


# Analysis of the Effects of Marine Stewardship Council Fishery Certification on Seabird Conservation

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Fisheries Certified  
February 2012 – April 2013



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# INTRODUCTION

Seabirds are among the most threatened groups of birds on Earth. Because most seabirds live for decades and reproduce slowly, any adult mortality translates readily to population-level effects. At present, the leading cause of mortality for healthy adult seabirds is accidental death in interactions with fisheries.

Although seabirds have always followed boats, fishing gear innovations in the past decades have made the behavior particularly dangerous. Concern over seabird interactions with fisheries swelled in the 1990s with the recognition that large numbers of seabirds were being killed as bycatch during seafood harvest. Partially in response to frustration with poor progress in international fishing regulations, consumer-based approaches were developed in the late 1990s, with the Marine Stewardship Council (MSC) leading the way in market-based approaches. Market incentive methods can be effective ways of motivating fishermen. In fisheries both at home and abroad, seafood certification plays a key role in offering a carrot approach instead of a stick. Domestic US fisheries are already under tremendous pressure from foreign competition and declining stocks. The fishermen feel beleaguered by regulations, and end up resenting the regulatory structures, which make slow progress without industry support. Market-based incentives, on the other hand, change the dynamic and offer an avenue for progress.

The current document is an accompaniment to the analysis of the MSC certification process, carried out in 2011 and early 2012 and presented in the report *Analysis of the Effects of Marine Stewardship Council Fishery Certification on the Conservation of Seabirds* Parts 1, 2, and 3 (American Bird Conservancy 2012; available on the ABC website at [http://www.abcbirds.org/abcprograms/oceansandislands/seabirds/market\\_forces.html](http://www.abcbirds.org/abcprograms/oceansandislands/seabirds/market_forces.html); called the “previous report”). In the current document, all fisheries certified by the MSC or those at Stage 5 in the assessment process since the earlier analysis (that is, for the period 10 February 2012 to 25 April 2013) were reviewed individually and the risk each poses to seabirds was assessed. The current document can therefore be considered an update to Part 2 of the earlier report, adding reviews of 37 additional fisheries.

## METHODS

Fisheries were reviewed following the methods fully described in Part 3 *Methodology to Assess Fisheries for Risk to Seabirds* of the previous report. Fisheries that were deemed to have the potential for high risk to seabirds were evaluated in depth and short reports produced, usually of 2-3 pages. Fisheries not deemed to be potentially high risk were not reviewed in depth, but are listed in the final section.

A summary of the methods described in the previous report in Part 3 *Methodology to Assess Fisheries for Risk to Seabirds* is given here. In brief, each fishery is reviewed following these steps:

- Initial Risk
  - Gear Risk
  - Presence of ETP<sup>1</sup> species or significant concentrations of seabirds

If the fishery was judged to have low risk to seabirds based on these two criteria, it was not further evaluated, but is listed in final section of the current document. If it was judged to be potentially high risk based on these two criteria, it was passed on to the in-depth analysis.

The in-depth analysis evaluated the fishery on the following criteria:

- In-depth Analysis
  - Regulations and enforcement
  - Use of effective mitigation or seabird bycatch-avoidance methods
  - Actual levels of seabird bycatch
  - Levels of observer and monitoring coverage
  - Levels of uncertainty about the actual risk to seabirds

Note that these issues were only evaluated with regard to seabird bycatch and mortality issues. The fisheries were not evaluated for any factor relating to sea turtles or sea mammals, nor fishery stock levels. In addition, the evaluation focused on seabird bycatch and not on factors of seabirds as part of the ecosystem, for example, as consumers of the fishery's target species. Therefore, a fishery that is unsustainable for bycatch of, say, dolphins, may receive a good review in this analysis, because here only seabirds are considered. It was not the intention of this analysis to evaluate any other aspect of the fishery besides those relating to seabird bycatch.

Following the in-depth analysis, each fishery was assigned an overall ranking, indicating their potential for risk to seabirds through bycatch, as potentially high, medium or low, and indicated by the colored seabird symbol:



These categories are considered “potentially” high, medium, or low risk, because on-the-water reality may still be different from that determined by the MSC assessment or the current in-depth analysis. Fisheries determined to be potentially high risk to seabirds may, in fact, not have significant seabird bycatch or mortality, given further information. Conversely, fisheries judged potentially low risk may, upon obtaining improved information, prove to be problematic. However, this method does serve to flag fisheries which should be of greater concern with regard to their effects on seabirds.

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<sup>1</sup> Following MSC usage, this refers to Endangered, Threatened, or Protected species, and in this document refers to seabird species.



The reports on the individual fisheries that were reviewed in-depth summarize the various components of the risk to seabirds. These are shown in the table at the top of each account. The factors are divided into three groups: Initial Risk (the two factors described above), Risk Reduction (the first four of the five factors listed above as part of the in-depth analysis) and Uncertainty (the last of the five factors). Each of these is given a score (Low, Medium, or High for Initial Risk and Uncertainty, or a numeric score for the Risk Reduction factors). The cells are color-coded according to low (green), medium (yellow), or high (red). For Initial Risk and Uncertainty each is also given a description as Low, Medium, or High, whereas Risk Reduction levels are described as Good, Fair, or Poor. Note that for the Risk Reduction factors, a higher score is better, and the factors are not equally weighted. See the *Methodology to Assess Fisheries for Risk to Seabirds* for details on scoring and weighting. The bottom row of each table gives the overall score for that set of factors (Initial Risk, Risk Reduction, or Uncertainty).

The example below shows the different possible levels.

Initial Risk		Risk Reduction				Uncertainty
Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Low	High	Fair	Good	Good	Poor	High
1	3	14	21	32	7	3
4/6		74/100				3/3

Each fishery account also provides a list of recommendations for ways in which the fishery could reduce its effect on seabirds, along with a general description of the fishery and discussion of its implications.

The fisheries are in alphabetical order grouped by risk level. At the end of the Potentially Low Risk group is a list of low-risk fisheries that were not subjected to in-depth analysis because they were deemed to pose sufficiently low risk to seabirds that an in-depth analysis was not needed.

## CONCLUSIONS

The in-depth reviews of potentially high risk fisheries did not always conclude that the fisheries were actually high-risk. In fact, only two fisheries of 15 reviewed in-depth were judged to be potentially high-risk to seabirds. A group of 11 were judged to be potentially medium-risk to seabirds, and two to be potentially low risk to seabirds.

It is important to note that most of the fisheries judged either as Potentially High Risk and Potentially Medium Risk were judged so due to lack of information. Information on seabird interactions and bycatch is often missing, either not available or not reported, or is available

only from similar fisheries but not from the assessed fishery itself. It is likely that a significant number of these fisheries could be judged Potentially Low Risk to Seabirds if improved information were obtained.

This pattern is the same as that found by the previous report, that for many fisheries information is inadequate to judge whether the fishery actually has high levels of seabird bycatch and mortality. Although the certified fisheries may indeed have sustainable levels of seabird bycatch, it is not possible to determine this from the information presented.

More recent certification reports, that is those prepared by any of the various certification bodies preparing certifications for MSC in the past year or two, have improved significantly in quality over those of earlier years, and the recent reports show less variation in quality. The group of certification reports reviewed for the current document provide more information and in a more useful format, allowing the reader to more readily interpret the various factors in the certification. Some of the best reports now provide good information on what proportion of the harvest is taken by each different gear type used in a fishery; others provide very detailed descriptions of the gear types used.

Nevertheless, there remains much room for improvement; the same issues remain as were pointed out by the previous analysis. Therefore, following the current analysis, the recommendations are essentially the same: too many fisheries are certified without adequate information on seabird bycatch, and too many certification reports scarcely even mention seabirds. There is a need for certification reports to be explicit about the impact of the fishery on seabirds, even if that impact is insignificant.

The following recommendations, then, are almost exactly the same as those provided following the previous analysis.

## RECOMMENDATIONS

- Do not allow fisheries to be certified as sustainable if there is an information gap, for example, in bycatch, and there is a reasonable evidence that the fishery might not be sustainable on that issue. That is, the fishery should not be certified and then allowed to fill in the information gaps afterwards. The gaps should be filled before certification.
- No report should ever be able to be written that does not mention birds at all or list any other ETP species that occurs in the area.
- Establish standards for certification reports, with requirements to:
  - Require that all issues be addressed explicitly. This would require a more standardized report format, with headings for each issue, including one specifically for seabird bycatch. If no seabird bycatch is known, the section could read “none known,” but this would make the information explicit.
  - List and describe all mitigation methods being used.



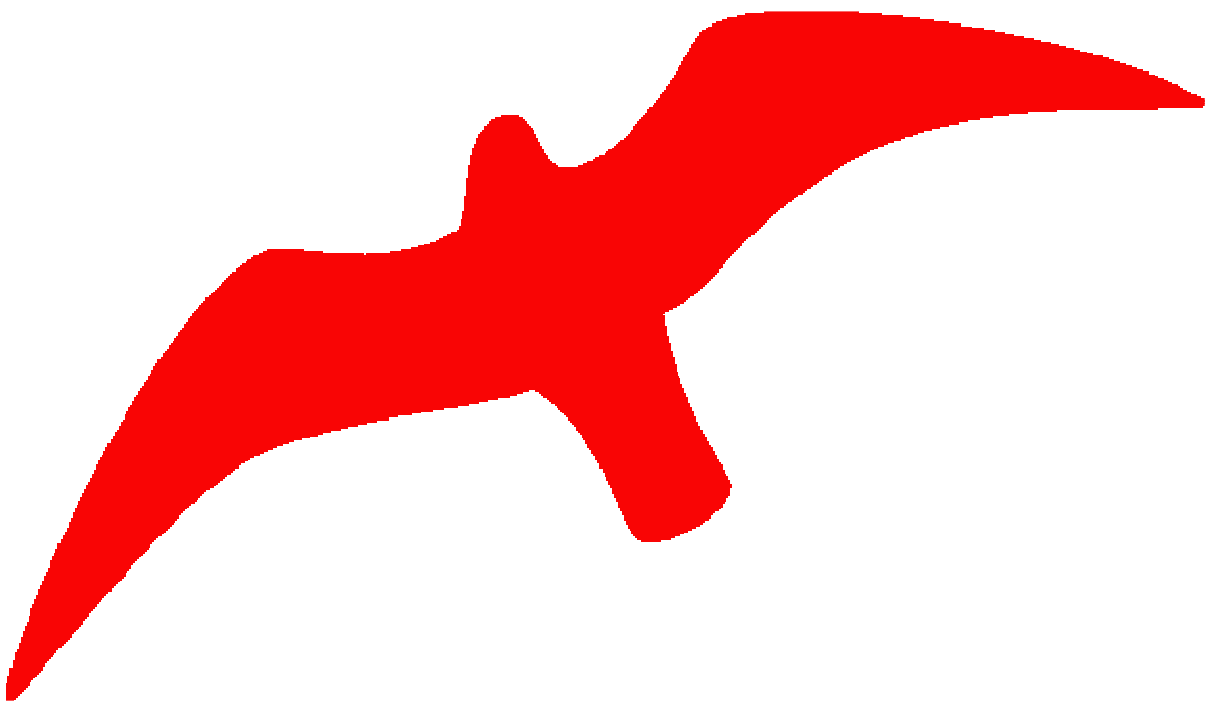
- Give proportion of target species catch that is landed using each type of gear in use in the fishery. This allows evaluation of how much total bycatch is produced by the fishery based on the proportion of bycatch from each gear.
- List all species of ETP seabirds (as well as ETP sea mammals, sea turtles, or other marine life such as corals) that occur in the fishery area, even if there is no known impact of bycatch or mortality on those species.
- Require reporting of seabird bycatch and interactions in a standardized quantitative manner.
- Standardize the language and format of reporting observer coverage, so that observer coverage can be readily ascertained.

## ACKNOWLEDGMENTS

American Bird Conservancy is very grateful for the support of this project by The Walton Family Foundation. The analyses were reviewed and improved with the assistance of Mike Parr.



## POTENTIALLY HIGH RISK FISHERIES







Potentially High  
Risk to Seabirds

## BRITISH COLUMBIA CHUM SALMON (*ONCORHYNCHUS KETA*) FISHERIES

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	High	Good	Poor	Fair	Poor	High
3	3	15	1	16	1	3
6/6		33/100				3/3

The BC chum salmon fishery uses three main gear types. Two of these are relatively low risk to seabirds, seine and troll, but gillnets are also used for about one quarter of the catch. Gillnets pose high risk to diving seabirds. There are important numbers of alcids that occur in the area of the fishery, most importantly the Threatened Marbled Murrelet. Although Canadian regulations are generally good, and from anecdotal information, bycatch is generally low, this fishery operates in an almost complete vacuum of information about what actual seabird bycatch numbers are. There is almost no independent observation on-board of bycatch. Therefore, Uncertainty is high, and this fishery must be considered Potentially High Risk to Seabirds. With improved information, this fishery might prove to be much lower risk.

### Recommendations

- Obtain immediately information on seabird bycatch, through the use of an independent on-board observer program that records seabird interactions and bycatch.
- If the data obtained on bycatch warrant, immediate implement mitigation methods to address the bycatch issues.

### Overview

This fishery uses seine, gillnet, and troll as the principal gear types to target chum salmon *Oncorhynchus keta*. Fishing is carried out in the Canadian Pacific EEZ and British Columbia coastal waters. The markets for the fish is worldwide. About 3,000 mt of the salmon were landed in 2012.

The fishery was certified as sustainable in January 2013. The assessment was originally managed by TAVEL Certification, but the company was acquired by Intertek Moody Marine in 2010; therefore, at the time of the certification the certification body was Intertek Moody Marine. The client was the Canadian Pacific Sustainability Fisheries Society. The assessment team was Steve Devitt (Moody Marine Ltd. / TAVEL Certification Inc.), Ray Hilborn (University of Washington), Dana Schmidt (private consultant), and Karl English (LGL Limited).

All text in quotation marks is from the certification report.

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### *Gear and Set*

The chum salmon fishery receives licenses for three gear types, seine, gillnet, and troll. Seines are used for about 50% of the annual harvest, whereas gillnets catch about 25% and trolling catches about 25% of the harvest. Seines are a medium-risk gear type and trolling is low-risk. Gillnets, however, are high-risk for diving seabirds such as alcids. In this fishery, the gillnets are also set in shallow water of inlets and coastal rivers, areas with high numbers of diving birds, thereby posing a greater risk to birds.

Other gear that may be used include beach seines, fish wheels, weirs and dip nets. All of these pose low risk to seabirds.

No mitigation methods or use of mitigation methods are mentioned in the certification report.

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### *Species*

“Chum salmon fisheries are highly focused in space/time and do not have a reputation for impacting marine mammals or seabird bycatch.”

“The gillnet fishery has also been identified as catching seabirds incidentally, including the Marbled Murrelet [*Brachyrhampus marmoratus*] which is designated as threatened under SARA [Species At Risk Act, Canada].” The Marbled Murrelet is listed on the IUCN Red List as Endangered (EN); and the US ESA lists the California, Oregon, and Washington populations as Threatened.

The only specific seabird mentioned in the report is Marbled Murrelet, which is mentioned once.

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### *Information*

Mandatory logbooks are required for all boats. “Fishery monitoring programs for non-target species are obligatory in all Canadian commercial fisheries, including North and Central coast chum fisheries. Following from the DFO discussion paper *Pacific Region Fishery Monitoring and Reporting Framework*, mandatory logbooks, frequent phone-in, and sales slip programs are in place for all commercial fisheries. Data on other species of fish, seabirds, and other non-target species, either retained or released, must be recorded.”

“Commercial fishery monitoring programs for target and non-target species are obligatory as a condition of license in all fisheries.... For example, salmon gill net harvesters are required to separately record any interception of all species of salmon including steelhead and Atlantics, dog fish, sturgeon, birds, mackerel, lingcod, halibut, rockfish, and marine mammals.”

“[T]here is a provision in the license conditions for each commercial vessel to accept observers on board if requested by DFO.”

The only information on seabird bycatch comes from anecdotes.

On-board observer coverage is very low, and focuses almost entirely on fish bycatch issues.

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#### *Conditions*

No conditions with regard to seabird bycatch or mortality were placed on the fishery.

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#### *Conclusions*

This fishery operates in an almost complete vacuum of information about seabird bycatch. There is almost no independent observation on-board of bycatch, and almost no information from any other source or research, besides logbooks. Although these logbooks are mandatory, it is not clear if there is any compliance with reporting on seabird bycatch.

Although the fishery does not have a reputation for having significant seabird bycatch, this is mostly from anecdotal sources. Because the fishery uses gillnets, which are high risk to diving seabirds such as alcids, direct and qualitative information is necessary to assure that the fishery is actually low risk to seabirds. This will require obtaining observer data on seabird interactions and bycatch directly from the fishery.

Reviewed: D. A. Wiedenfeld, 23 April 2013







Potentially High  
Risk to Seabirds

## FIUN BARENTS AND NORWEGIAN SEAS COD AND HADDOCK FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Medium	High	Good	Poor	Good	Fair	High
2	3	18	8	27	10	3
5/6		63/100				3/3

The Fishing Industry Union of the North (FIUN) trawl and longline fishery for cod and haddock in the Barents Sea fishes in an area with large numbers of seabirds, although most are not of threatened species. Although the draft certification report states that seabird bycatch is not a significant issue, it also states that there have been significant “periodic instances of heavy catches” of seabirds in trawls. These incidents are not discussed or quantified, and no mitigation methods to avoid future such incidents is mentioned or discussed. In addition, it is not clear that fishery observers are present on most vessels. Even when observers are present, it is not clear that those observers record seabird interactions where the bird is not hauled on board, as in the case of warp strikes. Therefore, although the fishery may not actually be killing many seabirds at present, there is a high level of uncertainty, requiring this fishery to be considered potentially high risk to seabirds.

### Recommendations

- Determine whether significant instances of heavy catches of seabirds in trawls are still occurring, and analyze the factors involved. Based upon the analysis, determine how to avoid future incidents. If such incidents are no longer occurring, demonstrate that fact, and report on what methods were used to prevent the incidents.
- Obtain better information from independent on-board observers. Observers should be placed on more vessels, and observers should be trained to record seabird interactions with gear, such as warp strikes, where a dead bird is not hauled on board. If there is evidence of a significant number of birds interacting with the gear, require the use of mitigation methods to prevent such interactions.
- Bird-scaring lines should be used on setting and hauling of longlines.

### Overview

This fishery uses demersal trawl and longline to target Atlantic cod *Gadus morhua* and haddock *Melanogrammus aeglefinus*. Fishing is carried out in the Barents and Norwegian Seas in ICES subareas Ia, Ib, IIa and IIb, in the coastal waters in the Norwegian and Russian EEZs. The primary market for the fish is Russia, the US, Europe, and China. In 2010, the catch was 224,000 mt.

The fishery is still in assessment for sustainability. The assessment is being managed by Food Certification International Ltd. for the Fishing Industry Union of the North (FIUN). The assessment team is Melissa McFadden (Food Certification International Ltd.), Geir Hønneland (Fridtjof Nansen Institute, Norway), and Paul Medley, John Hambrey, and Paul Macintyre (all independent consultants).

All text in quotation marks is from the public draft comment certification report.

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### *Gear and Set*

The majority of vessels in the fishery use demersal trawl, a medium-risk gear type to seabirds. No mitigation methods are used to prevent seabirds from striking the warps or entering the nets.

About 5% of vessels in the fishery use demersal longlines, a gear type that poses high risk to seabirds. The only mitigation method mentioned for the longlines is underwater setting, that is, setting the lines through a tube already submerged. No bird-scaring lines (streamer lines or tori lines) are used.

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### *Species*

The Barents Sea has a “summer population of around 20-25 million seabirds (more than 40 species).... Main concentrations of breeding seabirds (more than 80%) are located on the Norwegian mainland, Novaya Zemlya and Svalbard. However there has been a decline in seabird numbers over the last decade.”

“Unfortunately many seabird species are currently in decline, especially in the south of the Barents Sea, for reasons which are unclear. Decline is especially serious in the case of Common Guillemot [*Uria aalge*] and Black-legged Kittiwake [*Rissa tridactyla*] in the southern parts of the Barents Sea and Brünnich’s Guillemot [also called Thick-billed Guillemot, *Uria lomvia*] and kittiwake in the north. The long line and trawl fisheries are not implicated in this decline, though historic coastal gill-netting may have been a problem.”

“As noted in the Barents Sea Ecosystem Assessment ‘The factors responsible for the declining trends (in seabird populations) in the western parts of the region probably involve food shortage, predation from an increasing population of White-tailed Eagles [*Haliaeetus albicilla*] and lagged effects from previous by-catch in fisheries’. The latter almost certainly refers to historic catches in gill and drift nets in inshore fisheries.”

“With regard to the trawl fleet of greatest concern are the deep diving Common Guillemot (critically endangered and dives to >200m), Black Guillemot [*Cepphus grylle*] (vulnerable, dives to 130m), Thick-billed Guillemot (vulnerable), [Atlantic] Puffin [*Fratercula arctica*] (vulnerable, typically dives t<30m, but occasionally to 60m), and Razorbill [*Alca torda*] (vulnerable, dives to 120m). All these species could become entrapped in trawls, especially during recovery, and there have been periodic instances of heavy catches. However, such encounters seem to be relatively rare especially for the relatively deeper water trawling undertaken by FIUN vessels.” These species are listed as “critically endangered,” “endangered,”

or “vulnerable” on the Norwegian or Russian Red Lists. However, none of them is so listed by IUCN on the global Red List.

“Interaction with seabirds [in the longline fishery] is limited by deployment underwater, and this was not regarded as a problem by the vessel skipper interviewed.”

“The gulls, kittiwakes, [Northern] Fulmar [*Fulmarus glacialis*], petrel and tern could interact with long liners or with trawlers during recovery at water surface, but are more likely to benefit from spilled or waste fish than be adversely affected. This is particularly the case given the use of long line deployment tubes by the long line vessels. In both cases, fishermen reported limited negative interaction.”

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### *Information*

Although on page 35 of the draft comment report there is mention of “periodic instances of heavy catches” of seabirds in trawls (see under “Species,” above), there is no discussion of any of those “periodic instances,” no quantification, nor any mention of mitigation methods that might be used to avoid future incidents.

“There are significant monitoring initiatives related to seabirds and it is likely that any emerging and significant negative interactions with fisheries will be flagged up.” None of these initiatives, however, are detailed.

“There are regular routine inspections, and periodic observer programs....” There is no mention, however, if any of these observers record information on seabird bycatch or mortality of birds which are not hauled on board (such as mortality from warp strikes in trawlers).

Although the certification report does not recommend it, on page 120 there is mention for the need to for more on board observer data to ensure the adequacy of information on ETP species. “More detailed log books and specifically an ETP encounter reporting protocol would also help to address current data limitations.”

“Keeping a detailed fishing logbook on-board is mandatory for most vessels, and large parts of the fleet report to the authorities on a daily basis.”

The report does not have any quantitative information specifically on seabird bycatch.

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### *Conditions*

No conditions for certification or recommendations regarding seabirds were placed on the fishery.

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### *Conclusions*

Although the report states that there have been significant “periodic instances of heavy catches” of seabirds in trawls, these incidents are not discussed or quantified, no dates or time frame is

given, the species and magnitudes of the bycatch are not provided, and no mitigation methods to avoid future such incidents is mentioned or discussed. This leaves a high level of uncertainty as to the number of seabirds affected by this fishery.

This is exacerbated by the fact that it is not clear that fishery observers are present on most vessels. Even when observers are present, it is not clear that those observers record seabird interactions where the bird is not hauled on board, as in the case of warp strikes. Therefore, although the fishery may not actually be killing many seabirds at present, there is a high level of uncertainty, requiring this fishery to be considered potentially high risk to seabirds.

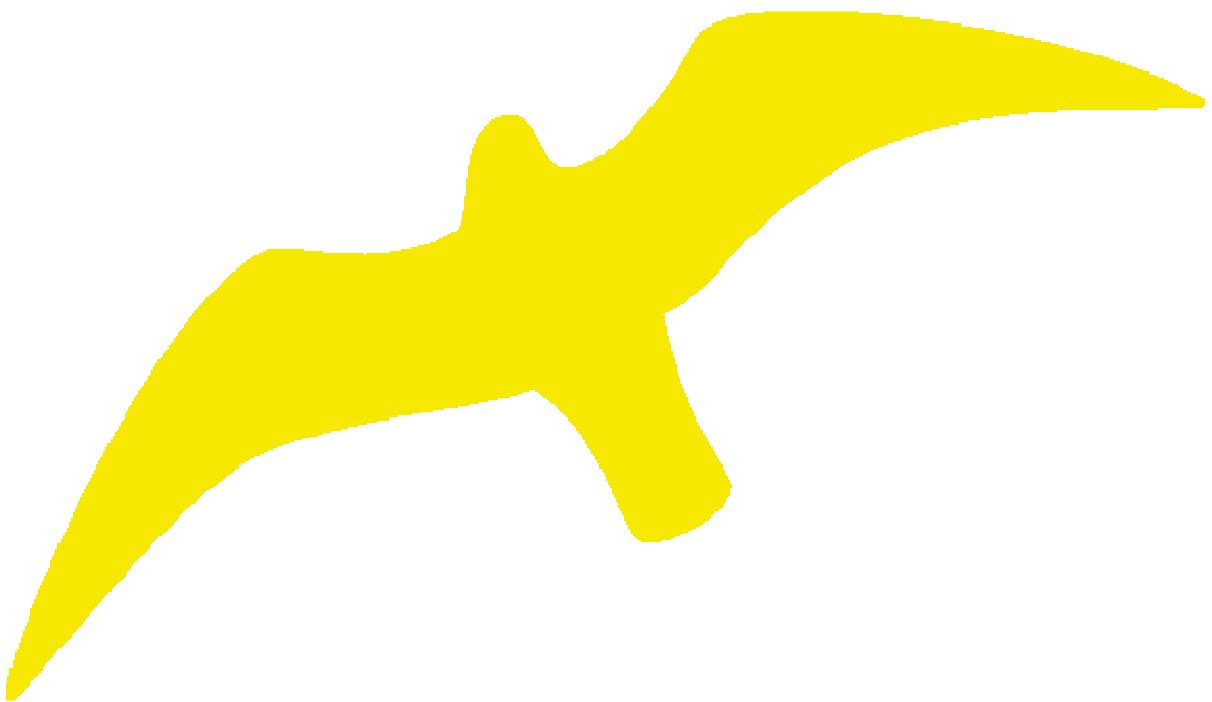
It is therefore necessary to obtain better information from independent on-board observers. Observers should be placed on more vessels, and observers should be trained to record seabird interactions with gear, such as warp strikes, where a dead bird is not hauled on board. If there is evidence of a significant number of birds interacting with the gear, require the use of mitigation methods to prevent such interactions.

In addition, it is necessary to determine whether significant instances of heavy catches of seabirds in trawls are still occurring, and analyze the factors involved. Based upon the analysis, fishery managers should determine how to avoid future incidents. If such incidents are no longer occurring, fishery managers should demonstrate that fact, and report on what methods were used to prevent the incidents.

Although the fishery has recognized that longlining can pose a significant risk to seabirds and has therefore required use of underwater setting of the longlines, the most effective methods for preventing seabird bycatch in longlines, the use of bird-scaring lines (streamer lines or tori lines) is not mentioned and apparently not used. Unless the fishery demonstrates that the under-water setting reduces seabird bycatch to very low levels, use of bird-scaring lines should be implemented.

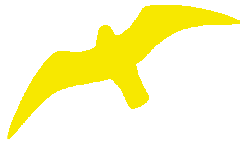
Reviewed: D. A. Wiedenfeld, 18 April 2013

## POTENTIALLY MEDIUM RISK FISHERIES









Potentially  
Moderate Risk to  
Seabirds

## CANADA ATLANTIC HALIBUT FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	High	Good	Fair	Fair	Fair	Medium
3	3	20	15	24	12	2
6/6		71/100				2/3

This fishery uses a high risk gear type, demersal longline, and in an area with many seabirds. Mitigation methods (bird scaring lines) are required, although it is not clear from the report if they are indeed used. Canadian Wildlife Service and Dept. of Fisheries and Oceans regulation and enforcement is very good, but observer coverage is low, and it isn't clear if observers report seabird bycatch.

The report for this fishery would be greatly improved by more information on mitigation methods and on actual seabird bycatch. If the information is not available, it should be obtained.

### Recommendations

- Improve observer coverage, and ensure that observers are recording information on seabird bycatch and not just fish bycatch. This may require training of observers in species identification and data recording procedures.
- Assure that all mitigation methods required to reduce seabird bycatch are actually being deployed.

### Overview

This fishery uses demersal longlines, demersal trawls, gillnets, and handlines to target Atlantic halibut *Hippoglossus hippoglossus*. Fishing is carried out in Canadian Atlantic waters off of Newfoundland and Nova Scotia, including part of the Grand Banks and Georges Bank, in NAFO areas 3NOPs, 4VWX, and 5Zc. The primary market is North America, both Canada and the US, but also to Europe. The annual landing in 2010 was about 1,760 mt.

The fishery is still in assessment. The assessment was managed by Scientific Certification Systems Global Services for the Atlantic Halibut Council. The assessment team was Adrienne Vincent (SCS Global Services), Steve Martell (University of British Columbia), and Bruce Turris (Pacific Fisheries Management Inc.).

All text in quotation marks is from the certification report.

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### *Gear and Set*

The fishery uses demersal longlines, a gear type that poses high risk to seabirds, to catch the large majority of the fish landed, about 87%.

Otter trawls catch about 7% of the halibut landed. These trawls pose a medium risk to seabirds.

The remaining 6% of the halibut catch is brought in by handlines (very low risk to seabirds) or gillnets (high risk to seabirds).

However, the NPOA-Seabirds for Canada (National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries, March 2007) states: “Colored streamers that flap in the wind to scare birds away from longlines are attached to lines mounted on poles at the stern of the vessel and are connected to a floating buoy. In 2002, this became a mandatory condition of license in the commercial halibut, sablefish, and rockfish longline fisheries in Canada.” The lack of mention of this in the report makes it questionable whether this is applied to this particular fishery.

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### *Species*

“Some bird species are caught in the longline fishery, but risks are considered low because interaction rates are low (0.005 interactions/set) [one bird per 200 sets]. Interactions with Northern Fulmars [*Fulmarus glacialis*], Greater Shearwaters [*Puffinus gravis*] and black backed gulls [*Larus* spp.] and longline gear have been recorded, but as these populations are not currently at risk (considered to be within biologically based limits).” All of these species are listed as Least Concern (LC) by IUCN.

There is NO additional information on seabird bycatch in the report.

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### *Information*

“On-board observer coverage for the domestic fleet is 10% or less in the total area under consideration for this report, with the exception of 5Zc where coverage averages 20% or greater. The small boat sector generally receives less on-board observer coverage than larger boat sectors.” It is not clear that observers record any seabird data. However, because this is principally a longline fishery, it is likely that seabirds killed would be hauled on board, and therefore be counted as bycatch.

“Industry-funded at-sea observer coverage [in Canadian Atlantic fisheries for all species] is required at a rate decided jointly between DFO and the respective sector. A default coverage rate is generally 5-10 % for most fisheries, however some areas/fisheries require 25%, 50% and even 100% coverage depending on the conservation issue and the specific concerns and risks associated a given fishery. In the Atlantic halibut fishery the coverage level is general low.”

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*Conditions*

No conditions for certification or recommendations regarding seabirds was given to this fishery.

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*Conclusions*

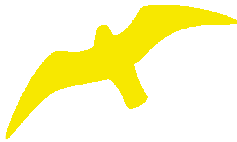
This report and the assurance that this fishery is actually sustainable, would be greatly improved by providing more information. For example, although Canadian regulations require that streamer lines be deployed in the commercial halibut fishery, it is not clear that they actually are, and there is no mention of them in the draft certification report. Canadian Wildlife Service and Dept. of Fisheries and Oceans regulation and enforcement is very good, but observer coverage is low, and it is not clear if observers report seabird bycatch.

In addition, although it is mentioned that seabird “interactions” (it is not clear if this refers to bycatch or other interactions whether or not leading to mortality) are low, about 0.005 per set. However, no other numbers are given, by species or in total, so it is very difficult to evaluate this number. Although the raw statistics may be available in the DFO bycatch database, the information should be summarized for this report.

It is necessary to improve observer coverage, and ensure that observers are recording information on seabird bycatch and not just fish bycatch. This may require training of observers in species identification and data recording procedures.

Reviewed: D. A. Wiedenfeld, 19 April 2013





Potentially  
Moderate Risk to  
Seabirds

## DFPO DENMARK NORTH SEA & SKAGERRAK HADDOCK FISHERIES

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	Medium	Good	Poor	Good	Poor	Medium
3	2	18	1	25	7	2
5/6		51/100				2/3

This haddock fishery uses five gear types, of which two, longline and gillnet, pose high risk to seabirds. Although bycatch appears to be low, there is a lack of information especially on the longline and gillnet fisheries. This leads to a high level of uncertainty about what species and what numbers of seabirds may be being affected in this fishery.

### *Recommendations*

- Obtain more information on seabird bycatch, by species of bird, especially for the gillnet component of the fishery, by developing and improving an observer program.
- Using that information, make any changes to the fishery that would be needed to reduce seabird bycatch.

### *Overview*

This fishery uses five gear types, trawl, trammel net, gillnet, Danish seine, and longline, to target haddock *Melanogrammus aeglefinus*. Fishing is carried out in the North Sea and Skagerrak in ICES area IV. The primary market for the fresh or frozen fish is apparently in Europe, to the UK, France, Germany, and the Netherlands. The fishery has landed about 1,400 mt per year in recent years.

The fishery was certified as sustainable on 7 August 2012. The assessment was managed by Food Certification International Ltd. for the Danske Fiskeres Producent Organisation (DFPO). The assessment team was Antonio Hervás (Food Certification International Ltd.), Paul Medley and Bernard Johannes Keus (independent consultants), and Andrew Read (Director of Fisheries, Isle of Man).

All text in quotation marks is from the certification report.

### *Gear and Set*

The fishery uses five great types: trawl, trammel net, gillnet, Danish seine, and longline. Of these, longline and gillnet pose high risk to seabirds, whereas trawls, trammel nets, and Danish seines pose medium risk.

No mitigation methods or use of mitigation methods are mentioned in the certification report.

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### *Species*

Species likely to be caught include Common Guillemot, Great Cormorant, Red-throated Diver, Red-breasted Merganser, Black Guillemot, Great-crested Grebe, Razorbill, Common Scoter and Velvet Scoter and occasionally dabbling ducks or gulls. No estimates of seabird bycatch by gillnets are currently available.

“Capture of marine mammals, birds, angelshark and Basking shark, and skates in this fishery are not believed to be an issue...”

“Concerning the by catch of birds the client has provided data that show that one vessel caught about 20 sea gulls in total in the year 2010. The other vessel reported minimal numbers. It is highly unlikely that the numbers reported create unacceptable impacts on the populations of sea gulls.”

“Concerning birds it is obvious that fishermen will try prevent bycatches since it results in an inefficient fishery when birds take bait [bait].”

“A species identification and handling guide is currently being published in collaboration with scientific institutions and will be distributed to all vessels.”

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### *Information*

“The DFPO Code of Conduct in operation since September 2010 requires all vessels to record all catches of ETP species (elasmobranch, fish, birds, mammals) in the on-board recording sheet. These data will be collated and reported by the DFPO for every calendar year, and analysed in collaboration with the relevant scientific institutions.”

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### *Conditions*

In this fishery all seabirds fall under the European Birds Directive, and therefore qualify as ETP species. Condition 4 states: “The DFPO Code of Conduct in operation since September 2010 requires all vessels to record all catches of ETP species (including marine mammals) in the on-board recording sheet. Data on catches of harbour porpoises in the set net fishery should be collated and reported by the DFPO to the assessment team. A species identification and handling guide should be onboard of all vessels fishing with set nets [gillnets].”

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### *Conclusions*

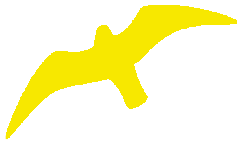
Although bycatch in this fishery appears to be low, there is a lack of information, especially on the longline and gillnet fisheries. This leads to a high level of uncertainty about what species and what numbers of seabirds may be being affected in this fishery. Therefore, it is necessary to obtain more information on seabird bycatch by developing and improving an

observer program. Using that information, make any changes to the fishery that would be needed to reduce seabird bycatch.

Reviewed: D. A. Wiedenfeld, 12 December 2012







Potentially  
Moderate Risk to  
Seabirds

## DFPO DENMARK NORTH SEA SOLE FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	Medium	Good	Poor	Good	Poor	Medium
3	2	18	1	25	4	2
5/6		48/100				2/3

This fishery uses three gear types, of which two, gillnet and trammel net, pose high risk to seabirds. Although bycatch appears to be low, there is a lack of information. This leads to a medium level of uncertainty about what species and what numbers of seabirds may be being affected in this fishery. An important requirement of the fishery is to obtain more information on its ETP species, especially seabird, bycatch.

### *Recommendations*

- Obtain more information on seabird bycatch, by species of bird, especially for the gillnet and trammel net components of the fishery. This may be done with CCTV system but probably should require more onboard observer trips.
- Using that information, make any changes to the fishery that would be needed to reduce seabird bycatch.

### *Overview*

This fishery uses demersal trawls and gillnets and trammel nets to target common sole *Solea solea*. Fishing is carried out in the North Sea in ICES area IV. The primary market is for chilled fish in the Netherlands, Germany, Italy, and Spain. Approximately 400 mt is harvested annually.

The fishery was certified as sustainable on 7 June 2012. The assessment was managed by Food Certification International Ltd. for the Danske Fiskeres Producent Organisation (DFPO). The assessment team was Antonio Hervás (Food Certification International Ltd.), Bernard Johannes Keus (independent consultant), Marco Frederiksen (Eurofish [Denmark]), and Andrew Read (Director of Fisheries, Isle of Man).

All text in quotation marks is from the certification report.

### *Gear and Set*

The fishery uses demersal trawl, trammel net, and sole gillnet. Trawls pose medium risk to seabirds, whereas trammel nets and gillnets can pose high risk. Sole gillnets, however, may be lower risk than other gillnets, because the nets are low, usually only about 1 m high. The

nets are also a relatively small mesh. The nets are usually soaked overnight, from late afternoon to morning, a time when diving seabirds are usually less active. These three factors (low nets, small mesh, and night setting) may make the nets less risky for seabirds.

No mitigation methods or use of mitigation methods are mentioned in the certification report.

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### *Species*

In this fishery all seabirds fall under the European Birds Directive, and therefore qualify as ETP species.

Species likely to be caught include Common Guillemot, Great Cormorant, Red-throated Diver, Red-breasted Merganser, Black Guillemot, Great-crested Grebe, Razorbill, Common Scoter and Velvet Scoter and occasionally dabbling ducks or gulls.

“Capture of marine mammals, birds, angelshark and Basking shark, and skates in this fishery are not believed to be an issue...”

No estimates of seabird bycatch by gillnets are currently available.

“A species identification and handling guide is currently being published in collaboration with scientific institutions and will be distributed to all vessels.”

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### *Information*

“The DFPO Code of Conduct in operation since September 2010 requires all vessels to record all catches of ETP species (elasmobranch, fish, birds, mammals) in the on-board recording sheet. These data will be collated and reported by the DFPO for every calendar year, and analysed in collaboration with the relevant scientific institutions.”

Observer coverage is very low, with no data provided since 2008.

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### *Conditions*

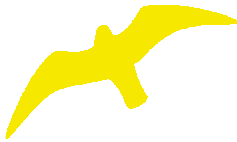
Condition 4: The DFPO is required to liaise with an appropriate fisheries research body on Denmark to collect data on bycatch in this fishery. Although this condition does not specifically mention seabird bycatch and mortality, it would probably be included.

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### *Conclusions*

Although bycatch in this fishery appears to be low, there is a lack of information, especially on the gillnet and trammel net fisheries. This leads to an unacceptable level of uncertainty about what species and what numbers of seabirds may be being affected in this fishery. Therefore, it is necessary to obtain more information on seabird bycatch by developing and improving a data collection or observer program. Using that information, make any changes to the fishery that would be needed to reduce seabird bycatch.

Reviewed: D. A. Wiedenfeld, 12 February 2013



Potentially  
Moderate Risk to  
Seabirds

## FAROE ISLANDS NORTH EAST ARCTIC COD FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Medium	High	Good	Poor	Good	Poor	Medium
2	3	18	1	30	7	2
5/6		56/100				2/3

The fishery uses bottom-skimming trawls to catch cod in the Norwegian Sea and Barents Sea. Although this is not a high-risk gear type, there are very large numbers of seabirds in the area, although most of these are not threatened globally. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is apparently no observer information on interactions between seabirds and warps.

### Recommendations

- Obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause. The use of logbooks will improve the level of information, but independent observer information would be more useful.

### Overview

This fishery uses rockhopper Baka trawl, a demersal trawl type, to target Atlantic cod *Gadus morhua*. Fishing is carried out in the Barents Sea in ICES areas I and II within the Norwegian and Russian EEZs and in international waters. The main market for the fish is the Europe Union. About 3,800 mt of fish are landed each year.

The fishery was certified as sustainable on 17 August 2012. The assessment was managed by Det Norske Veritas Certification AS for the fishery company Gadus P/F. The assessment team was Sandhya Chaudhury and Anna Kiseleva (DNV), Stephen Lockwood (independent consultant), and Oli Samro (independent consultant).

All text in quotation marks is from the certification report.

### Gear and Set

The two fishing boats in this fishery use a Baka 630 demersal trawl equipped with rockhopper gear, which is a medium-risk gear type for seabirds. No mitigation methods or use of mitigation methods for seabirds are mentioned in the certification report.

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### *Species*

“Nearly 40 species are thought to breed regularly in northern regions of the Norwegian Sea and the Barents Sea but just two species – [Atlantic] Puffin (*Fratercula arctica*) and [Black-legged] Kittiwake (*Rissa tridactyla*) – account for more than 90% of all breeding seabirds in the region.”

“Seabirds are invariably in close association with fishing vessels, particularly during hauling, as they seek to scavenge whatever fish they can but neither of the client-group skippers interviewed could ever recall a bird being snared in the gear.”

“[T]he ICES working group on seabird ecology ... has not identified any specific problems associated with either the Barents Sea or trawl fisheries in the NE Atlantic.”

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### *Information*

“At present there is no statutory requirement from the Faroese, Norwegian and Russian authorities for vessels to record interactions (fatal or otherwise) with seabirds or marine mammals. Thus, reliable records of contact and potential impact on ETP species are not available.”

“Each vessel must maintain an up-to-date paper log book of fishing position and catch details.”

“Reference fleet vessels also gather information on bird and marine mammal bycatch.”

“NAMMCO [North Atlantic Marine Mammal Commission] has recommended that member countries, including Faroe Islands, should monitor and report bycatch of marine mammals and seabirds. If issues relating to ETP species are identified (by NAMMCO for example), various mechanisms have been developed to detect and reduce their effects. These include biodiversity action plans for the protection of key and threatened species and habitats and the OSPAR [Oslo and Paris Conventions; officially the Convention for the Protection of the Marine Environment of the North-East Atlantic] strategy for biological diversity in the marine environment.”

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### *Conditions*

No conditions for certification regarding seabirds were placed on the fishery. However, Recommendation 2.3 states: “When the e-logbooks are introduced there will be a statutory requirement for the presence or absence of any ETP species (birds and marine mammals) in the catch to be recorded. The client should anticipate this change by making it a requirement on the current paper log books with immediate effect.” There are few ETP seabird species that interact with this fishery.

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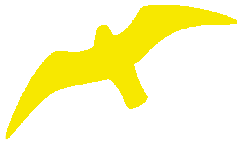
*Conclusions*

Although this fishery is not high risk to seabirds, fishing is carried out in an area with millions of seabirds. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is apparently no observer information on interactions between seabirds and warps. Therefore, it is necessary to obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause.

Reviewed: D. A. Wiedenfeld, 19 April 2013







Potentially  
Moderate Risk to  
Seabirds

## FAROE ISLANDS NORTH EAST ARCTIC HADDOCK FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Medium	High	Good	Poor	Good	Poor	Medium
2	3	18	1	30	7	2
5/6		56/100				2/3

The fishery uses bottom-skimming trawls to catch haddock in the Norwegian Sea and Barents Sea. Although this is not a high-risk gear type, there are very large numbers of seabirds in the area, although most of these are not threatened globally. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is apparently no observer information on interactions between seabirds and warps.

### Recommendations

- Obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause. The use of logbooks will improve the level of information, but independent observer information would be more useful.

### Overview

This fishery uses rockhopper Baka trawl, a demersal trawl type, to target haddock *Melanogrammus aeglefinus*. Fishing is carried out in the Barents Sea in ICES areas I and II within the Norwegian and Russian EEZs and in international waters. The main market for the fish is the Europe Union. About 3,800 mt of fish are landed each year.

The fishery was certified as sustainable on 18 August 2012. The assessment was managed by Det Norske Vertias Certification AS for the fishery company Gadus P/F. The assessment team was Sandhya Chaudhury and Anna Kiseleva (DNV), Stephen Lockwood (independent consultant), and Oli Samro (independent consultant).

All text in quotation marks is from the certification report.

### Gear and Set

The two fishing boats in this fishery use a Baka 630 demersal trawl equipped with rockhopper gear, which is a medium-risk gear type for seabirds. No mitigation methods or use of mitigation methods for seabirds are mentioned in the certification report.

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### *Species*

“Nearly 40 species are thought to breed regularly in northern regions of the Norwegian Sea and the Barents Sea but just two species – [Atlantic] Puffin (*Fratercula arctica*) and [Black-legged] Kittiwake (*Rissa tridactyla*) – account for more than 90% of all breeding seabirds in the region.”

“Seabirds are invariably in close association with fishing vessels, particularly during hauling, as they seek to scavenge whatever fish they can but neither of the client-group skippers interviewed could ever recall a bird being snared in the gear.”

“[T]he ICES working group on seabird ecology ... has not identified any specific problems associated with either the Barents Sea or trawl fisheries in the NE Atlantic.”

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### *Information*

“At present there is no statutory requirement from the Faroese, Norwegian and Russian authorities for vessels to record interactions (fatal or otherwise) with seabirds or marine mammals. Thus, reliable records of contact and potential impact on ETP species are not available.”

“Each vessel must maintain an up-to-date paper log book of fishing position and catch details.”

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### *Conditions*

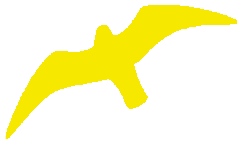
No conditions for certification regarding seabirds were placed on the fishery. However, Recommendation 2.3 states: “When the e-logbooks are introduced there will be a statutory requirement for the presence or absence of any ETP species (birds and marine mammals) in the catch to be recorded. The client should anticipate this change by making it a requirement on the current paper log books with immediate effect.” There are few ETP seabird species that interact with this fishery.

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### *Conclusions*

Although this fishery is not high risk to seabirds, fishing is carried out in an area with millions of seabirds. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is apparently no observer information on interactions between seabirds and warps. Therefore, it is necessary to obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause.

Reviewed: D. A. Wiedenfeld, 18 April 2013



Potentially  
Moderate Risk to  
Seabirds

## FAROE ISLANDS SAITHE FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Med	High	Good	Poor	Good	Fair	Low
2	3	18	3	29	12	1
5/6		62/100				1/3

The fishery primarily uses otter and pair trawls to fish for saithe. Although this is not a high-risk gear type, there are very large numbers of seabirds in the Faroe Islands and in the fishing area. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is little observer information on interactions between seabirds and warps. The fishery is initiating an e-logbook system that should increase the amount of information.

### *Recommendations*

- Obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause. Observers will likely have to be trained to obtain the needed information.

### *Overview*

This fishery uses demersal trawls (otter trawl or pair trawl), jigs, and longlines to target saithe (pollock) *Pollachius virens*. Fishing is carried out in the area of the Faroe Islands in ICES areas Vb1 and Vb2. The main market for the fish is the Europe Union. In 2011 otter trawls landed about 900 mt of fish and pair trawls landed about 24,700 mt, for a total of about 25,600 mt.

The fishery is still in assessment. The assessment is being managed by Det Norske Vertias Certification AS for the clients P/F JFK and P/F Faroe Origin. The assessment team was Sandhya Chaudhury and Guro Meldre Pedersen (DNV), and John Nichols, Stephen Lockwood, and Simun Joensen (all independent consultants).

All text in quotation marks is from the draft public comment certification report.

### *Gear and Set*

The fishery primarily uses trawls, either otter trawl or pair trawl, catching about 93% of the total landed. These trawls pose a medium-risk for seabirds.

Jigs, a low-risk to seabirds gear, are used to catch 6% of the total landed.

No mitigation methods or use of mitigation methods for seabirds are mentioned in the certification report for the trawls or jig gear.

Longlines and gillnets catch the remaining 1% of the tonnage landed. Longlines and gillnets pose a high risk to seabirds. “All of the auto-long liners fly plastic ‘ragged strip’ bird scarers when fishing to minimize the risk of birds taking the bait and thereby reducing catch potential.” It is not clear if any of the vessels in the saithe fishery are auto-longliners.

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### *Species*

“It is estimated that there are some 2 million pairs of seabirds on the Faroe Islands: [Northern] Fulmar (*Fulmarus glacialis*) 600 000 pairs (600 kp), [Atlantic] Puffin (*Fratecula arctica*) 550 kp, common storm petrel [European Storm-Petrel] (*Hydrobates pelagicus*) 250 kp, [Black-legged] Kittiwake (*Rissa tridactyla*) 230 kp, [Common] Guillemot (*Uria aalge*) 175 kp, Manx Shearwater (*Puffinus puffinus*) 25 kp, Lesser Black-back[ed] Gull (*Larus fuscus*) 9 kp, Razorbill (*Alca torda*) 4.5 kp, Black Guillemot (*Cepphus grylle*) 3.5 kp, [Common] Eider duck (*Somateria molissima*) 3.5 kp, [Northern] Gannet (*Sula* [*Morus*] *bassana*) 2 kp, Arctic Tern (*Sterna paradisea*) 2 kp, [European] Shag (*Phalacrocorax aristotelis*) 1.5 kp, Herring Gull (*Larus marinus* [*argentatus*]) 1.2 kp, Great Black-back[ed] gull (*Larus marinus*) 1.2 kp, common [Mew] Gull (*Larus canus*) 1 kp, Leach’s Storm Petrel (*Oceanodroma leucorhoa*) 1 kp, Arctic skua [Parasitic Jaeger] (*Stercorarius parasiticus*) 0.9 kp, Great Skua (*Stercorarius skua*) 0.5 kp, Black-headed Gull (*Larus ridibundus*) 0.3 kp plus a further variety of species in smaller numbers.”

“There have been no formal investigation of seabird bycatch by trawlers in the Faroe Islands but, it is thought not to be a major problem, except in the longline fishery where Havstovan [Faroe Marine Research Institute] has estimated that 5000–25 000 fulmars (all ages) are taken each year; i.e. equivalent to 1–5% the breeding population (SGBYC, 2010). (A similar number of fulmars are probably taken in the traditional annual seabird hunt during late August–early September (a hunt that is subject to sustainability limits advised by Havstovan).” The saithe fishery uses longline to catch less than 1% of the total catch. The longline fleet in the Faroe Islands primarily addresses other fish harvests. The fulmars mentioned here are not primarily coming from the saithe fishery but from other longline fisheries.

Birds “can be ensnared as they attempt to take fish and other catch from the net itself as it is hauled aboard. While there is potential for this interaction to exist, no data are currently available from Faroese trawl fleets; nevertheless, one skipper interviewed in 2011 (Jørmund Olsen, pers comm.) estimated that there may be ten to 20 occasions during the year when a single gannet is ensnared and drowned by each trawler.”

“There are no closed areas to protect other habitats [besides corals], seabirds or marine mammals.”

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*Information*

“Hitherto, there has been no requirement for skippers to record bird mortalities in paper logbooks but this is changing with the introduction of the e-logbook (which is currently underway but is not yet universal across the Faroese fleet). Not only will it be mandatory to record seabird–fishing-gear interactions (including ‘zero interaction’), the program does not permit the skipper to ‘Continue’ to the next e-page until the appropriate box is completed (Ministry Fisheries pers. comm.). As this system has been introduced within the past year, there are, as yet, no data available from it.”

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*Conditions*

One condition, Condition 4, was placed on the fishery, requiring it to obtain more information on ETP species, to support development and evaluation of the management strategy. It is not clear if this specifically includes seabirds. There are few ETP seabird species that interact with this fishery.

One Recommendation was made that affects seabird bycatch and mortality, Recommendation 2. The recommendation states that all interactions with seabirds (and sea mammals) need to be documented and explicit. These interactions, along with fishing trips which produce no interactions, should be recorded in e-logbooks throughout the fleet.

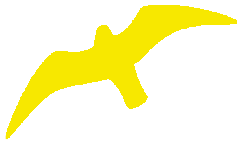
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*Conclusions*

Although this fishery is not high risk to seabirds, fishing is carried out in an area with millions of seabirds. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is little observer information on interactions between seabirds and warps. Therefore, it is necessary to obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause.

Reviewed: D. A. Wiedenfeld, 19 April 2013





Potentially  
Moderate Risk to  
Seabirds

## FAROE ISLANDS SILVER SMELT FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Med	High	Good	Poor	Good	Fair	Med
2	3	18	1	25	12	2
5/6		56/100				2/3

The fishery uses bottom-skimming trawls to catch the smelt. Although this is not a high-risk gear type, there are very large numbers of seabirds in the Faroe Islands and in the fishing area. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is apparently no observer information on interactions between seabirds and warps.

### Recommendations

- Obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause.

### Overview

This fishery uses purse seine to target great silver smelt *Argentina silus*. Fishing is carried out in the area of the Faroe Islands in ICES areas Vb1 and Vb2. The main market for the fish is the Europe Union. Between 15,000 and 20,000 mt of fish are landed each year.

The fishery was certified as sustainable on 28 August 2012. The assessment was managed by Det Norske Vertias Certification AS for the fishery company Tavan SP/F. The assessment team was Sandhya Chaudhury and Anna Kiseleva (DNV), Stephen Lockwood (independent consultant), and Oli Samro (independent consultant).

All text in quotation marks is from the certification report.

### Gear and Set

The fishery uses a semi-pelagic bottom-skimming trawl, which is a medium-risk gear type for seabirds. No mitigation methods or use of mitigation methods for seabirds are mentioned in the certification report.

### Species

“It is estimated that there are some 2 million pairs of seabirds on the Faroe Islands: [Northern] Fulmar (*Fulmarus glacialis*) 600 000 pairs (600 kp), [Atlantic] Puffin (*Fratecula*

*arctica*) 550 kp, common storm petrel [European Storm-Petrel] (*Hydrobates pelagicus*) 250 kp, [Black-legged] Kittiwake (*Rissa tridactyla*) 230 kp, [Common] Guillemot (*Uria aalge*) 175 kp, Manx Shearwater (*Puffinus puffinus*) 25 kp, Lesser Black-back[ed] Gull (*Larus fuscus*) 9 kp, Razorbill (*Alca torda*) 4.5 kp, Black Guillemot (*Cepphus grylle*) 3.5 kp, [Common] Eider duck (*Somateria molissima*) 3.5 kp, [Northern] Gannet (*Sula* [*Morus*] *bassana*) 2 kp, Arctic Tern (*Sterna paradisea*) 2 kp, [European] Shag (*Phalacrocorax aristotelis*) 1.5 kp, Herring Gull (*Larus marinus* [*argentatus*]) 1.2 kp, Great Black-back[ed] gull (*Larus marinus*) 1.2 kp, common [Mew] Gull (*Larus canus*) 1 kp, Leach's Storm Petrel (*Oceanodroma leucorhoa*) 1 kp, Arctic skua [Parasitic Jaeger] (*Stercorarius parasiticus*) 0.9 kp, Great Skua (*Stercorarius skua*) 0.5 kp, Black-headed Gull (*Larus ridibundus*) 0.3 kp plus a further variety of species in smaller numbers."

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### Information

"Although there is currently no requirement for skippers to record bird mortalities in current logbooks, there is a space for them to do so if they wish. Once the new electronic logbooks are introduced to the fishing fleet, however, it will be mandatory to record the presence *or absence* of seabirds in the catch."

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### Conditions

No conditions for certification regarding seabirds were placed on the fishery. However, Recommendation 2.3 states: "When the e-logbooks are introduced there will be a statutory requirement for the presence or absence of any ETP species (birds and marine mammals) in the catch to be recorded. The client should anticipate this change by making it a requirement on the current paper log books with immediate effect." There are few ETP seabird species that interact with this fishery.

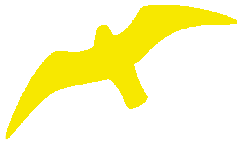
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### Conclusions

Although this fishery is not high risk to seabirds, fishing is carried out in an area with millions of seabirds. Although there is little evidence that seabirds are being caught there is a possibility of mortality of birds from warp strikes. However, there is apparently no observer information on interactions between seabirds and warps. Therefore, it is necessary to obtain observer information on seabird interactions with trawl warps and estimate mortality of seabirds from this cause.

Reviewed: D. A. Wiedenfeld, 18 January 2013





Potentially  
Moderate Risk to  
Seabirds

## FIJI ALBACORE TUNA LONGLINE FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	Low	Fair	Fair	Good	Poor	Medium
3	1	11	12	32	6	2
4/6		55/100				2/3

This fishery uses pelagic longline gear, which can pose high risk to seabirds. Bycatch appears to be low, but largely because there are few seabirds that interact with the fishery, although all vessels use a deep-setting line shooter as a mitigation method. Observer coverage is also very low, which leads to high levels of uncertainty.

### Recommendations

- Obtain high quality observer data on seabird bycatch and mortality in the fishery. This will require increasing the number of onboard observers, and training them in bird identification and seabird bycatch and mortality data collection.
- Once observation data have been collected, modify the fishery practices to address any bycatch or mortality issues.

### Overview

This fishery uses pelagic longline to target albacore tuna *Thunnus alalunga*. Fishing is carried out in the Pacific Ocean in FAO Statistical Areas 71, 77, and 81. The fishery falls under the purview of the West Central Pacific Fishery Commission (WCPFC), one of the tuna Regional Fisheries Management Organizations (RFMOs). The fish are sold primarily fresh to markets in Japan, the USA, and Thailand. About 3,000 to 4,000 mt are landed each year.

The fishery was certified as sustainable on 13 December 2012. The assessment was managed by Intertek Moody Marine for the Fiji Tuna Boat Owners Association. The assessment team was Jo Akroyd (Jo Akroyd Ltd. [New Zealand]), Kevin McLoughlin (independent consultant, Australia), and Tim Huntington (independent consultant, UK).

All text in quotation marks is from the certification report.

### Gear and Set

Pelagic longline is a high-risk gear type.

As with most tuna fisheries managed by RFMOs, in areas regulated by the WCPFC south of 30° S and north of 23° N, this fishery requires use of two mitigation methods, one selected from each column of a two-column menu. In the areas between those latitudes, the fisheries are *encouraged* to use one or more of the methods in the menu. The Fijian fishery is between 30° S and 23° N and is therefore only encouraged to use a mitigation method.

“At present all boats in the UoC [Unit of Certification, in this case the Fijian client’s vessels] utilize a deep setting line shooter to assist the gear reach a fishing depth quickly - the very rare incidence of seabird bycatch has meant that other mitigation approached have been considered unnecessary. Most sets are commenced between the hours of 4-5 in the morning before it is light, although may continue into daylight hours.”

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### *Species*

“Seabirds: limited if any information exists concerning the capture of avifauna by tuna longline gear in the tropical Pacific. When assessing the situation in higher latitude fisheries e.g. Australia, New Zealand, and Hawaiian longline fisheries, seabird bycatch in the tropical Pacific is extremely miniscule in comparison.”

“[T]he main Fijian species to be at risk are the Fijian Petrel *Pseudobulweria macgillivrayi* (mainly due to its extremely low population) and the Tahiti Petrel *P. rostrata*.” Fijian Petrel is IUCN Red List status CR and Tahiti Petrel is NT.

“Tahiti Petrel: This species is classified as Near Threatened because, although it breeds on a relatively large number of islands, it still has a moderately small population which is declining owing to predation by introduced mammals, and, locally at least, mining... There are no observer interactions with seabirds in Fijian waters. Several Tahiti Petrels and a Kermadec Petrel with damaged wings, perhaps caused by entanglement with long-lines, were observed off Gau in 2009 (Shirihai et al., 2009), but this was not conclusively linked to fishing. In interviewing longline masters Watling (2002) concludes that:

“‘A local fishing operation, Fiji Fish Group, provided information that between 2003-2002 five vessels from the fleet set a total 2,395,000 hooks without a single incidence of seabird bycatch. Although, in 1992, one longline captain vaguely recalls catching a bird way to the south of Fiji, to his knowledge this is the only seabird bycatch witnessed in 11,700 days of fishing’

“Given the very low levels of interaction between this fishery and seabirds, and that this particular fishery tends to be in deep oceanic waters away from nesting areas, it is considered that its effects on these two vulnerable species are highly likely to be within limits of national and international requirements for protection of ETP species. The findings that overall seabird bycatch is not significant in the tropical Pacific tuna longline fishery is also supported by numerous industry sources, government observers, and fisheries consultants (Watling, 2002).”

“There is some information on both sea turtle and seabird bycatch from observer programmes, as well as industry discussions. However there is no comprehensive monitoring

of either of these groups of animals, mainly because interaction levels are so low and it has never been considered to be necessary.”

“A number of seabirds are protected by Fiji’s Endangered and Protected Species Act 2002, including the Polynesian Storm-Petrel *Nesofregetta albigularis*, White-tailed Tropicbird *Phethon [=Phaethon] lepturus*, the Fiji Petrel *Pseudobulweria macgillivrayi* and the Tahiti Petrel *Pseudobulweria rostrata*.”

“SPC [Secretariat of the Pacific Community] ERA [Ecological Risk Assessment] data suggest that longliners interaction with sea birds is low during spring and summer and increases to medium during autumn and winter.”

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#### *Information*

“The Albacore Tuna Longline Fishery is now subject to an observer programme, but coverage is very low (around 3%).”

“Fiji observers have not been able to identify sea birds so far and therefore interactions are unknown.”

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#### *Conditions*

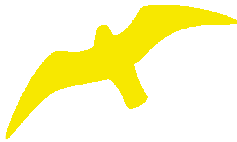
“By the third annual audit the client must provide evidence that a reporting system to record the occurrence and outcome of all interactions with sea turtles and seabirds has been developed at the fleet level to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full strategy to manage impacts. The data that is collected should be sufficient to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.”

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#### *Conclusions*

Although bycatch appears to be low in the Fijian tuna longline fishery, this is largely because there are few seabirds that interact with the fishery, although the fishers use a deep-setting line shooter to mitigate risk to seabirds. Observer coverage, however, is very low, which leads to high levels of uncertainty. Therefore, it is necessary for the fishery to obtain high quality observer data on seabird bycatch and mortality. This will require increasing the number of onboard observers, and training them in bird identification and seabird bycatch and mortality data collection. Once observation data have been collected, modify the fishery practices to address any bycatch or mortality issues.





Potentially  
Moderate Risk to  
Seabirds

## RUSSIAN SEA OF OKHOTSK MID- WATER TRAWL WALLEYE POLLOCK FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Medium	High	Fair	Poor	Good	Fair	
2	3	12	1	30	15	
5/6		58/100				

The fishery uses a medium-risk gear type, mid-water trawl, in an area that could have many individuals of seabirds, including some highly threatened species such as Short-tailed Albatross. Although what little evidence there is suggests that seabird mortality rates are low, the large scale of the fishery may be having significant impact on seabirds simply because of the large number of tows. An important problem is the lack of observer information on seabird interactions with gear. Obtaining this information is a condition of the certification. Once obtained, the information should be used to improve the fishery and reduce seabird mortality.

### Recommendations

- Obtain more information on seabird mortality, including bycatch but also mortality resulting from interactions with warps or other gear.
- Using that information, make any changes to the fishery that would be needed to reduce seabird bycatch.

### Overview

This fishery uses mid-water trawls to pursue walleye pollock *Theragra chalcogramma* in the Russian EEZ in the Sea of Okhotsk, in FAO region 61. Pollock roe is marketed mainly to Japan and southeast Asia. Fillets are sold in Russia as well as Asian and European markets. Approximately 700,000 mt were landed in 2009.

The fishery is still in process of certification. The assessment was managed by Intertek Moody Marine for the Russian Pollock Catchers Association. The assessment team was Steven Devitt (Intertek Moody Marine Ltd.), Robert O'Boyle (Beta Scientific Consulting Inc.), Dave Japp (independent consultant), and Andrew I. L. Payne (Center for Environment, Fisheries, and Aquaculture Science, UK).

All text in quotation marks is from the certification report.

### Gear and Set

Mid-water trawl is a medium-risk gear type. No mitigation methods are used.

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### *Species*

Although Short-tailed Albatross (*Phoebastria albatrus*) may occur in the area, the birds tend to spend their time more in the eastern north Pacific than in the Sea of Okhotsk, and “the threat to this albatross species in the SOO [Sea of Okhotsk] is assumed to be very low.”

There were no seabirds reported caught in the fishery in 2006-2010.

“Observer data showed no evidence or records of mortality of marine mammals or sea birds. There is a requirement to report incidental mortality of birds and mammals – the fact that no incidents or mortalities are reported could mean that such events do not occur, or that reporting of such events is not prioritised.”

“None of the observer data presented, however, gives any indication that there are either sightings or that mortality may be occurring.”

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### *Information*

“Observer reporting protocol does allow for the reporting of bird mortality and other species such as seals.”

All vessels are required to have a Vessel Monitoring System in place. Scientific observers were only on 2-6% of large vessels from 2006-2010, and on 0.4-2% of medium-sized vessels. Government Marine Inspectors have greater coverage, about 14.3% in 2010, but it is not clear if they record any information on seabird bycatch or mortality.

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### *Conditions*

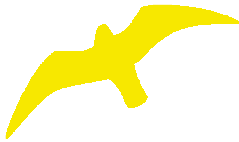
Condition 5 requires recording “observations of sea mammal and seabird interactions with trawls to determine if there are any mortalities of sea mammals and seabirds in pollock trawls, to be completed by the end of year 3 of certification.” This is to include seabird mortalities. The Pollock Catchers Association “note the comments of the assessment team in relation to monitoring bird strikes and will fully appraise the on board observers of these issues and the importance of accurate recording of all interactions with the fishing gear.”

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### *Conclusions*

Although what little evidence there is suggests that seabird mortality rates are low on a per shot or per tow basis, the large scale of the fishery may be having significant impact on seabirds simply because of the large number of tows. An important problem is the lack of observer information on seabird interactions with gear. Fortunately, obtaining this information is a condition of the certification, and this information should be used to reduce seabird mortality.

Reviewed: D. A. Wiedenfeld, 30 January 2013



Potentially  
Moderate Risk to  
Seabirds

## UK FISHERIES, DFFU, AND DOGGERBANK FISHERY FOR NORTHEAST ARCTIC COD, HADDOCK AND SAITHE

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
Medium	High	Good	Poor	Good	Fair	Medium
2	3	18	1	26	12	2
5/6		57/100				2/3

This fishery uses otter trawls, a gear type that poses medium risk to seabirds, but does not use any mitigation methods. There are large numbers of seabirds in the Barents Sea and off the coast of Norway, but actual bycatch seems to be very low. However, there is lack of information on seabird interactions with the trawls, including warp strikes, where birds may be injured but are not hauled on board. There are observers placed on boats, especially the German ones, but it is unclear if they record seabird interactions with gear in which the birds are not killed and brought in with the trawl net.

### Recommendations

- Obtain observer information on seabird interactions with gear, including warp strikes, in which the bird is not hauled with the net.
- Depending on the results of the observer information, use mitigation methods to reduce any seabird mortality and interactions.

### Overview

This fishery uses demersal rockhopper otter trawls to fish for cod *Gadus morhua*, haddock *Melanogrammus aeglefinus*, and saithe *Pollachius virens*. Fishing is carried out in the Arctic Sea in ICES subareas I, IIa, and IIb. The markets for the fish is worldwide, although much of the cod is sold in the UK and saithe in Germany. The fishery increased in tonnage dramatically between 2008 and 2009, rising by 47% between the two years. In 2009, the fishery landed 18,739 mt of cod, 3,410 mt of haddock, and 365 mt of saithe.

The fishery was certified as sustainable in May 2012. The assessment was managed by MacAlister Elliott and Partners Ltd for clients UK Fisheries Ltd., Deutsche Fischfang Union GmbH (DFFU), and Doggerbank GmbH. The assessment team was Jo Gascoigne (MacAlister Elliott and Partners), Ulf Löwenberg, and Sophie des Clers (the latter both are independent consultants).

All text in quotation marks is from the certification report.

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#### *Gear and Set*

Otter trawl is a medium-risk gear type.

No mitigation methods or use of mitigation methods are mentioned in the certification report.

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#### *Species*

“The Barents Sea is home to ~20 million seabirds (one of the largest concentrations of seabirds in the world).”

“The Norwegian Red List includes 24 species of marine mammals and seabirds, both of which are important components of the Barents Sea ecosystem. These species are protected under the Bern Convention, but there are no reported interactions with marine mammals or birds by the fishery, although both are seen regularly.” These include the King Eider (*Somateria spectabilis*), Glaucous Gull (*Larus hyperboreus*), Sabine’s Gull (*Xema sabini*), Black-legged Kittiwake (*Rissa tridactyla*), Razorbill (*Alca torda*), Common Guillemot (*Uria aalge*), and Thick-billed Guillemot (*Uria lomvia*). None of these is considered threatened by IUCN.

“There is an integrated management plan for the Barents Sea. The reduction of bird and mammal bycatch in fisheries is a key element of this strategy.”

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#### *Information*

“For the German vessels, there is an observer program run by the J. H. von Thünen Institut, for which there is a long time series of information from the *Kiel* [one of the vessels in this fishery] in particular (30 years). This information is used by ICES for making estimates of discards for various stock assessments. There are also observer reports from the *Odra* and *Baldvin* [other vessels in the fishery], although not as many.” It is not clear if these observers record any seabird bycatch or interactions, or only bycatch hauled on board.

Report does not have any specific numbers on seabird bycatch, beyond the statement that “there are no reported interactions with marine mammals or birds by the fishery....”

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#### *Conditions*

No conditions for certification regarding seabirds were placed on the fishery.

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#### *Conclusions*

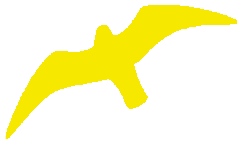
As with many trawl fisheries, there is lack of information on seabird interactions with the trawls, including warp strikes, where birds may be injured but are not hauled on board and found in the cod-end of the net. Observers have been placed on some of the boats for many years, especially the German ones, but it is unclear if they record seabird interactions with gear except when the bird is found in the cod-end. The uncertainty produced by this lack of



information makes it unclear if there is a problem with seabird bycatch in the fishery. Therefore, it is necessary that this fishery obtain observer information on seabird interactions with gear, including warp strikes, in which the bird is not hauled with the net. If it is determined that there is mortality to seabirds, mitigation methods should be employed.

Reviewed: D. A. Wiedenfeld, 17 April 2013





Potentially  
Moderate Risk to  
Seabirds

## US ATLANTIC SPINY DOGFISH FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	Medium	Good	Poor	Good	Fair	Medium
3	2	18	1	30	12	2
5/6		61/100				2/3

The spiny dogfish fishery off the northern Atlantic coast of the US uses two gear types, longlines and bottom gillnets that can pose high risk to seabirds. There are five species of ETP seabirds that might be affected by the fishery. The fishery area is covered by the Northeast Fisheries Observer Program, which has given no indication of any significant bycatch of seabirds in the spiny dogfish fishery. However, the spiny dogfish fishery is small, only a little over 2,000 mt annually, and there are no seabird bycatch and mortality data directly from the fishery. Conditions for certification were placed on the fishery requiring it to obtain information directly from the spiny dogfish fishery itself on bycatch of ETP species and, based on that information, to respond as necessary.

### *Recommendations*

- Obtain information on seabird bycatch and mortality for seabirds including non ETP species, including on birds that may be killed but not hauled on board.
- If the information obtained shows there is a significant issue with seabird bycatch, implement methods to reduce and avoid the bycatch.

### *Overview*

This fishery uses otter trawl, longlines, and gillnets to target spiny dogfish *Squalus acanthias*. Fishing is carried out in the northwest Atlantic in the US EEZ from Maryland to New York. The fish is marketed as filets to Europe. In 2008 the catch was about 2,200 mt.

The fishery was certified as sustainable in August 2012. The assessment was managed by Moody Marine Ltd. for Seatrade International Co. Inc., Zeus Packing Inc., Marder Trawling Inc., and Eastern Fisheries Inc. The assessment team was Ian Scott, David Kulka, and Denis Rivard (all independent consultants).

All text in quotation marks is from the certification report.

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### *Gear and Set*

Otter trawl is a medium-risk gear type, whereas longlines and gillnets pose high risk to seabirds. “Zollett (2009) reports that ‘no mitigation measures have yet been implemented on the east coast of the United States to reduce bycatch of sea birds’”

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### *Species*

“Two endangered species of birds, the Roseate Tern [*Sterna dougalli*] and the Bermuda Petrel [*Pterodroma cahow*] (believed to have a population of less than 200 individuals), may occur in the areas fished for SD [spiny dogfish], however, they are very unlikely to be caught in the fishery.” The tern is listed by IUCN as “Least Concern,” (LC) whereas the petrel is listed as “Endangered” (EN).

“Three species of birds have been identified as Species of Concern by USFWS within the area of the fishery.

“Common Loon [*Gavia immer*]: Warden (2010) concludes that the average annual bycatch of common loons was ~9% of PBR; the author observes that in recent years, bycatch was lower resulting in an average bycatch of about 5% of the PBR for the species.

“Black-capped Petrel [*Pterodroma hasitata*]: while the black-capped petrel occurs in the areas fished, this species is unlikely to overlap with the distribution of SD fishing efforts (ASMFC 2002).

“Razorbill [*Alca torda*]: this species breeds on islands in Maine and could be caught in gillnets but the SD fishery is considered to have no impact on this component.

“Previous assessments (ASFMC 2002) indicated little interaction of sea birds with the SD fishery. Accordingly, these three species are not considered in the scoring of this PI [Progress Indicator].”

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### *Information*

“The Northeast Fisheries Observer Program (NEOP) has coverage from Maine through North Carolina under the legal authority of the MSRA [Magnuson-Stevens Fishery Conservation and Management Reauthorization Act], the MMPA [Marine Mammal Protection Act] and ESA [Endangered Species Act]. NEOP has a contract with an Observer Service Provider – AIS, Inc., and there are two Industry Funded Approved Providers – AIS, Inc. and EWTS, Inc. currently have 93 certified observers who are deployed observers as instructed by the Seaday Schedule and Vessel Selection Lists. Coverage is sufficient to provide statistically reliable bycatch estimates. They use a measure of variability around a particular species group bycatch estimate. Variables used to allocate coverage (based on previous years’ effort): geographic area fished; mesh size; trip length; target species and gear type. The observers cover: vessel and trip information; economic costs; gear characteristics; haul information, environmental conditions; catch composition and disposition; biological sampling; incidental takes (mammals, birds, turtles); and sightings of marine mammals and sea turtles.”

This is a general program, which does not focus on the spiny dogfish fishery.

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*Conditions*

Six conditions of certification were placed on the fishery that could affect seabird bycatch, all six alike but referring to different gear types (gillnet, trawl, and longline) and whether in state of federal waters. These are Conditions 9 – 14 requiring information and monitoring to allow the fishery to quantitatively estimate the impact of the fishery on ETP species. It is not clear if these are directed at seabirds, but seabirds would be covered.

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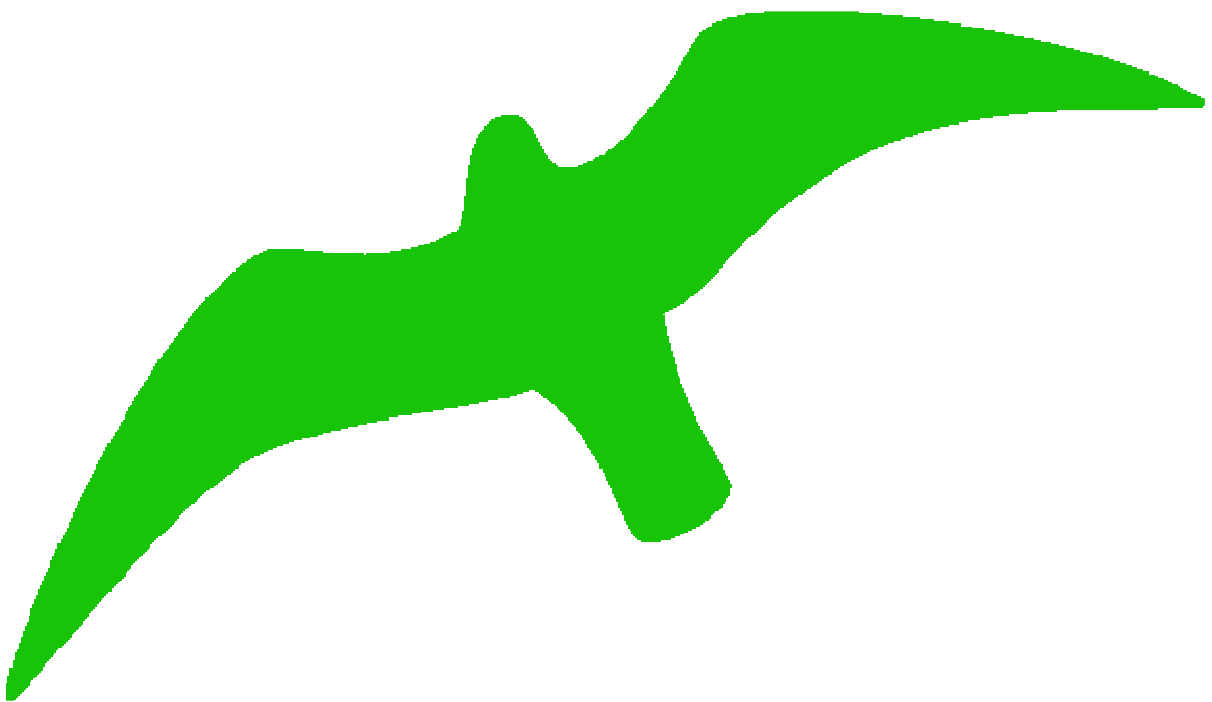
*Conclusions*

As with too many certified fisheries, the most serious issue facing this fishery is lack of information. There is no indication of any significant bycatch of seabirds in the spiny dogfish fishery, and the spiny dogfish fishery is small, only a little over 2,000 mt annually. However, there are no seabird bycatch and mortality data directly from the fishery. Therefore, it is necessary for the spiny dogfish fishery to obtain information on seabird bycatch and mortality for seabirds including non ETP species, including on birds that may be killed but not hauled on board, and if the information obtained shows there is a significant issue, implement mitigation methods to prevent such mortality.

Reviewed: D. A. Wiedenfeld, 22 April 2013

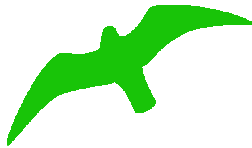


## POTENTIALLY LOW RISK FISHERIES









Potentially Low  
Risk to Seabirds

## MACQUARIE ISLAND TOOTHFISH FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	High	Good	Good	Good	Good	Low
3	3	19	20	32	20	1
6/6		91/100				1/3

The Macquarie Island toothfish fishery uses demersal longlines and trawls, which could carry a high risk to seabirds. However, mitigation methods used are very effective, and there is very high levels of regulation, enforcement, and observation. Therefore, bycatch is very low. This fishery uses the appropriate best-practices.

### Recommendations

- Continue the best-practices being used, and monitor the results of bycatch observation..

### Overview

This fishery uses demersal longlines since 2007 to target Patagonian Toothfish *Dissostichus eleginoides*. Fishing is carried out in Australian EEZ surrounding Macquarie Island in FAO region 81 and outside the CCAMLR application area. The primary market for the fish is the US, Japan, and China. The fishery landed 290 mt in 2010.

The fishery was certified by MSC on 29 May 2012. The assessment was managed by Scientific Certification Systems for Austral Fisheries Pty. Ltd. and Australian Longline Pty. Ltd. The assessment team was Sabine Daume and Adrienne Vincent (Scientific Certification Systems), Ian Knuckley (Fishwell Consulting Pty. Ltd.), Mary Lack (Shellack Pty Ltd.), and Alexander Morison (Morison Aquatic Sciences).

All text in quotation marks is from the certification report.

### Gear and Set

The main gear type is demersal longlines, a high-risk gear type, but the fishery also uses demersal trawl, a medium-risk gear type.

“The fishery is managed with a general strategy of ‘nil discards’ to reduce provisioning of seabirds and mammals, but in practice this relates only to retaining all teleost species (which form ~ 90% of bycatch by weight) and most small elasmobranch species.”

“A range of international best practice methods to avoid the capture of seabirds are used in the MITF [Macquarie Island Toothfish Fishery]; adopted from the autolongliners operating in the Heard Is and MacDonald Is fishery.”

“Mitigation measures included: no offal discharge, night setting only, weighted lines that achieved CCAMLR standard sink rates; paired streamer lines; prohibition of the use of plastic packaging bands; minimization of lighting; and, use of moonpools or brickle curtains during hauling.”

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#### *Species*

“Main seabirds include the King, *Apenodytes patagonicus*, Royal, *Eudyptes schlegeli*, Rockhopper *E. chrysocome* and Gentoo *Pygoscelis papua* penguins, the Macquarie Shags *Phalacrocorax [atricaps] purpurascens* and the Black-browed Albatross *Diomedea melanophrys*, Northern *Macronectes halli* and Southern *M. giganteus* Giant Petrel and Antarctic Prion *Pachyptila desolata*, are present in the vicinity of the island during the breeding and moulting periods.” Black-browed Albatross is listed by IUCN as Endangered (EN), Southern Rockhopper and Royal Penguin are listed as Vulnerable (VU).

“Longline vessels comply with the Threat Abatement Plan for seabirds and exceed international requirements and there is a high degree of confidence that there are no significant detrimental effects from longlines on ETP species.”

“Longline vessels comply with the Threat Abatement Plan for seabirds and exceed international requirements and there have been no mortalities from this method.”

“Further, a trigger limit of one death per vessel of any of the following bird species would require the vessel to cease fishing in the MITF for the remainder of the season: Wandering Albatross, Gray-headed Albatross, Gray Petrel or Soft-plumaged Petrel. Interaction rates with other seabirds are limited to 1 bird per 100,000 hooks as stipulated in the Threat Abatement Plan.” The listed birds, however, are uncommon in the fishing area.

“There is 100% observer coverage of all trips but observers have reported minimal interactions with any ETP species. In numerous years of 100% monitoring of trawl vessels, no bird was seen to sustain serious injury or die from an interaction...”

There is “a 3 nm closure to any fishing around Macquarie Island and an extensive MPA [Marine Protected Area] that covers more than a third of the EEZ around the island.”

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#### *Information*

“With 100% observer coverage of all trips, there is generally good quantitative information on all retained and discarded species.” There are always two observers on board each vessel, and all shots are observed. The observers also record seabird and marine mammal sightings.

“Inspection of the Observer Manual reveals that observers specifically monitor for bird strikes with the warps of trawlers which is a known area of mortality for seabirds other than what actually gets caught in the net.”

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*Conditions*

No conditions for certification regarding seabirds were placed on the fishery.

Recommendation for 2.3.2: “Before trawling resumes in the fishery, a bycatch management strategy should be developed that has limits for interactions with seabirds, seals and other ETP species and appropriate management responses.” Although the Threat Abatement Plan already places limits on the number of birds that may be taken, this recommendation was apparently made to ensure that information is improved, even though it is already of high quality.

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*Conclusions*

The Macquarie Island toothfish fishery operates under close regulation and monitoring, and uses effective mitigation measures. The amount of information on the fishery is very good. This is a well-run fishery from the perspective of seabird conservation.

Reviewed: D. A. Wiedenfeld, 18 January 2013





Potentially Low  
Risk to Seabirds

# US NORTH ATLANTIC SWORDFISH PELAGIC LONGLINE AND HANDGEAR BUOY LINE FISHERY

Gear	Birds Present	Regulations	Mitigation	Bycatch	Observation	Uncertainty
High	Medium	Good	Fair	Good	Good	Low
3	2	19	9	30	15	1
5/6		73/100				1/3

The US Atlantic swordfish fishery uses longlines for fishing, a gear type that poses high risk to seabirds. However, the fishery has very low seabird bycatch, and not of ETP species, probably resulting from a combination of factors, such as fishing in an area with low numbers of ETP seabirds, but primarily because longlines are set at dusk and hauled at dawn. Although this is not intended as mitigation for seabird bycatch, it has the same effect. The observer coverage is managed by the NMFS, and generally provides good coverage. There is still need to improve observer coverage, however, to ensure that observer data and logbook information concurs. The certification report is very complete, with regard to seabird information and the description of the fishery and observer program.

## Recommendations

- Obtain improved observer information, identifying birds to species; this may require training of observers in seabird identification. The information system should also ensure that observer samples and logbooks concur.

## Overview

This fishery uses pelagic longline and handgear buoy lines to target broadbill swordfish *Xiphias gladius*. Fishing is carried out in the North Atlantic Ocean in FAO statistical area 31. The primary market is for fresh fish markets in the US. In 2008, the fishery landed about 2,350 mt.

The fishery was certified as sustainable on 28 March 2013. The assessment was managed by MRAG Americas, Inc., for Day Boat Seafood LLC. The assessment team was Graeme Parkes, Rebecca Mitchell, and Robert Trumble (all of MRAG Americas Inc.).

All text in quotation marks is from the certification report.

## Gear and Set

The large majority (98%) of the swordfish in this fishery is caught using pelagic longlines, a gear type that poses high risk to seabirds. The remaining 2% of the fish is caught using handgear buoy lines, which poses a low risk to seabirds.

“When targeting swordfish, the lines generally are deployed at sunset and hauled at sunrise to take advantage of swordfish nocturnal near-surface feeding habits.” Although this method is not specifically aimed at reducing seabird interactions, night setting will have that effect.

“To date, no measures have been adopted to reduce seabird bycatch in US Atlantic longline fisheries. NMFS has not identified a need to implement gear modifications to reduce seabird takes by Atlantic pelagic longline fisheries.”

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### *Species*

“In general, takes of seabirds have been minimal in the fishery, most likely due to the setting of longlines at night and/or fishing in areas where birds are largely absent. As a result, seabirds were not scored in this assessment.”

“Of the species caught in the pelagic longline fishery, Greater Shearwater [*Puffinus gravis*], Herring Gull [*Larus argentatus*], black-backed gull [*Larus* sp.], and Northern Gannet [*Morus bassanus*] are listed on the MBTA [Migratory Bird Treaty Act]. None are listed under the ESA [Endangered Species Act].”

“An estimated 143 seabirds, mostly gulls and shearwaters, are killed annually in the Atlantic pelagic longline fishery.” These numbers include all pelagic longlining, not just in the swordfish fishery under consideration. The US Atlantic pelagic longliners in this area target swordfish, various tuna, and various shark species.

“Observer data from 1992-2003 also indicated that seabird bycatch was relatively low, with 79 seabirds observed killed in the Atlantic pelagic longline fishery during this time period (NOAA 2004). Observed mortality from bycatch ranged from 1 to 18 birds each year, while the number of birds released alive each year ranged from 0 to 15. Half of the birds were not identified by species, although gulls represented the largest group, followed by Greater Shearwaters and Northern Gannets. Greater Shearwaters experienced the highest level of mortality at 100%, and Northern Gannets the lowest (12%). There was no apparent pattern in year to year bycatch rates. From 1995-2002, the estimated number of seabirds killed ranged from 0 to 468 (bycatch rate of 0-0.0486 birds/1,000 hooks), and the estimated number of live discards ranged from 0 to 292 birds (0-0.0303 birds/1,000 hooks). A peak in takes was observed in 1997. Based on these observations and estimates, NOAA (2004) concluded that bycatch of seabirds in the Atlantic HMS pelagic fishery is relatively minimal and does not appear to be a significant problem. As a result, no mitigation measures have been proposed or implemented. NMFS intention is to continue to collect data on seabird bycatch through observer programs and logbook programs, to increase species identification of observed interactions, and to reassess as new information becomes available (NOAA 2004).”

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### *Information*

“The Pelagic Observer Program (POP) initiated in 1992 is directed by the SE Fisheries Science Center (SEFSC) [of the NMFS], and places observers aboard U.S. longline vessels

that currently hold swordfish permits. The target observer coverage for the POP is 8% of total reported sets as of 2004.”

“Observer sampling has varied considerably over the last decades over 2-6% of sea days (although in 2008 it reached 13% of the sets).”

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#### *Conditions*

As a condition for certification, Condition 2.4 was placed on the fishery, to be met by the second annual surveillance audit. The condition requires that information from the fishery is sufficient to determine whether it may be a threat to the protection and recovery of ETP species. This will require the fishery to minimize the discrepancy between logbook and observer data. Although this does not directly specify seabirds, it would also cover seabird bycatch.

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#### *Conclusions*

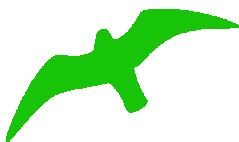
The certification report is very complete and well-done, with regard to seabird information, and the description of the fishery and observer program.

The fishery has very low seabird bycatch, and few ETP species are caught. This probably results from a combination of factors, such as fishing in an area with low numbers of ETP seabirds, but primarily because longlines are set at dusk and hauled at dawn. Although this is not intended as mitigation for seabird bycatch, it has the same effect. The observer coverage is managed by the NMFS, and generally provides good coverage. There is still need to improve observer coverage, however, to ensure that observer data and logbook information concurs.

Reviewed: D. A. Wiedenfeld, 23 April 2013







Potentially Low Risk  
to Seabirds

## LIST OF ADDITIONAL FISHERIES WITH LOW RISK TO SEABIRDS

The following list of fisheries are those which are certified or in assessment but which were reviewed and deemed to be of sufficiently low risk to seabirds as to not require an in-depth analysis. This is usually because the gear type used is medium-risk or low-risk and there are few ETP seabirds or seabird concentrations that would be affected by the fishery.

<b>Fishery</b>	<b>Date Certified</b>	<b>Ocean</b>	<b>Gear</b>
Australia Northern Prawn Fisheries	6 Nov 2012	Pacific	Otter trawl
Clams and Cockle Fishery from Ría de Arousa	In process	Inland	Hand-gathered
Clearwater Seafoods Banquereau and Grand Bank Arctic Surf Clam Fishery	17 Jul 2012	NW Atlantic	Dredge
Cooperative Fishery Organisation (CVO) North Sea Plaice and Sole Fisheries	20 Dec 2012	NE Atlantic	Otter trawl
Dee Estuary Cockle Fishery	3 Jul 2012	NE Atlantic	Hand-gathered
DFA Dutch North Sea Ensis Fishery	20 Nov 2012	NE Atlantic	Dredge
Dutch Oyster Association Oyster Fishery	31 Jan 2013	NE Atlantic	Dredge and cultivated
Exmouth Mussel Fishery	31 Jul 2012	NE Atlantic	Hydraulic jet elevator dredge
Germany Lower Saxony Mussel Dredge and Mussel Culture Fishery	In process	NE Atlantic	Dredge and cultivated
Gulf of St. Lawrence Snow Crab Trap	25 Sep 2012	NW Atlantic	Crab trap
Japanese Scallop Hanging and Seabed Enhanced Fishery	In process	Pacific	Dredge and cultivated
Limfjord Oyster Dredge Fishery	3 May 2012	NE Atlantic	Dredge
Maine Lobster Trap Fishery	In process	NW Atlantic	Lobster trap
Newfoundland and Labrador Snow Crab Fishery	In process	NW Atlantic	Crab trap
OHV Dutch Waddenzee and Oosterschelde Hand Raked Cockle Fishery	29 Oct 2012	NE Atlantic	Rake
Ozernaya River Sockeye Salmon Fishery	4 Sep 2012	Pacific	Coastal trap nets and beach seines
Razor Clam Fishery from Ría de Pontevedra	17 Jan 2013	NE Atlantic	Hand-gathered
Sakhalin Island Northeast Trap Net Pink Salmon Fishery	12 Jun 2012	Pacific	Traps and weirs
Scotian Shelf Snow Crab Trap Fishery	27 Sep 2012	NW Atlantic	Crab trap
Shetland and Scottish Mainland Rope Grown Mussel Enhanced Fishery	26 Jun 2012	NE Atlantic	Cultivated
Sian Ka'an and Banco Chinchorro Biosphere Reserves Spiny Lobster	31 Jul 2012	W Central Atlantic	Hand-gathered

Fishery	Date Certified	Ocean	Gear
West Greenland Cold Water Prawn Trawl Fishery	21 Feb 2013	Arctic	Otter trawl