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.

<table>
<thead>
<tr>
<th>Number of Wild-Caught Species</th>
<th>Number of Certified Wild-Caught Species</th>
<th>Number of Wild-Caught Species in a FIP</th>
<th>Number of Farmed Species</th>
<th>Number of Certified Farmed Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>17</td>
<td>10</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

Production Methods Used

- Midwater trawl
- Bottom trawl
- Dredge
- Purse seine
- Gillnets and entangling nets
- Hook and line
- Longlines
- Handlines and pole-lines
- Rake / hand gathered / hand netted
- Pots and traps
- Farmed

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 science-based 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 seafood sourced in 2019.

<table>
<thead>
<tr>
<th>Species and Location</th>
<th>Production Methods</th>
<th>Certification or Improvement Project</th>
<th>Sustainability Ratings</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska pollock</td>
<td>Midwater trawl</td>
<td>Certified</td>
<td>FishSource: Well Managed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Seafood Watch: Eco-Certification Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Good Fish Guide: Best Choice 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ocean Wise: Recommended</td>
<td></td>
</tr>
</tbody>
</table>

*Theragra chalcogramma*

**E Bering Sea**

Fishery countries: U.S.
## 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.

### Alaska pollock
*Theragra chalcogramma*

- **Gulf of Alaska**
- **Fishery countries:** U.S.
- **Fishery:** Midwater trawl
- **Trawl:** Bottom trawl
- **Certified**
- **FishSource:** Well Managed
- **Seafood Watch:** Eco-Certification Recommended
- **Good Fish Guide:** Best Choice 1
- **Ocean Wise:** Recommended
- **NOAA FSSI:** 4

### American angler
*Lophius americanus*

- **US North Atlantic South**
- **Fishery countries:** U.S.
- **Fishery:** Bottom trawl
- **Not certified or in a FIP**
- **FishSource:** Well Managed
- **Seafood Watch:** Good Alternative
- **Ocean Wise:** Not recommended
- **NOAA FSSI:** 4
American lobster  
*Homarus americanus*

**Bay of Fundy -**  
Canada LFA 35

**Fishery countries:**  
Canada

<table>
<thead>
<tr>
<th>Pots and traps</th>
<th>Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Notes</strong></td>
<td></td>
</tr>
<tr>
<td>- 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.</td>
<td></td>
</tr>
<tr>
<td>- Bycatch in this fishery is considered low.</td>
<td></td>
</tr>
<tr>
<td>- This fishery is unlikely to have a significant impact on the sea bed.</td>
<td></td>
</tr>
</tbody>
</table>

**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

---

American lobster  
*Homarus americanus*

**Gulf of Maine and Georges Bank - US**

**Fishery countries:**  
U.S.

<table>
<thead>
<tr>
<th>Pots and traps</th>
<th>Not certified or in a FIP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Notes</strong></td>
<td></td>
</tr>
<tr>
<td>- There are risks to marine mammals with this fishery, but there are mitigation measures in place.</td>
<td></td>
</tr>
<tr>
<td>- Bycatch of fin-fish, particularly cod, is a risk in this fishery, but there is insufficient data available to assess significance.</td>
<td></td>
</tr>
<tr>
<td>- Habitat impacts in this fishery are not well understood.</td>
<td></td>
</tr>
</tbody>
</table>

**General Notes**

- No additional notes
**American lobster**
*Homarus americanus*

**Gulf of Maine and Georges Bank – US**

**Georges Bank**

**Fishery countries:**
*U.S.*

**Environmental Notes**
- 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

---

**American lobster**
*Homarus americanus*

**Gulf of St. Lawrence South**

**Fishery countries:**
*Canada*

**Environmental Notes**
- 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

---

**American lobster**
*Homarus americanus*

**SE Cape Breton, Chedabucto Bay and Eastern shore**

**Fishery countries:**
*Canada*

**Environmental Notes**
- 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
Environmental Notes
- Profile not yet complete.

General Notes
- No additional notes.

American sea scallop
*Placopecten magellanicus*
US Atlantic - Mid-Atlantic Bight
Fishery countries: U.S.

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
- No additional notes.

American yellow perch
*Perca flavescens*
Lake Erie - Western Basin, Western Central Basin, Eastern Central Basin, Eastern Basin
Fishery countries: Canada

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

General Notes
- No additional notes.
### Argentine red shrimp

**Pleoticus muelleri**  
**Patagonian:** Argentina offshore industrial  
**Fishery countries:** Argentina

<table>
<thead>
<tr>
<th>Bottom trawl</th>
<th>Not certified or in a FIP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FishSource</strong></td>
<td>Managed</td>
</tr>
<tr>
<td><strong>Seafood Watch</strong></td>
<td>Avoid</td>
</tr>
<tr>
<td><strong>Ocean Wise</strong></td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

**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**
- No additional notes.

---

### Atlantic cod

**Gadus morhua**  
**Gulf of Maine**  
**Fishery countries:** U.S.

<table>
<thead>
<tr>
<th>Bottom trawl</th>
<th>Not certified or in a FIP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FishSource</strong></td>
<td>Needs Improvement</td>
</tr>
<tr>
<td><strong>Seafood Watch</strong></td>
<td>Avoid</td>
</tr>
<tr>
<td><strong>Ocean Wise</strong></td>
<td>Not recommended</td>
</tr>
<tr>
<td><strong>NOAA FSSI</strong></td>
<td>1</td>
</tr>
</tbody>
</table>

**Environmental Notes**
- 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

---

### Atlantic cod

**Gadus morhua**  
**Icelandic**  
**Fishery countries:** Iceland

<table>
<thead>
<tr>
<th>Longlines</th>
<th>Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FishSource</strong></td>
<td>Well Managed</td>
</tr>
<tr>
<td><strong>Seafood Watch</strong></td>
<td>Eco-Certification Recommended</td>
</tr>
<tr>
<td><strong>Good Fish Guide</strong></td>
<td>Best Choice 1</td>
</tr>
</tbody>
</table>

**FishSource**
- Needs Improvement

**Seafood Watch**
- Avoid

**Ocean Wise**
- Not recommended

**NOAA FSSI**
- 1
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.
- This fishery is unlikely to have a significant impact on the sea bed.

General Notes

- No additional notes.
### Atlantic mackerel

**Scomber scombrus**

**NW Atlantic**

**Fishery countries:**
- Canada

<table>
<thead>
<tr>
<th>Gillnets and entangling nets</th>
<th>Not certified or in a FIP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FishSource Needs Improvement</td>
</tr>
</tbody>
</table>

#### Environmental Notes
- There are risks to marine mammals with this fishery.
- 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
- No additional notes.

### Atlantic salmon

**Salmo salar**

**Farmed**

**Certified**

**Fishery countries:**
- Canada

<table>
<thead>
<tr>
<th>FishSource</th>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed</td>
<td>Avoid</td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

#### Environmental Notes
- 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, Atlantic Salmon, Northwest Atlantic Ocean](#)
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
- Seafood Watch, Chile Farmed Atlantic and Coho Salmon Report

<table>
<thead>
<tr>
<th>Atlantic salmon</th>
<th>Farmed</th>
<th>Not certified or in an AIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmo salar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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

- FishSource, Salmon - Chile
- Good Fish Guide, Atlantic Salmon, Farmed
- Seafood Watch, Salmon - Chile

<table>
<thead>
<tr>
<th>Atlantic salmon</th>
<th>Farmed</th>
<th>Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmo salar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faroe Islands</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Environmental Notes

- Salmon rely on wild capture fisheries for feed.
- 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

Seafood Watch, Faroe Islands Atlantic Salmon Report

Environmental Notes

- Salmon rely on wild capture fisheries for feed. But the use of fishmeal and fish oil in salmon farming in Atlantic North America is reported to be lower than that in other salmon-farming regions. Marine ingredients include herring, menhaden, anchovy sourced from fisheries in Atlantic Canada, Atlantic US and Gulf of Mexico, and Peru.
- There are concerns about the impact of farmed salmon escapes and disease outbreaks on wild salmonids. Management systems for containment are in place to reduce the risk of escapes and have greatly improved fish containment by farms in Maine (as evidenced by the very low numbers of escapees identified in Maine rivers). The primary concerns for disease are sea lice and Infectious Salmon Anaemia, however the risk of transmission to wild salmon appears to be low.
- Impacts on water quality are localized, but there is potential for cumulative impacts in densely farmed areas. Chemical inputs of antibiotics and of pesticides used to control sea lice are of particular concern for salmon farmed in Atlantic North America.

General Notes

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

References

Seafood Watch report for farmed Atlantic salmon, Atlantic North America

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
Black grouper
*Mycteroperca bonaci*

**Northern Gulf of Mexico and NW Atlantic southern**

**Fishery countries:**
- U.S.

**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.

Black seabass
*Centropristis striata*

**NW Atlantic northern stock**

**Fishery countries:**
- U.S.

**Environmental Notes**
- Profile not yet complete.

**General Notes**
- No additional notes.

Blue crab
*Callinectes sapidus*

**Mexico Gulf of Mexico**

**Fishery countries:**
- Mexico

**Environmental Notes**
### Blue marlin
*Makaira nigricans*

- **Pacific Ocean**
- **Fishery countries:** U.S.
- **Longlines**
- **Not certified or in a FIP**
- **Environmental Notes:** Profile not yet complete.
- **General Notes:** No additional notes.

- **FishSource** Needs Improvement
- **Seafood Watch** Avoid
- **Ocean Wise** Not recommended

### Blue squat lobster
*Cervimunida johni*

- **Chilean southern**
- **Fishery countries:** Chile
- **Bottom trawl**
- **Certified**
- **Environmental Notes:** Profile not yet complete.
- **General Notes:** No additional notes.

- **FishSource** Well Managed
- **Seafood Watch** Eco-Certification Recommended
- **Ocean Wise** Recommended

### Blue swimming crab
*Portunus pelagicus*

- **Java Sea**
- **Fishery countries:** Indonesia
- **Pots and traps**
- **FIP**
- **Environmental Notes:** Profile not yet complete.
- **General Notes:** No additional notes.

- **FishSource** Needs Improvement
- **Seafood Watch** Avoid
- **Ocean Wise** Not recommended
- 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**

*Fishery Progress, Indonesian blue swimming crab - gillnet/trap*

---

**Caribbean spiny lobster**

*Panulirus argus*

**Western Central Atlantic**

Fishery countries:
- Bahamas

<table>
<thead>
<tr>
<th>Method</th>
<th>Certified</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rake / hand gathered / hand netted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FishSource**
- Well Managed

**Seafood Watch**
- Eco-Certification Recommended

**Ocean Wise**
- Recommended

---

**Environmental Notes**

- Profile not yet complete.

**General Notes**

- No additional notes

---

**Channel catfish**

*Ictalurus punctatus*

**US**

Fishery countries:
- U.S.

<table>
<thead>
<tr>
<th>Cultivation</th>
<th>Certified</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Seafood Watch**
- Best Choice

**Ocean Wise**
- Recommended

---

**Environmental 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 effluents and chemical use are minimal and well-regulated.

**General Notes**

**References**

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

---

**Chilean mussel**

*Mytilus chilensis*

**Chile**

Fishery countries:
- Chile

<table>
<thead>
<tr>
<th>Cultivation</th>
<th>Certified</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Seafood Watch**
- Eco-Certification Recommended

**Good Fish Guide**
- Best Choice 1
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

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

References

Seafood Watch Recommended Eco-Certifications for Chilean mussels

---

Chum salmon

*Oncorhynchus keta*

**Fisheries**

- **Purse seine**

**Certified**

**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.

**References**

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

---

Chum salmon

*Oncorhynchus keta*

**Fisheries**

- **Pots and traps**

**Certified**

**Environmental Notes**

**FishSource**

Well Managed

**Seafood Watch**

Eco-Certification Recommended

**Good Fish Guide**

Best Choice 2

**Ocean Wise**

Recommended

**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 and non-target species are released alive.
- This fishery is unlikely to have a significant impact on the benthic habitat.

General Notes

References

MRAG America, June 2018, MSC Public Certification Report for Kamchatka River Salmon Fisheries

---

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

- Fishmeal and fish oil in Chilean salmon feeds continue to be replaced by high levels of crop protein or oil ingredients, and also with by-products from land-animal processing. Data provided by major feed companies supplying Chilean farms and by Intesal show the feed conversion ratio (dry weight of feed to wet weight of fish) is 1.2 for coho salmon. From first principles, 1.56 MT of wild fish would need to be caught to produce 1 metric ton of farmed coho salmon.
- Large escape events continue to occur in Chile, although at a reducing frequency. Coho salmon show greater evidence of reproduction and establishment in Chile, and escaped fish have been shown to predate on wild fish. The open nature of net pen production systems leaves fish inherently vulnerable to infection. 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. Frequent treatment with antibiotics that are highly important for human medicine (and critically important to veterinary medicine) is not prudent, judicious, or justified when the risks are considered.
- Academic studies of soluble nutrients across all salmon farming regions indicate direct impacts at the site are unlikely, but the potential for cumulative impacts remains a moderate concern.

General Notes

References
<table>
<thead>
<tr>
<th>Cuttlefishes nei (Sepia pharaonis)</th>
<th>Thailand Gulf of Thailand</th>
<th>Bottom trawl</th>
<th>Not certified or in a FIP</th>
<th>Sustainability not rated</th>
<th>Environmental Notes</th>
<th>General Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Profile not yet complete.</td>
<td>No additional notes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flathead sole (Hippoglossoides elassodon)</th>
<th>Gulf of Alaska</th>
<th>Bottom trawl</th>
<th>Certified</th>
<th>Environmental Notes</th>
<th>General Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Profile not yet complete.</td>
<td>No additional notes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Golden king crab (Lithodes aequispinus)</th>
<th>Aleutian Islands</th>
<th>Pots and traps</th>
<th>Certified</th>
<th>Environmental Notes</th>
<th>General Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FishSource Well Managed</td>
<td>No additional notes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seafood Watch Eco-Certification Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ocean Wise Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOAA FSSI 4</td>
<td></td>
</tr>
</tbody>
</table>
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

Alaska Seafood Marketing Institute, RFM Certification - Alaska Crab

Golden king crab
Lithodes aequispinus
East Sakhalin
Fishery countries:
Russia

Pots and traps
Not certified or in a FIP

Seafood Watch
Avoid
Ocean Wise
Not recommended

Environmental Notes

Profile not yet complete.

General Notes

No additional notes

Haddock
Melanogrammus aeglefinus
Georges Bank
Fishery countries:
U.S.

Bottom trawl
Certified

FishSource
Well Managed
Seafood Watch
Eco-Certification
Recommended
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

No additional notes

Haddock
Melanogrammus aeglefinus
Icelandic
Fishery countries:
Iceland

Bottom trawl
Certified

FishSource
Managed
Seafood Watch
Eco-Certification
Recommended
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.

---

Environmental Notes

- Profile not yet complete.

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.

General Notes

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

References

Fishery Progress, East China Sea and Yellow Sea Japanese flying squid - trawl
Lake whitefish
Coregonus clupeaformis
Lake Huron, Lake Winnipeg
Fishery countries: Canada

Environmental Notes
- Profile not yet complete.

General Notes
- No additional notes

Mahi-mahi
Coryphaena hippurus
Eastern Pacific Ocean
Fishery countries: Ecuador

Environmental Notes
- There are risks to turtles, sharks and seabirds 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

References
Fishery Progress, Ecuador mahi-mahi – longline

Mahi-mahi
Coryphaena hippurus
Western and Central Pacific Ocean
Fishery countries: Taiwan

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**
- No additional notes

**Mitre squid**  
*Loligo chinensis*  
Thailand Gulf of Thailand  
Fishery countries: Thailand  
Bottom trawl  
Not certified or in a FIP  
Ocean Wise  
Not recommended

**Environmental Notes**
- Profile not yet complete.

**General Notes**
- No additional notes

**Mussels**  
*Mytilus spp.*  
Chile  
Fishery countries: Chile  
Farmed  
Not certified or in an AIP  
Seafood Watch  
Best Choice  
Good Fish Guide  
Best Choice 1  
Ocean Wise  
Recommended

**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**
- Seafood Watch report for farmed mussels, worldwide
- Ocean Wise ratings for mussels

**Northern brown shrimp**  
*Penaeus aztecus*  
Northern Gulf of Mexico - Mississippi  
Fishery countries:  
Bottom trawl  
FIP  
FishSource  
Well Managed  
Seafood Watch  
Good Alternative  
Ocean Wise  
Not recommended
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

Environmental Notes

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

General Notes

- No additional notes

Northern quahog
Mercedaria mercenaria

Canada Saint Mary’s Bay

Fishery countries:
Canada

Dredge
Rake / hand
gathered / hand
netted

Not certified or in a FIP

Seafood Watch
Best Choice

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

Northern quahog
Mercedaria mercenaria

US NW Atlantic Coast

Fishery countries:
U.S.

Dredge
Rake / hand
gathered / hand
netted

Not certified or in a FIP

Seafood Watch
Best Choice

Ocean Wise
Recommended

Environmental Notes

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

General Notes

- No additional notes
Northern red snapper

*Lutjanus campechanus*

Northern Gulf of Mexico

Fishery countries: U.S.

Handlines and pole-lines

<table>
<thead>
<tr>
<th>FIP</th>
</tr>
</thead>
</table>

**Environmental 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

Northern white shrimp

*Penaeus setiferus*

Northern Gulf of Mexico - Louisiana

Bottom trawl

FIP

<table>
<thead>
<tr>
<th>FishSource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed</td>
</tr>
</tbody>
</table>

**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**

Fishery Progress, Louisiana shrimp - otter/skimmer trawl FIP

Octopuses nei

*Octopus spp.*

Thai waters

Fishery countries: Thailand

Pots and traps

Not certified or in a FIP

<table>
<thead>
<tr>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>not rated</td>
</tr>
</tbody>
</table>

**Environmental Notes**

<table>
<thead>
<tr>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
<th>NOAA FSSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Alternative</td>
<td>Not recommended</td>
<td>3</td>
</tr>
</tbody>
</table>
### General Notes
- No additional notes

<table>
<thead>
<tr>
<th>Fish Source</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FishSource</td>
<td>Well Managed</td>
</tr>
<tr>
<td>Seafood Watch</td>
<td>Eco-Certification Recommended</td>
</tr>
<tr>
<td>Ocean Wise</td>
<td>Recommended</td>
</tr>
</tbody>
</table>

*Orange roughy (Hoplostethus atlanticus)*
- East and South Rise
- Fishery countries: New Zealand
- Gear: Bottom trawl
- Certification: Certified

### 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.

<table>
<thead>
<tr>
<th>Fish Source</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FishSource</td>
<td>Well Managed</td>
</tr>
<tr>
<td>Seafood Watch</td>
<td>Eco-Certification Recommended</td>
</tr>
<tr>
<td>Ocean Wise</td>
<td>Recommended</td>
</tr>
<tr>
<td>NOAA FSSI</td>
<td>4</td>
</tr>
</tbody>
</table>

*Pacific cod (Gadus macrocephalus)*
- Aleutian Islands
- Fishery countries: U.S.
- Gear: Bottom trawl, Longlines, Pots and traps
- Certification: Certified

### 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 directly impact on the sea bed.

### General Notes
- No additional notes.
Pacific cod

*Gadus macrocephalus*

**Eastern Bering Sea**

Fishery countries:
- U.S.

- **Bottom trawl**
- **Certified**

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
- No additional notes.

---

Pacific cod

*Gadus macrocephalus*

**Gulf of Alaska**

Fishery countries:
- U.S.

- **Longlines**
- **Certified**

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
- No additional notes

---

Pacific halibut

*Hippoglossus stenolepis*

- **Longlines**
- **Certified**

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
- No additional notes
**NE Pacific - Alaska**

Fishery countries: U.S.

**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**
- No additional notes

---

**Pacific ocean perch**  
*Sebastes alutus*

Bering Sea and Aleutian Islands

Fishery countries: U.S.

Bottom trawl

**Not certified or in a FIP**

**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

---

**Pacific ocean perch**  
*Sebastes alutus*

US West Coast

Fishery countries: Canada

Bottom trawl

**Not certified or in a FIP**

**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

---
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.

---

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.
- 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

- No additional notes.

---

Environmental Notes

- Patagonian toothfish feeding methods, including longlines, are not certified or in a FIP and sustainability is not rated.

General Notes

- No additional notes.
**Patagonian toothfish**
*Dissostichus eleginoides*

- **South American**
  - Chilean - Chile South
  - 47ºS
- **Fishery countries:**
  - Chile

<table>
<thead>
<tr>
<th>Fishery</th>
<th>Certification Status</th>
<th>FishSource</th>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longlines</td>
<td>Not certified or in a FIP</td>
<td>Needs Improvement</td>
<td>Avoid</td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

**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 a risk, 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.

---

**Queen crab**
*Chionoecetes opilio*

- **Alaska**
  - Eastern
  - Bering Sea
- **Fishery countries:**
  - U.S.

<table>
<thead>
<tr>
<th>Fishery</th>
<th>Certification Status</th>
<th>FishSource</th>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pots and traps</td>
<td>Certified</td>
<td>Well Managed</td>
<td>Best Choice</td>
<td>Recommended</td>
</tr>
</tbody>
</table>

**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 certified through the Alaska Responsible Fisheries Management (RFM) Program.

**References**
*Alaska Seafood Marketing Institute, RFM Certification: Alaska Crab*

---

**Queen crab**
*Chionoecetes opilio*

- **Northern Sea of Okhotsk**
- **Fishery countries:**
  - Russia

<table>
<thead>
<tr>
<th>Fishery</th>
<th>Certification Status</th>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pots and traps</td>
<td>FIP</td>
<td>Avoid</td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

**Seafood Watch**
- Avoid

**Ocean Wise**
- Not recommended
### 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
- No additional notes

### References
Crab Catchers Association, Russian Far East Crab FIP

<table>
<thead>
<tr>
<th>Fishery</th>
<th>Pots and traps</th>
<th>Certified</th>
<th>FishSource</th>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queen crab</td>
<td></td>
<td></td>
<td>Certifiable</td>
<td>Eco-Certification</td>
<td>Recommended</td>
</tr>
<tr>
<td>Rainbow smelt</td>
<td>Midwater trawl</td>
<td>Not certified or in a FIP</td>
<td>Seafood Watch</td>
<td>Best Choice</td>
<td>Ocean Wise</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fishery</th>
<th>Farmed</th>
<th>Not certified or in an AIP</th>
<th>Seafood Watch</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Good Alternative</td>
<td></td>
</tr>
</tbody>
</table>
Environmental Notes

- Fishmeal and fish oil inclusion levels in Chilean trout feeds are estimated to be 12% and 5.7%, respectively. A feed footprint consisting of both total land and ocean area of 7.56 ha was calculated to be required to produce the feed ingredients necessary for 1 t of farmed fish.
- More than 500,000 farmed trout have escaped each year since the early 1990s, and the total number of escapes is potentially much higher due to undetected or unreported losses. Even though rainbow trout are established in the wild due to historical stocking, the escaped trout have contributed to the creation of feral populations that impact native fish through predation and resource competition. There's also some concern about the potential for the spread of disease from farmed trout to wild, native fish.
- Because of the open nature of net pen systems, virtually all waste discharges directly to the surrounding environment with little or no intervention. Monitoring day-to-day effluent discharges is not required in Chile, so availability of reliable data is limited. Literature suggests impacts beyond the immediate vicinity of farms are unlikely, but there is growing concern over the potential cumulative impacts in relation to the carrying capacity of the surrounding environment. Antibiotics are estimated to be used more than once per production cycle.

General Notes

References

Seafood Watch, Chile Rainbow Trout Report

Rainbow trout, Steelhead trout
Oncorhynchus mykiss

Fishery countries:
Chile

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 Report

Rainbow trout, Steelhead trout
Oncorhynchus mykiss

Fishery countries:
Colombia

Environmental Notes

- Ocean Wise: Not recommended

References

Seafood Watch, Farmed Trout Colombia Report

Rainbow trout, Steelhead trout
Oncorhynchus mykiss

Fishery countries:
US

Environmental Notes

- Seafood Watch: Best Choice
- Ocean Wise: Recommended

References

Seafood Watch, Farmed Trout US Report
Environmental Notes

- 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, U.S. Farmed (Net Pens) Rainbow Trout Report
Seafood Watch, U.S. Farmed (Raceways and Ponds) Rainbow Trout Report

Environmental Notes

- 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, U.S. Farmed (Net Pens) Rainbow Trout Report
Seafood Watch, U.S. Farmed (Raceways and Ponds) Rainbow Trout Report

Environmental Notes

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

General Notes

References

Seafood Watch
Best Choice
Ocean Wise
Recommended

Snappers nei
Lutjanus spp.
Aru Bay, Arafura Sea and Eastern of Timor Sea
Fishery countries: Indonesia
Longlines
Handlines and pole-lines
FIP
Sustainability not rated
### Sockeye salmon
*Oncorhynchus nerka*

**Fishery countries:**
- U.S.

**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**

#### 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](#)

### South Pacific hake
*Merluccius gayi gayi*

**Fishery countries:**
- Chile

**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.

**General Notes**
- No additional notes

### Swordfish
*Xiphias gladius*

**Fishery Progress, Indonesian Longline Demersal Fish**

**Fishery countries:**
- North Atlantic

**Environmental Notes**
- Not certified or in a FIP

**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](#)
## Fishery Countries

<table>
<thead>
<tr>
<th>Fishery Countries</th>
<th>Eco-Certification</th>
<th>Good Fish Guide</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Recommended</td>
<td>Best Choice 2</td>
<td>Recommended</td>
</tr>
</tbody>
</table>

## General Notes

- No additional notes.

## Environmental Notes

- Profile not yet complete.

## General Notes

- No additional notes.

### Swordfish (Xiphias gladius)

**Northeast Pacific**

- **Fishery countries:** Costa Rica
- **Longlines**
- **Not certified or in a FIP**
- **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.

### Swordfish (Xiphias gladius)

**Northeast Pacific**

- **Fishery countries:** Ecuador
- **Longlines**
- **Not certified or in a FIP**
- **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

- No additional notes.

<table>
<thead>
<tr>
<th>FishSource</th>
<th>Seafood Watch</th>
<th>Good Fish Guide</th>
<th>Ocean Wise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Improvement</td>
<td>Avoid</td>
<td>Think 4</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Needs Improvement</td>
<td>Avoid</td>
<td>Think 4</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Needs Improvement</td>
<td>Avoid</td>
<td>Think 4</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Needs Improvement</td>
<td>Avoid</td>
<td>Think 4</td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

### Eco-Certification

- Recommended

### Good Fish Guide

- Best Choice 2

### Ocean Wise

- Recommended

### FishSource

- Needs Improvement

### Seafood Watch

- Avoid

### Good Fish Guide

- Think 4

### 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
- No additional notes

#### Swordfish
*Xiphias gladius*

<table>
<thead>
<tr>
<th>Location</th>
<th>Method</th>
<th>Certification</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Atlantic</td>
<td>Longlines</td>
<td>Not certified or in a FIP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishery countries:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Environmental Notes
- There are risks to seabirds, sea turtles and sharks 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

#### References

*Seafood Watch, 2016, Atlantic Ocean Swordfish, Albacore, Bigeye and Yellowfin Tuna (Longline) Seafood Watch Report*
Environmental Notes

- Profile not yet complete.

General Notes

References

Crab Catchers Association, Russian Far East Crab FIP

Tilapia

*Oreochromis niloticus*, *Oreochromis spp*

China

Fishery countries: China

Farmed Certified

Seafood Watch

Eco-Certification

Recommended

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 information available regarding impacts of Chinese tilapia production on wild species, including 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:

FishSource - Tilapia, China

Seafood Watch, Global Aquaculture Alliance BAP Benchmarking Report (2-, 3-, 4-star Tilapia Farms BAP Standards)

Seafood Watch report for farmed tilapia, China
<table>
<thead>
<tr>
<th><strong>Walleye</strong></th>
<th>Gillnets and entangling nets</th>
<th><strong>Well Managed</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Sander vitreus</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Erie western and central</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishery countries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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**
- No additional notes

<table>
<thead>
<tr>
<th><strong>Walleye</strong></th>
<th>Gillnets and entangling nets</th>
<th><strong>Certified</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Sander vitreus</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Waterhen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishery countries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Environmental Notes**
- Profile not yet complete.

**General Notes**
- No additional notes

<table>
<thead>
<tr>
<th><strong>Warty swimming crab</strong></th>
<th>Pots and traps</th>
<th><strong>Not certified or in a FIP</strong></th>
<th><strong>Sustainability not rated</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Portunus haanii</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishery countries:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Environmental Notes**
- Profile not yet complete.

**General Notes**
- No additional notes
### White bass

*Morone chrysops*

**Lake Erie, Lake Winnipeg**

Fishery countries: Canada

<table>
<thead>
<tr>
<th>Method</th>
<th>Status</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gillnets and entangling nets</td>
<td>Not certified or in a FIP</td>
<td>Not rated</td>
</tr>
</tbody>
</table>

**Environmental Notes**
- Profile not yet complete.

**General Notes**
- No additional notes

---

### White perch

*Morone americana*

**Lake Erie**

Fishery countries: Canada

<table>
<thead>
<tr>
<th>Method</th>
<th>Status</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gillnets and entangling nets</td>
<td>Not certified or in a FIP</td>
<td></td>
</tr>
</tbody>
</table>

**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**
- No additional notes

---

### Whiteleg shrimp

*Penaeus vannamei*

**China**

Fishery countries: China

<table>
<thead>
<tr>
<th>Method</th>
<th>Status</th>
<th>Certification</th>
<th>Eco-Certification</th>
<th>Good Fish Guide</th>
<th>Think 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmed</td>
<td>Certified</td>
<td></td>
<td>Recommended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.
- 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.
Whiteleg shrimp
Penaeus vannamei
India
Fishery countries:
India
Farmed Certified

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:
FishSource - Shrimp, India
Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP certification (4*)
Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP certification (2 and 3*)
Seafood Watch, India Farmed Giant Tiger Prawn and Whiteleg Shrimp Report
Seafood Watch, Recommended Eco-Certifications for Whiteleg shrimp, Farmed

Whiteleg shrimp
Penaeus vannamei
Indonesia
Fishery countries:
Indonesia
Farmed Certified

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 certification (4*)
Seafood Watch, Indonesian Giant Tiger Prawn and Whiteleg Shrimp Report
Seafood Watch, Recommended Eco-Certifications for Whiteleg shrimp, Farmed

Environmental Notes
• There are risks to seabirds, sea turtles and marine mammals with this fishery.
• 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
• No additional notes

FishSource
Needs Improvement

Fishery
Whiteleg shrimp (Penaeus vannamei)

Fishery countries:
Sinaloa-Nayarit - Mexico

Bottom trawl
Not certified or in a FIP

Seafood Watch
Avoid

Ocean Wise
Not recommended

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:**
- FishSource - Shrimp, Thailand
- Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP 4*
- Good Fish Guide - Prawn, King (whiteleg), prawns, Global, GAA BAP 2 and 3*
- Seafood Watch, Recommended Eco-Certifications for Whiteleg shrimp, Farmed
- Seafood Watch, Thailand Farmed Whiteleg Shrimp Report

### 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 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**
- Seafood Watch, U.S. Farmed Whiteleg Shrimp Report

### 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 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.
### Whiteleg shrimp
*Penaeus vannamei*

**Vietnam**

**Fishery countries:**
- Vietnam

**Environmental Notes**
- Fishmeal and fish oil 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:**
- Good Fish Guide - Prawn, King (whiteleg), prawns
- Seafood Watch, Vietnam Giant Tiger Prawn and Whiteleg Shrimp Report
- FishSource - Shrimp, Vietnam

### Yellowfin sole
*Limanda aspera*

**Bering Sea and Aleutian Islands**

**Fishery countries:**
- U.S.

**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.

<table>
<thead>
<tr>
<th>Seafood Watch</th>
<th>Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Fish Guide</td>
<td>Avoid 5</td>
</tr>
<tr>
<td>Ocean Wise</td>
<td>Not recommended</td>
</tr>
</tbody>
</table>

**FishSource**
- Well Managed

**Seafood Watch**
- Best Choice

**Ocean Wise**
- Recommended

**NOAA FSSI**
- 4
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.

Environmental Notes

- 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

Fishery Progress, Vietnam yellowfin tuna - longline/handline FIP

FishSource
Managed

Seafood Watch
Best Choice

Ocean Wise
Recommended

FishSource
Managed

Seafood Watch
Avoid

Good Fish Guide
Think 3
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.

---

Environmental 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

Fishery Progress, Indonesia Western and Central Pacific Ocean yellowfin tuna – handline (AP2HI, IPNLF, MDPI)

---

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

References

Fishery Progress, Indonesia Western and Central Pacific Ocean yellowfin tuna – handline (AP2HI, IPNLF, MDPI)
## General Notes

- No additional notes.

### 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


### Fishery - Yellowfin Tuna (Thunnus albacares)

#### Western and Central Pacific Ocean - WCPFC

- **Fishery countries:** Marshall Islands

#### Longlines

- **Certified**

#### 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.
- Bycatch for this fishery includes billfish and other tuna species, and sharks.
- This fishery is unlikely to have a significant impact on the sea bed.

#### General Notes


### Fishery - Yellowfin Tuna (Thunnus albacares)

#### Western and Central Pacific Ocean - WCPFC

- **Fishery countries:** Micronesia

#### Longlines

- **FIP**

#### 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.
- Bycatch for this fishery includes billfish and other tuna species, and sharks.
- This fishery is unlikely to have a significant impact on the sea bed.

### General Notes


### Fishery - Yellowfin Tuna (Thunnus albacares)

#### Western and Central Pacific Ocean - WCPFC

- **Fishery countries:** Micronesia

#### Longlines

- **Not certified or in a FIP**

#### 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.
- Bycatch for this fishery includes billfish and other tuna species, and sharks.
- This fishery is unlikely to have a significant impact on the sea bed.

#### General Notes


### References

- Fishery Progress, Federated States of Micronesia yellowfin and bigeye tuna – longline
**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

---

**Profile Download**

ODP profiles from previous years are available to download as PDFs below.