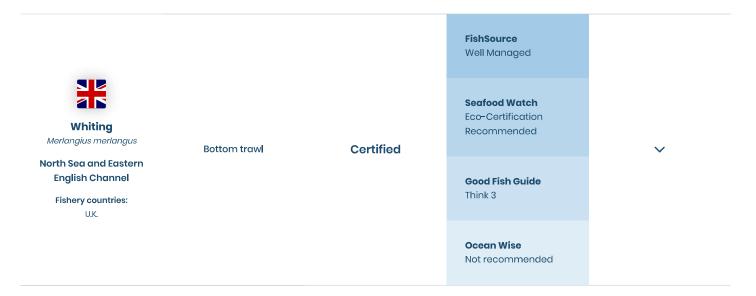
References:

Good Fish Guide - Prawn, King (whiteleg), prawns, Global, ASC

<u> Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP (4*)</u>

Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP (2 and 3*).

<u>FishSource - Shrimp, Vietnam</u>



Environmental Notes

- This fishery is unlikely to have a significant impact on PET species.
- Bycatch is a risk in this fishery, but there is insufficient data available to assess significance.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

ME Certification, July 2018, MSC Expedited Assessment Public Certification Report for SFSAG North Sea haddock



Merlangius merlangus

North Sea and Eastern **English Channel**

Fishery countries:

U.K.

Not certified or in Bottom trawl a FIP

FishSource Managed

Good Fish Guide

Think 3

Environmental Notes

- There is a risk to PET species with this fishery. Bottom trawls present a hazard to bycatch of lamprey and shad.
- Bycatch is a risk in this fishery, but there is insufficient data available to assess significance.
- Benthic impacts vary by gear type, Bottom trawls will directly impact on the sea bed.

General Notes

No additional notes.



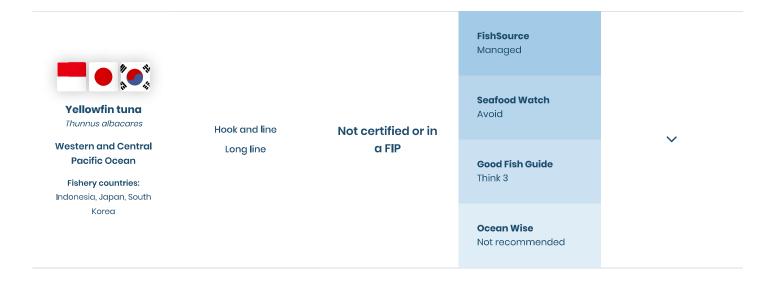
Environmental Notes

- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- Bottom trawls will directly impact on the sea bed.

General Notes

References

MRAG Americas, 2015, MSC Public Certification Report for Bering Sea-Aleutian Islands Alaska Flatfish Fishery.



- Risks to PET species vary by gear type. Longlines present a hazard to seabirds, sea turtles, marine mammals and sharks.
- Bycatch varies for this fishery depending on gear type. Longlines present the greatest risk, while bycatch for pole and line gear is considered very low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes,





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