



Giant Eagle

Giant Eagle, Inc. is among the top 40 largest private companies as ranked by Forbes magazine. Founded in 1931, the company is one of the nation's largest food retailers and distributors, and the leading supermarket retailer in its region with more than 470 stores throughout Pennsylvania, Ohio, West Virginia, Maryland and Indiana.

2021

Number of Wild- Caught Species	Number of Certified Wild- Caught Species	Number of Wild- Caught Species in a FIP	Number of Farmed Species	Number of Certified Farmed Species

Farmed

Production Methods Used

- Midwater trawl
- Bottom trawl
- Dredge
- Purse seine
- Gillnets and entangling

nets

- Hook and line
- Longlines
- Handlines and pole-
- Rake / hand gathered
 - / hand netted
- Pots and traps

Summary

Giant Eagle is committed to ensuring that all seafood products sold in its stores are harvested sustainably. We're proud to work with the nonprofit Sustainable Fisheries Partnership (SFP) to create a sustainable sourcing strategy for our wild and farmed seafood. This includes limiting stock depletion by sourcing a broad variety of species, choosing species based on responsible fishery practices in addition to customer demand, forging partnerships that allow direct access to fishermen, and actively supporting many Fishery Improvement Projects (FIPs). Giant Eagle commits to sell only seafood from fisheries that are managed by competent authorities and have a management plan in place that incorporates a sciencebased approach to ensure sustainability. We require full traceability to the point of landing or farm pond of all seafood sold fresh, frozen, or in value-added products.

Giant Eagle commits to educating its staff, suppliers and customers on seafood sustainability issues. Giant Eagle will make information available to customers in publications, in-store and online that empowers them to make responsible and informed purchasing decisions based on their own values regarding community, the environment and their health.

This profile covers all wild-caught and farmed seafood sourced in 2020.



Associated Fisheries



Species and Location	Production Methods	Certification or Improvement Project	Sustainability Ratings	Notes
	Midwater trawl	Certified	FishSource Well Managed	~
Alaska pollock Theragra chalcogramma				
Gulf of Alaska				
Fishery countries: United States				
			Seafood Watch Eco-Certification Recommended	

Good Fish Guide Best Choice 1 **Ocean Wise** Recommended **NOAA FSSI** 4

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.



Good Fish Guide Think 3 Ocean Wise Not recommended

Environmental Notes

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

General Notes



Good Fish Guide Think 3 Ocean Wise Not recommended

Environmental Notes

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

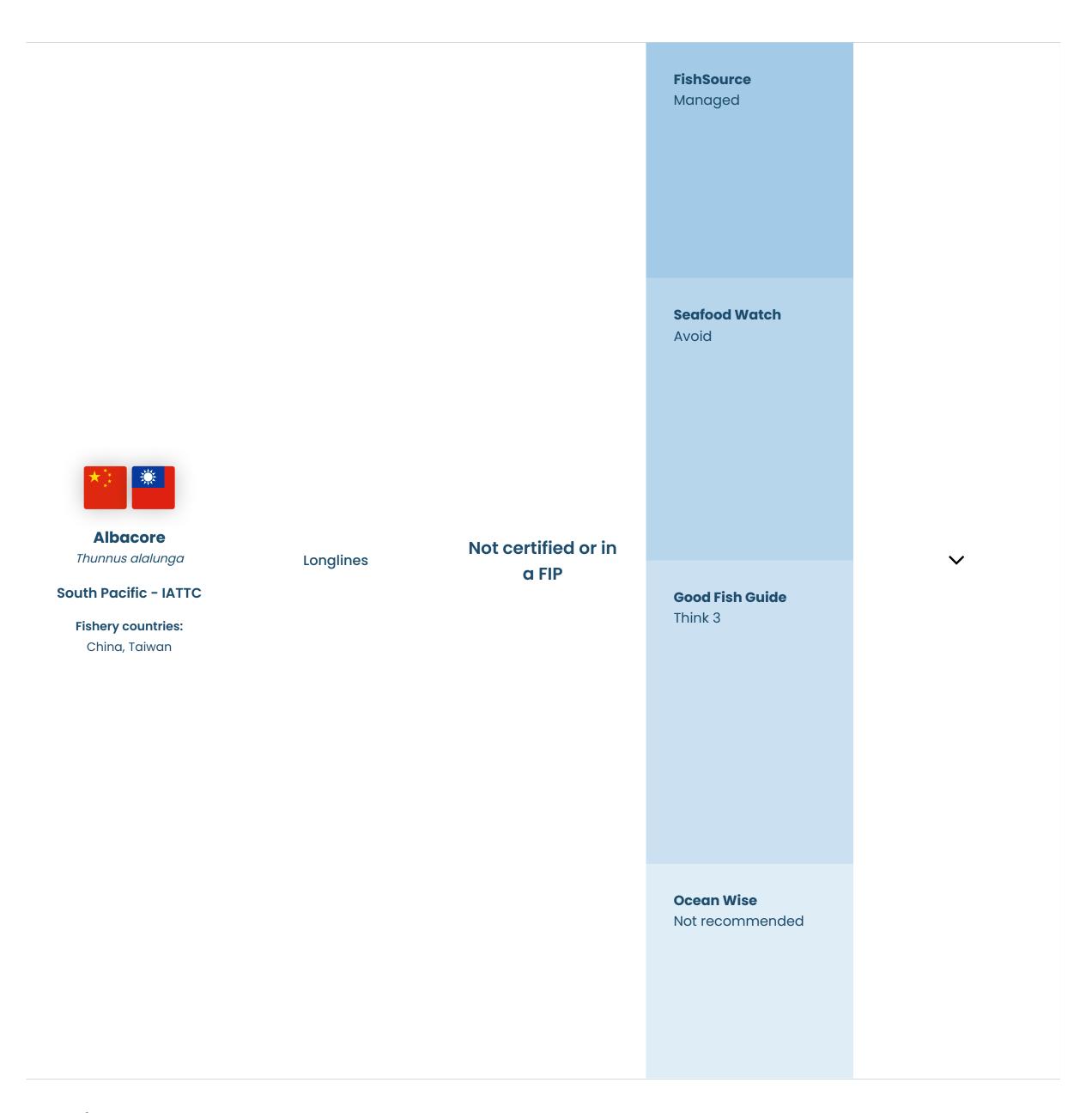
General Notes



- There are potential risks to sea turtles, seabirds and marine mammals with this fishery, but management measures are in place.
- Bycatch for this fishery includes several species of tunas, sharks, billfish and other fish species.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



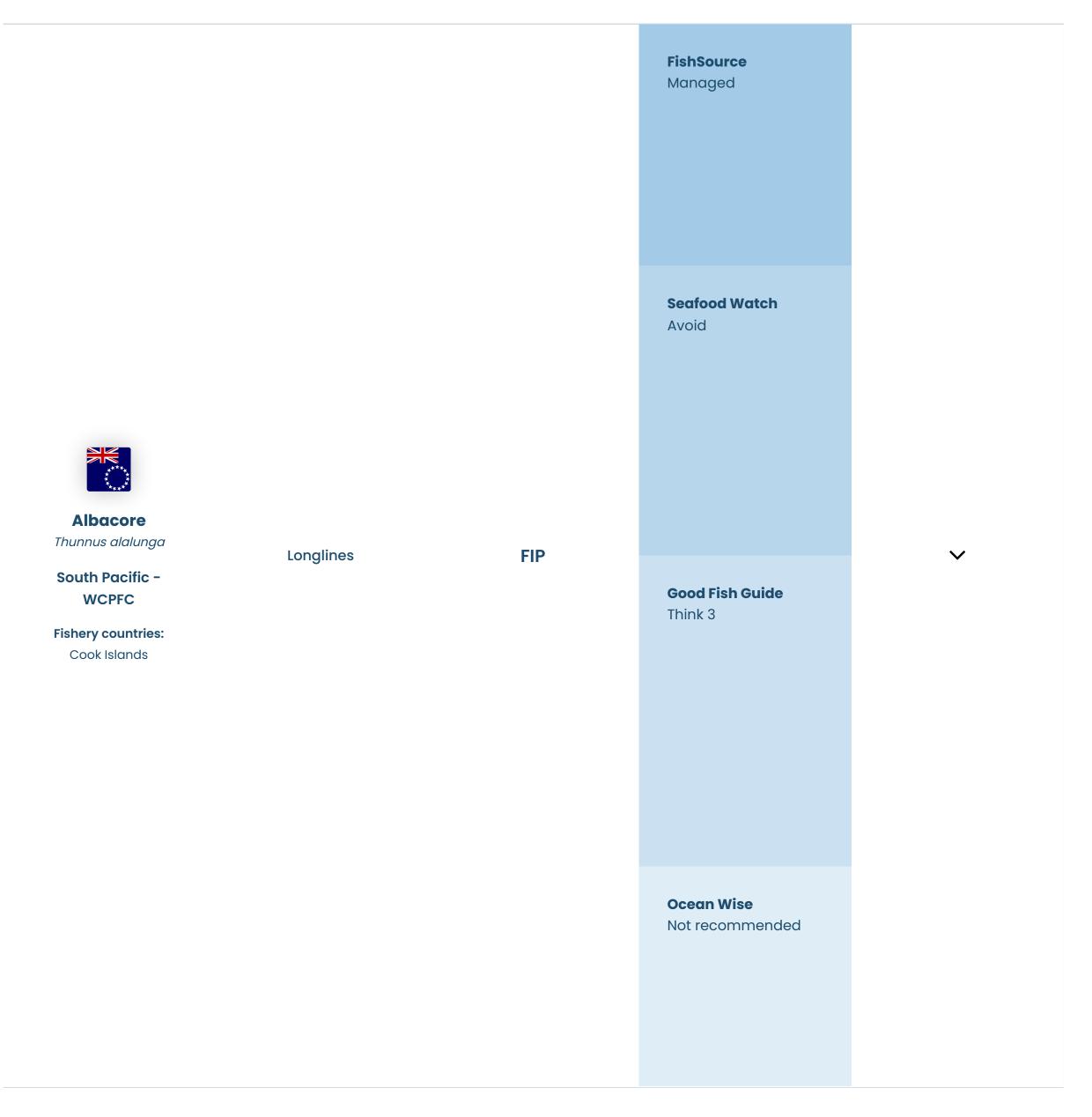
Environmental Notes

- There are risks to seabirds and sea turtles with this fishery, but there are mitigation measures in place.
- Bycatch for this fishery includes tunas, sharks, billfish and other fish.

• This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



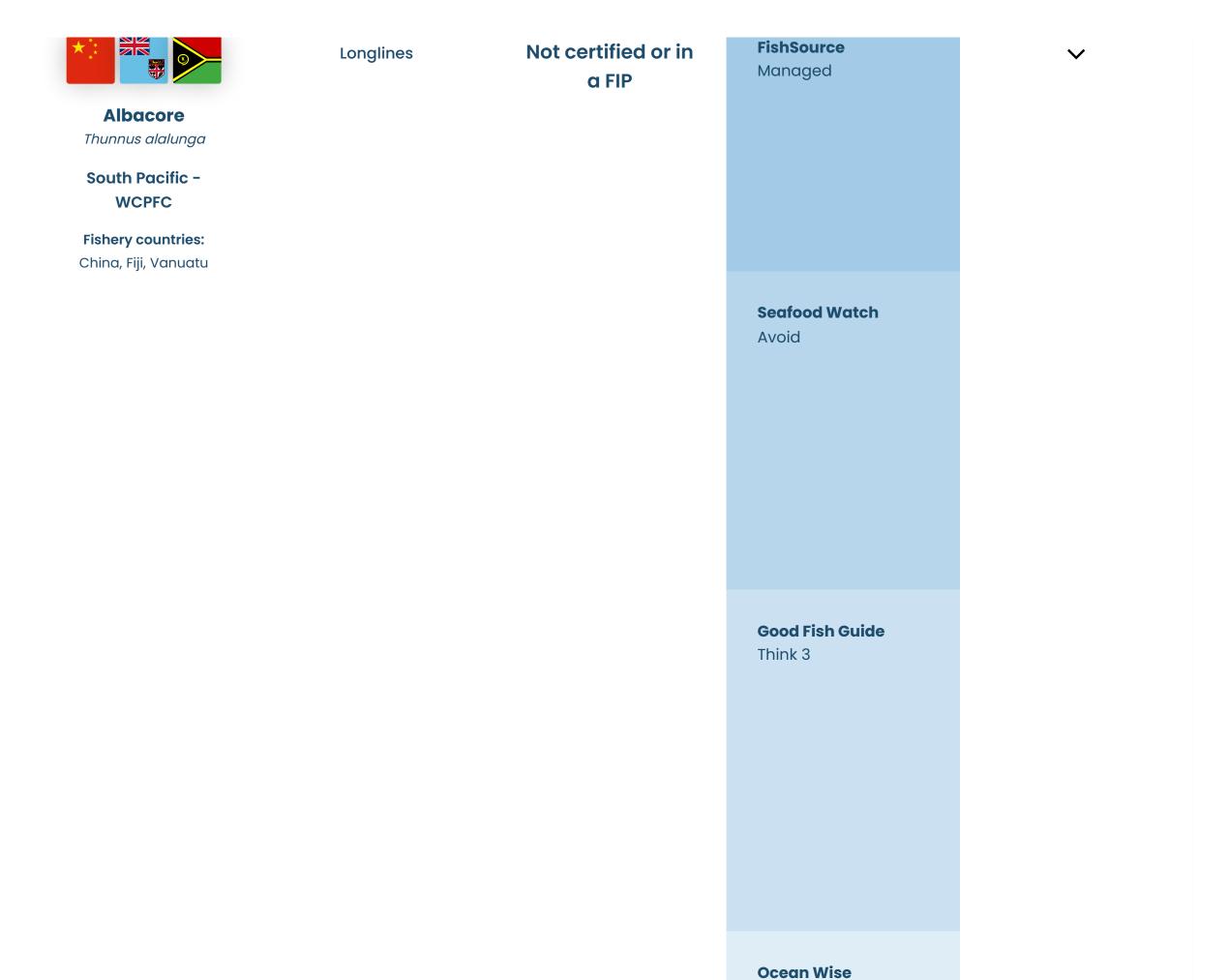
Environmental Notes

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

General Notes

References

<u>Fishery Progress, Pacific Ocean tuna - longline (StarKist)</u>



Not recommended

Environmental Notes

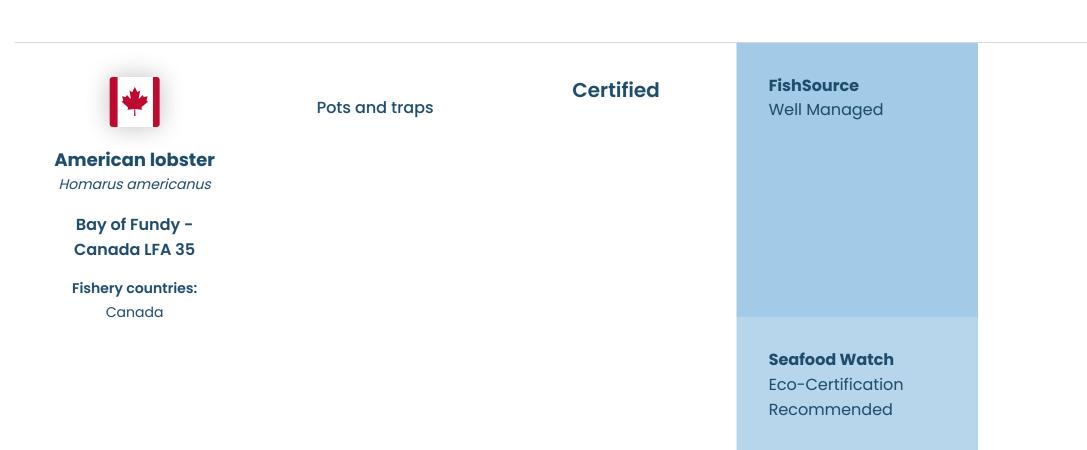
- There are risks to seabirds and sea turtles with this fishery, but there are mitigation measures in place.
- Bycatch for this fishery includes tunas, sharks, billfish and other fish.
- This fishery is unlikely to have a significant impact on the sea bed.

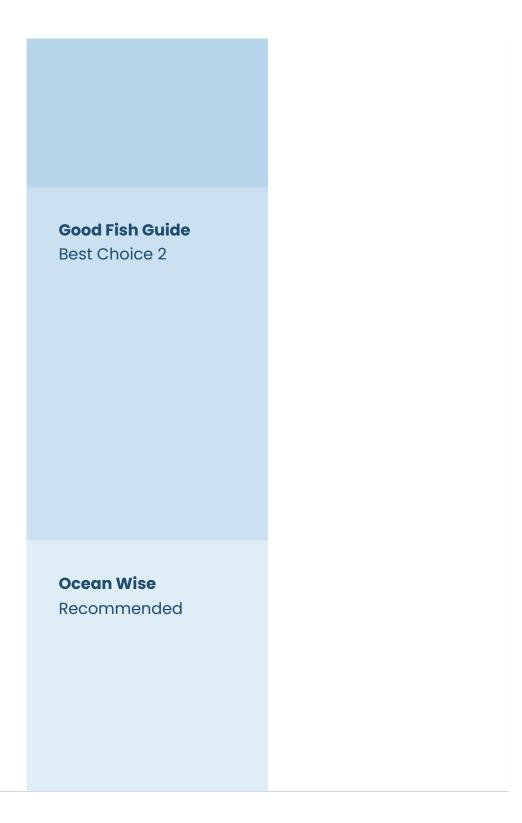
General Notes



• Profile not yet complete.

General Notes



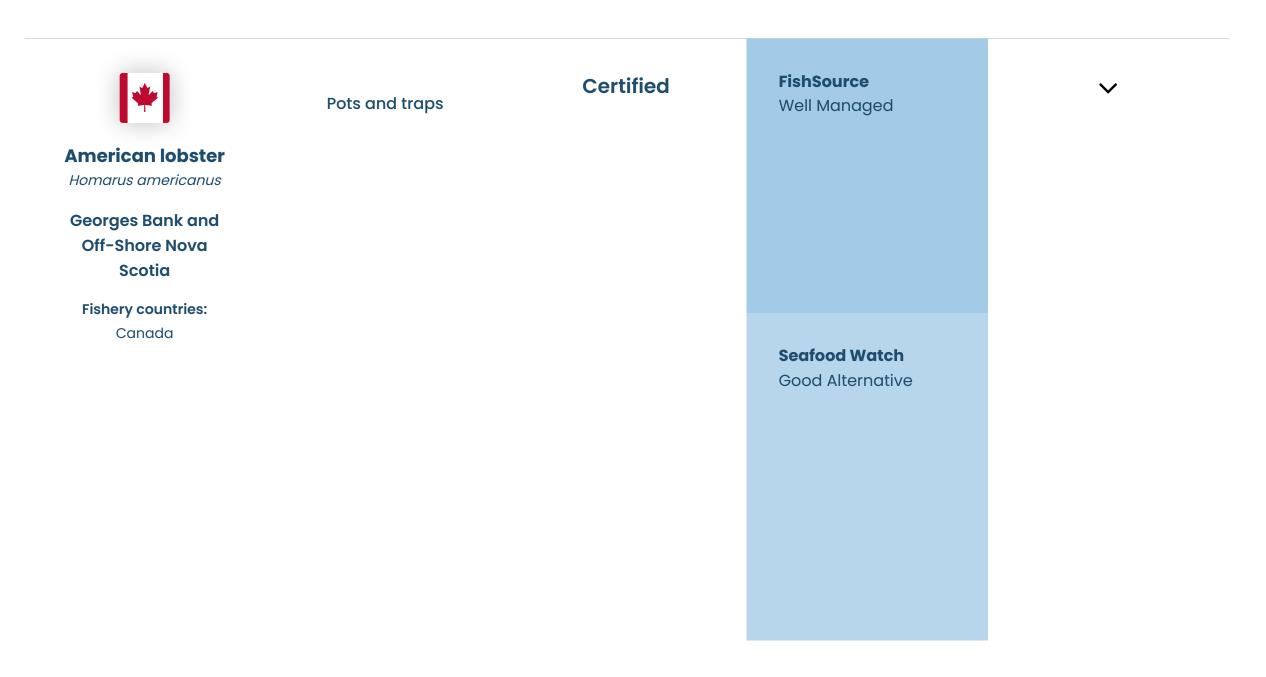


- This fishery is unlikely to impact protected, endangered and threatened (PET) species. The risk to marine mammals of entanglement in lobster gear is considered low.
- Bycatch in this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

SAI Global, 2015, Bay of Fundy, Scotian Shelf and Southern Gulf of St Lawrence lobster (Homarus americanus) Trap Fisheries MSC Public Certification Report



Good Fish Guide Best Choice 2 Ocean Wise Not recommended

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.

General Notes

References

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



- This fishery is unlikely to impact PET species. However, entanglement in lines attached to traps presents a serious risk to the critically endangered North Atlantic right whale.
- 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



Pots and traps

Certified

FishSourceWell Managed

V

American lobster

Homarus americanus

SE Cape Breton,
Chedabucto Bay and
Eastern shore

Fishery countries:

Canada

Seafood Watch

Eco-Certification Recommended

Good Fish Guide

Best Choice 2

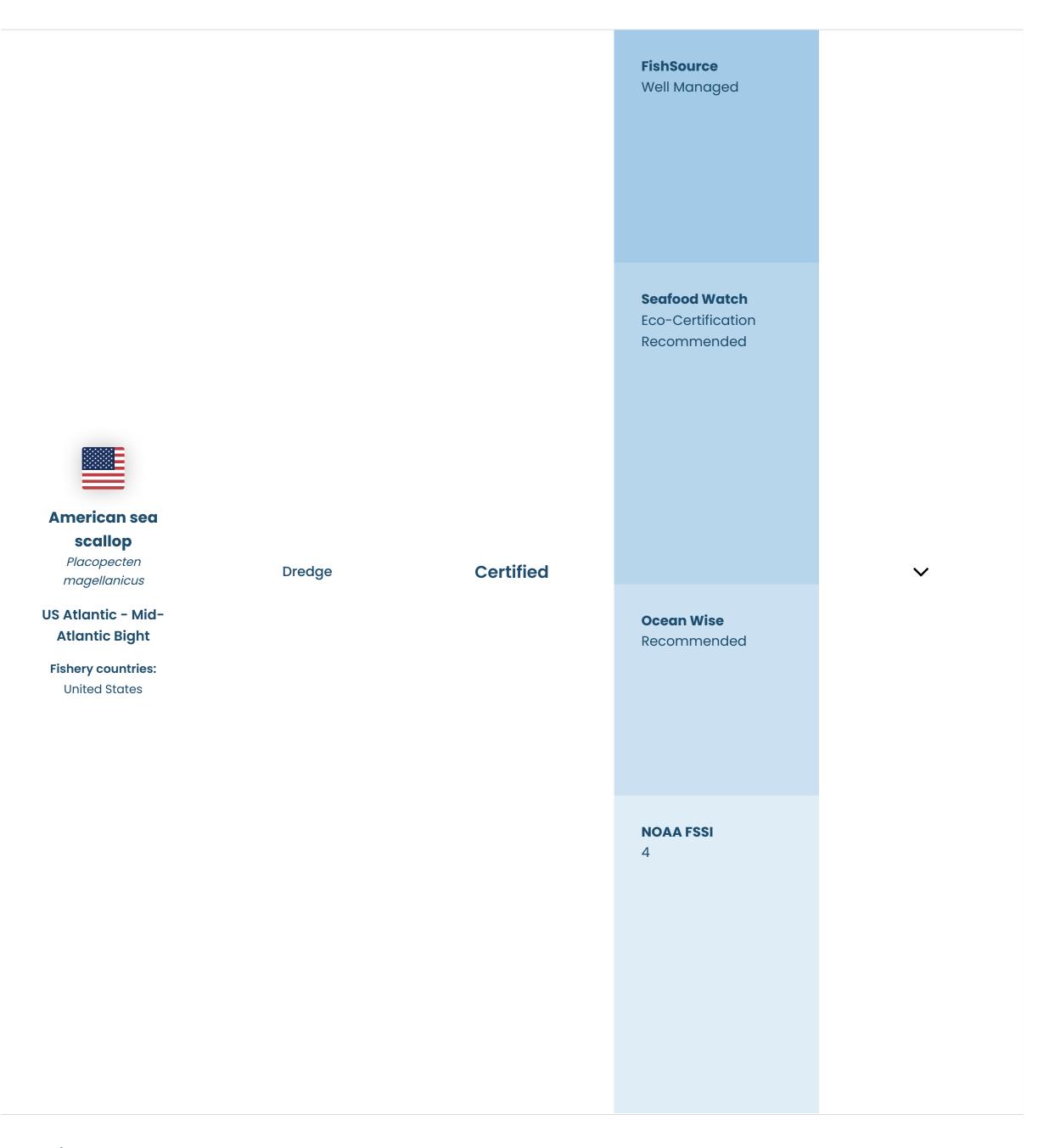
Ocean Wise

Recommended

• Profile not yet complete.

General Notes

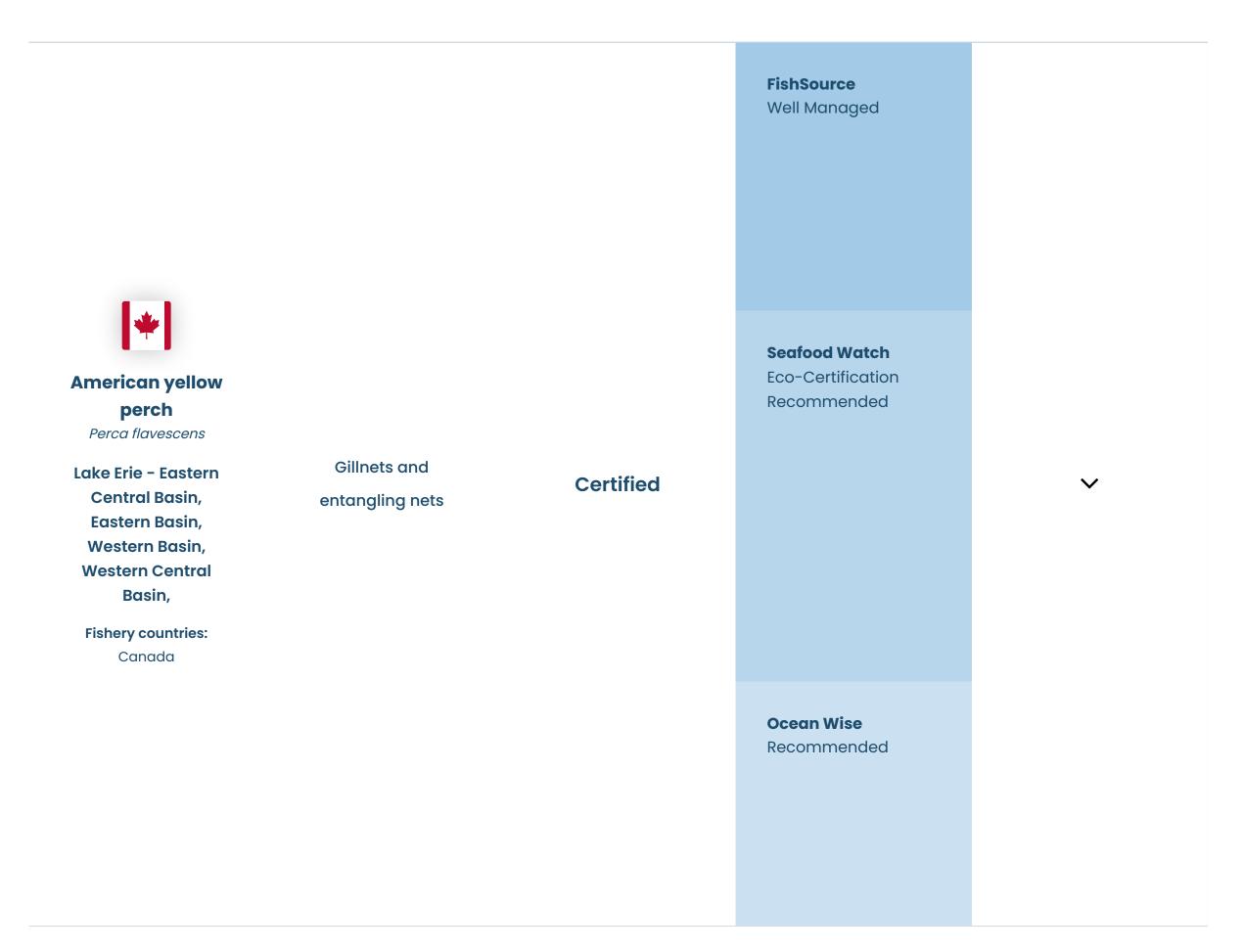
• No additional notes



Environmental Notes

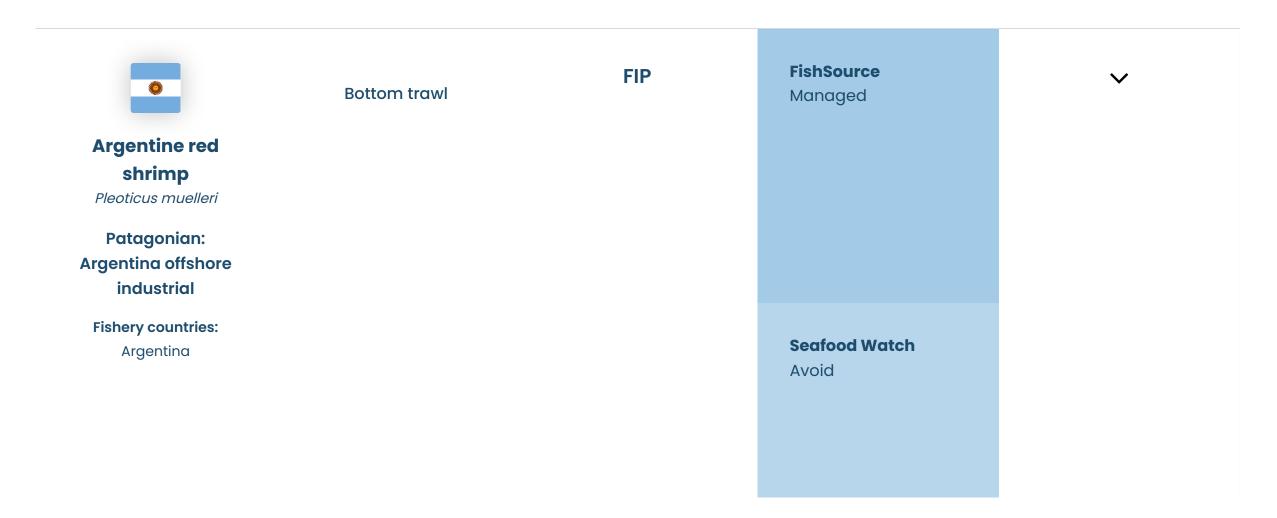
- There are risks to sea turtles with this fishery, but there are mitigation measures in place.
- Bycatch is a risk in this fishery.
- Dredges will directly impact on the sea bed.

General Notes



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



Ocean Wise Not recommended

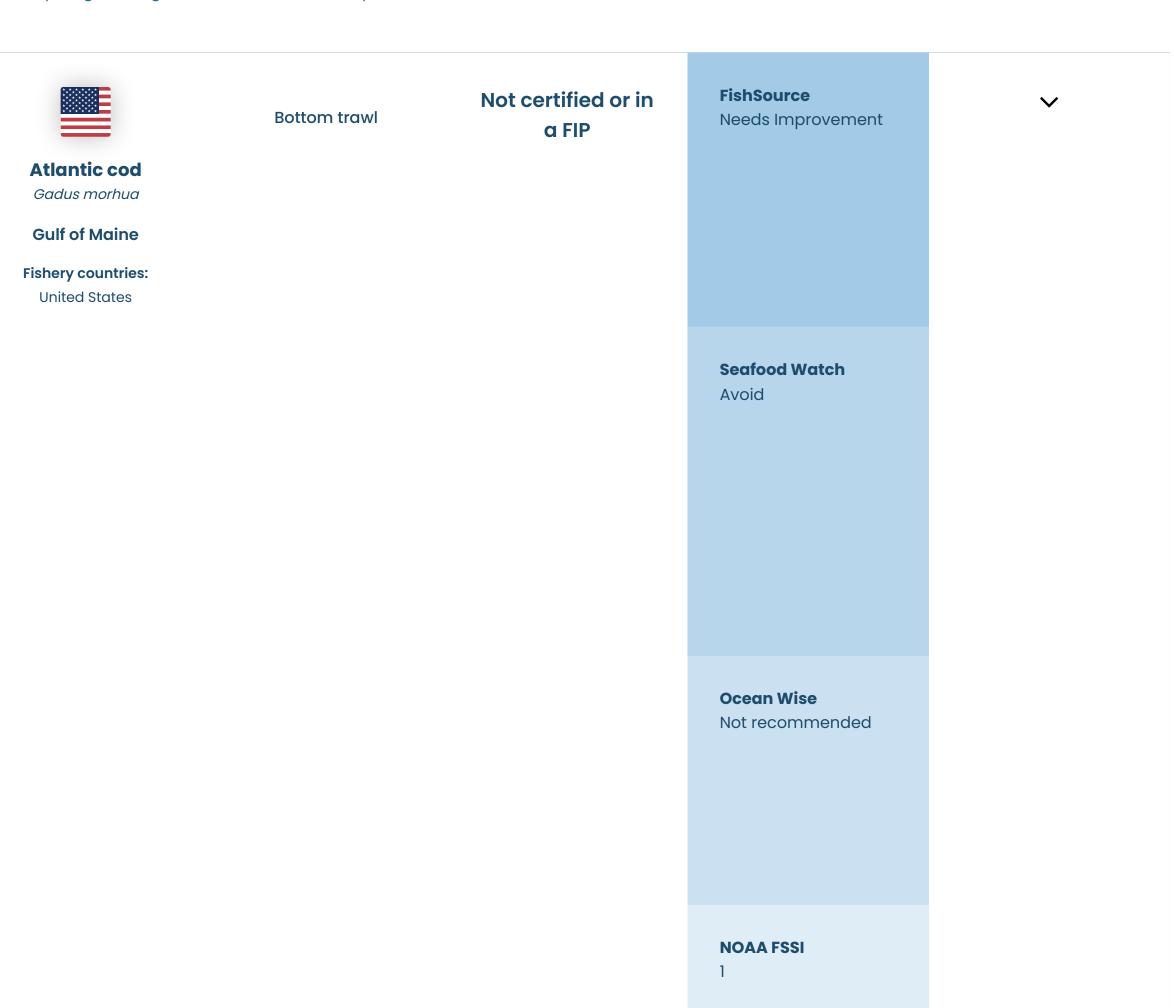
Environmental Notes

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

General Notes

References

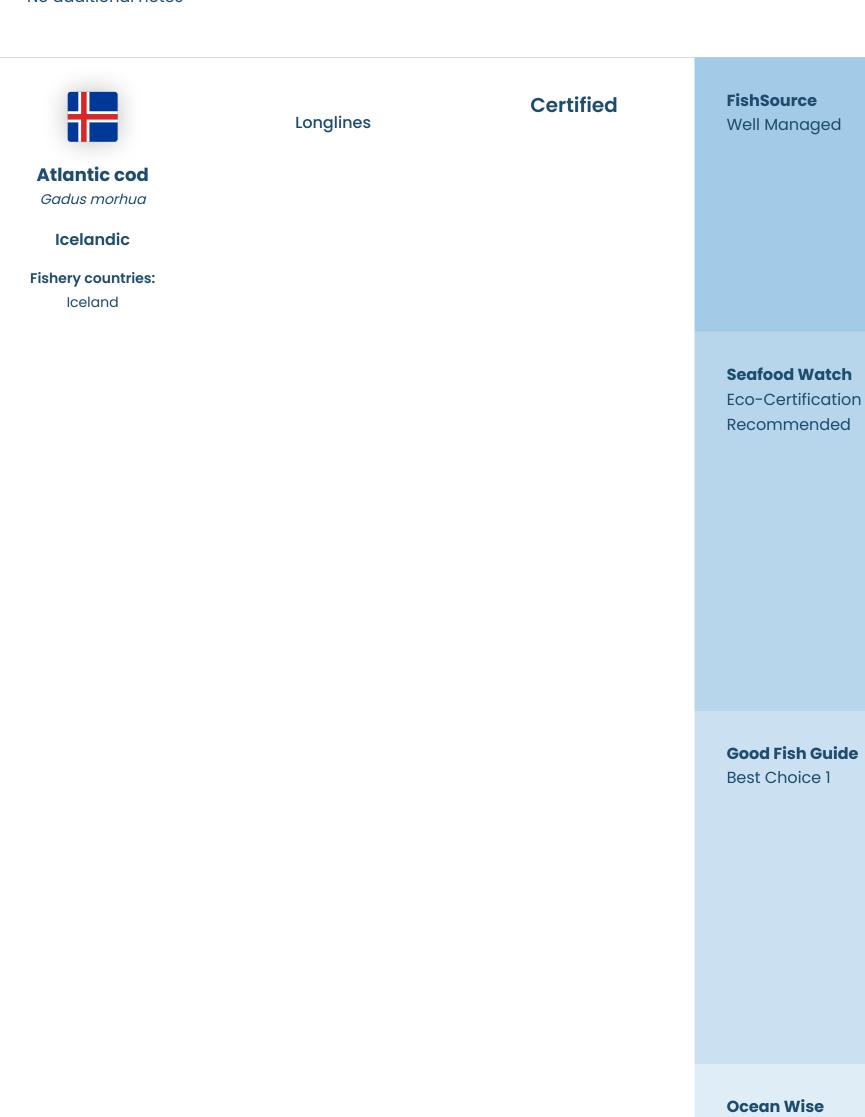
<u>Fishery Progress, Argentina offshore red shrimp - bottom trawl</u>



- There are risks to 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. However, management measures are in place.

General Notes

• No additional notes



Recommended

- 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.
- 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.
- There is bycatch for this fishery but non-target species are retained. 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





Atlantic mackerel Scomber scombrus NE Atlantic Fishery countries: United Kingdom Good Fish Guide Best Choice 2

Environmental Notes

- There are risks to protected, endangered and threatened (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 due to concerns regarding overfishing.



- Salmon rely on wild capture fisheries for feed. Marine ingredients (herring, menhaden, anchovy) are sourced from fisheries that currently have no serious conservation concerns.
- There is an ongoing risk of impact that fish escaping from Canadian-sited farms may have on their wild counterparts (as evidenced by the higher numbers of escapees in Canadian rivers).
- The use of antibiotics was markedly high. The limited availability of registered pesticide therapeutants for the control of sea lice has resulted, at least twice, in the development of resistance to the few products permitted. There is potential for larger-scale, cumulative ecological impacts from effluents.

General Notes

References

Seafood Watch, Canada Farmed Atlantic Salmon, Marine Net Pen



Environmental Notes

- Salmon rely on wild capture fisheries for feed. At least 50% of the feed used in certified production is required to be responsibly or sustainably sourced.
- There are concerns about the impact of farmed salmon escapes and disease outbreaks on wild salmonids. Overall, the Chilean industry continues to struggle with the control of bacterial diseases and sea lice parasites as indicated by the very high levels of treatment.
- Direct impacts on water quality at the site are unlikely, but there is potential for cumulative impacts in densely farmed areas. The use of antibiotic and pesticides in Chile is high; studies on impact are limited.

General Notes

A zonal management approach has been adopted based on licenses (concessions); groups of licenses - Aquaculture Management Areas (AMAs); emergency disease zones - Macro Zones; and Areas Autorizadas para el ejercicio de la Acuicultura - Appropriate Areas for Aquaculture (AAA).

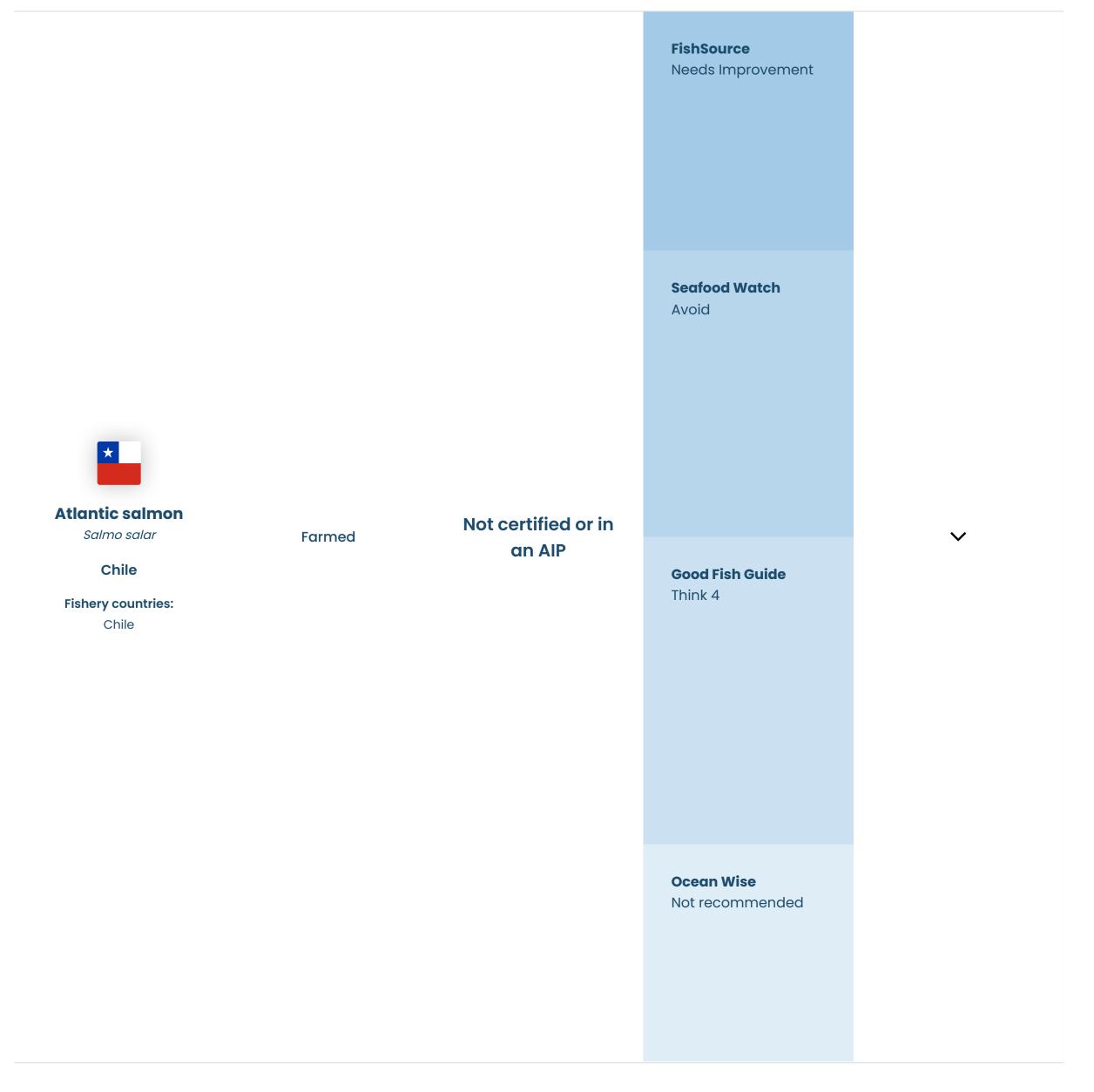
References

FishSource, Salmon - Chile

Good Fish Guide, Atlantic salmon, Chile

Ocean Wise, Atlantic salmon, Chile

Seafood Watch, Farmed Atlantic Salmon, Chile



Environmental Notes

- Salmon rely on wild capture fisheries for feed.
- There are concerns about the impact of farmed salmon escapes and disease outbreaks on wild salmonids. Overall, the Chilean industry continues to struggle with the control of bacterial diseases and sea lice parasites as indicated by the very high levels of treatment.
- Direct impacts on water quality at the site are unlikely, but there is potential for cumulative impacts in densely farmed areas. The use of antibiotic and pesticides in Chile is high; studies on impact are limited.

General Notes

A zonal management approach has been adopted based on licenses (concessions); groups of licenses - Aquaculture Management Areas (AMAs); emergency disease zones - Macro Zones; and Areas Autorizadas para el ejercicio de la Acuicultura - Appropriate Areas for

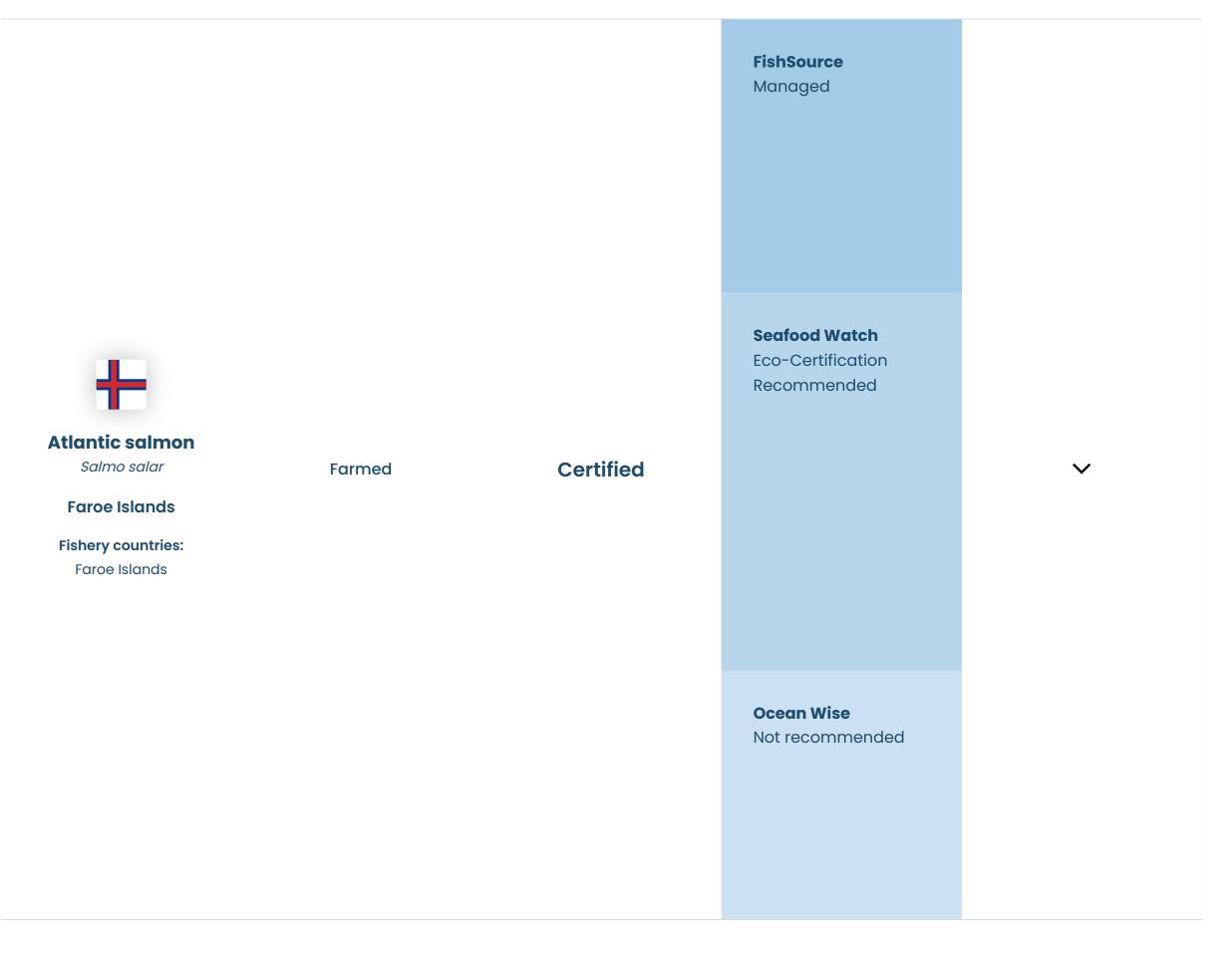
Aquaculture (AAA).

References

<u>FishSource, Salmon - Chile</u>

Good Fish Guide, Atlantic Salmon, Farmed

Seafood Watch, Farmed Atlantic Salmon, Chile



Environmental Notes

- Salmon rely on wild capture fisheries for feed. Feed inputs are required to be responsibly sourced where possible.
- There is a high risk of escape and a lower risk of competitive and genetic impact on wild species.
- Antibiotics have not been administered on Faroese salmon farms for more than ten years, but pesticide use for the treatment of sea lice is substantial, with several different treatment types being used in recent years. Regarding seabed habitat impacts of settling particulate wastes, two-thirds of sites operated with minimal or minor pollution levels and one-third of sites were "polluted" or "very polluted."

General Notes

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

References

Ocean Wise, Salmon

Seafood Watch, Atlantic Salmon, Farmed, Aquaculture Stewardship Council Certified







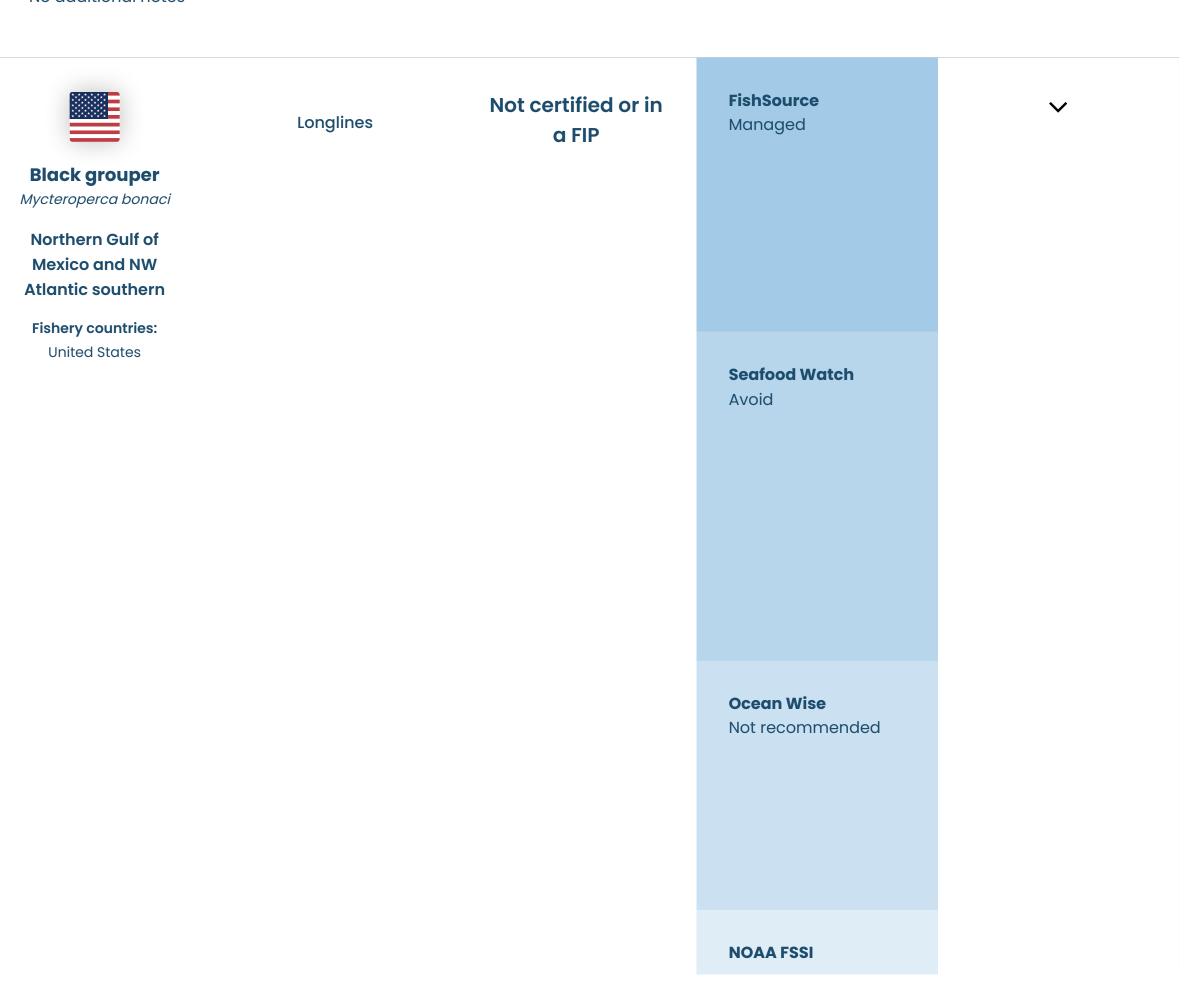


Atlantic surf clam Spisula solidissima NW Atlantic Fishery countries: United States Seafood Watch Eco-Certification Recommended

Environmental Notes

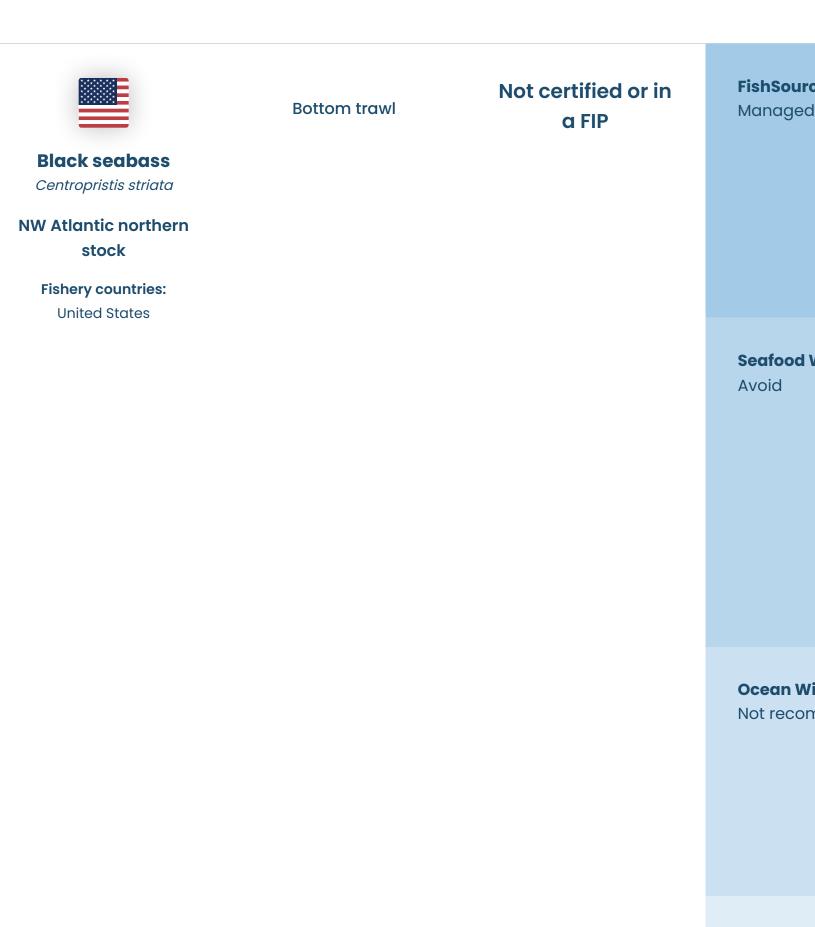
- This fishery is unlikely to impact PET species.
- Bycatch for this fishery is considered low.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes



- 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





• Profile not yet complete.

General Notes

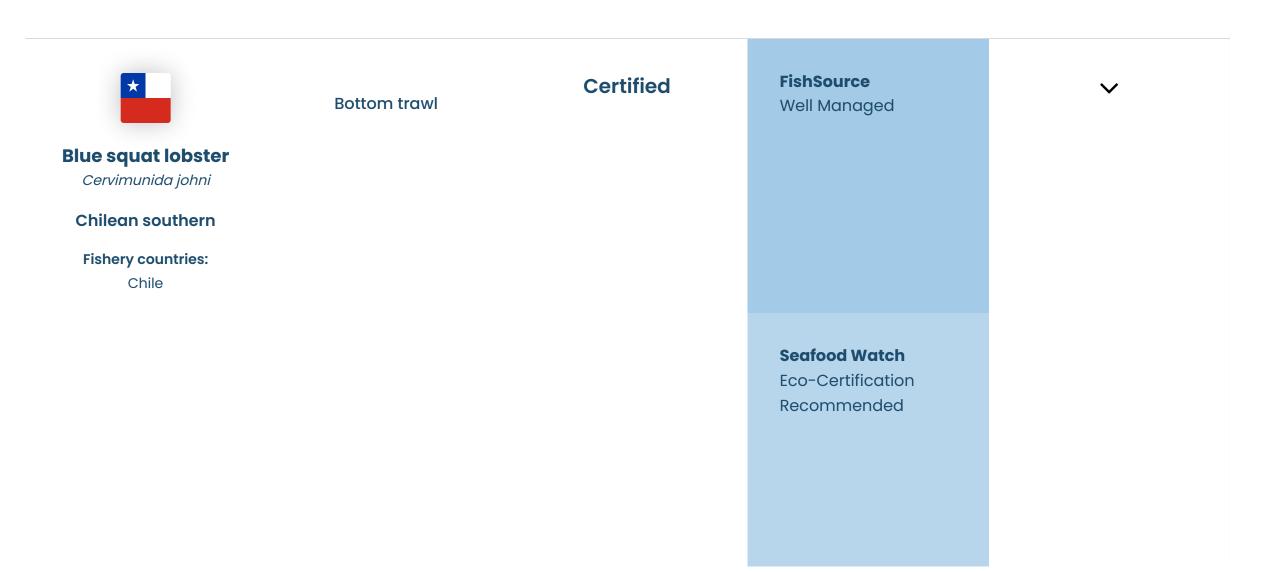
• No additional notes.



Environmental Notes

• Profile not yet complete.

General Notes





• Profile not yet complete.

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



Panulirus argus

Western Central Atlantic

Fishery countries:
Bahamas

Rake / hand gathered / hand netted

Certified

FishSourceWell Managed

Seafood Watch

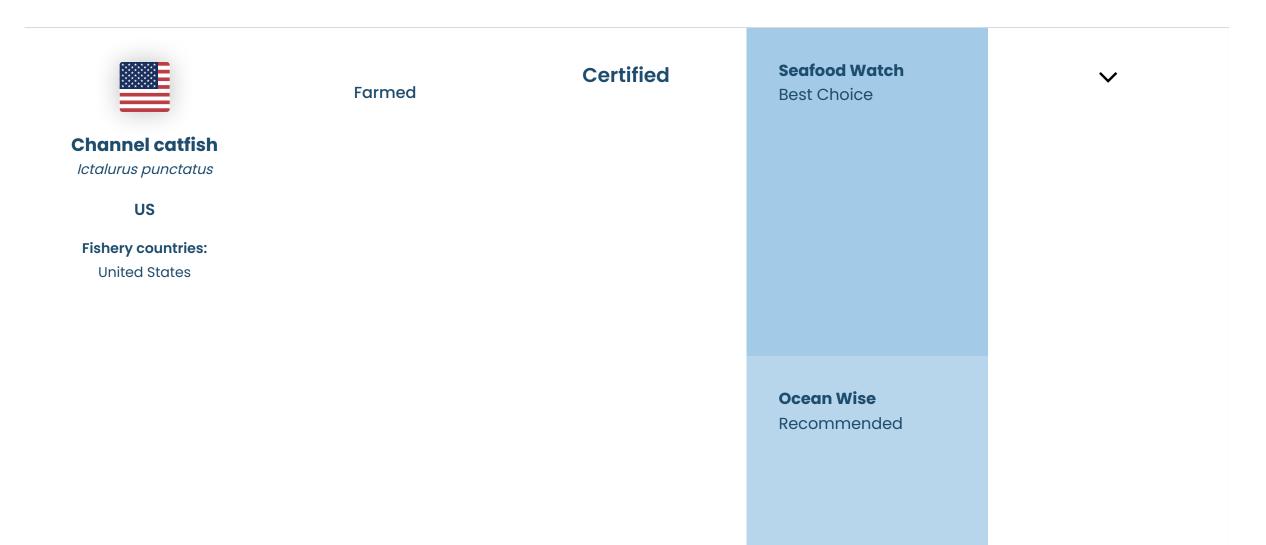
Eco-Certification Recommended

Ocean Wise
Recommended

Environmental Notes

• Profile not yet complete.

General Notes

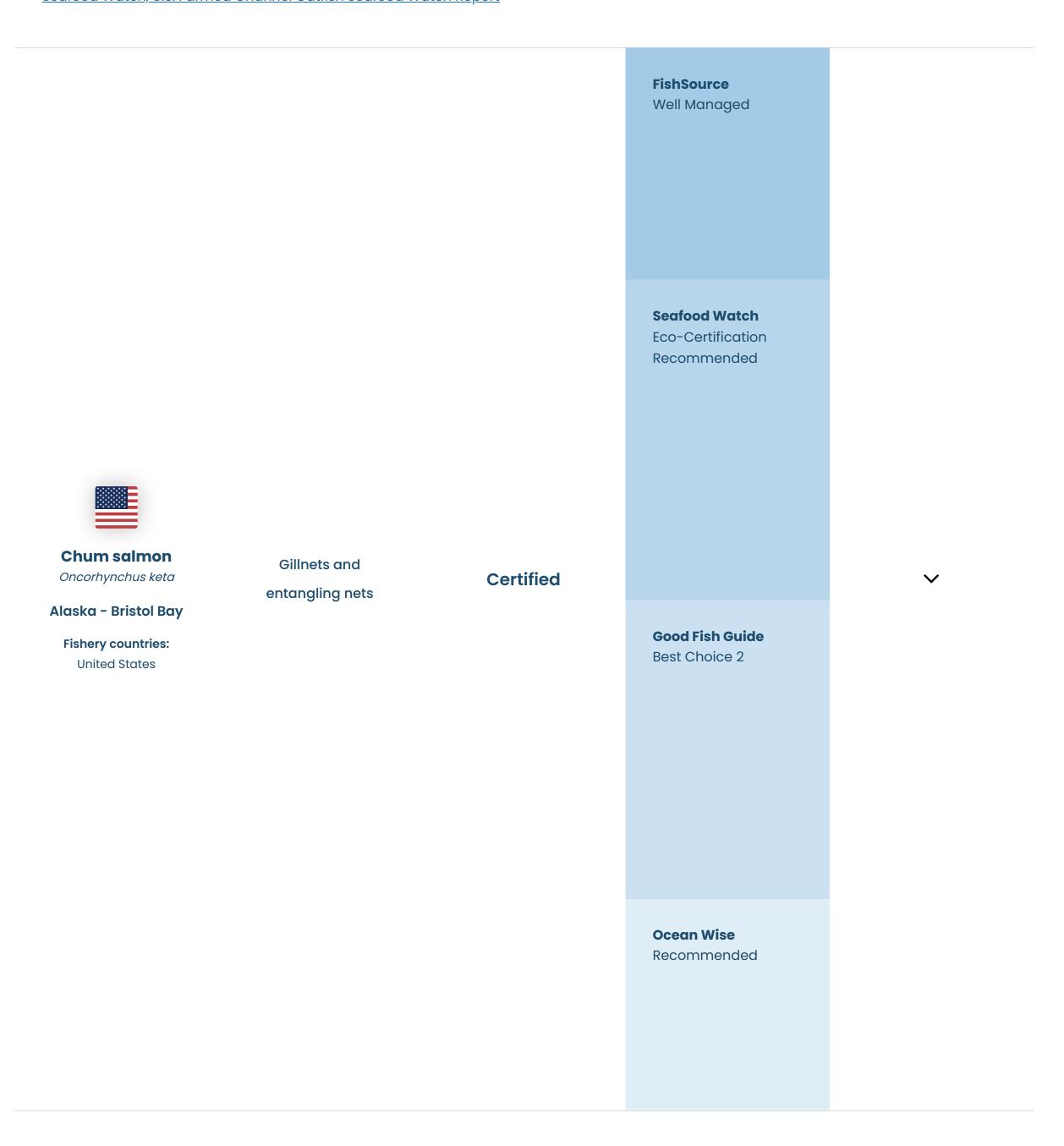


- Very low amounts of fishmeal and fish oil are used in the catfish feed, which is made primarily from agricultural crop-derived ingredients.
- Risks of escapes, competition with, and disease outbreaks to wild catfish are low.
- Environmental impacts from effulents and chemical use are minimal and well-regulated.

General Notes

References

Seafood Watch, U.S. Farmed Channel Catfish Seafood Watch Report



- 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.

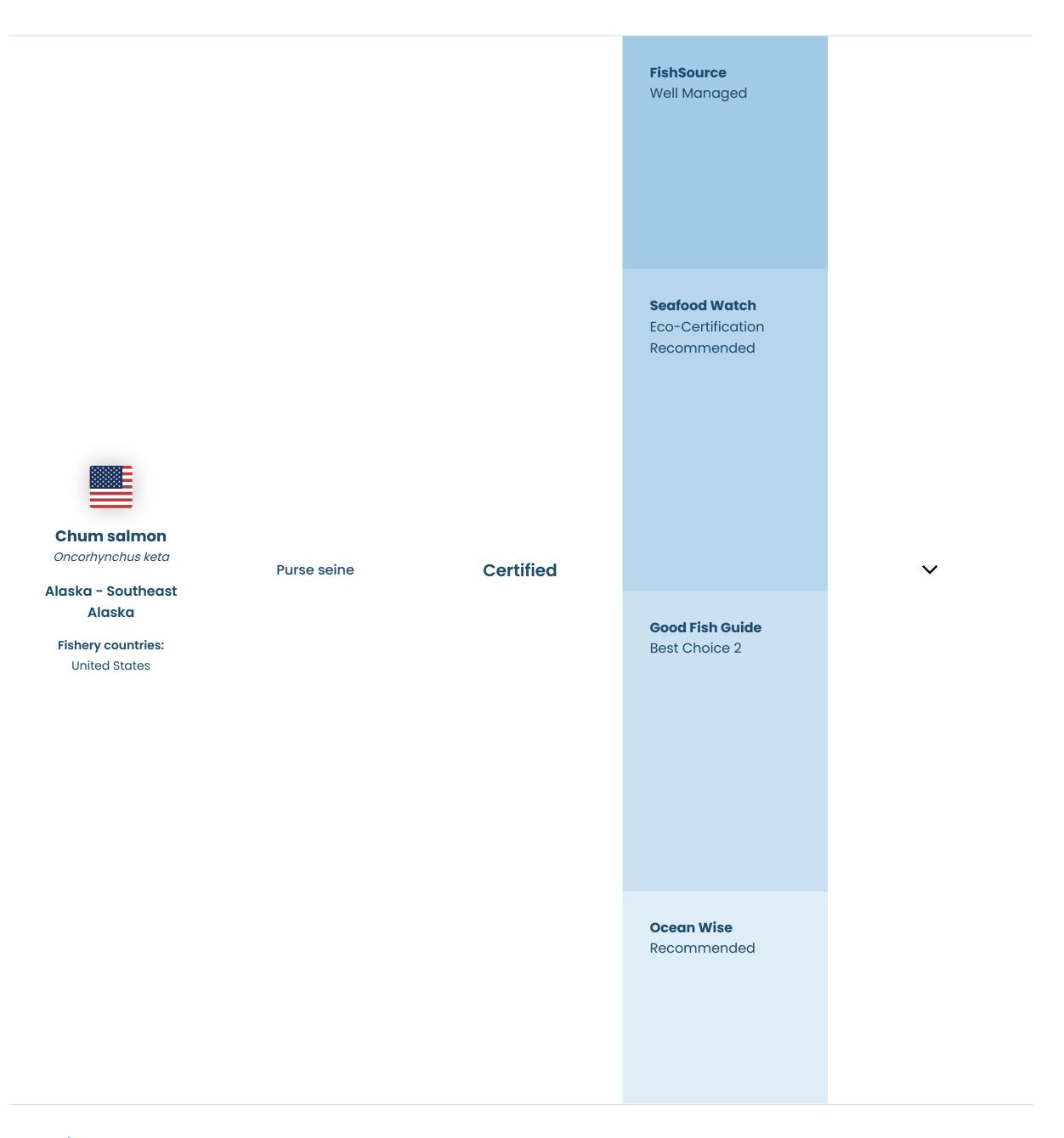
General Notes

Caveat

The environmental notes for this fishery are based on a provisional assessment and are not derived from the FishSource profile.

References

Intertek Moody Marine, 2013, Alaska Salmon Fishery MSC Public Certification Report



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

Caveat

The environmental notes for this fishery are based on a provisional assessment and are not derived from the FishSource profile.

Doforoncos

Intertek Moody Marine, 2013, Alaska Salmon Fishery MSC 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.

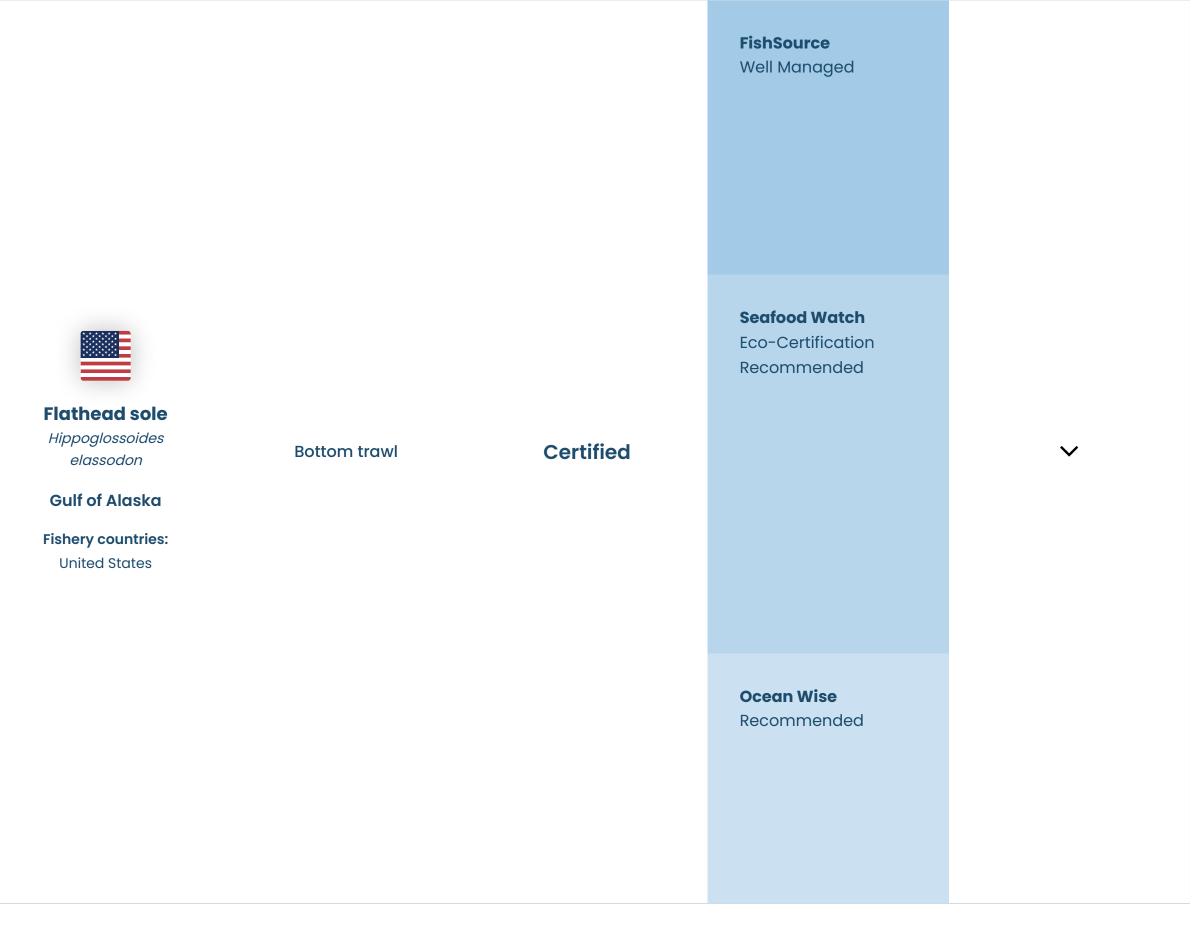
General Notes



• Profile not yet complete.

General Notes

• No additional notes.



Environmental Notes

• Profile not yet complete.

General Notes



Best Choice Ocean Wise Recommended **NOAA FSSI**

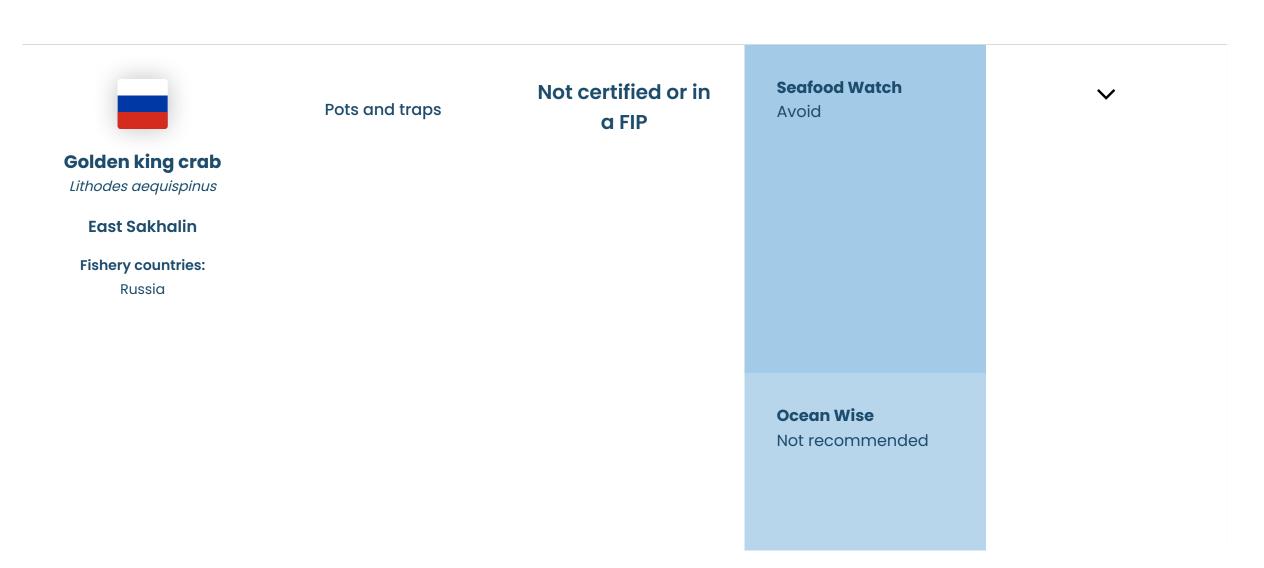
Environmental Notes

- Information on interactions with PET species is not available.
- Bycatch is a significant risk for this fishery.
- Bottom trawls will directly impact on the sea bed. However, management measures are in place.

General Notes

References

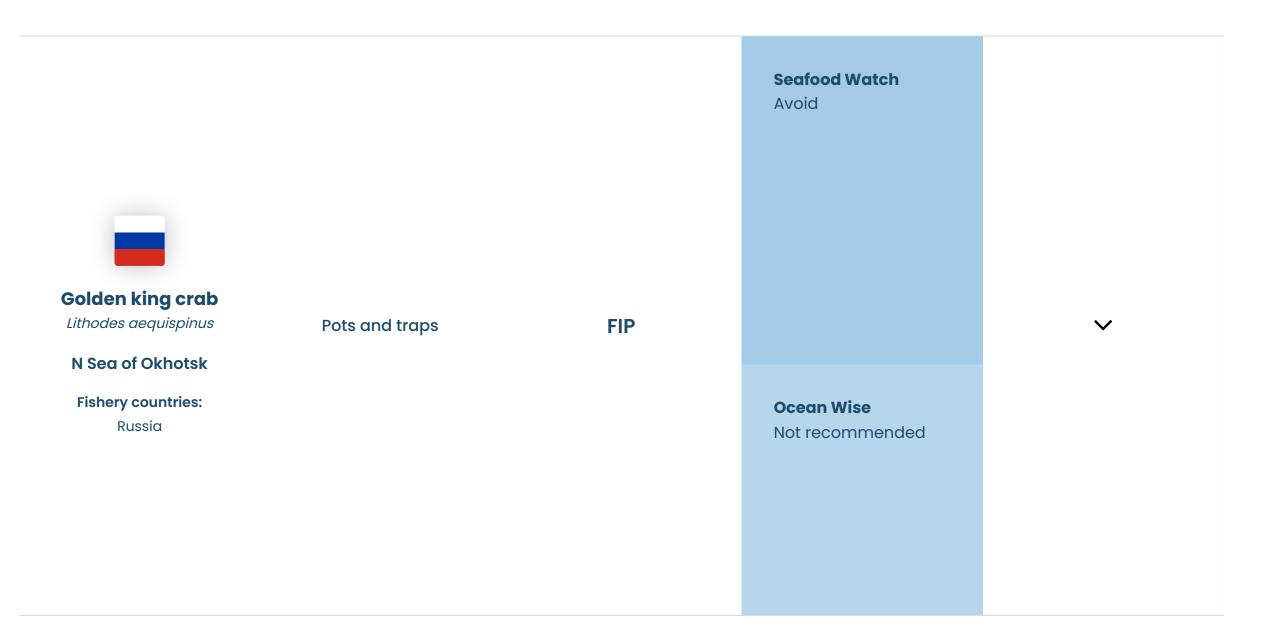
<u>Alaska Seafood Marketing Institute, RFM Certification - Alaska Crab</u>



• Profile not yet complete.

General Notes

• No additional notes



Environmental Notes

• Profile not yet complete.

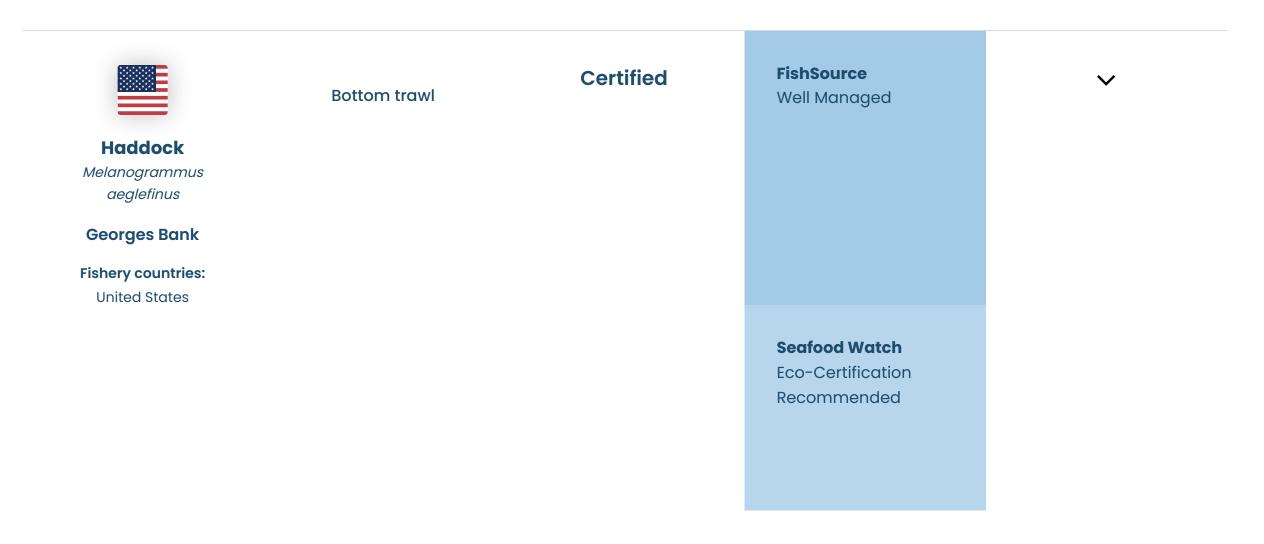
General Notes

• This FIP entered MSC Full Assessment in March 2021.

References

Crab Catchers Association, Russian Far East Crab FIP

Marine Stewardship Council, Sea of Okhotsk crab trap

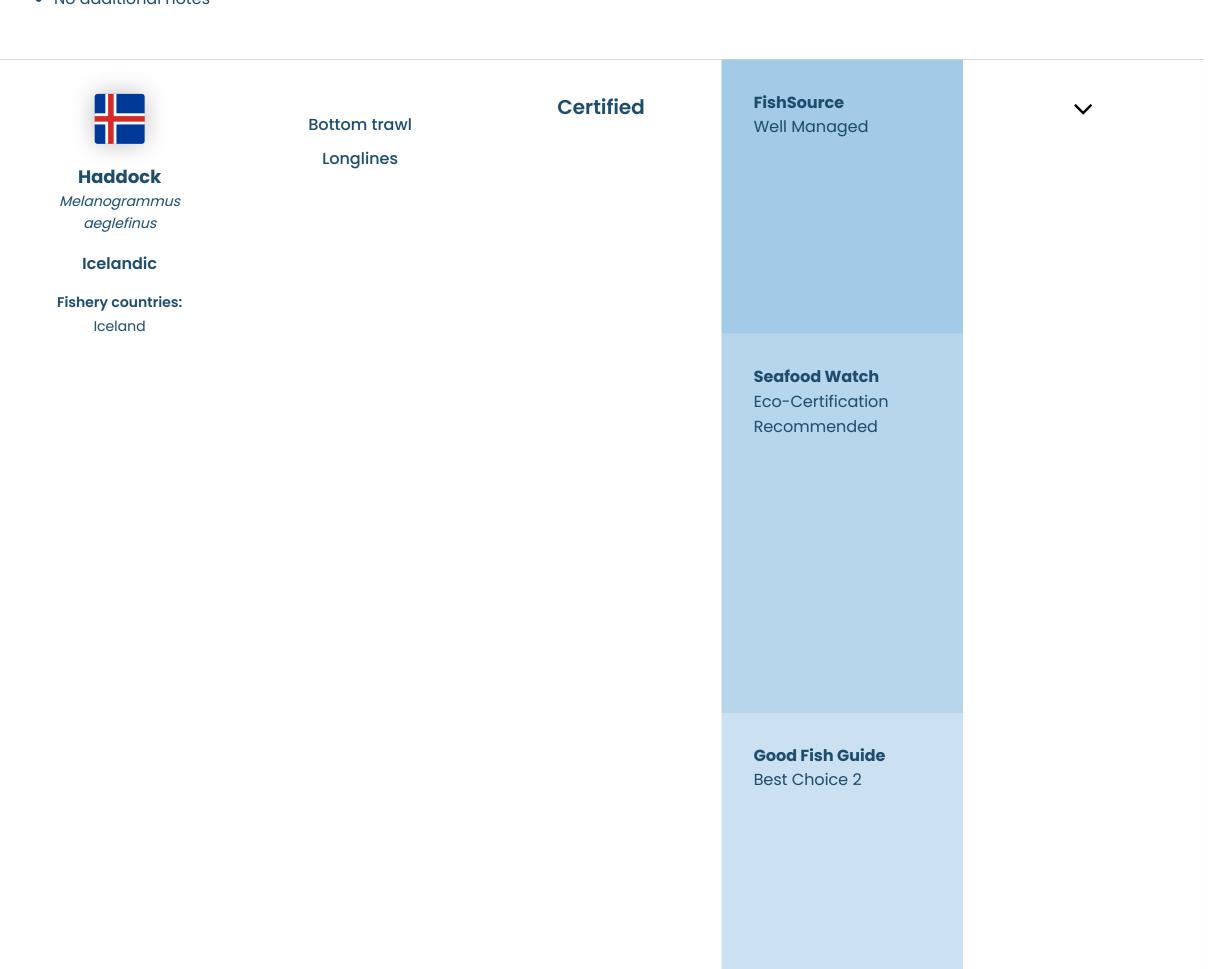


Ocean Wise
Recommended

Environmental Notes

- There are risks to PET species 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 the sea bed. However, management measures are in place.

General Notes



Ocean WiseRecommended

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.



Gulf of Thailand

Fishery countries:
Thailand

Rake / hand gathered / hand netted

Not certified or in a FIP

Sustainability not rated

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Environmental Notes

• Profile not yet complete.

General Notes

• No additional notes



Indian squid

Loligo duvauceli

Kerala

Fishery countries: India

Bottom trawl

Not certified or in

a FIP

Seafood Watch

Avoid

Good Fish Guide

Think 4

Ocean Wise Not recommended

Environmental Notes

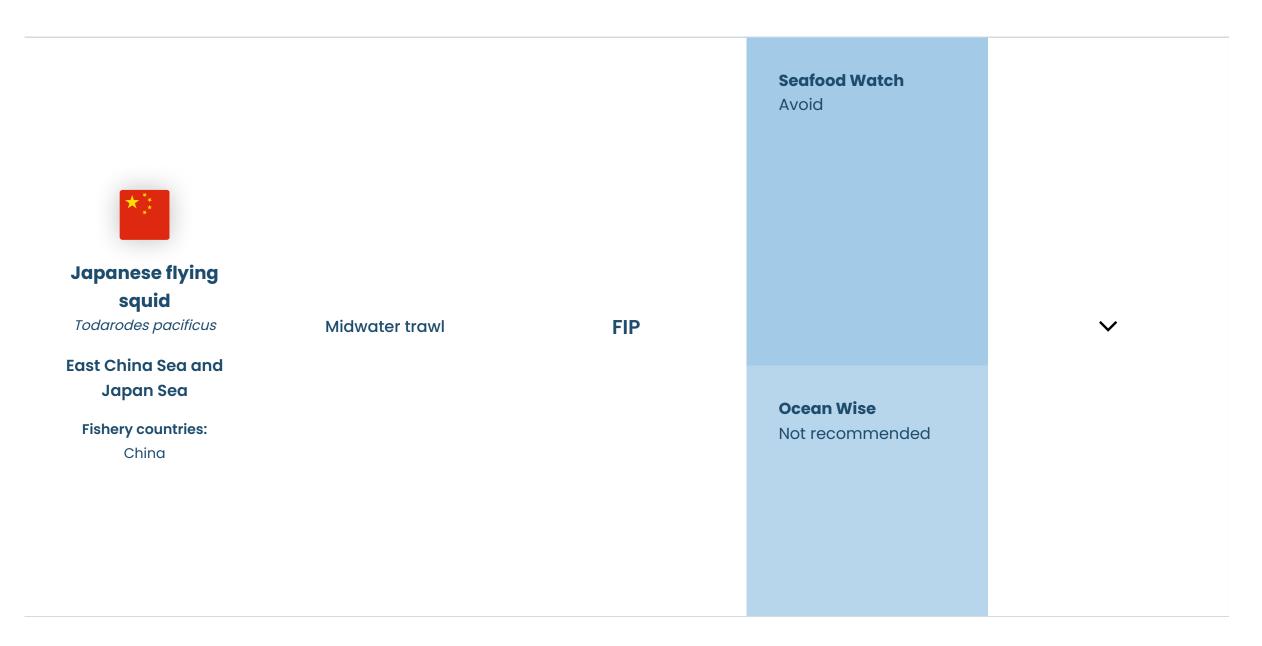
- The impact of the squid fishery on PET species is unknown.
- Other species of squid are caught in this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

- Squid plays an important role in the marine food web and so potential impacts on the wider marine ecosystem must be monitored.
- This fishery is part of the <u>India Kerala shrimp and cephalopods trawl FIP</u> and is under the work of the <u>Global Squid Supply Chain</u> <u>Roundtable</u>.

References

Seafood Watch, March 2020, Squid, India/Indian Ocean, Thailand/Western Central Pacific, Indonesia/Western Central Pacific Bottom trawls, Jig, Cast nets



Environmental Notes

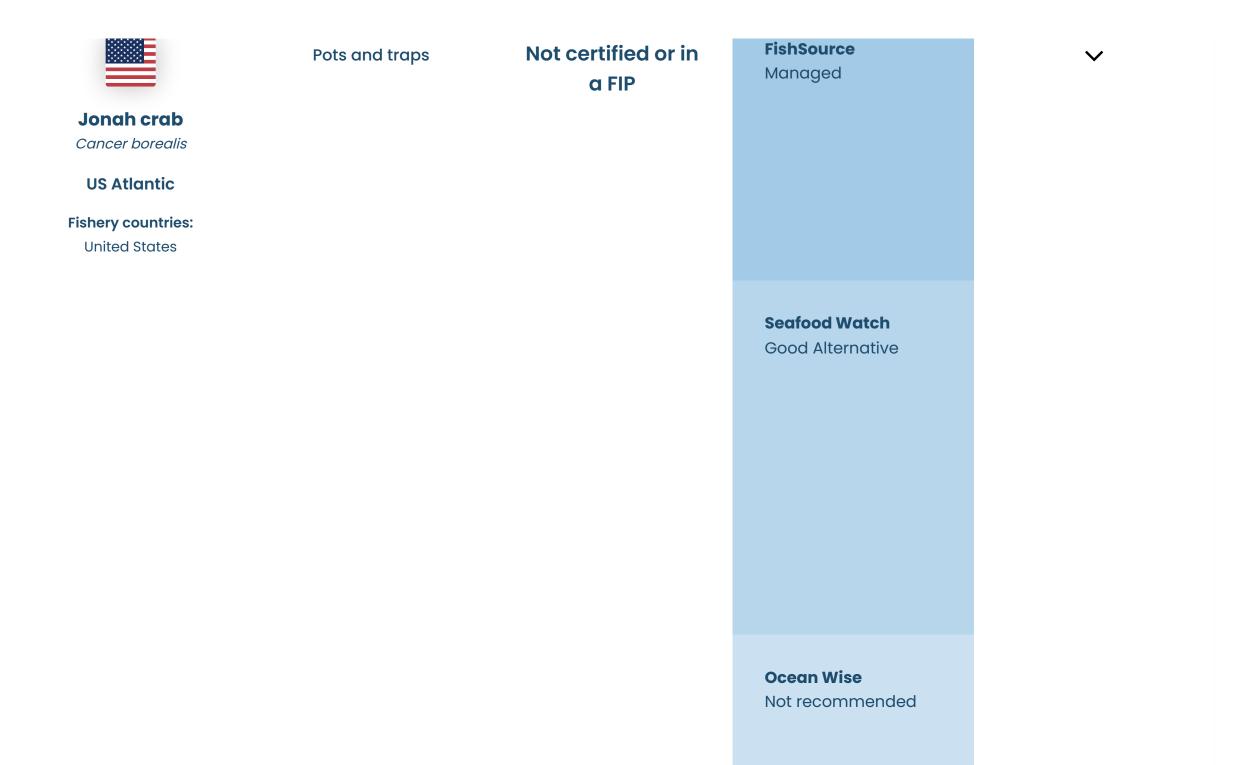
- There is no information on the impact of this fishery on protected, endangered and threatened (PET) species.
- Information on bycatch is not available for this fishery.
- The midwater trawl fishery is unlikely to have a significant impact on the sea bed, however, the combined impacts from the multi-gear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

General Notes

There is a lack of information on stock status and mortality rates for Japanese flying squid in Chinese waters.

References

<u>Fishery Progress, East China Sea and Yellow Sea Japanese flying squid - trawl</u>



• Profile not yet complete.

General Notes



Ocean Wise
Not recommended

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 turtles and seabirds with this fishery.
- Bycatch is a risk for this fishery but there is insufficient data available to assess significance.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes



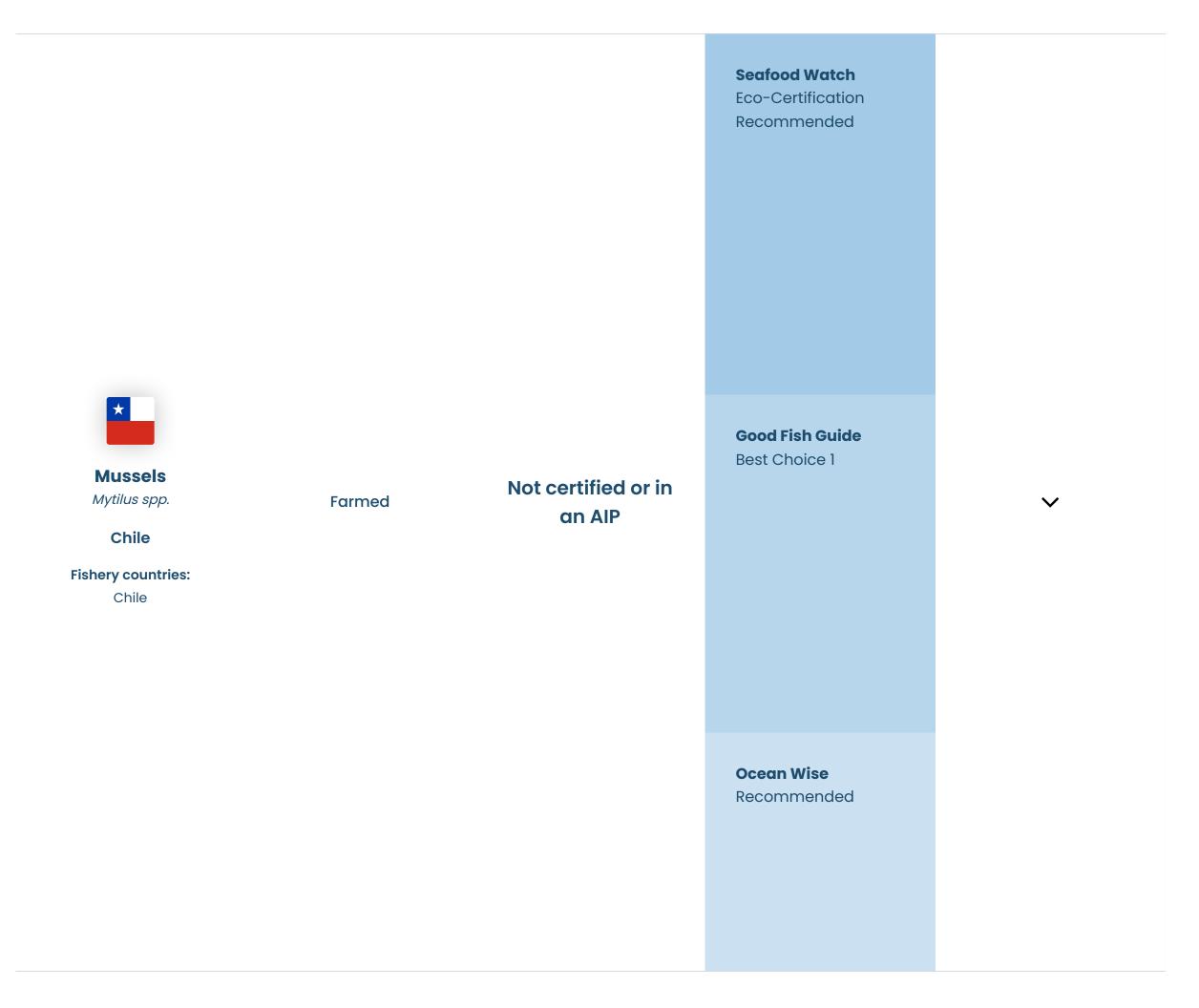
Ocean Wise Not recommended

Environmental Notes

• Profile not yet complete.

General Notes

• No additional notes



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

References

Good Fish Guide, Chilean mussel

<u>Seafood Watch, Mussels, Farmed</u>

			FishSource Well Managed	
			Seafood Watch	
			Good Alternative	
Northern brown				
shrimp Penaeus aztecus	Bottom trawl	FIP		~
Northern Gulf of Mexico - Mississippi			Ocean Wise Not recommended	
Fishery countries: United States				
officed states				
			NOAA FSSI 4	

Environmental Notes

- There is potential for turtle interactions with this fishery, but excluder devices are fitted to nets for protection.
- 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

References

Audubon G.U.L.F., Mississippi Shrimp FIP



- Profile not yet complete.
- Bycatch for this fishery is considered low.
- Dredges will directly impact on the sea bed.

General Notes

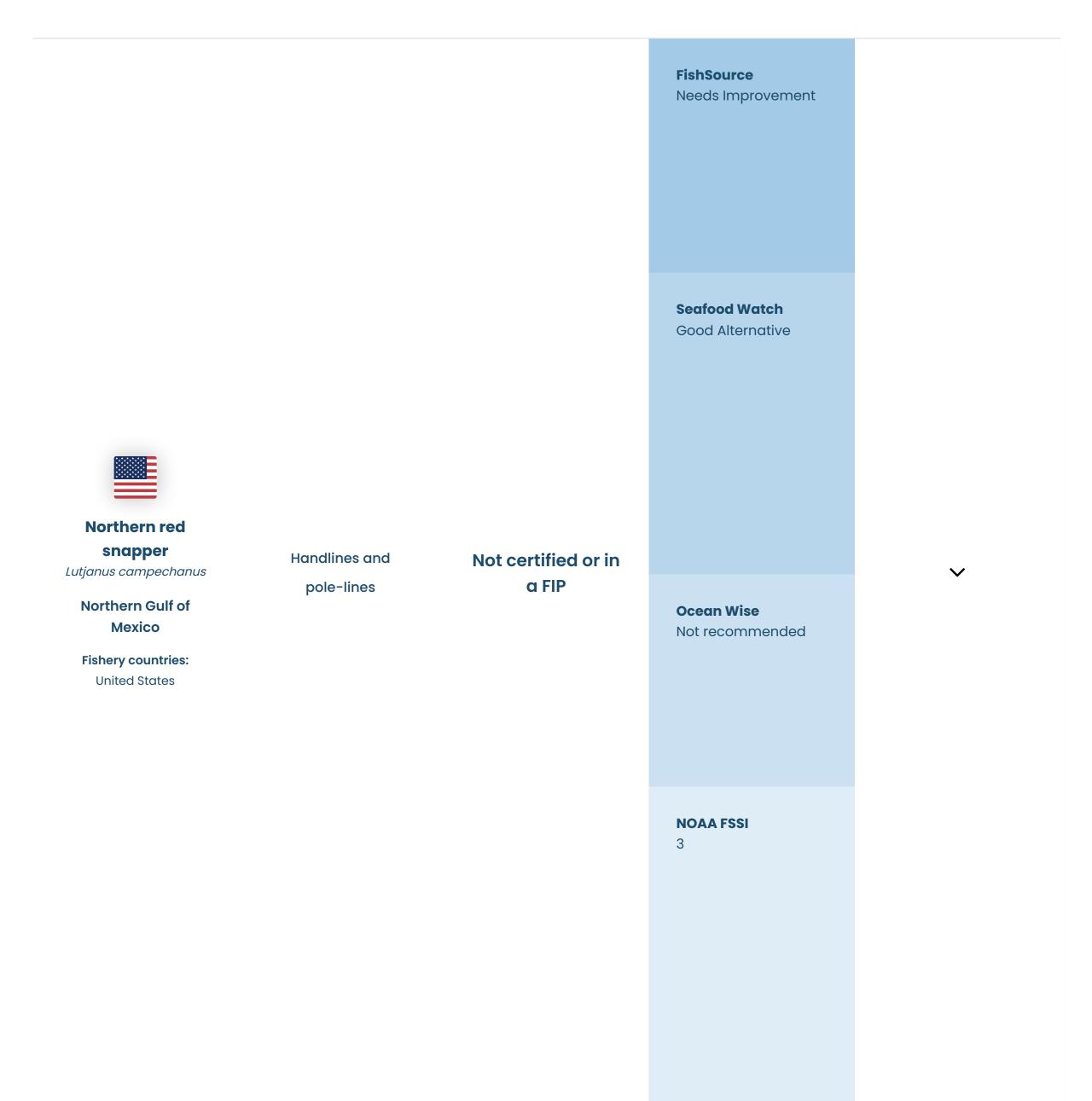
No additional notes



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



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

General Notes

No additional notes



Bottom trawl

FIP

FishSource Managed



Northern Gulf of
Mexico - Louisiana

Fishery countries:
United States

Seafood Watch
Good Alternative

NOAA FSSI
4

Environmental Notes

- There is potential for turtle interactions with this fishery, but excluder devices are fitted to nets for protection.
- Bycatch is a significant risk for this fishery.
- Bottom trawls will directly impact on the sea bed.

General Notes

• NOAA FSSI 4: The fishery is not overfished and overfishing is not occurring and the stock biomass is at or above 80% of the biomass that produces maximum sustainable yield.

References

<u>Fishery Progress, Louisiana shrimp - otter/skimmer trawl FIP</u>



Environmental Notes

• Profile not yet complete.

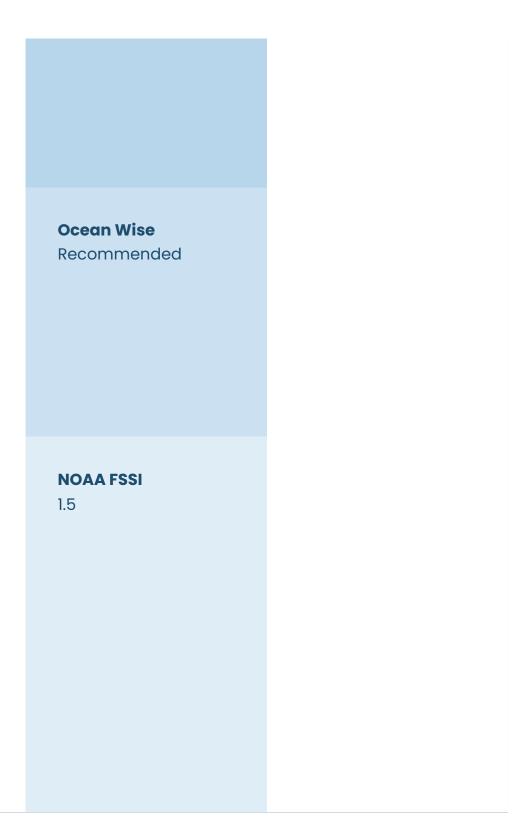
General Notes



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

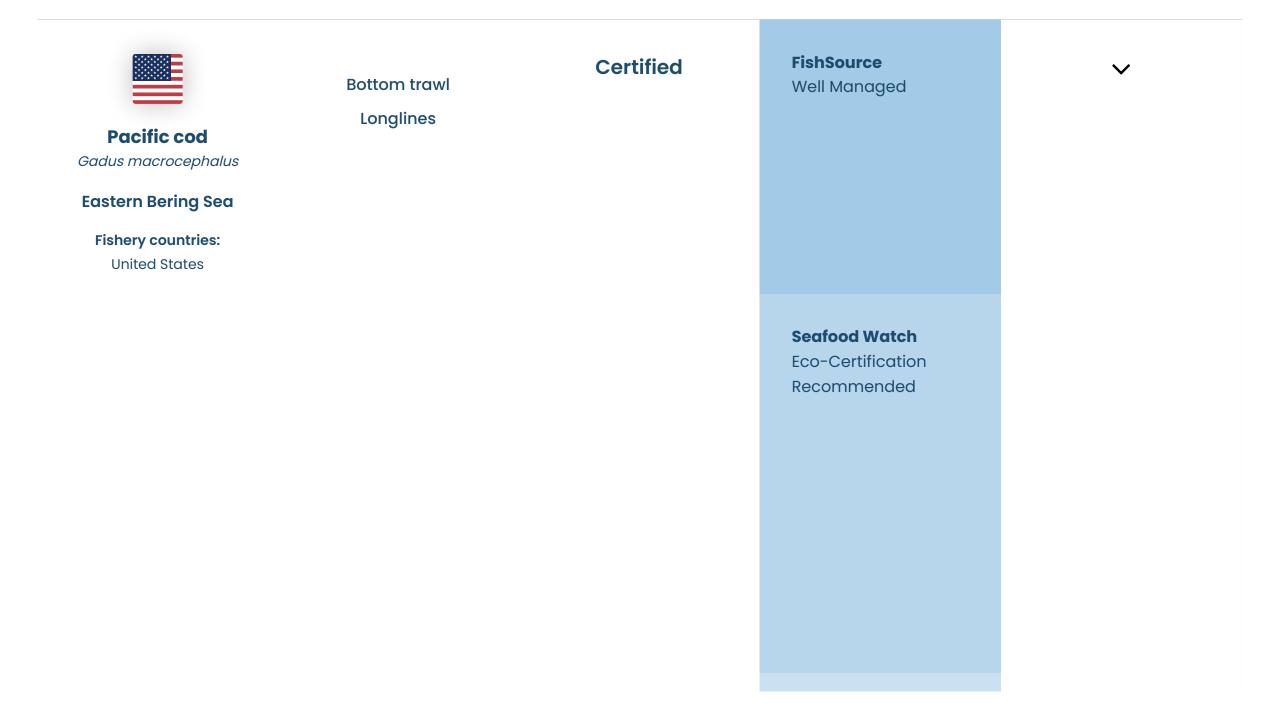
General Notes





- There are risks to seabirds and marine mammals in this fishery, but there is a strategy in place to manage impacts.
- Bycatch for this fishery includes other fish, skates and sea birds, but there is a strategy in place to manage impacts.
- Bottom trawls will directly impact on the sea bed.

General Notes

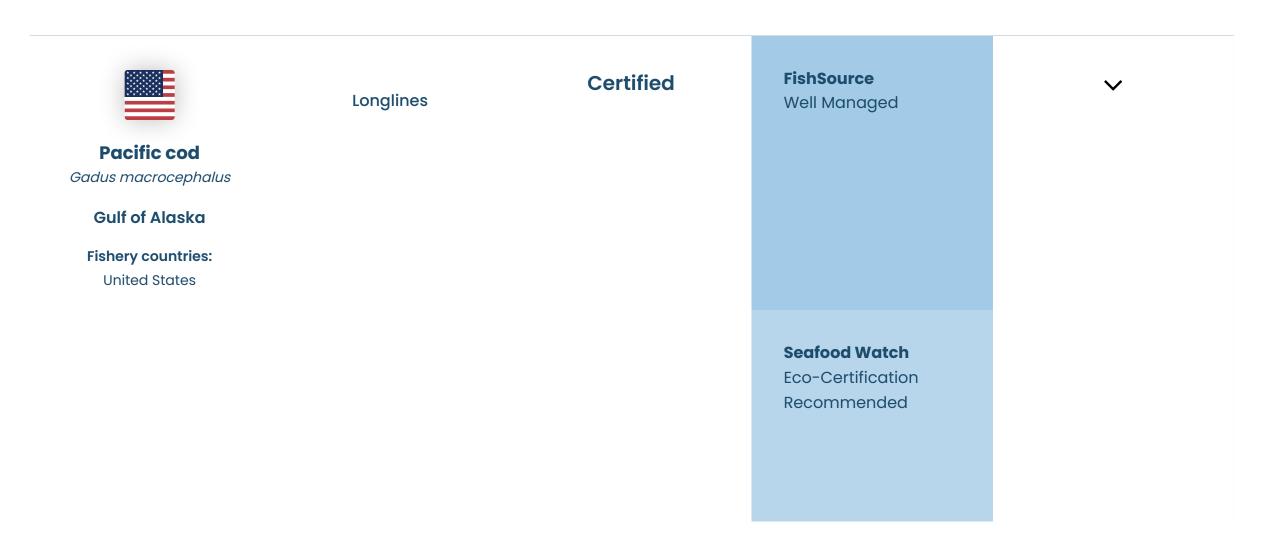


Good Fish Guide Best Choice 1 **Ocean Wise** Recommended **NOAA FSSI** 4

Environmental Notes

- There are risks to seabirds and marine mammals with this fishery, but there are mitigation measures in place.
- Bycatch for this fishery includes other fish, skates and sea birds, but there is insufficient data available to assess significance.
- The impact depends on the gear type. Bottom trawls will have the greatest impact on the sea bed.

General Notes



Good Fish Guide Best Choice 1 **Ocean Wise** Recommended **NOAA FSSI**

Environmental Notes

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

General Notes



Seafood Watch
Eco-Certification
Recommended

Ocean Wise
Recommended

Environmental Notes

- There are risks to seabirds with this fishery, but mitigation actions are underway.
- Bycatch is a risk for this fishery, but there is insufficient data available to assess significance.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

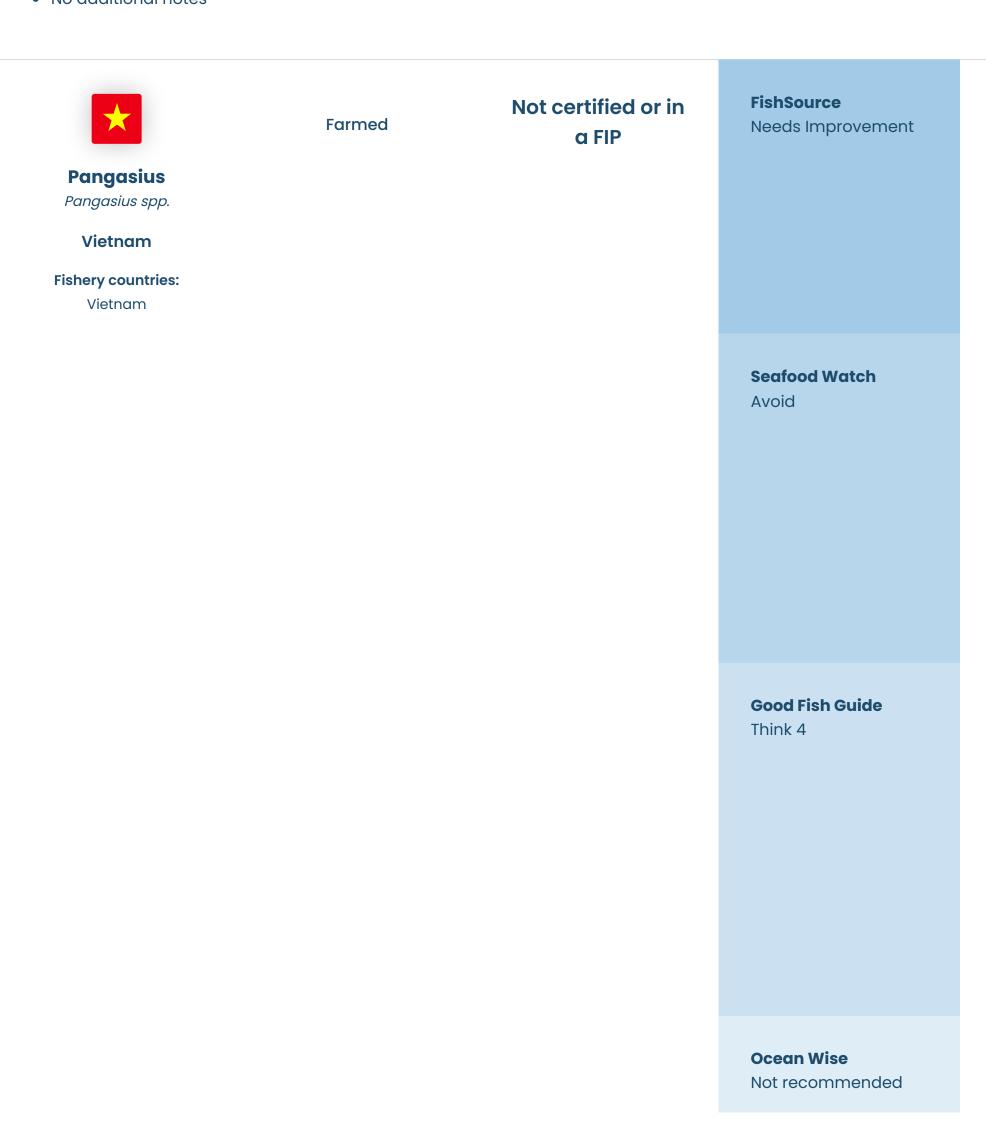


NOAA FSSI 4

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



- 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.
- Profile not yet complete.

General Notes

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

References:

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

Ocean Wise ratings for catfish

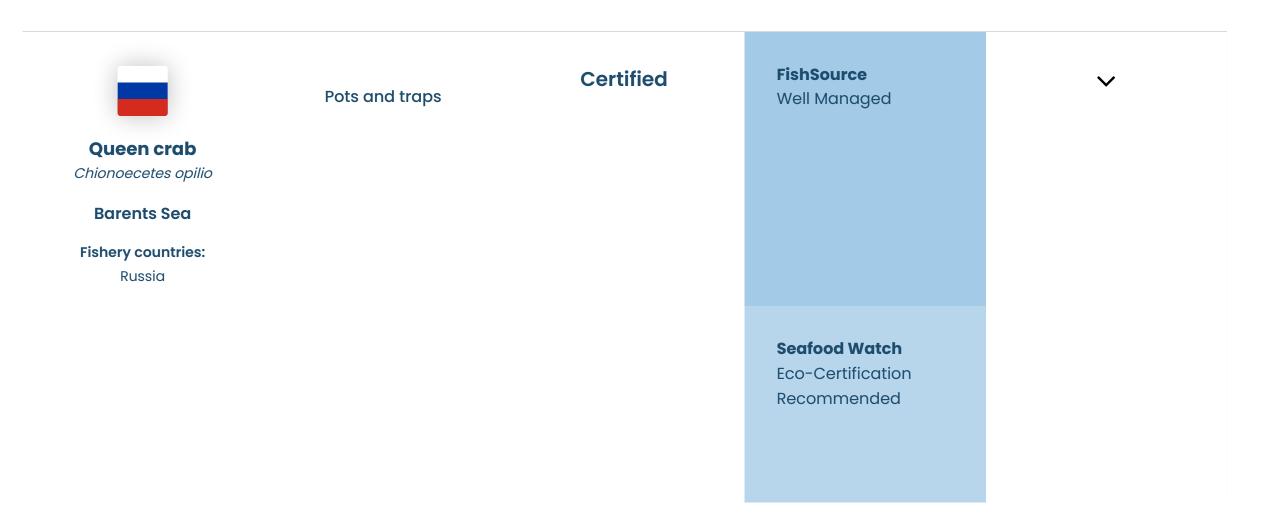
Seafood Watch, Vietnam Sutchi Catfish (Pangasius) Report



Environmental Notes

• Profile not yet complete.

General Notes





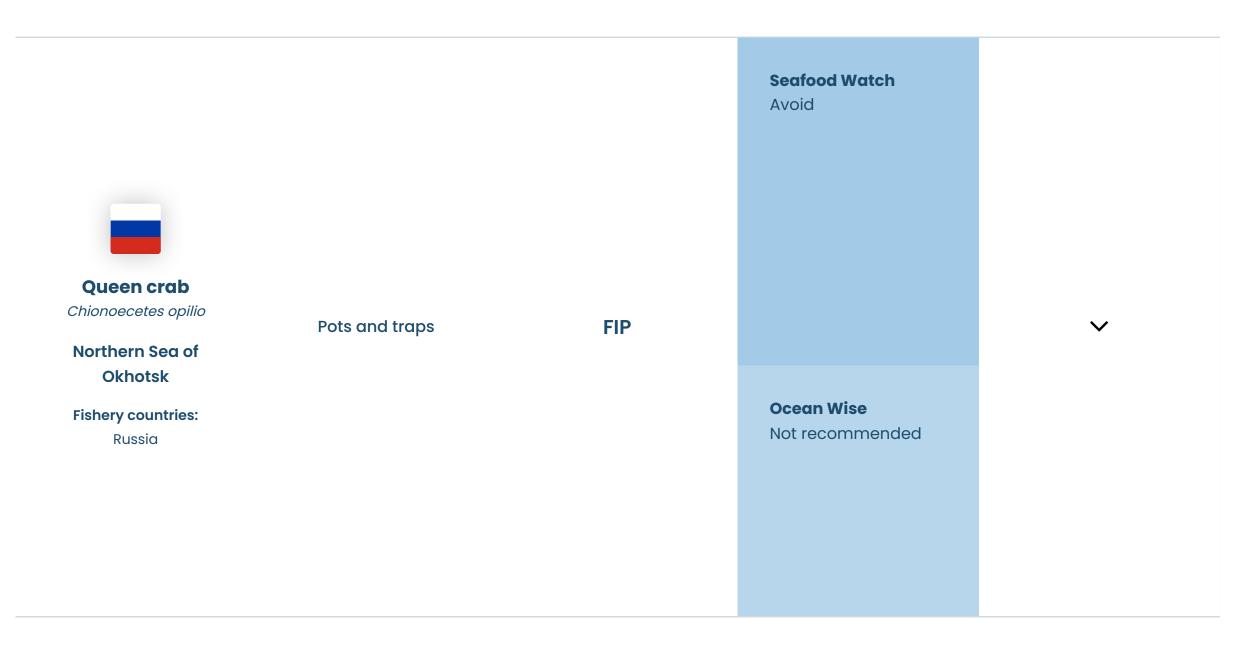
• Profile not yet complete.

General Notes

References

<u>Fishery Progress, Barents Sea king crab - pot/trap (Odyssey Seafood) FIP</u>

Marine Stewardship Council, Russia Barents Sea Opilio Trap



Environmental Notes

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

General Notes

References

Crab Catchers Association, Russian Far East Crab FIP



Queen crab Chionoecetes opilio	Pots and traps	Not certified or in a FIP	FishSource Well Managed	~
NW Atlantic - Estuary and N Gulf of St Lawrence, Newfoundland and Labrador, S Gulf of St.				
Lawrence Fishery countries: Canada				

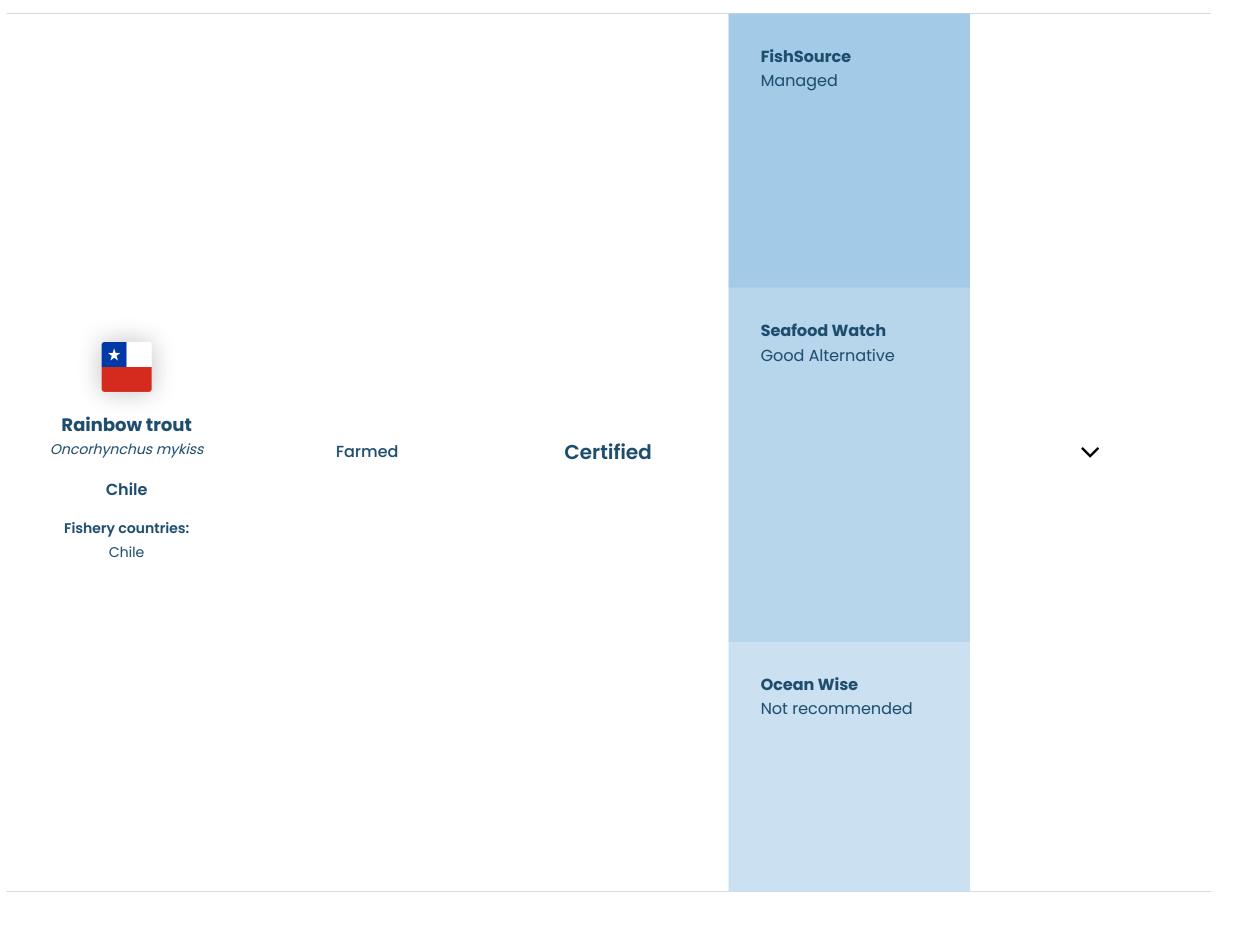
- There are risks to turtles and whales with this fishery. Please see the MSC link below.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• The MSC certificate was suspended for the Southern Gulf of St. Lawrence snow crab fishery on March 20, 2018.

References

Marine Stewardship Council, MSC certificate suspended for Southern Gulf of St. Lawrence snow crab fishery



Environmental Notes

• Trout have a high requirement for fish in their diet.

- Rainbow trout are not native to Chile but have become established in the wild due to intentional stocking. However, there are still concerns about the impact of farmed salmonid escapes and disease outbreaks on wild fish populations. Available data indicates that large numbers of farmed trout have escaped each year since the early 1990s.
- 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.

References

FishSource - salmon, Chile

Seafood Watch, Rainbow trout, Chile, Farmed



Environmental Notes

- Data on the feed ingredients and sources are limited. Typical feed conversion ratios (FCR) of 1.35 for trout in raceways and 1.50 for net pens are used. Average fishmeal and fish oil inclusion levels in trout feeds are estimated to be 20.0% and 6.3% respectively. Information regarding the sustainability of the fishery sources of marine ingredients is very limited.
- The risk of escapes from raceway systems in Colombia is considered low and net pen is considered moderate. Regulations in Colombia regarding interactions with wildlife at aquaculture facilities are minimal, and there is no clear enforcement. There is limited disease reporting in Colombia; raceways and net pens are open systems that have an inherent risk of disease transmission and amplification.
- There is a lack of data on water quality, use of chemicals and effluent monitoring. While chemical use appears to be low, the legal system doesn't adequately manage its use. Due to the openness of the net pens, there is a greater risk of affecting non‐target organisms.

General Notes

References

Seafood Watch, Farmed Trout, Columbia



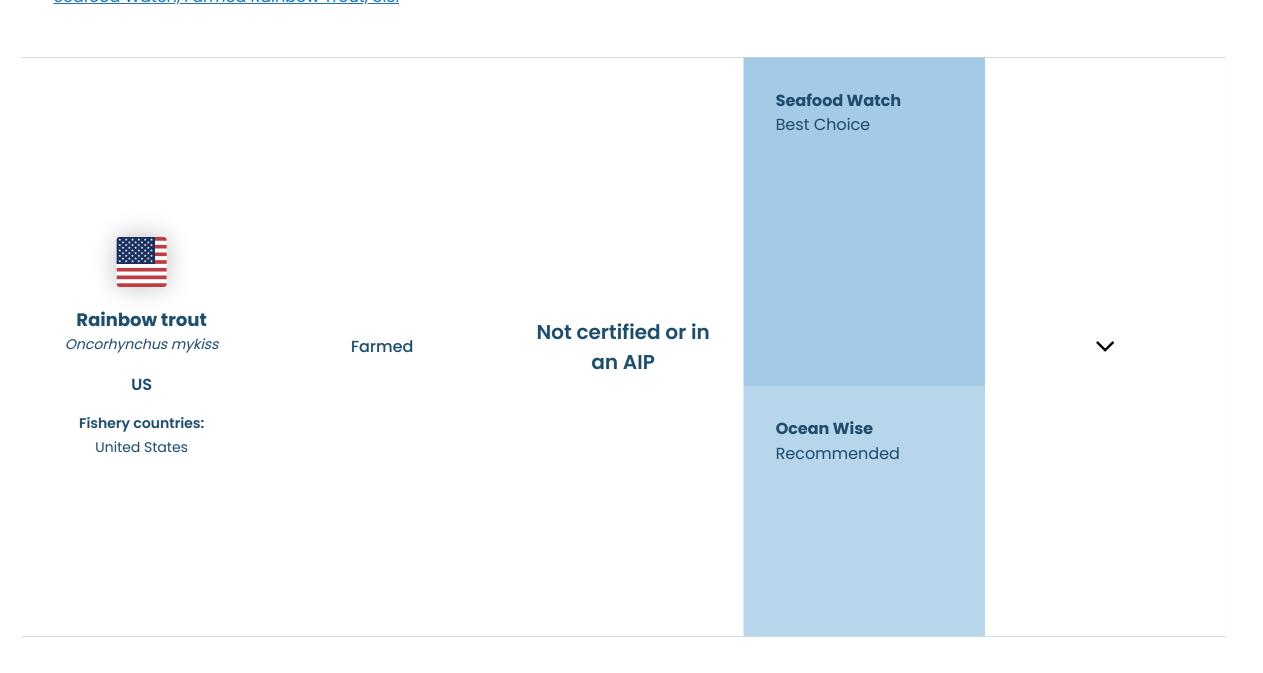


- Rainbow trout is fed a high energy diet with moderate amounts of fishmeal and fish oil (approximately 20% and 6%, respectively).
- Potential escapes pose no significant risk of additional ecological impacts.
- Regulatory oversight of effluent and chemical use in U.S. ponds and outdoor flowthrough raceways are strong, and the industry follows best practices to minimize disease.

General Notes

References

Seafood Watch, Farmed Rainbow Trout, U.S.

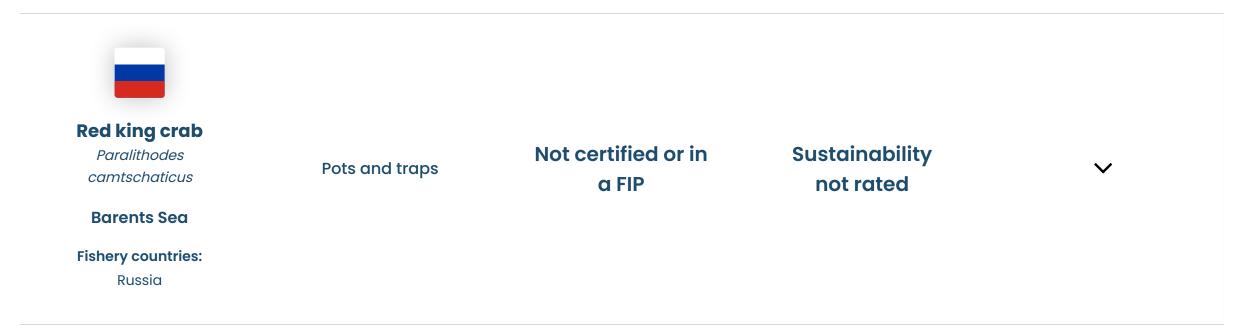


- Rainbow trout is fed a high energy diet with moderate amounts of fishmeal and fish oil (approximately 20% and 6%, respectively).
- Potential escapes pose no significant risk of additional ecological impacts.
- Regulatory oversight of effluent and chemical use in U.S. ponds and outdoor flowthrough raceways are strong, and the industry follows best practices to minimize disease.

General Notes

References

Seafood Watch, Farmed Rainbow Trout, U.S.



Environmental Notes

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

General Notes

No additional notes



Environmental Notes

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

General Notes

• No additional notes.



Associated purse seine

Not certified or in a FIP

FishSourceNeeds Improvement



Eastern Atlantic Ocean **Fishery countries:** Senegal **Seafood Watch** Avoid **Good Fish Guide** Think 4 **Ocean Wise** Not recommended

Environmental Notes

- There are risks to sea turtles and sharks with this fishery.
- Bycatch for this fishery includes billfish, bony fish, other tuna species and sharks. Some management measures are in place.
- This fishery is unlikely to have a significant impact on the sea bed.

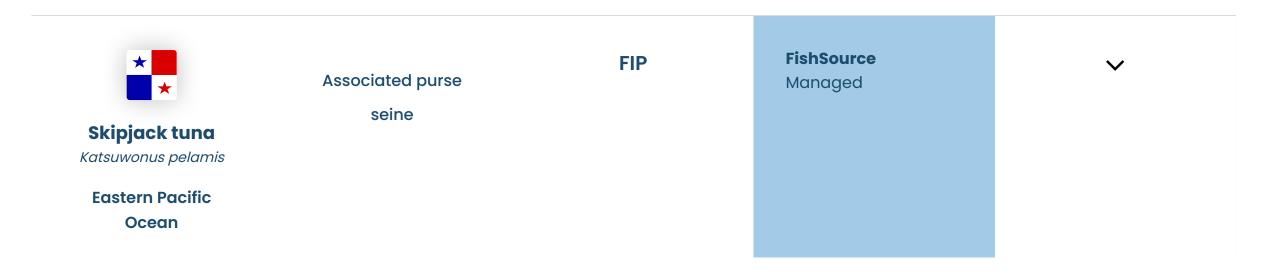
General Notes

- This fishery is part of the <u>Eastern Atlantic tuna purse seine FIP</u>.
- All purse seine fishing vessels are listed on the International Seafood Sustainability Foundation (ISSF)'s <u>ProActive Vessel Register (PVR)</u> and are audited against ISSF conservation measures.

References

<u>Good Fish Guide - Tuna, skipjack, Purse seine (FAD & Free School), East Atlantic</u>

<u>Seafood Watch Recommendation for Skipjack tuna, Eastern Atlantic, Floating object purse seine (FAD)</u>



Fishery countries: Panama **Seafood Watch** Avoid **Good Fish Guide** Think 4 **Ocean Wise** Not recommended

Environmental Notes

- There are risks to sea turtles with this fishery, but management measures are in place.
- Bycatch includes yellowtail, mahimahi, rainbow runner, silky and oceanic white tips sharks, and manta rays.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• This fishery was part of the <u>Eastern Pacific Ocean tropical tuna - purse seine (TUNACONS)</u> which entered MSC Full Assessment in October 2020.

References

Good Fish Guide - Tuna, skipjack, Purse seine (FAD & Free School), Eastern Pacific

Seafood Watch Recommendations for Skipjack tuna, Eastern Central Pacific Ocean, Floating object purse seine (FAD)



Avoid Good Fish Guide Think 4 **Ocean Wise** Not recommended

Environmental Notes

- There are risks to sea turtles with this fishery, but management measures are in place.
- Bycatch includes yellowtail, mahimahi, rainbow runner, silky and oceanic white tips sharks, and manta rays.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

Good Fish Guide - Tuna, skipjack, Purse seine (FAD & Free School), Eastern Pacific

<u>Seafood Watch Recommendations for Skipjack tuna, Eastern Central Pacific Ocean, Floating object purse seine (FAD)</u>



Good Fish Guide
Think 3

Ocean Wise
Not recommended

Environmental Notes

- There are risks to sea turtles with this fishery.
- Bycatch for this fishery includes other tuna, fin fishes, sharks and rays.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

Good Fish Guide - Tuna, skipjack, Purse seine (FAD & Free School), Indian Ocean: Western (FAO 51), Eastern (FAO 57)

Seafood Watch Recommendation for Skipjack tuna, Indian Ocean, Floating object purse seine (FAD)

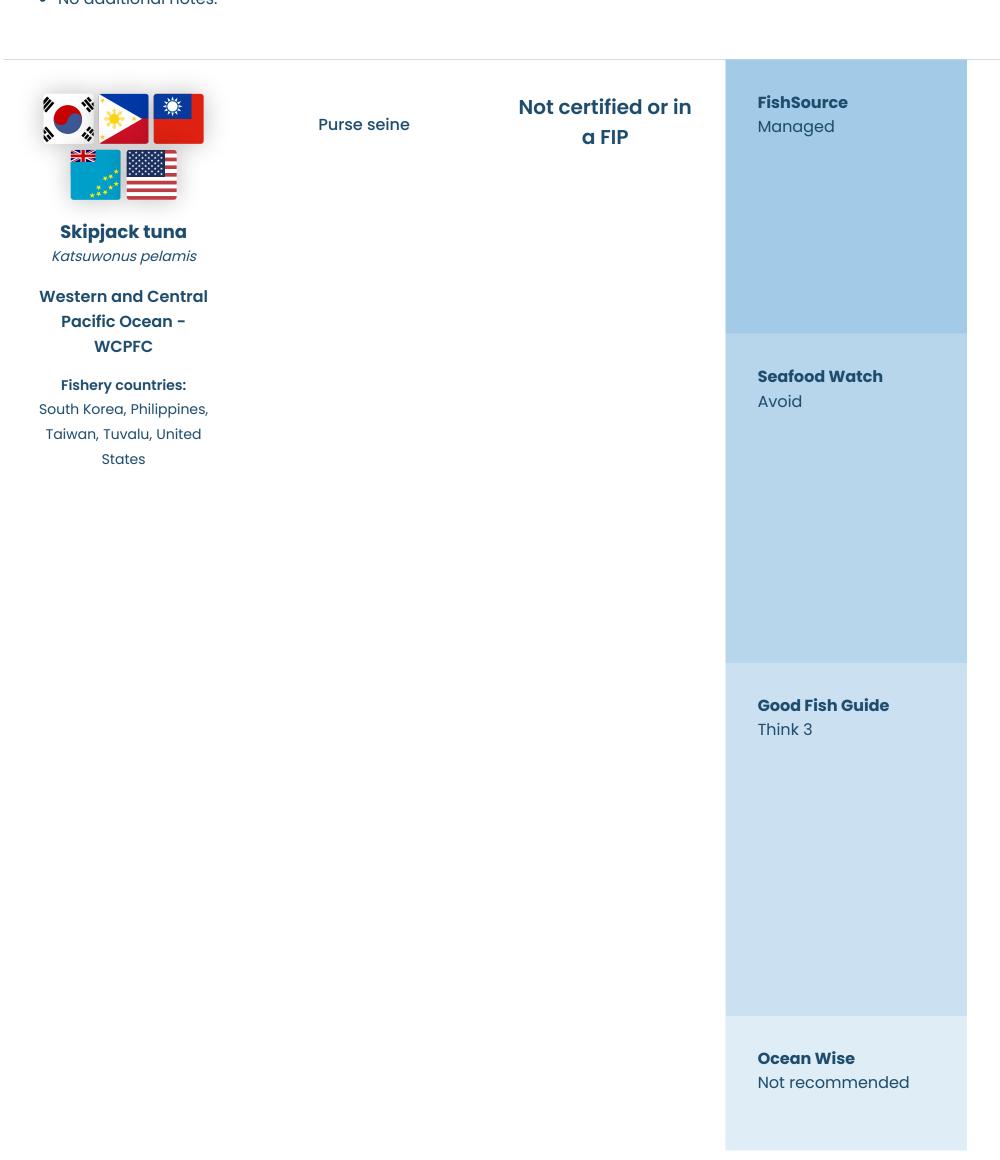


Good Fish Guide Think 4

Environmental Notes

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

General Notes



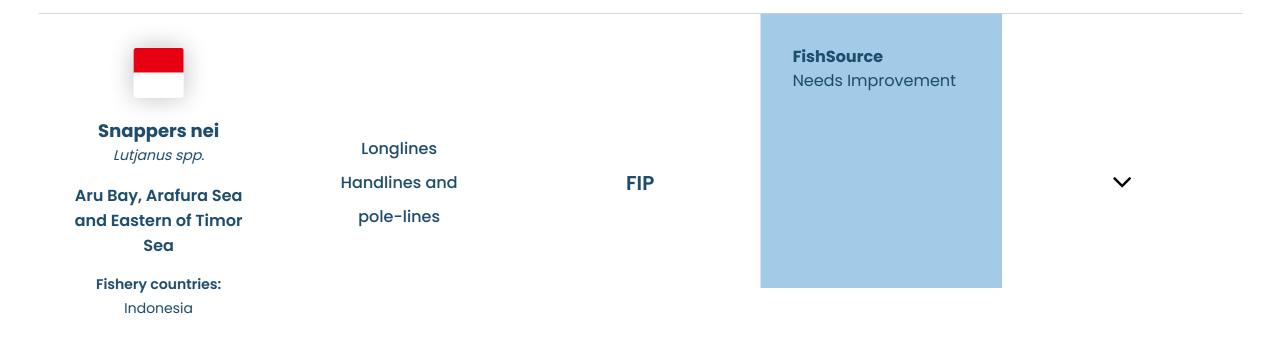
- There are risks to sea turtles, sharks, and marine mammals with this fishery, but management measures are in place.
- Bycatch includes other tuna, but management measures are in place.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

Good Fish Guide - Tuna, skipjack, Purse seine (FAD & Free School), Western and Central Pacific

<u>Seafood Watch Recommendation for Skipjack tuna, Western Central Pacific Ocean, Floating object purse seine (FAD)</u>



Environmental Notes

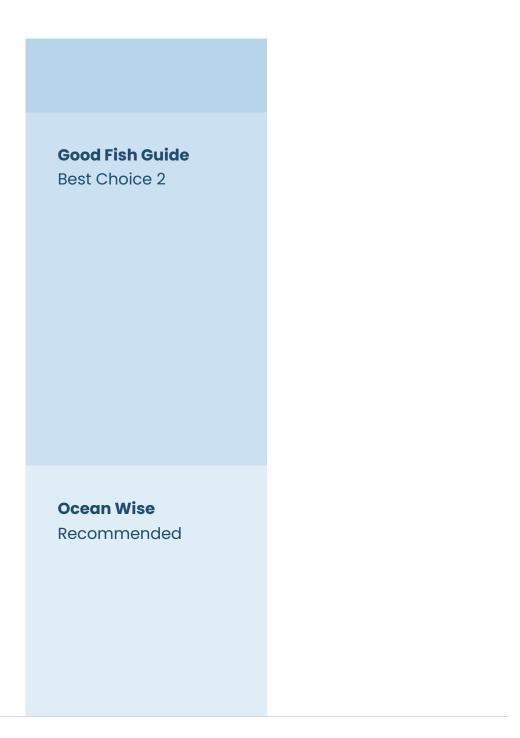
- This fishery is unlikely to have a significant impact on the sea bed.
- Profile not yet complete.

General Notes

References

Fishery Progress, Indonesia snapper and grouper - bottom longline, dropline, trap, and gillnet (ADI)





- 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

Caveat

The environmental notes for this fishery are based on a provisional assessment and are not derived from the FishSource profile.

References

Intertek Moody Marine, 2013, MSC Public Certification Report for the Alaska Salmon Fishery



Environmental Notes

- There are risks to seabirds and marine mammals with this fishery, but there are mitigation measures in place.
- Bycatch is a risk in this fishery.
- This fishery is unlikely to have a significant impact on the benthic habitat.

Longlines

General Notes



Swordfish Xiphias gladius North Atlantic Fishery countries: Canada Good Fish Guide Think 3

Environmental Notes

• Profile not yet complete.

General Notes



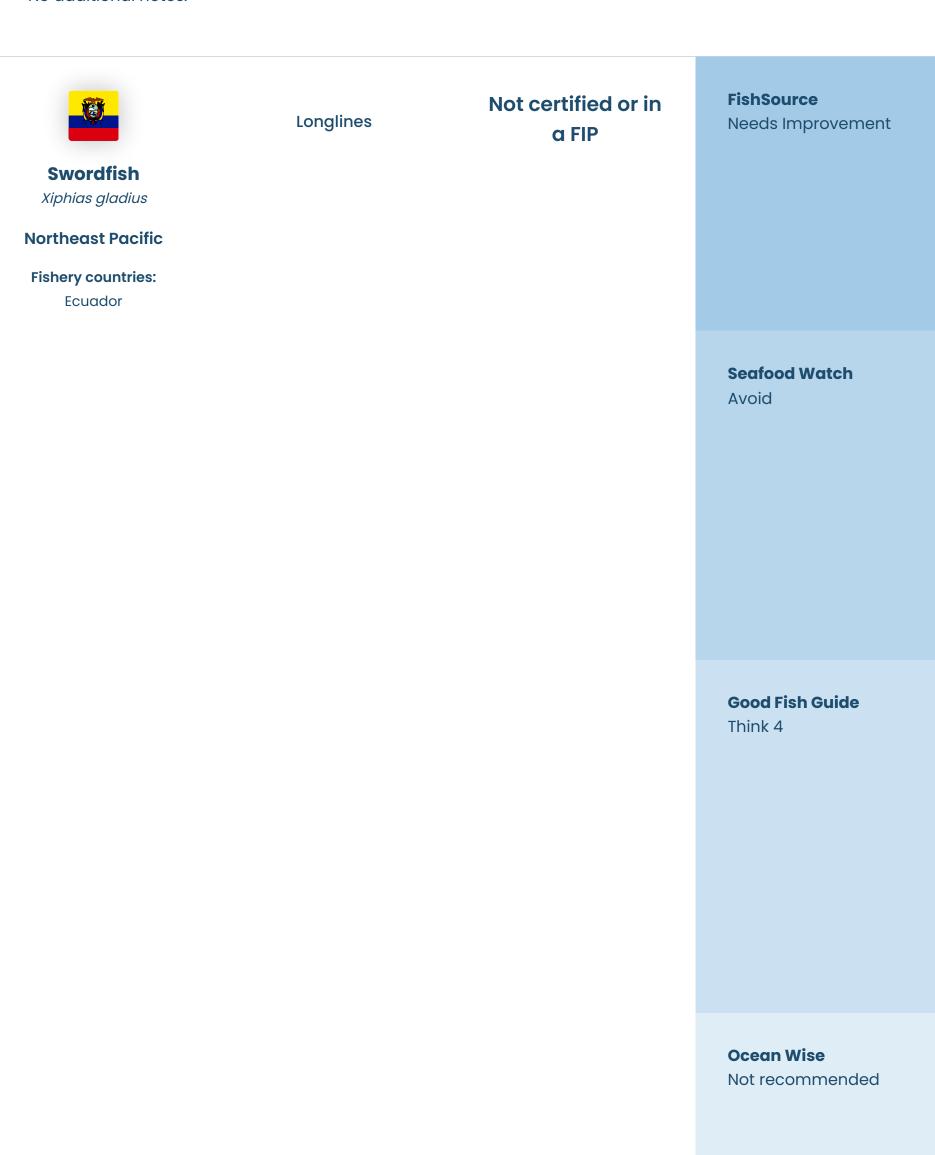
Ocean Wise

Not recommended

Environmental Notes

- There are risks to sea turtles with this fishery.
- Bycatch is a risk for this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

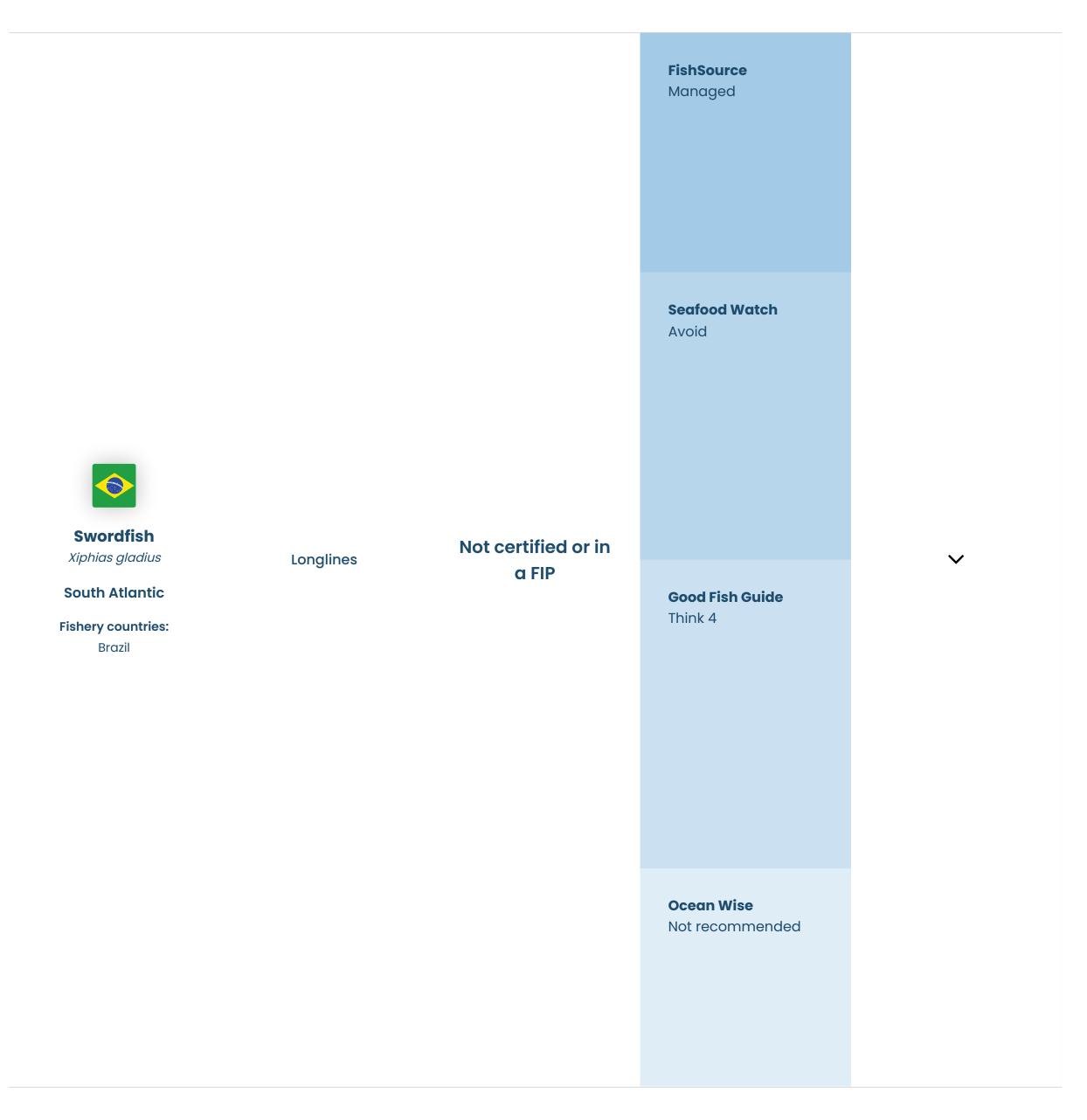
General Notes



- There are risks to sea turtles with this fishery.
- 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



Environmental Notes

- There are risks to sea birds, sea turtles and sharks with this fishery.
- Bycatch is a significant risk for this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

FishSource Managed **Seafood Watch** Avoid **Swordfish** Not certified or in Xiphias gladius Longlines a FIP **Southeast Pacific Good Fish Guide** Avoid 5 **Fishery countries:** Ecuador **Ocean Wise** Not recommended

Environmental Notes

- There is a risks to seabirds and sea turtles with this fishery.
- Bycatch for this fishery includes tuna, billfish and sharks.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



FIP

Swordfish Xiphias gladius Southwest Pacific Fishery countries: Vistnam Seafood Watch Best Choice Ocean Wise Recommended

Environmental Notes

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

General Notes

References

<u>Fishery Progress, Vietnam swordfish - handline</u>





- Tilapia require relatively low inputs of fishmeal and fishoil from marine feed sources in their diet. However, there are significant concerns about the sustainability of feed inputs from domestic sources, which are produced from fisheries that are fully exploited overexploited, or depleted.
- There is little infomation available regarding impacts of Chinese tilapia production on wild species, includings impacts from escapes, disease outbreaks, and interactions with predators and other wildlife. Nile tilapia are considered highly invasive and there are documented examples of tilapia populations outcompeting local fish species for resources in Chinese waterways. Despite this, there is no information on tilapia escapes at a farm level. In addition, there is little information about on-farm diseases in Chinese tilapia production and disease outbreaks pose a risk to wild fish populations. There is no information regarding interactions with wildlife which may include migrating birds.
- 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 pond‐ based farms in China. But there is evidence of the use of illegal chemicals and of antibiotics important to human health in Chinese tilapia production.

General Notes

Area-based approaches to aquaculture are included in the national and provincial legislation, but it is unclear whether zonal approaches to siting and production are used.

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

References

Good Fish Guide, Tilapia

FishSource - Tilapia, China

Ocean Wise, Tilapia

<u>Seafood Watch, Farmed Tilapia, BAP Standard: Tilapia Farms (2, 3, 4-star)</u>



Eco-Certification
Recommended

Ocean Wise
Not recommended

Environmental Notes

- There are risks to PET species with this fishery, but there is insufficient data available to assess significance.
- There is a lack of information on bycatch in this fishery.
- Profile not yet complete.

General Notes



• Profile not yet complete.

General Notes

• No additional notes



Warty swimming

crab

Portunus haanii

Vietnam

Fishery countries: Vietnam

Pots and traps

Not certified or in a FIP

Sustainability not rated

~

Environmental Notes

• Profile not yet complete.

General Notes

• No additional notes



White bass

Morone chrysops

Lake Erie, Lake Winnipeg

Fishery countries:
Canada

Gillnets and entangling nets

Not certified or in a FIP

Sustainability not rated

V

Environmental Notes

• Profile not yet complete.

General Notes

No additional notes



White perch

Morone americana

Lake Erie

Fishery countries:
Canada

Gillnets and entangling nets

Not certified or in a FIP

Seafood WatchGood Alternative

~

Ocean WiseRecommended

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, but there is insufficient data available to assess significance.
- Profile not yet complete.

General 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.
- Biosecurity measures minimise disease outbreaks and escapes.
- Chemical usage and effluent are monitored and limited.

General Notes

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

References

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

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

<u>Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP 2 and 3*</u>

Seafood Watch, Whiteleg shrimp, Farmed, Global Aquaculture Alliance Certified BAP Standard: Finfish and Crustacean Farms (2, 3, 4-star)



- 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.

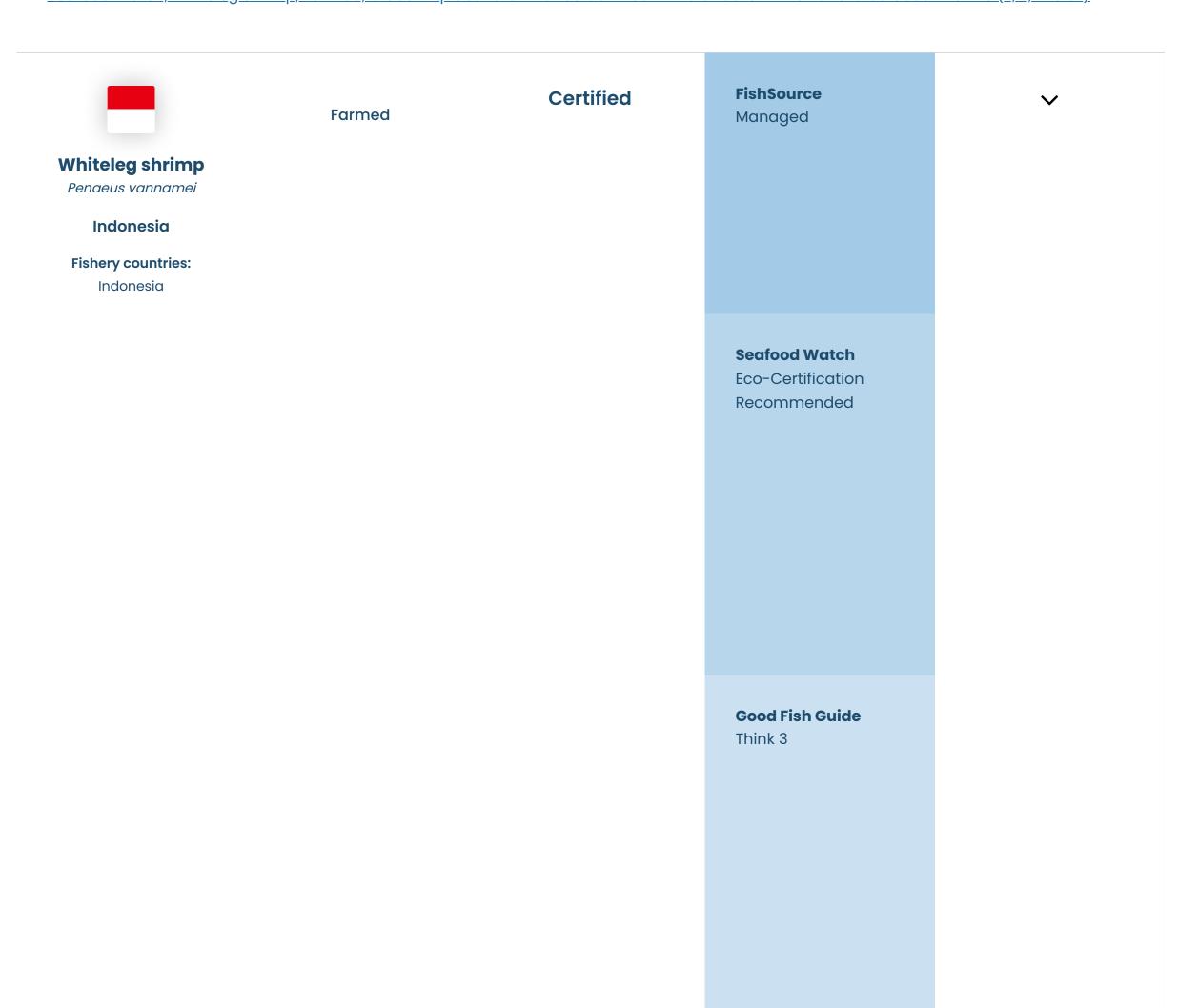
References:

<u>FishSource - shrimp, India</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>

Seafood Watch, Whiteleg shrimp, Farmed, Global Aquaculture Alliance Certified BAP Standard: Finfish and Crustacean Farms (2, 3, 4-star)



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, GAA BAP 4*

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



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

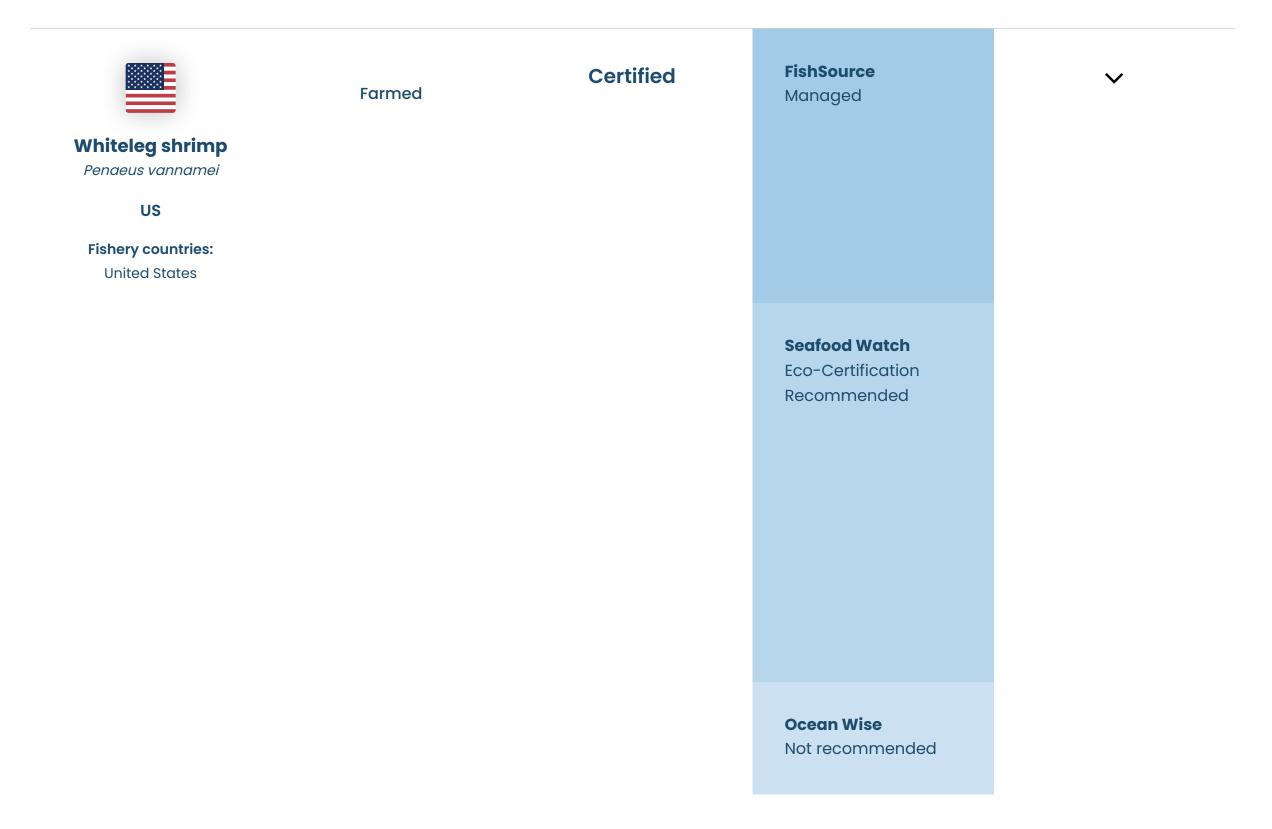
- The environmental impacts described are addressed to some degree by certification.
- Public information on zonal approaches to planning and production of shrimp farming in Thailand is limited.

References

<u>FishSource - Shrimp, Thailand</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>



- 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 outbreaks are uncommon in U.S. shrimp aquaculture and as such the need for chemical use is demonstrably low. Risk of escape is considered low-moderate. Juvenile shrimp for stocking are sourced exclusively from domestic hatcheries in the U.S.
- There is no concern regarding pollution from nutrients or organic matter.

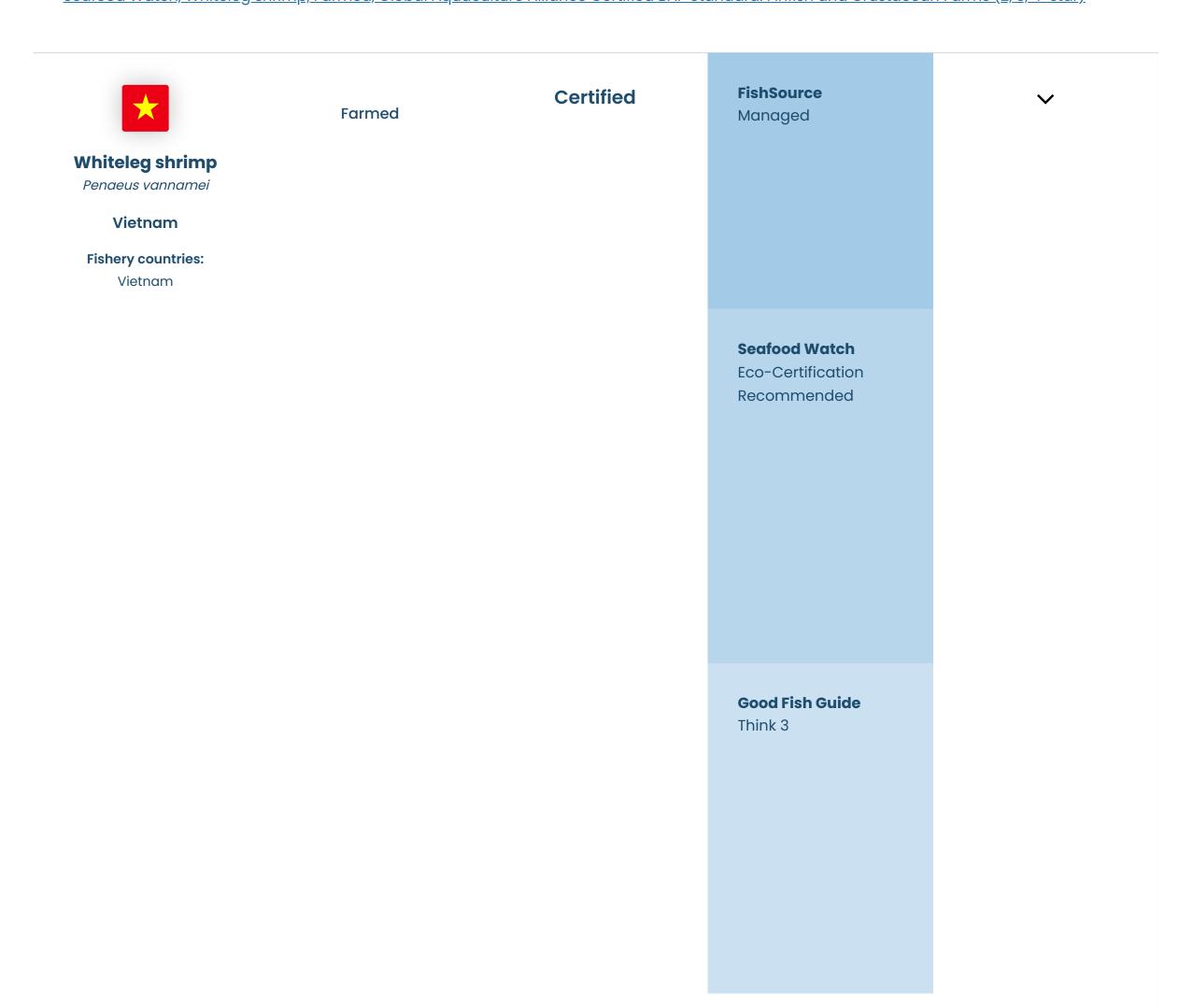
General Notes

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

References

<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*



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

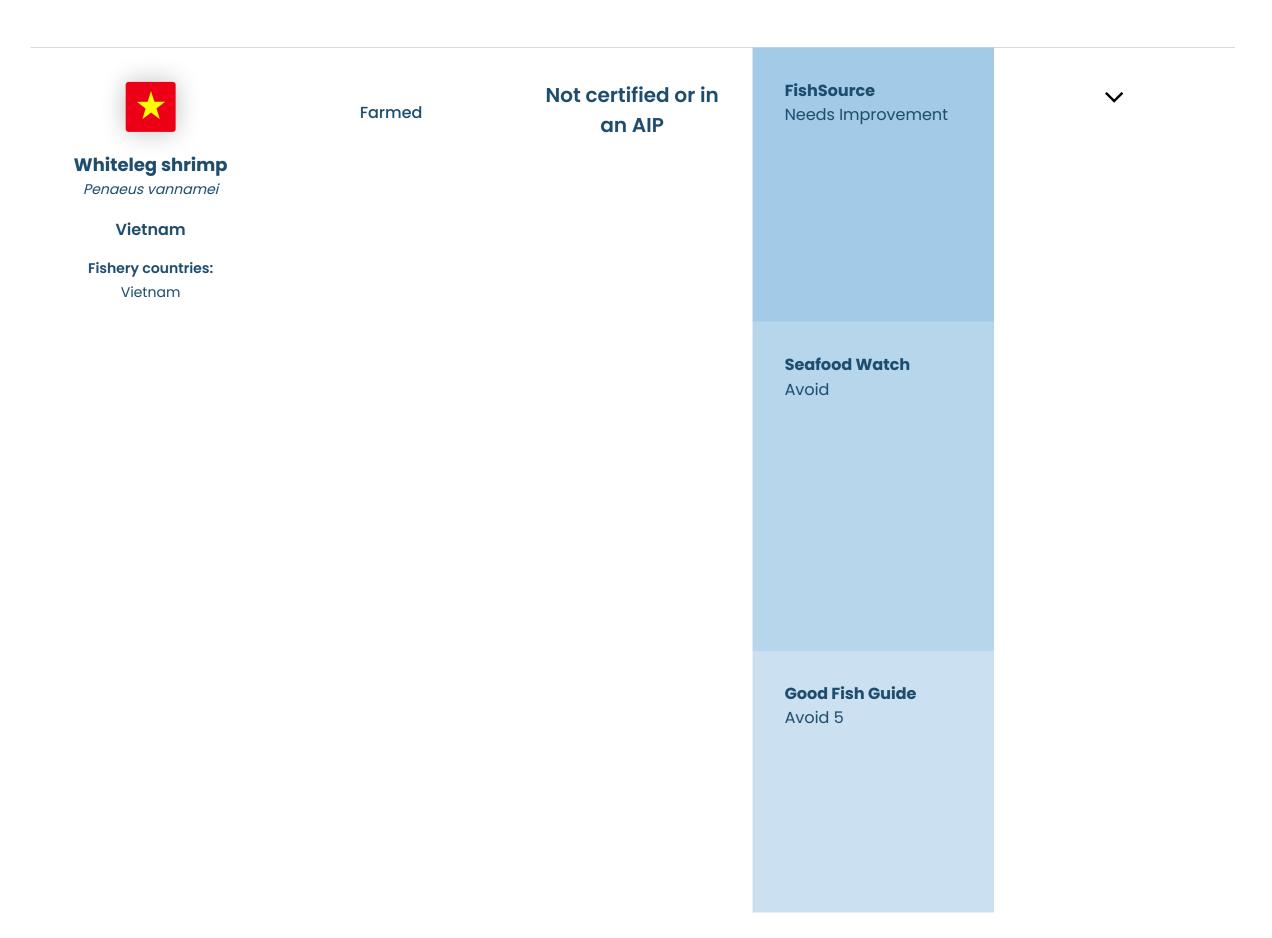
- The environmental impacts described are addressed to some degree by certification.
- The aquaculture industry is currently managed under a farm-based approach.

References

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

<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*



Environmental Notes

- Fishmeal and fishoil from marine feed sources are used.
- 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. Environmental issues are mitigated by the certification standards.

General Notes

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

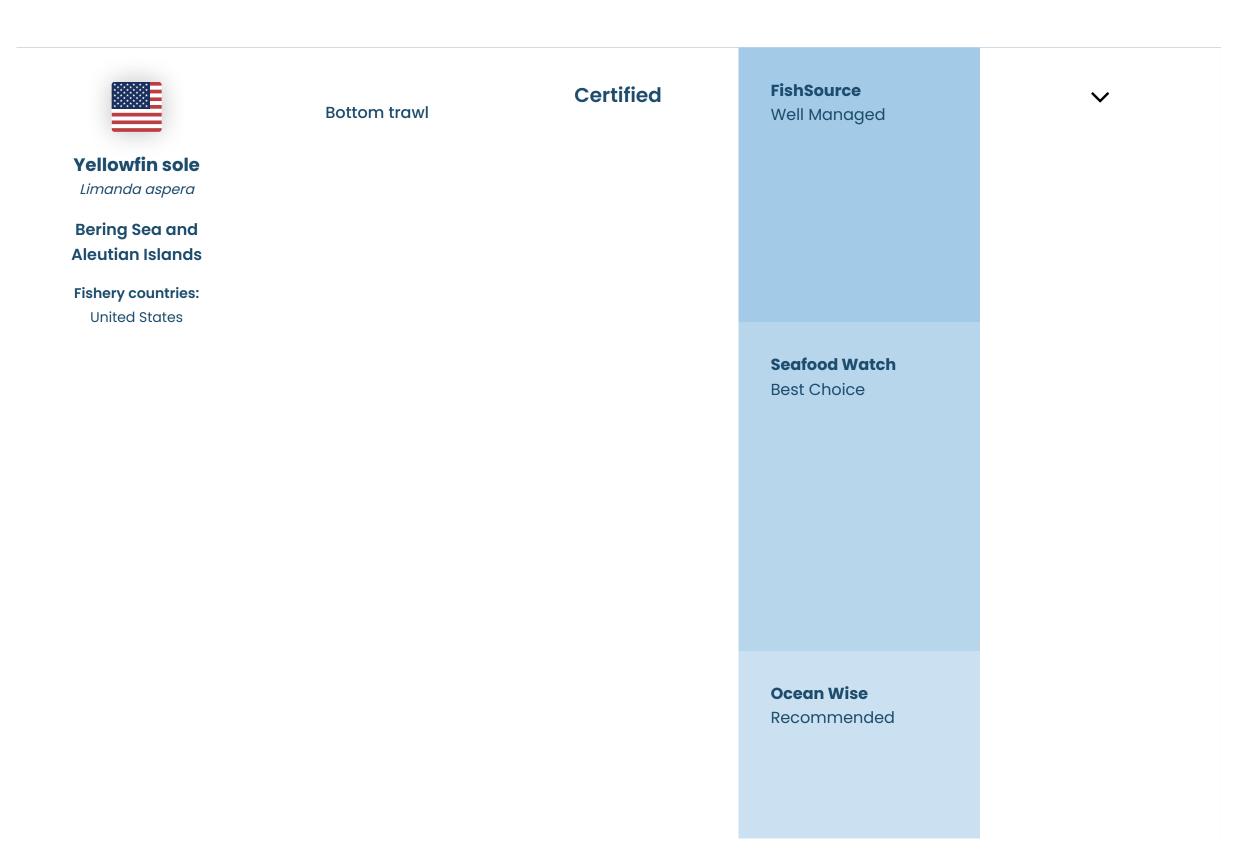
References:

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

Good Fish Guide - King Prawn, Asia: India, Vietnam and Indonesia

Ocean Wise, ShrimpOcean Wise, Shrimp

<u>Seafood Watch, Farmed Whiteleg shrimp, 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.

General Notes

References

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



Environmental Notes

- There is a risk to PET species with this fishery. Longlines present a hazard to turtles, seabirds and sharks but these risks can be reduced through proper management of fishing gear.
- There is bycatch for this fishery but the scale of the issue is not established.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.



Seafood Watch Avoid **Good Fish Guide** Think 3 **Ocean Wise** Not recommended

Environmental Notes

- There are risks to sea turtles, sharks, and marine mammals with this fishery.
- Bycatch varies by gear type. There is a higher risk of bycatch in the associated purse seine fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

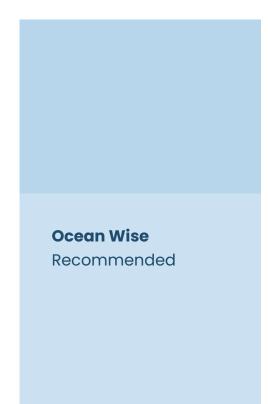
General Notes

References

Good Fish Guide - Tuna, yellowfin, Purse seine (FAD & Free School), Atlantic

Seafood Watch Recommendation for Yellowfin tuna, Eastern Atlantic, Floating object purse seine (FAD)





- There are risks to turtles, seabirds and sharks, but these risks can be reduced through proper management of fishing gear.
- There is bycatch for this fishery but the scale of the issue is not established.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

<u>Fishery Progress, Vietnam yellowfin tuna - longline/handline FIP</u>



Ocean Wise

Not recommended

Environmental Notes

- There is a risk to PET species with this fishery. Longlines present a hazard to turtles, seabirds and sharks, but these risks can be reduced through proper management of fishing gear.
- There is bycatch for this fishery but the scale of the issue is not established.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

• No additional notes.

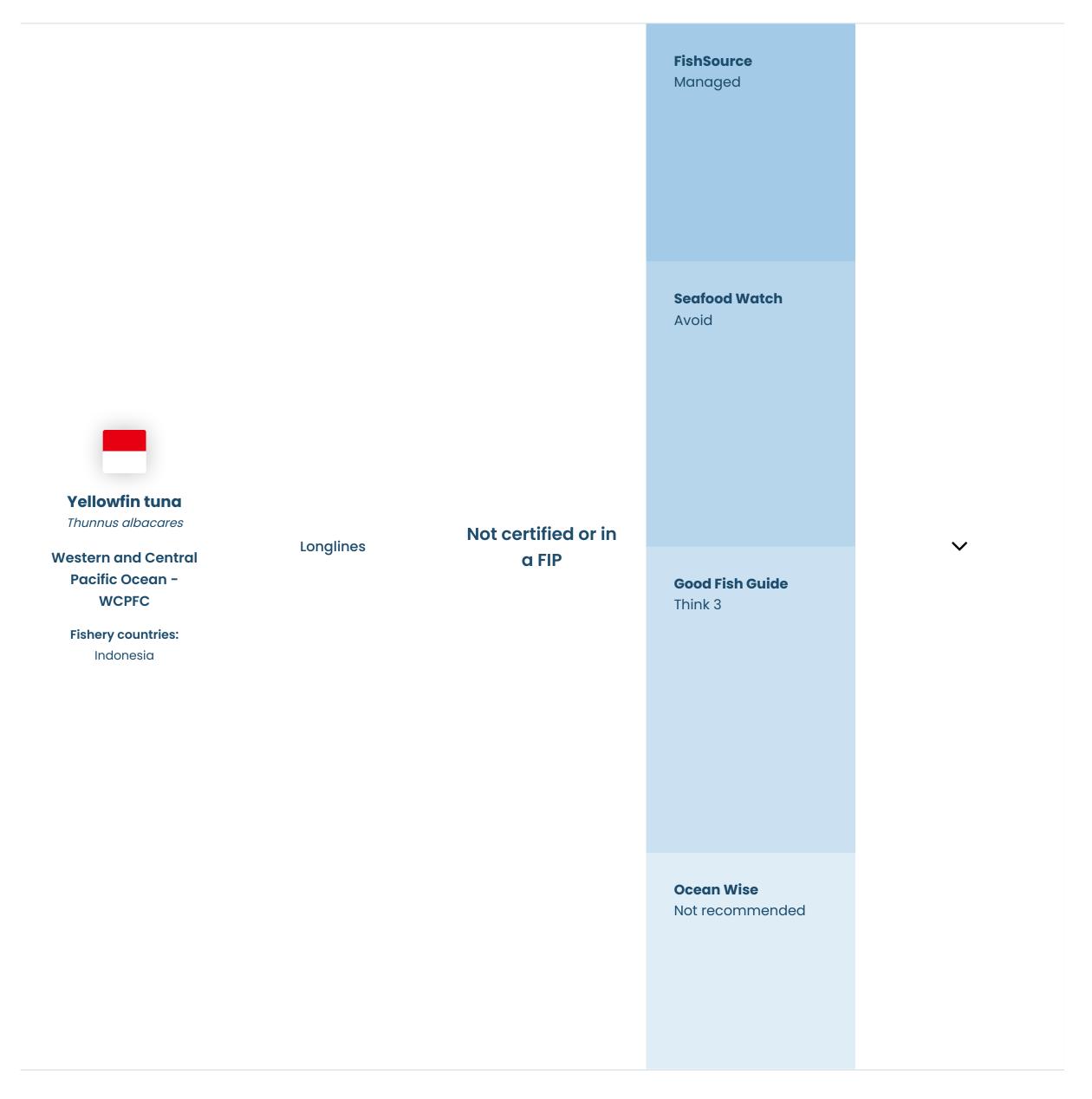


- This fishery is unlikely to impact protected, endangered and threatened (PET) species.
- Bycatch is considered low for this fishery.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

References

<u>Fishery Progress, Indonesia Western and Central Pacific Ocean yellowfin tuna - handline (AP2HI, IPNLF, MDPI)</u>



Environmental Notes

- There are risks to seabirds, sea turtles and marine mammals 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.



Environmental Notes

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

General Notes

• No additional notes.



Ocean Wise
Recommended

Environmental Notes

- There are risks to seabirds, sea turtles and marine mammals with this fishery.
- 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



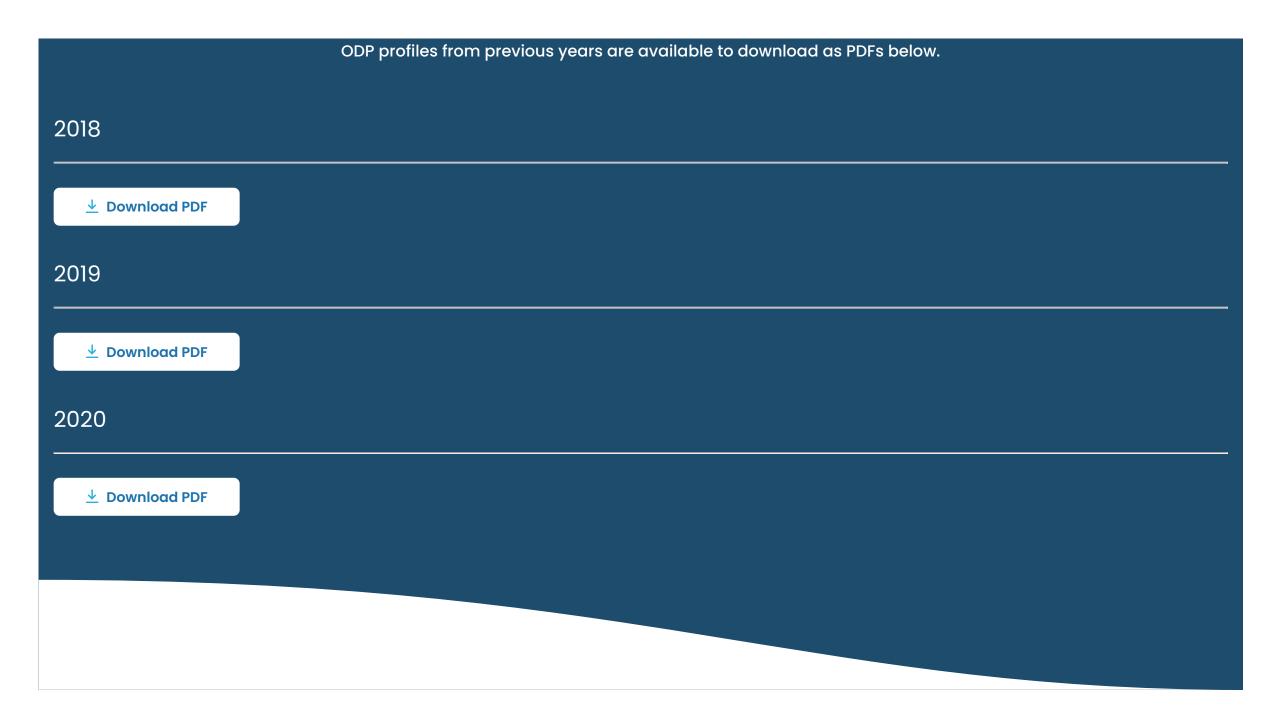
Environmental Notes

- 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





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