



Vottunarstofan Tún ehf.

Sustainable Fisheries Scheme

Marine Stewardship Council Sustainable Fisheries Assessment

Icelandic Gillnet Lumpfish

Third Annual Surveillance Report

Certificate Code: F-TUN-1108

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December 2017



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Acronyms

B	Biomass
CoC	Chain of Custody
DF	Directorate of Fisheries
EEZ	Exclusive economic zone
ETP	Endangered, threatened and protected
F	Fishing mortality
FAO	Food and Agriculture Organisation
HR	Harvest rate
ICES	International Council for the Exploration of the Sea
ISF	Iceland Sustainable Fisheries Ltd
MFRI	Marine and Freshwater Research Institute
MII	Ministry of Industries and innovation
MSC	Marine Stewardship Council
NAMMCO	North Atlantic Marine Mammal Commission
PCR	Public Certification Report
PI	Performance indicator
RBF	Risk based framework
SG	Scoring guidepost
SSB	Spawning stock biomass
t	tonnes
TAC	Total Allowable Catch
UoA	Unit of Assessment
UoC	Unit of Certification

1. General Information

Fishery name	Icelandic Gillnet Lumpfish		
Unit(s) of assessment	Lumpfish (<i>Cyclopterus lumpus</i>) in FAO Statistical Area 27 / ICES Division 5.a.2, Icelandic exclusive economic zone, fished by lumpfish gillnets and managed by Ministry of Industries and Innovation.		
Date certified	23.12.2014	Date of expiry	22.12.2019
Surveillance level and type	Level 4 surveillance; Off-site		
Date of surveillance audit	19-21 September 2017		
Surveillance stage (tick one)	1st Surveillance		
	2nd Surveillance		
	3rd Surveillance	X	
	4th Surveillance		
	Other (expedited etc.)		
Surveillance team	Dr. Jo Gascoigne: Lead assessor and Principle 2 expert assessor Dr. Ásgeir Daniélsson: Principle 3 expert assessor Tom Jagielo: Principle 1 expert assessor Louise le Roux: Traceability, RBF Lovísa Ólöf Guðmundsdóttir: Assessment coordinator		
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2. Background

This report contains the findings of the third surveillance audit for Marine Stewardship Council Fishery certification of Iceland gillnet lumpfish fishery, caught by lumpfish gillnets within the Icelandic exclusive economic zone (EEZ), in the International Council for the Exploration of the Sea (ICES) Division 5.a.2 and Food and Agriculture Organisation (FAO) Area 27.

The first purpose of this report is to outline any changes to the Iceland gillnet lumpfish fishery since the last surveillance report, including (but not limited to) changes to management systems, relevant regulations, personnel involved in science, management or industry, scientific information base, and any changes that could impact traceability. The second purpose is to evaluate progress against the conditions, following the agreed milestones and Client Action Plan.

The surveillance audit assesses changes made from the last surveillance audit or from the full assessment. Therefore, the full Public Certification Report (PCR), together with the first and second surveillance audit reports, provide the relevant context for this third surveillance audit report.

Surveillance audits may raise or close conditions and recommendations as circumstances for the fishery and certification change. Therefore, the status of the certificate is defined by the latest surveillance audit.

2.1 Management systems

There have not been any significant changes to the management of the fishery.

2.2 Regulations

There have been no significant changes to regulations associated with this fishery.

2.3 Personnel

The team is not aware of any significant changes to personnel involved in science and management.

2.4 Scientific base of information

2.4.1 Target stock

Current status. There are no formally adopted biologically-based limits or target reference points for Icelandic lumpfish. However, the Marine and Freshwater Research Institute (MFRI) use: 1) a proxy target for F_{msy} (F_{proxy}), and 2) a proxy limit reference point for biomass (B_{2000}). F_{proxy} is defined as the catch divided by the survey biomass of females. When the advice for lumpfish was first formulated, the target F_{proxy} was set at the average from the reference period (1985–2011). Initial evaluation of catches put this at 0.75, however, after revaluation of the catches, this is now 0.66, but 0.75 remains as the target i.e. F_{target} (MFRI, 2017). The proxy limit reference point for biomass (B_{2000}) is defined as the lowest historical value of the survey biomass index of females (approximately 4), which occurred in the year 2000 (TUN, 2014). Recent values of these proxy reference points indicate continued sustainability; since 2014, the value of F_{proxy} has been below F_{target} , and the survey biomass index of females has been above B_{2000} (Figure 1) (MFRI, 2017).

Given the importance of male lumpfish with respect to reproductive success (i.e. nest guarding behaviour), an index of male biomass is also monitored by MFRI; however, catchability of male lumpfish in the survey is considered to be poor. Thus, index trends are not considered to reflect real changes in the population and therefore the male biomass is not represented within biomass reference points (MFRI, 2017). The male biomass index increased from 2013 to 2016, but has decreased to a historical low in 2017 (Figure 1) (MFRI, 2017).

Fishery landings decreased from 6,357 t in 2015 to 5,475 t in 2016 (below the 2016 Total Allowable Catch (TAC) of 6,800 t) (Figure 1) (MFRI, 2017). Preliminary landings for the 2017 season are estimated to be 4,657 t of female lumpfish (Table 6).

Lumpfish are managed by effort limitation, by taking the TAC and converting to the number of fishing days to be allowed. The number of fishing days allotted was 50 in 2011-2012, and has been 32 days since 2013. The number of boats participating in the fishery varies annually, and is primarily affected by market conditions. From 2005–2015, the number of boats ranged from 144–369 per year. In 2016 there were 239 boats; a decrease of 77 from 2015 (MFRI, 2017).

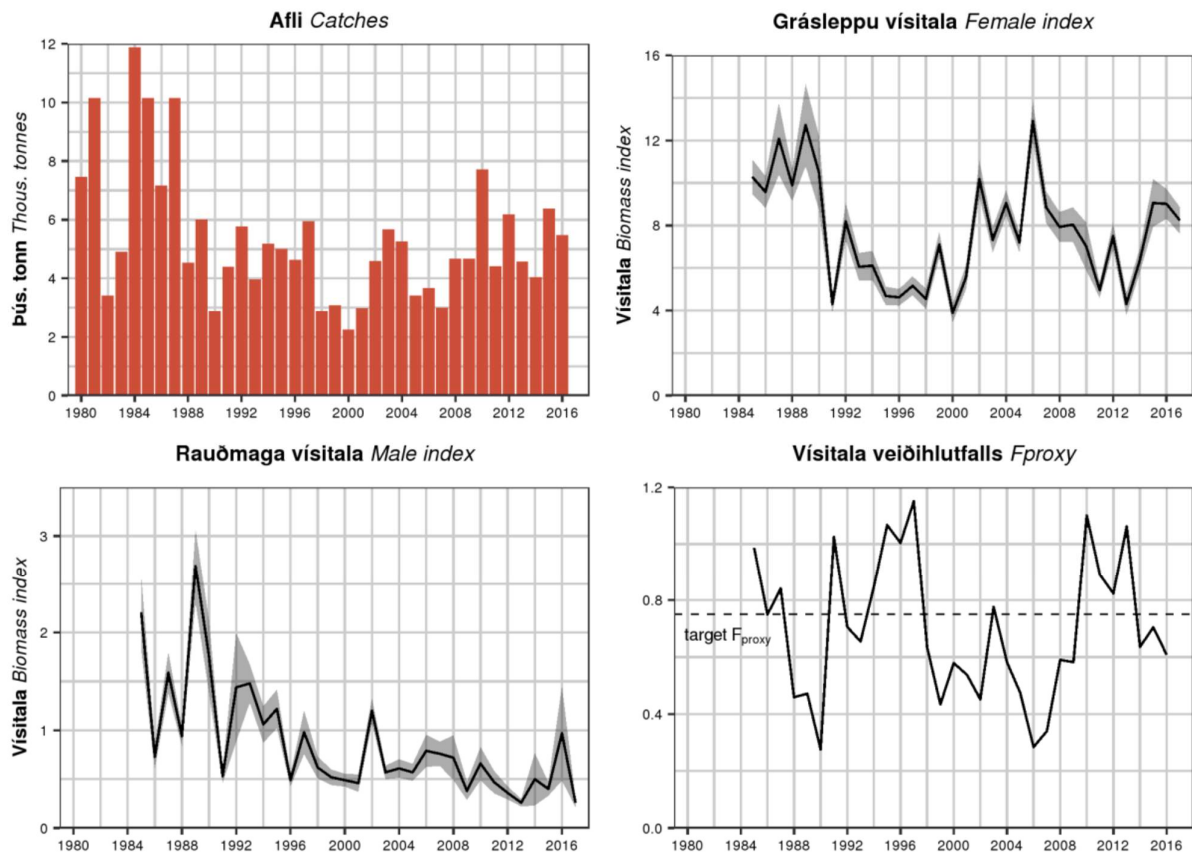


Figure 1. Catch of females, biomass indices of females and males, and F_{proxy} (catch/survey biomass) of females.
Source: (MFRI 2017).

The basis for management advice remains the same. The advice of the MFRI is that the harvest rate does not exceed the average from 1985–2011. The MFRI issued an initial TAC of 1854 t for starting the 2017/2018 fishing year, with the final advice to be issued when the female biomass index is updated after the next survey, scheduled for the spring of 2018. In 2017, the MFRI again recommended: 1) that the number of boats which will participate in the fishery is taken into account when allocating the number of fishing days, and 2) improved monitoring of bycatch and discards of other species from the female lumpfish fishery (MFRI, 2017).

2.4.2 Retained Catch

The only ‘main’ retained species identified in the assessment was cod. This was verified this year based on total catch information for 2012-2017 (combined data), which also identified cod as the only main

retained species, making up 6.4% of landings from lumpfish nets over this period. The stock status for Icelandic cod is given in Table 1.

Table 1. Species/stock status from main retained species only.

Species/Stock	Gear	Above Point of Recruitment Impairment	Preventing Recovery	Reference
Cod <i>Gadus morhua</i> ICES Division 5a	All	Yes. Spawning stock biomass (SSB) (2017) is at a 40 year high, and harvest rate (HR) (2015-2016) is at the assessment time-series low ($SSB > B_{trigger}$; $HR < HR_{msy}$). The 2013 year class is estimated small, but the size of the 2014 year class is near the long-term average.	NA	MFRI 2017

2.4.3 Bycatch

Note: For a discussion and description of the species assessed under bycatch vs. ETP components (2.2 vs 2.3) see PCR.

Situation after Year 2 audit

Under the MSC standard version 1.3 (on which this assessment is based), out-of-scope bycatch species such as mammals and birds are not automatically considered ‘main’; the same criteria apply as for fish bycatch, i.e. they are ‘main’ if they make up >5% of the total catch or if for other reasons the team consider that they are vulnerable to impacts from the fishery. Since none of them make up >5% of the catch as far as is known (but see below), the evaluation of ‘main’ mammal and bird bycatch species in this fishery has been based on an ongoing assessment of data on bycatch and on population size and trends in bycatch species, with those apparently in decline and/or where bycatch is non-negligible in relation to population size included as ‘main’ bycatch species.

Partly as a consequence of the conditions on this fishery, research into bycatch has expanded greatly since certification, and at each surveillance audit, considerable new information on bycatch has been presented, resulting in a wholesale re-evaluation of the list of ‘main’ bycatch species and the impacts of the fishery on these species. This audit is no exception.

As at the end of the Year 2 audit, ‘main’ bycatch species have been identified as: harbour seal, grey seal, harbour porpoise, eider duck and black guillemot. Two issues were flagged at last year’s audit for detailed review this year; i.e. possible impacts of the fishery on harbour seal populations and whether the common loon should be added to the list of ‘main’ bycatch species. However, it is clear (below) that these data, although much improved from the initial assessment period, remain uncertain both in terms of quantity and in terms of species composition for the less common bird bycatch species. Rather than ad-hoc updating of species into the ‘main’ category at every audit as new data are provided, the team has decided to take a precautionary approach that is in line with ‘version 2.0’ and will now consider all out-of-scope species (i.e. all birds and mammals in this case) to be ‘main’ bycatch species.

New bycatch data – birds

This year, more detailed quantitative information is available on bycatch in lumpfish gillnets than has been available previously. For 2016 there are two sources of data on bird bycatch; from MFRI observers (ongoing programme) and from separate observers deployed by the BirdLife International

project on the fishery (Bond et al., 2017). Both data sets have been raised to estimate the total bycatch of the fishery, although by different methods.

The MFRI data covers several years now, and MFRI staff note that the estimates of bycatch are highly variable from year to year. This is because bycatch tends to be patchy (e.g. mammals may be caught in groups, bird foraging distribution is also patchy) and because estimates are derived by raising a small % coverage to the entire fleet (e.g. for MFRI in 2016, for example, this entailed multiplying by ~62 – i.e. 62 is the smallest possible estimate of bycatch of a given species). For this reason, MFRI stress that it is not appropriate to view one year's bycatch figures in isolation; they recommend a 5-year running average. However, the data from 2014 onwards uses a somewhat different methodology from previous estimates (given in Pálsson et al., 2015) – the approach to raising data to fleet level is different, and the estimates have moved from fishing year to calendar year. This means that only data from 2014 onwards are comparable (by the assessment team; MFRI may perhaps be able to use the raw data to make a longer time series, but in any case this has not been done). Furthermore, the BirdLife data only covers 2016. For this reason, data are presented in two ways; an annual average of 2014-16 from the MFRI data, which should be regarded as the best estimate from MFRI's perspective; and a raised estimate from BirdLife for 2016 only. For the MFRI data, raw data (annual observed values) are also provided (Table 2).

Table 2. Estimated bird bycatch in lumpfish gillnets, 2014-2016 (SD=standard deviation, CV=coefficient of variation)

Species	Estimated bird bycatch (SD) (Bond et al., 2017)	Bycatch (CV %) – MFRI, 2017a			
		Observed			Raised (annual average)
	2016	2014	2015	2016	2014-16
Black guillemot (<i>Cephus grylle</i>)	4,244 (897)	10	4	12	1711 (24)
Common eider (<i>Somateria mollissima</i>)	2,837 (569)	41	92	32	3106 (28)
Cormorant (<i>Phalacrocorax carbo</i>)	1,562 (436)	21	13	1	875 (25)
Common guillemot (murre) (<i>Uria aalge</i>)	198 (94)	10	4	12	568 (38)
Brünnich's guillemot (<i>Uria lomvia</i>)	not observed	2	0	1	69 (72)
Atlantic puffin (<i>Fratercula arctica</i>)	133 (58)	0	1	1	44 (66)
Long-tailed duck (<i>Clangula hyemalis</i>)	137 (79)	1	0	1	44 (66)
Common loon (<i>Gavia immer</i>)	not observed	2	0	0	48 (72)
Black-legged kittiwake (<i>Rissa tridactyla</i>)	not observed	1	0	0	94 (24)
European shag (<i>Phalacrocorax aristotelis</i>)	188 (88)	0	0	0	not observed
Razorbill (<i>Alca torda</i>)	100 (52)	0	0	0	not observed

The two data sets (MFRI and BirdLife) are derived from different sets of observers and also use different methodologies to scale up estimates to fleet level. They are both still based on a relatively low % observer coverage: for MFRI: 57 trips observed out of 3309 total in 2016, 21 out of 3828 in 2015 and 37 out of 3000 in 2014 (MFRI, 2017a); for Bond et al. 2017: estimated 0.5% coverage (although this may be an underestimate if they have over-estimated the number of trips – see below). Hence overall it is not particularly surprising that they are rather different. MFRI report that the two groups

are currently working to merge their data sets and provide a combined estimate of bycatch; it is hoped that this will be published in early 2018.

According to MFRI, the Birdlife data assume that all vessels used maximum number of gillnets allowed in every single trip and that all registered vessels fished for the maximum number of days allowed. It seems likely that this method will overestimate fishing effort, and hence total bycatch, because some vessels use relatively few nets and not all vessels fish for the maximum number of days allowed, according to their figures. Overall, therefore, the team considers that where estimates deviate significantly, the MFRI figures are likely to be more robust.

New bycatch data – marine mammals

The same MFRI observers collect data on marine mammal bycatch; the BirdLife observers do not. The same issue applies as to methodology such that only data from 2014 onwards can be compared across years. The data were presented to the North Atlantic Marine Mammal Commission (NAMMCO) for validation in November 2017, but the NAMMCO Bycatch Working Group declined to validate them, noting that there were significant problems with the data, *‘including but not limited to unreliably low uncertainty associated with some of the estimates, a non-randomisation in sampling events, clustered by-catch events, as well as an unrealistically high by-catch estimate for grey seal most likely reflecting a problem in the analysis’*. Note, however, that the issue around uncertainty estimates has been addressed in the most recent iteration of the data (provided to Vottunarfstofan Tún on 18 December and incorporated into the report; MFRI, 2017a).

Table 4 provides logbook data received by MFRI from lumpfish fishers, scaled up to fleet level. A problem remains of identification of bycatch to species in the logbooks which makes the two data sets a bit difficult to compare directly. It appears, however, according to the comparison with Table 3 that although there may still not be full disclosure by lumpfish fishers of mammal and bird bycatch, the situation has improved, and is reaching the same general ballpark as MFRI estimates. MFRI noted that the level of bycatch identification improves each year.

An evaluation of the population-level impact of this bycatch is attempted in Table 5.

Data on % bycatch by area (Areas A-G used in lumpfish management) were also provided by MFRI, based on 2014-16 averages. This was reviewed and analysed by the audit team (as well as the anglerfish team; see under Harmonisation below) but did not result in any changes to the conclusions of the audit; therefore it is not presented here.

Table 3. Estimated marine mammal bycatch in lumpfish gillnets, annual average 2014-2015

Species	Bycatch (CV %) – MFRI, 2017a			
	Observed			Raised (annual average)
	2014	2015	2016	2014-16
Harbour porpoise (<i>Phocoena phocoena</i>)	6	3	6	342 (30)
Harbour seal (<i>Phoca vitulina</i>)	10	18	10	928 (20)
Grey seal (<i>Halichoerus grypus</i>)	7	17	46	1566 (38)
Harp seal (<i>Pagophilus groenlandicus</i>)	2	1	3	121 (45)
Ringed seal (<i>Phoca hispida</i>)	1	2	0	78 (73)
Bearded seal (<i>Erignathus barbatus</i>)	0	0	2	41 (69)

Table 4. Data received by MFRI from fishers' logbook records.

Species	2014	2015	2016	2017	Average
Seal species	215	334	279	615	361
Harbour porpoise	65	20	22	286	98
White beaked dolphin	0	0	1	0	0
Total marine mammals	280	354	301	911	462
Cormorants	85	204	193	177	165
Black guillemot	97	252	288	600	309
Common eider	142	165	213	442	241
Other seabirds	219	299	182	1198	475
Total seabirds	343	920	876	2417	1139

Table 5. Evaluation of possible population-level impacts of lumpfish bycatch

Species	Estimated population size (adult)	Population trends	Vulnerable to lumpfish fishery?	Reference
Harbour porpoise	31-162,000	Unknown	Unlikely: fishery estimated to account for a max. of ~0.1% of population per year; it may be a concern in combination with the cod gillnet fishery, however (but combined impacts are not included in the FCR version 1.3). The issue is considered in more detail in the audit reports for saithe and redfish, which include the cod gillnet fishery.	Ólafsdóttir 2010
Harbour seal	7,652 adults	77% decline since 1980; 32% decline since 2011; below management objective (12,000)	Difficult to estimate a %age impact because the population survey estimates the number of adults, while bycatch is reportedly mainly juveniles (MFRI, pers. comm.); but a significant impact cannot be ruled out	Þorbjörnsson et al., 2017
Grey seal	4,200 adults (2012); new survey underway in 2017	~at management objective (4,100)	As above, although NAMMCO note a particular issue with bycatch estimates for this species	See Year 1 audit report
Harp seal	~650,000		No: See analysis in Year 1 audit report	See Year 1 audit report

Ringed seal	'a few million' (NAMMCO)		No: See analysis in Year 1 audit report	See Year 1 audit report
Bearded seal	estimated in the 100s of 1000s (reportedly difficult to survey) ¹		No: Only observed in 2016 (2 animals); most likely insignificant	
Common guillemot	398,000 pairs	Likely to be stable	No; See analysis in Year 1 audit report	Skarphéðinsson et al., 2016
Brünnich's guillemot	627,000 pairs	Declining	No – negligible	Skarphéðinsson et al., 2016
Atlantic puffin	~2 million pairs*		No – negligible	Skarphéðinsson et al., 2016
Black guillemot	10-15,000 pairs	Declining	MFRI estimates suggest that the fishery could account for up to 10% of the breeding population per year; Bond et al. estimates are even higher (~20%) although this may be unrealistically high (see above)	Skarphéðinsson et al., 2016
Great cormorant	4,500 pairs		Although MFRI and BirdLife estimates are very different, the average MFRI estimate (493) suggests that the fishery might have an impact of >5% of the breeding population per year (assuming that all the bycatch is of breeding adults; less likely than for guillemots since cormorants are a more coastal species)	Skarphéðinsson et al., 2016
Common eider	850,000 birds in winter		No; even higher estimates still suggest impact <1% per year	Skarphéðinsson et al., 2016
Long-tailed duck	2-3,000 pairs breeding; more in winter and during migration		No; bycatch of this species seems to be minor	Skarphéðinsson et al., 2016
Common loon	2-300 pairs (edge of larger N. America/Greenland population)	stable	No; bycatch reported since 2014 (2 birds observed) – most likely not significant	Skarphéðinsson et al., 2016

Black-legged kittiwake	580,000 pairs	declining	No; bycatch reported since 2014 (1 bird observed) – most likely not significant	Skarphéðinsson et al., 2016
European shag	4,900 pairs		Unlikely	Skarphéðinsson et al., 2016
Razorbill	313,000		No	Skarphéðinsson et al., 2016

Uncertainty in the data

After estimating bycatch over several years, MFRI has concluded that higher observer coverage is needed, given the spatial variation in the distribution of the birds, the large fluctuations in estimates between years and the heavily zero-inflated nature of the data. They note that ideally, observer coverage would be based on a spatially-stratified design, with a sufficient time-series to average over 5 years.

NAMMCO also consider that the data are extremely uncertain, and also note that MFRI is most likely under-estimating uncertainty. The NAMMCO Bycatch Working Group makes a range of recommendations to improve the data, and have declined to validate mammal bycatch estimates for the lumpfish fishery thus far. Their recommendations are as follows:

- Explore stratification schemes for scaling up data to estimate total bycatch, and estimate bycatch rates as an average over several years;
- Re-evaluate the uncertainty of bycatch estimates, using bootstrapping or a similar approach [Note: this is done in Table 2 and Table 3 above; see MFRI, 2017a];
- Try to ensure more random sampling of fishing trips;
- Collect samples or photographs of bycaught individuals, to improve species identification.

Another source of uncertainty is population estimates, which are for the most part based on data that is considered to be uncertain and out-of-date. The exception is harbour seals, which have had a recent aerial survey. For grey seals, a similar survey is currently underway, and an updated population estimate should be available next year. For harbour porpoise and seals, MFRI note that if funding is available they hope to start collecting data for a genetic study of the animals taken as bycatch. This could allow estimates of effective population size, providing an alternative to the aerial surveys. For the seals, it would also provide better information on species identification, particularly since the seal bycatch tends to be of juveniles, whose species can be harder to identify in comparison to adults.

Conclusions from new bycatch data

These new data suggest that the impact of bycatch on populations could be more significant than Icelandic scientists and other stakeholders previously thought, specifically in relation to black guillemot (previously included in the condition on 2.2.2), and also in relation to seals and cormorants (not up till now included in the condition on 2.2.2). There is a particular concern for harbour seals in the light of the new population estimates, which suggest that the population has declined sharply in recent years; a problem not previously appreciated.

Having said that, it is clear that the bycatch data are extremely uncertain, particularly for the mammals. The estimate of grey seal bycatch appears to be implausibly high (as noted by NAMMCO); on that basis, the bycatch estimate for harbour seals may also be too high.

The issue of new bycatch estimates which are high but uncertain put the audit team in a difficult position, because it is hard to rule out significant impacts on some bycatch species from the fishery, but at the same time the team was aware that the figures being used were potentially misleading and

subject to change. The team has reviewed the scoring of 2.2.1-3 based on the new figures, and has been guided by the wording of the scoring guideposts and the precautionary approach.

Review of scoring of 2.2.1-3

Performance Indicator 2.2.1 was scored in this fishery using the Risk Based Framework (RBF); it now appears that although the group of stakeholders was appropriately balanced between fisheries, scientific and conservation interests (see PCR), the conclusions of that assessment are unlikely to be reflected within the new data that has been made available. Furthermore, sufficient data now exist to score 2.2.1 using the default assessment method (albeit with high uncertainty). The new data also suggest that a rescoring of 2.2.2 and 2.2.3 is appropriate. The results of this rescoring and justification for 2.2.1-3 for the following elements are presented in Appendix 1: black guillemot, great cormorant, grey seal and harbour seal. These species are considered the most at-risk species according to the analysis in Table 5 above.

2.4.4 ETP species, Habitat and Ecosystem

No new information was presented regarding ETP species, habitats or ecosystem impacts of the lumpfish fisheries.

2.5 Enhanced fisheries changes

This fishery is not an enhanced fishery.

2.6 Traceability

No issues or changes were identified within the fishery which may impact traceability negatively.

The scope of certification is up to the point of landing. Chain of custody commences from the point of landing. Catches landed by members of the Iceland Sustainable Fisheries ehf. (ISF) and their subsidiaries, as well as by other registered Icelandic lumpfish vessels licensed to fish within the Icelandic EEZ, are eligible to carry the MSC logo, once the fish has passed through ownership of some member of the ISF (the client group) or other entity that has entered into certificate sharing mechanism with the ISF.

Entities that take ownership of the fish and/or are involved in any handling of the fish after landing with the view of marketing the fish as MSC-certified must enquire with an accredited conformity assessment body if they are required to be certified against MSC Chain of Custody standards.

Updated list of certificate sharers and other documents can be accessed at <https://fisheries.msc.org/en/fisheries/icelandic-gillnet-lumpfish/>.

2.7 TAC and Catch Data

Table 6: TAC and Catch data of the Icelandic lumpfish fishery (t =tonnes)

TAC	Year	2017	Amount	6,350 t
UoA share of TAC	Year	2017	Amount	6,350 t
UoC share of TAC	Year	2017	Amount	6,350 t
Total green weight catch by UoC	Year (most recent)	2017	Amount	4,657 t
	Year (second most recent)	2016	Amount	5,475 t
Source: Anon 2017, www.fiskistofa.is				

2.8 Harmonisation

The Icelandic ISF anglerfish fishery is current undergoing certification (PCDR published 9 November 2017). The bycatch data provided for this audit was shared with the anglerfish team, and discussions were held with the anglerfish team (team leader and P2 expert) by email in December 2017, to harmonise the conclusions of the audit in relation to bycatch. Note that the data used in the two reports is somewhat different (this report uses data which was only provided by MFRI on 18 December), so the conclusions are not identical; however, the outcome is the same.

2.9 Summary of Conditions

Based on the rescoring and justification for management of bycatch (performance indicator: 2.2.2) the lumpfish gillnet fishery fails to meet the Scoring Guidepost at level 60 (SG60), which results in an overall failure of the fishery to meet the MSC standard.

Table 7: Summary of assessment conditions in the Iceland gillnet lumpfish fishery

Condition number	Performance indicator (PI)	Status after Year 1 audit	Status after Year 2 audit	Status after Year 3 audit	PI score Year 1 audit	PI score after Year 2 audit	PI score after Year 3 audit
Condition 1	2.2.2 – Bycatch species management strategy	on target	on target	PI rescored (Appendix 1)	70	65	FAIL
Condition 2	2.2.3 – Bycatch species information and monitoring	on target	on target	PI rescored (Appendix 1)	65	No change	80

3. Assessment Process

3.1 Audit Process

The announcement for the surveillance was published on the MSC website on 6th July 2017 and stakeholders were informed of the surveillance audit activities.

This surveillance audit was carried out by Dr. Jo Gascoigne (Team Leader), Thomas H. Jagielo (Expert), Dr. Ásgeir Danielsson (Expert) and Louise le Roux (Expert). Lovísa Ólöf Guðmundsdóttir was Secretary to the team. Dr. Gascoigne was primarily responsible for Principles 2 and reporting, Mr. Jagielo for Principle 1, Dr. Danielsson for Principle 3 and Mrs. le Roux for CoC and RBF issues. Vottunarstofan Tún advised all known stakeholders that the surveillance audit would be carried out off-site 19-21 September 2017. Tún maintains an active list of stakeholders who were contacted and notified of the surveillance audit. All stakeholders were given the opportunity to comment on the surveillance announcement and to request a meeting with members of the assessment team during the site visits. No requests were received.

This surveillance audit was conducted parallel to the third surveillance audits for ISF Iceland saithe, ling, Atlantic wolffish and plaice, and ISF Iceland Golden redfish, blue ling and tusk fisheries.

3.2 Scope and history of assessments

The unit of assessment and certification covers the fishing of lumpfish (*Cyclopterus lumpus*) by means of lumpfish gillnet within the Icelandic Economic Zone. A full assessment of the fishery was launched in February 2013 and it was certified in December 2014.

The fishery attained a score of 80 or more against each of the three MSC Principles and did not score less than 60 against any of the individual MSC Criteria. Two Performance Indicators (PI 2.2.2 and PI 2.2.3) scored less than 80, therefore two conditions were set for this fishery. Two recommendations were made.

3.3 Surveillance activities

The assessment team met with the client organization Iceland Sustainable Fisheries (ISF). Two of the team members met with the client in Reykjavík Iceland, while two team members were present on Skype. The assessment processes and the certifications were discussed in detail and the meetings provided an opportunity to discuss any changes to the fishery and specifically the progress against conditions and recommendations that exist for this fishery. Two team members (Principle 2 expert and CoC/RBF expert) also had a meeting with Guðjón Már Sigurðsson, bycatch expert at the MFRI, to discuss bycatch issues regarding the lumpfish fishery. The draft was reviewed by ISF, who provided set of detailed comments, given in Appendix 2, along with the response of Vottunarstofan Tún to each point. Two team members (Principle 2 expert and CoC/RBF expert) had a further meeting with ISF on December 18. At this meeting ISF raised some of the same points; and particularly emphasised the uncertain nature of the data on which the new scoring is based, noting that NAMMCO has not endorsed the data on marine mammal bycatch as a likely reflection of the real situation. Vottunarstofan Tún acknowledged this to be true, and noted that the re-scoring of this fishery was extremely difficult.

3.4 MSC standards

This surveillance audit was carried out according to the process requirements of “MSC Fisheries Certification Requirements and Guidance v2.0” and reported using “MSC Surveillance Reporting Template v1.0”. However, the original full assessment used “MSC Certification Requirements v1.3” which remains the relevant standard for this third surveillance audit of the fishery.

4. Results

The results of this surveillance audit are presented in **Table 8** and **Table 9** which provide the previous year 2 audit scores, the progress made during year 3 and the overall conclusion on the status of each condition.

Table 8: Condition 1 in the lumpfish fishery.

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Year 2 audit Score
Performance Indicator(s) & Score(s)	PI 2.2.2	<p>SI(a): There is a partial strategy in place, if necessary, that is expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>SI(b): There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.</p> <p>SI(c): There is some evidence that the partial strategy is being implemented successfully.</p>	65
Condition	By the fourth annual surveillance audit, there shall be evidence that the risk to harbour porpoise and black guillemot from this fishery has been evaluated and a partial strategy put in place if necessary to reduce these impacts to a level which does not pose a risk of serious or irreversible harm to harbour porpoise and black guillemot.		
Milestones	<p><u>At the end of Year 1 (first surveillance audit):</u> There shall be evidence of the Client's commitment to improve logbook recording within the fishery it is operating. Also by the end of Year 1 there shall be evidence of the Client's engagement with the relevant public research and/or enforcement bodies to determine the level of data collection and/or analysis of bycatch in the lumpfish fishery that is considered necessary to be able to evaluate the risk to harbour porpoise and black guillemot and to initiate an evaluation of risk to the harbour porpoise and black guillemot populations. If such public bodies are unable to provide support for evaluating the risk, the fishery shall plan and initiate an evaluation by other means (e.g. independent consultants or scientists or other means as appropriate). If scientific advisors consider that the improved logbook data remain inadequate for an appropriate assessment of bycatch, the fishery shall evaluate options for additional data collection as appropriate. Score 70.</p> <p><u>At the end of Year 2 (second surveillance audit):</u> Ongoing improved data collection (see condition on 2.2.3). There shall be evidence that the existing data have been reviewed and analysed, and a preliminary assessment made of the elements that could be included in the partial strategy for mitigating impacts on porpoises and black guillemot, if necessary. Score 70.</p> <p><u>At the end of Year 3:</u> There shall be evidence of a draft plan for addressing porpoise and black guillemot impacts if necessary, which will include a list of measures that could be put in place, by the Client group or the fishery as a whole. There shall be evidence that a process of consultation is underway on this strategy with fisheries stakeholders and scientists. Score 70.</p>		

	<p>At the end of Year 4: There shall be evidence that there is an agreed partial strategy in place, consisting of a series of agreed and implemented measures, that will ensure that the fishery does not pose a risk of serious or irreversible harm to the harbour porpoise and black guillemot populations, if necessary. Score 80</p>
Client action plan	<p>Year 1</p> <p><u>Harbour Porpoise and black guillemot:</u> Improve on board logging: Engage with fishery operators in order to improve logbook recording of harbour porpoise and black guillemot bycatch.</p> <p><u>Harbour Porpoise and black guillemot:</u> Evaluate need for partial strategy: Consult with the Directorate of Fisheries and the Marine Research Institute and/or other parties with the objective to determine if recording and monitoring of harbour porpoise and black guillemot bycatch is at a level that is sufficient to detect increased risk to the population.</p> <p><u>Harbour Porpoise and black guillemot:</u> Evaluate impacts: Consult with the Directorate of Fisheries, the Marine Research Institute and/or other institutions with the objective of evaluating the risk to harbour porpoise and black guillemot bycatch in the fishery or engage with independent parties to evaluate the risk to harbour porpoise and black guillemot by the fishery. ISF will launch an independent onboard research project where bycatch of birds are physically counted by a contracted 3rd party in cooperation with the Icelandic Smallboat Association, Fuglavernd and Birdlife International.</p> <p>Year 2</p> <p><u>Harbour Porpoise and black guillemot:</u> Improve on board logging: Continue engagement with fishery operators to ensure adequate logbook recording of bird and mammal bycatch.</p> <p><u>Harbour Porpoise and black guillemot:</u> Evaluate need for partial strategy: Continue engagement with the Directorate of Fisheries and the Marine Research Institute to promote monitoring of bird and harbour porpoise bycatch in the fishery and to determine if logbook recording and monitoring is adequate.</p> <p><u>Harbour Porpoise and black guillemot:</u> Evaluate need for partial strategy: Continue consultation with the Marine Research Institute (MRI) and/or other institutions with the objective to continue evaluating the risk to harbour porpoise and black guillemot in the fishery or continue engagement with independent parties to continue evaluation of the risk to harbour porpoise and black guillemot in the fishery.</p> <p><u>Harbour Porpoise and black guillemot:</u> Evaluate impacts: Present a preliminary assessment of measures that could be included in a partial strategy to prevent the fishery from posing a risk of serious or irreversible harm to harbour porpoise and black guillemot, if necessary. In year 2 ISF will have received the report from the independent research, managed and executed by BioPol, which is used to evaluate environmental impacts.</p> <p>Improvements expected: Fuller information on bycatch.</p> <p>Auditing: At the Year 2 audit, ISF will present i) Results from further research of bird and harbour porpoise bycatch; ii) an initiative to work with authorities on a partial strategy.</p> <p>Year 3</p> <p><u>Harbour Porpoise and black guillemot:</u> Improve on board logging: Prepare a written report (or commission such a report) during Year 3 on the reliability of logbook recordings and monitoring. The feedback and results from research delivered by BioPol in year 2 will feed into the report.</p>

	<p>Harbour Porpoise and black guillemot: Evaluate need for partial strategy: Present a draft plan for addressing impacts on relevant harbour porpoise and black guillemot, if necessary and results from research indicate a needed.</p> <p>Harbour Porpoise and black guillemot: Evaluate impacts: Present evidence of ongoing consultation with relevant parties to address problems and areas for further action, e.g. work with the Small boat association and net locations and with MRI on same matter.</p> <p>Improvements expected: An outline for a partial strategy addressing solutions to bycatch.</p> <p>Auditing: At the Year 3 audit, ISF will present i) a completed report on logbook reliability; ii) a draft partial strategy to address bycatch; iii) evidence of cooperation between ISF, NASBO and MRI on solutions.</p> <p>Year 4</p> <p>The strategies established in year 3 should be in implementation by year four. ISF will meet with MRI to evaluate the progress, meet with the MII to follow up on MRI findings and discuss progress and the commitment to the implemented strategies. In year 4, ISF is monitoring the effectiveness of plans, actions and strategies implemented in first 3 years, and base further actions on results from previous years, to fulfil the condition.</p>
<p>Progress on Condition [Year 3]</p>	<p>New estimates of bycatch (Table 3) have caused the audit team to rescore this PI for four species (harbour seal, grey seal, black guillemot, great cormorant) (Appendix 1). The resulting outcome is a score of less than 60, which fails the fishery.</p> <p>Progress specific to the milestones and Client Action Plan set out for this condition in year 3 is described below.</p> <p>A bycatch workshop for the lumpfish fishery was held in March 2017, attended by Fuglavernd, the Directorate of Fisheries (DF), BirdLife International, MSC, National Association of Small Boat Owners (NASBO), ISF, BioPol and the MFRI. This discussed:</p> <ul style="list-style-type: none"> • existing bycatch estimates and how they could be improved; • logbook returns, comparison with observer estimates, how they can continue to be improved; • bycatch monitoring plans for 2017; • testing of mitigation measures in Breidafjörður (lights, pingers) – practicalities, sources of funding; • seabird population monitoring; • development of a funding proposal to address ongoing MSC requirements (formation of a team to develop the proposal, timeframe and planning). <p>A further workshop is planned for 17 October 2017, which will prepare monitoring and other projects to be implemented next summer. It has been proposed to hire a part-time bycatch specialist to manage this work; this is another topic for discussion at this workshop.</p> <p>As noted above, monitoring continues to improve, and with this improvement the risk of bycatch impacts on various species has become better understood (see discussions under ‘Bycatch’ above). This ongoing change in the perception of which bycatch species are most impacted has made it difficult for ISF and NASBO to present a plan for management of bycatch impacts, since different types of bycatch (bird vs mammal, different bird species) require different mitigation measures. Nevertheless, it is clear that work is very much ongoing to i) improve monitoring and reliability of estimates; ii) improve reporting by fishers (see Table 4 above) and iii) start to address mitigation measures, as far as possible within the constraints of data availability.</p>

	On this basis, the team considered that the condition is on target. However, new bycatch data has resulted in a rescoring of this PI (see Appendix 1).
Status of condition	The Client Action Plan remains on target. However, based on new information made available to inform this third surveillance audit, this PI required rescoring, with results and justification provided in Appendix 1. The rescoring concludes that the fishery fails to meet SG60 for this PI, and therefore no longer meets the MSC standard.

Table 9: Condition 2 in the lumpfish fishery

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Year 2 audit Score
Performance Indicator(s) & Score(s)	PI 2.2.3	<p>SI(c): Information is adequate to support a partial strategy to manage main bycatch species.</p> <p>SI(d): Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</p>	65
Condition	By the third annual surveillance there shall be evidence of sufficient data being collected in order to detect any increase in risk to the main bird and/or mammal bycatch species within the fishery.		
Milestones	<p>At the End of Year 1 (first surveillance audit): There shall be evidence of the Client's commitment to improve logbook recording within the fishery it is operating. Also by the end of Year 1 there shall be evidence of the Client's engagement with the relevant public research and/or enforcement bodies to determine the level of data collection and/or analysis of bycatch in the lumpfish fishery that is considered necessary to be able to evaluate the risk to main bycatch and to initiate an evaluation of risk to main bird- and mammal bycatch species. If such public bodies are unable to provide support for evaluating the risk to bycatch species, the fishery shall plan and initiate an evaluation by other means (e.g. independent consultants or scientists or other means as appropriate). If scientific advisors consider that the improved logbook data remain inadequate for an appropriate assessment of bycatch, the fishery shall evaluate options for additional data collection, as appropriate. Score: 65</p> <p>At the End of Year 2 (second surveillance audit): By the end of Year 2 there shall be evidence that logbook recording within the Client's fishery is adequate, as required by national legislation. Also by the end of Year 2 there shall be evidence of an ongoing evaluation on the risk to main bird and marine mammal bycatch species in the fishery, including by means of additional data collection, if necessary. Score 65</p> <p>At the End of Year 3 (third surveillance audit): By the end of Year 3 the evaluation of the risk to main bird and mammal bycatch species shall be completed. There shall be evidence of continued data recording and analysis for the main bird and mammal bycatch species. Score 80.</p> <p>Sufficient data shall continue to be collected to detect any increase in risk to main bycatch species throughout the certification period.</p>		
Client action plan	Year 1		

	<p><u>Bird/mammal bycatch: Data collection:</u> Engage with fishery operators in order to improve logbook recording of bird and mammal bycatch species. ISF will launch an independent onboard research project where bycatch of birds are physically counted by a contracted 3rd party in cooperation with the Icelandic Smallboat Association, Fuglavernd and Birdlife International.</p> <p><u>Bird/mammal bycatch: Data collection:</u> Consult with the Directorate of Fisheries and the Marine Research Institute with the objective to determine if recording and monitoring of main bird- and marine mammal bycatch is at a level that is sufficient to detect increased risk to the main bycatch.</p> <p><u>Bird/mammal bycatch: Data collection:</u> Consult with the Directorate of Fisheries, the Marine Research Institute and/or other institutions with the objective of evaluating the risk to main bird- and marine mammal bycatch in the fishery or engage with independent parties to evaluate the risk to bird- and marine mammal bycatch species in the fishery.</p> <p>Year 2</p> <p><u>Bird/mammal bycatch: Data collection:</u> Continue engagement with fishery operators to ensure adequate logbook recording of bird and mammal bycatch.</p> <p><u>Bird/mammal bycatch: Data collection:</u> Continue engagement with the Directorate of Fisheries and the Marine Research Institute to promote monitoring of bird and mammal bycatch in the fishery and to determine if logbook recording and monitoring is adequate.</p> <p><u>Bird/mammal bycatch: Data collection:</u> Continue consultation with the Marine Research Institute (MRI) and/or other institutions with the objective to continue evaluating the risk to main bird- and marine mammal bycatch in the fishery or continue engagement with independent parties to continue evaluation of the risk to main bird- and marine mammal bycatch in the fishery.</p> <p>Improvements expected: ISF will present an introduction of data and information being collected for year 3 report.</p> <p>Audit: At the Year 2 audit, ISF will present progress on logbooks report.</p> <p>Year 3</p> <p><u>Bird/mammal bycatch: Data collection:</u> Prepare a written report (or commission such a report) during Year 3 on the reliability of logbook recordings and monitoring.</p> <p><u>Bird/mammal bycatch: Data collection:</u> Prepare a written report (or commission such a report) on the evaluation of the risk to main bird- and marine mammal bycatch species in the fishery. The report is based on ISF initiated research and MRI research.</p> <p>Improvements expected: ISF will present a report addressing the accuracy of logbooks.</p> <p>Audit: At the Year 3 audit, ISF will present a written report on logbooks, addressing possible solutions and actions.</p>
Progress on Condition [Year 3]	<p>There have been substantial improvements in the estimates of bycatch from this fishery (see Table 3, Table 4, Section 2.4.3, and progress on Condition 1 in Table 8). This has improved the understanding of the known impacts and risks of the fishery to by-caught species. The impacts to some specific species are higher than assumed within the original assessment, which has resulted in re-scoring 2.2.2 (as outlined above in Table 8). The improved level of information made it appropriate to also re-score 2.2.3 (see Appendix 1).</p> <p>A considerable degree of uncertainty remains within bycatch estimates. MFRI consider that a qualitative picture is emerging, but quantitative estimates must still be considered extremely uncertain (see under 'Uncertainty in data' above). Estimates will</p>

	<p>continue to improve (e.g. based on the ongoing of ISF with the fishery; also as MFRI and BirdLife work together to combine their data sets and methodologies). The data provided in logbooks is also improving, and is now qualitatively more in line with observer estimates (see Table 4). Furthermore, the reliability of these datasets can be estimated (compare Table 3 and Table 3 to Table 4). The key species at risk, and the levels of risk, are now better understood (see Table 5). Work is ongoing to address remaining data gaps (see analysis under Condition 1). Nevertheless, the data remain sufficiently uncertain that quantitative analysis is difficult – see analysis and recommendations by NAMMCO discussed above.</p> <p>This PI was re-scored by the team (see Appendix 1) but does not yet meet the SG80 level.</p>
Status of condition	Behind target

Table 10: Recommendation 2

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	Principle 1 and 3		N/A
Recommendation	The effectiveness of the established harvest strategy should be evaluated further for both optimal conservation and for efficient utilization of the lumpfish resource.		
Milestones	n/a		
Client action plan	Client will engage with the Marine and Freshwater Research institute (MFRI) and Ministry of Industries and Innovation (MII) to follow up on the established harvest strategy.		
Progress on Recommendation [Year 3]			
Status of recommendation			

5. Conclusion

5.1 Recommended Decision

Based on new information and data provided to inform this third surveillance audit, it has been appropriate to re-score the following three PIs: Bycatch Outcome Status (2.2.1), Management (2.2.2) and Information (2.2.3).

The re-scoring of PIs 2.2.1 and 2.2.2 resulted in scores of less than 60, thus failing the fishery under both PIs (full re-scoring and justifications are provided in Appendix 1).

General Certification Requirements v2.1 state that a CAB shall suspend a fishery certificate if a certificate holder “No longer conforms to the MSC Fisheries Standard (7.4.2.1)”. The re-scoring of PIs 2.2.1 and 2.2.2 has resulted in scores below 60 and therefore the fishery no longer conforms to the standard.

The assessment team has therefore passed the following **determination** (recommended outcome of Tún’s Certification Entity proceedings):

The Icelandic gillnet lumpfish fishery shall be suspended from the MSC program and any lumpfish caught by the client fishery after the date of suspension shall no longer be eligible to carry the MSC ecolabel until such time as this suspension is lifted. The date of suspension will be the 4th of January 2018 and the certificate will remain suspended until the cause of the suspension has been fully addressed.

5.2 Actions Required

Articles 7.4.3-7.4.8 of MSC’s General Certification Requirements specify in detail the actions required by the Conformity Assessment Body and the Client, should a fishery be suspended.

As a result of the suspension, Vottunarfisgar Tún will, no later than on the date of suspension:

- Inform the Client and MSC about the suspension;
- Record the suspension on the MSC database.

Furthermore, Vottunarfisgar Tún will within 4 days post an announcement regarding the suspension on the MSC website.

In response to the suspension, Vottunarfisgar Tún will advise the client fishery that they should (within 4 days of the date of suspension):

- Advise client group members of the suspension (in this case this may mean all relevant company owners, directors, employees and crew of the fishing vessel).
- Advise existing and potential customers in writing of the suspension.
- Keep records of such advice given to customers.
- Not make any claims of MSC certification from the day of suspension.
- Not sell any fish as MSC certified from the day of suspension. Fish caught prior to the date of suspension may continue to be sold as MSC certified provided Vottunarfisgar Tún or other Conformity Assessment Body (CAB) has verified by means of Chain of Custody audit the client’s ability to segregate fish based on date of capture.

In addition, Vottunarfisgar Tún will advise the client fishery that they should (within 90 days) provide a documented corrective action plan for addressing the cause(s) of suspension, which is acceptable to the CAB as being able to address the cause(s) for suspension. This corrective action plan should include a binding timeframe. If this corrective plan is acceptable to the CAB (i.e. is expected to fully address the cause(s) of the suspension) then the CAB will instruct the certificate holder to implement the

corrective action plan. If, however, the certificate holder does not submit an acceptable corrective action plan within 90 days of suspension, the MSC certificate will be withdrawn.

Once the certificate holder informs the CAB that the actions detailed in the corrective action plan have been successfully completed, the CAB should verify this by undertaking any monitoring of relevant activities or interviews with relevant stakeholders as deemed necessary. The Icelandic gillnet lumpfish Fishery MSC certificate will remain suspended until such time that the cause of suspension has been verified to have been fully addressed. Once verified that the certificate holder has fully addressed the cause(s) of suspension the CAB shall reinstate the certificate (assuming this is within the original certification period) and produce a report documenting the evidence that describes how the cause(s) of suspension have been adequately addressed and a statement confirming the reinstatement of the certificate.

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Appendices

Appendix 1. Re-scoring evaluation tables

Evaluation table for PI 2.2.1

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups		
Scoring Issue		SG 60	SG 80	SG 100
a	Guidepost	Main bycatch species are likely to be within biologically based limits (if not, go to scoring issue b below).	Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue b below).	There is a high degree of certainty that bycatch species are within biologically based limits.
	Met?	N – harbour seal, black guillemot (go to b) Y – grey seal, cormorant	N – go to b	Not scored
	Justification	<p>Based on the analysis in Table 5, grey seal are considered 'likely' to be within biologically based limits (at or above management target level of 4,100 individuals), based on most recent population estimates of 4,200 adults (SG60 met). It is not considered 'highly likely' because the population size estimate is old (a new survey is underway), and because trends in harbour seal (with similar ecology) have been negative; SG80 not met – go to b.</p> <p>Harbour seal and black guillemot cannot be confirmed as 'likely' to be within biologically-based limits (Tables 2, 3 and 5); the harbour seal population appears to be in rapid decline – recent surveys estimate a population of 7,652 compared to previous estimates and a management target of ~12,000. The black guillemot population in Iceland is also known to be declining (according to Skarphéðinsson et al., 2016, the population has declined steadily since the 1980s and currently stands at ~10,000 to 15,000 pairs); however globally the population size appears to be stable (BirdLife International, 2016). The species has recently been protected from hunting for this reason (SG60 not met – go to b).</p> <p>The cormorant population in Iceland is estimated at ~4,500 pairs; trends and historical population size in Iceland is not known with any certainty. The global population is estimated to number 1.4-2.1 million individuals and the European population is estimated at 401,000-512,000 pairs, equating to 803,000-1,020,000 mature individuals, and the species is evaluated by IUCN as of 'least concern' based on the very large range and population size (BirdLife International 2017). The species is very adaptable and inhabits a wide range of ecosystems and habitats. On this basis, the team concluded that it is 'likely' but not 'highly likely' that the population in Iceland is within biologically-based limits; SG60 is met but SG80 is not met. This conclusion is in line with the anglerfish assessment for this gear type.</p>		

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups		
b	Guidepost	If main bycatch species are outside biologically based limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.	If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.	
	Met?	N – harbour seal, grey seal, black guillemot Y – cormorant	Not scored	

	Justification	<p>According to the PCR (see rationale for PI 2.2.2), a series of regulatory measures are in place which aim to reduce bycatch in this fishery (with reference particularly to eider ducks, which are an important resource):</p> <ul style="list-style-type: none"> • Lumpfish fishers operating close to nesting sites of eider ducks, must lay nets at least 250m from shore, • the start of the fishing season in the inner part of Breiðafjörður, where there are large bird colonies, is delayed while birds are nesting, • there is a closed area off W Iceland where lumpfish fishing is banned, • fishers are not allowed to offer for sale, sell, give, nor accept as a gift, any bird that has been killed in fishing nets, • any living birds in the net must be released, • fishermen are required to number and label all nets, and strict surveillance is maintained on the number of nets by the Directorate of Fisheries (DF). • if nets are left behind for some reason, the DF ensures that they are collected. <p>It is evaluated how these measures are working below:</p> <ul style="list-style-type: none"> • Harbour seal: This fishery may account for ~12% per year of the harbour seal population (~930 per year from a population of ~7,600). It must be emphasised, however, that these bycatch estimates are extremely uncertain; see Tables 3 and 5, also NAMMCO, 2017). A recent survey of harbour seal (Þorbjörnsson et al., 2017) suggests that the population is in rapid decline. MFRI do not know the cause of this decline but cannot rule out fisheries bycatch as a significant contributor. SG60 is not met. • Grey seal: MFRI bycatch data give an estimated annual bycatch of grey seal of 1566 animals per year; but this seems implausible given the size of the population (~4,200 adults); NAMMCO consider that there is most likely a problem with this estimate. The most recent survey (details given in Year 1 audit report for this fishery) estimated that the population was approximately at the target level of 4,100, but it is not possible to rule out a decline similar to that seen in harbour seal since then; a new survey is currently underway (MFRI, pers. comm.). It is not clear that measures can ensure that the fishery is not impacting this population. SG60 is not met. • Black guillemot: Estimates from Bond et al. (2017) suggest that the fishery could account for as much as 20% of the breeding population per year; more conservative MFRI estimates suggest 5.7-8.5% (~1,700 from a population of 10,000 to 15,000 pairs; see Tables 2 and 5); again, however, it has to be stressed that these estimates are very uncertain. The population has been in decline for several decades, and on this basis, the fishery could be a key cause of this ongoing decline. SG60 is not met. • Great cormorant: Estimates suggest that bycatch from this fishery could account for ~875 individuals per year, i.e. up to a maximum of ~10% of the breeding population of ~4,500 pairs (see Tables 2 and 5). The data, are, however, very uncertain, and there does not seem to be any clear evidence of a population decline in Iceland; globally the population is 'least concern'. On this basis, the team concluded that the fishery with existing measures is not likely to be impacting the population significantly, but given the uncertainty, it is not possible to say that they are 'demonstrably effective'. SG60 is met but SG80 is not met. This conclusion is harmonised with the anglerfish assessment for this gear type.
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PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups		
c	Guidepost	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the bycatch species to be outside biologically based limits or hindering recovery.		
	Met?	Y – cormorant		
	Justification	See scoring issue b		
References		MFRI, 2017a; Skarphéðinsson et al., 2016; BirdLife International, 2016, 2017; Þorbjörnsson et al., 2017; Bond et al., 2017; NAMMCO, 2017; see PCR and year 1 surveillance report on MSC's website; also PCDR for the Iceland ISF anglerfish fishery also on MSC's website.		
OVERALL PERFORMANCE INDICATOR SCORE:				<60 (Fail) – harbour seal, grey seal, black guillemot 60 – cormorant
CONDITION NUMBER (if relevant):				

Evaluation table for PI 2.2.2

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations		
Scoring Issue		SG 60	SG 80	SG 100
a	Guidepost	There are measures in place, if necessary, that are expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing and minimizing bycatch.
	Met?	N – harbour seal, grey seal, black guillemot	N	Not scored

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations		
		Y – cormorant		
	Justification	<p>There are some measures in place for reducing bycatch, particularly in sensitive areas such as the Breiðafjörður (described in the PCR) but as is clear from the bycatch estimates provided in Tables 2, 3 and 4, they do not appear to be working – there is evidence that the fishery might be hindering recovery and rebuilding of harbour seal and black guillemot (although these figures are uncertain), and based on recent experience with harbour seal, may also be constraining the grey seal population (Table 5). BirdLife and MFRI are both testing different ideas for reducing bycatch (MFRI, pers. comm.). For the moment, however, SG60 is not met for these three species.</p> <p>For cormorant, the population seems to be stable and is very large (see 2.2.1) and the fishery is therefore not likely to impact it significantly; SG60 is met on the basis that the operation of the fishery and the limited rules currently in place constitute ‘measures’. However, estimates of bycatch are high, although uncertain (see figures given in 2.2.1) and on this basis sufficient measures are not in place to correspond to a ‘partial strategy’ at present, although the fishery and ISF are working hard to put one in place. SG80 is not met.</p>		
b	Guidepost	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.
	Met?	N – harbour seal, grey seal, black guillemot Y – cormorant	N	Not scored
	Justification	According to the estimates provided in the rationale for 2.2.1 above, the measures are not working for harbour seal or black guillemot; SG60 is not met for these species. Based on plausible argument grey seal may also be impacted in a similar way to harbour seal, so SG60 is not met for this species either. For cormorant, based on plausible argument (very large population size and range, no evidence of decline) the measures in place can be considered likely to work (SG60 is met) but given the uncertainty of the data, an ‘objective basis for confidence’ is lacking (SG80 is not met).		
c	Guidepost		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.
	Met?		Not scored	Not scored
	Justification			

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations		
d	Guidepost			There is some evidence that the strategy is achieving its overall objective.
	Met?			Not scored
	Justification			
References		Icelandic gillnet lumpfish PCR, 2014		
OVERALL PERFORMANCE INDICATOR SCORE:				<60 (Fail) – harbour seal, grey seal, black guillemot 60 - cormorant
CONDITION NUMBER (if relevant):				

Evaluation table for 2.2.3

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch		
Scoring Issue		SG 60	SG 80	SG 100
a	Guidepost	Qualitative information is available on the amount of main bycatch species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main bycatch species taken by the fishery.	Accurate and verifiable information is available on the catch of all bycatch species and the consequences for the status of affected populations.
	Met?	Y	Y	N

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch		
	Justification	<p>There is quantitative information on the bycatch of the lumpfish fishery, from MFRI (birds and mammals) and from BirdLife (birds only; Bond et al., 2017). These data are very uncertain, but provide a picture of the order of magnitude of bycatch and the main species involved (see Tables 2 and 3, also rationale for PI 2.2.1). MFRI and BirdLife are working together to merge their data sets and agree a methodology for scaling up to fleet level which may provide a better picture, although MFRI consider (and NAMMCO agree) that a minimum of a five-year average is needed to give a reasonable quantitative picture. Fishers also provide logbook data; although not all bycatch is identified to species in the logbooks, a comparison with observer data suggests that although these data continue to underestimate bycatch, they now provide a generally accurate picture of the magnitude of bycatch and the species concerned (Table 4). On this basis, SG80 is met. SG100 is not met because in no case can the bycatch data be considered 'accurate and verifiable'.</p>		
b	Guidepost	Information is adequate to broadly understand outcome status with respect to biologically based limits	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty.
	Met?	Y	N	N
	Justification	<p>The information now available on bycatch in the lumpfish fishery (Tables 2-4) is sufficient to evaluate which species are likely to be most at risk from bycatch impacts (see Table 5 above) and to gain a general understanding into the level of risk to the population. On this basis, SG60 is met. However, quantitative estimates of total levels of bycatch remain extremely problematic. The data are limited mainly by the low sampling rate, which results in wide confidence intervals in raised data (see Tables 2 and 3), but also by various problems with the sampling (non-random sampling of trips, clumping of bycatch events) and the analysis (methods of raising and estimates of uncertainty) – these are highlighted by NAMMCO in relation to marine mammals, but the bird data has many of the same issues, presumably. Some of the results are implausible (e.g. in relation to grey seal). NAMMCO has not validated the estimates of mammals bycatch for the moment, and MFRI note that a minimum 5-year running average is required for a reasonable picture. On this basis, SG80 is not met.</p>		
c	Guidepost	Information is adequate to support measures to manage bycatch.	Information is adequate to support a partial strategy to manage main bycatch species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Y	Y	N

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch		
	Justification	Information is now sufficient to evaluate which species need measures to control bycatch; indeed, preliminary testing of some mitigation options is already underway. The resolution of the information is starting to allow geographic locations and seasonality to be considered, which could allow bycatch hotspots to be identified in space and time (see e.g. information in Bond et al., 2017). SG80 is met. However, it is considered that information is not sufficient to evaluate ongoing impacts 'with a high degree of certainty' because population estimates for some seabird populations and grey seals are limited and/or dated. For harbour seals, there are good recent population estimates, but these surveys are relatively infrequent. SG100 is not met.		
d	Guidepost		Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).	Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.
	Met?		Y	N
	Justification	Annual monitoring by observers as well as reporting by fishers is now much improved (see Tables 2-4); MFRI hope to obtain a longer time series so that less uncertainty exists within quantitative estimates (MFRI, pers. comm.). SG80 is met. SG100 is not met because of limited population-level monitoring for all relevant bycatch species.		
References		Skarphéðinsson et al., 2016; Þorbjörnsson et al., 2017; Bond et al., 2017; data provided by MFRI as given in Tables 1 and 2		
OVERALL PERFORMANCE INDICATOR SCORE:				75
CONDITION NUMBER (if relevant):				

Appendix 2: Stakeholder Submissions

2.1 Letter from ISF with comments on draft report

Vottunarstofan Tún
Parabakka 3
109 Reykjavík

ISF Icelandic
Sustainable
Fisheries

Reykjavík, 22.11.2017

ICELANDIC GILLNET LUMPFISH
THIRD ANNUAL SURVEILLANCE REPORT
CERTIFICATE CODE F-TUN-1108

At ISF we have been reviewing the Third Annual Surveillance Report for Icelandic Gillnet Lumpfish. In section 2.8 Summary of Conditions, Vottunarstofan Tún concludes that Condition 2 is failing to meet the MSC standards according to Year 3 audit of the fisheries.

At ISF, we object to this conclusion for the following reasons.

First, the specie causing the failed status is Harbour Seal, a specie never mentioned before to ISF and is not present in the Client Action Plan (CAP) which ISF has been working to fulfil for the past three years. Vottunarstofan Tún is fully aware that ISF has been working on fulfilling the CAP for the condition and that it does not contain any mention of the specie prior to the third annual surveillance report.

Second, the CAP has been on target in Annual Surveillances in years one and two. ISF has not been given any notice that other species than already mentioned in the CAP, approved by Vottunarstofan Tún, will be a part of the annual surveillance – until it shows up in third surveillance and causes suspension.

Third, the government agency responsible for the data, MFRI suggests that a five year average should provide a reliable base for conclusions about the average quantity of seal caught. Vottunarstofan Tún is basing the suspension on data from only two years, 2014 and 2015. MFRI maintains that the data is uncertain and the sufficient time-series should contain five years to reach an average.

Fourth, ISF has brought together NASBO, MFRI, Fisheries Iceland, Fuglavernd and Birdlife International at workshops to improve data collection and to seek solutions to known issues. The issue causing the suspension was not among issues to discuss or seek solutions at the workshops or during other work with stakeholders, as it had never been raised by Vottunarstofan Tún.

Fifth, the data for the harbour specie shows a very serious development and solutions must be sought, found and implemented. ISF has not been given any chance of seeking those as the issue has not been previously raised and CAP has been aimed at other species and delivered continuously on target.

Sixth, the sudden spike in quantity of seal species and harbour porpoise caught in 2017 is alarming. The increase in seal species (not itemized by species) between the years 2016 and 2017 is 55% increasing from 279 animals to 615. The increase between same years in harbour porpoise caught is 92% an increase from 22 animals to 286. There should be a reason to further investigate what can explain this sudden and enormous spike in numbers.

Seventh, in the report by Vottunarfisli Tún there are *Conclusions from new bycatch data*. The conclusion includes „new data suggest“ and „previously thought“ and „which suggest“ and „new population estimates“ and „a problem not previously appreciated“. From these subjective indications, the CAB concludes a failure of the fisheries to meet the standards.

ISF would like to kindly suggest that the review of scoring to be reconsidered and given a passing score. It is evident that there are species that should be researched to a greater extent, ISF should be given the chance to seek a clearer picture through a new condition and time to seek and implement the solutions as needed.

Reykjavík, November 22nd 2017

On behalf of Iceland Sustainable Fisheries,
Kristinn Hjálmarsson & Erla Kristinsdóttir
Project Managers at ISF

2.2 Response from Vottunarfisli Tún

1. This is true and is a function of new data provided for this audit. It is unfortunate that ISF cannot be given the opportunity to improve the situation via a condition and Client Action Plan prior to a suspension. However, Vottunarfisli Tún's duty to all parties involved is to follow every standard requirement to the point.
2. This is also true.
3. Yes – although a further draft since this letter was written now provides three years of data (2014-16). Vottunarfisli Tún agrees with MFRI that it is most likely still not enough to provide reliable estimates of bycatch impacts by this fishery. Unfortunately, in these circumstances, the CAB is required to act according to the principle of precaution; i.e. the burden of proof is with the fishery to demonstrate that impacts are not occurring, rather than with the CAB to demonstrate that they are occurring.
4. ISF has worked extremely hard to build trust with the fishers and develop research partnerships across a range of organisations to find solutions to the bird bycatch issue. If the seal issue had been raised earlier then we do not doubt that ISF would have been able to address this issue in the same way. Unfortunately, the data provided to Vottunarfisli Tún for the previous audits indicated that seal bycatch, although present, was not likely to be having a population-level impact (see audit reports for Year 1 and Year 2).
5. ISF will continue to have an opportunity to work on the issue within the MSC framework, via the process of the corrective action plan.
6. This is not exactly the same in the new data in this version of the report, but we fully agree that the data are very variable from year to year, and that this has driven abrupt changes in the conclusions of the assessment for several bycatch species (not only for this fishery but also for other MSC gillnet fisheries in Iceland where the list of 'main' species keeps changing). It is not

satisfactory to use these data to make such important decisions – a point that has been consistently underlined by MFRI. Vottunarstofan Tún have discussed this issue internally at great length, but finally we are bound by the wording of the scoring guideposts and the requirement to use precaution in scoring.

7. Yes – MSC scoring is not a precise science. Nevertheless, we have considered the scoring given in Appendix 1 extensively, both internally within the lumpfish audit team, and externally in harmonisation discussions with the anglerfish assessment team. We cannot see the possibility of any other outcome.

Vottunarstofan Tún understands the frustration that ISF feels with the process and its findings. However, conformity assessment bodies have as their primary duty, to all parties involved, to follow the MSC standard and requirements which eventually will carry the benefit of doubt. Tún would therefore like to encourage ISF to immediately start proceeding towards the setting of plan of action to address the causes of the proposed suspension.

Appendix 3: Surveillance Audit Information

N/A.

Appendix 4: Additional Detail on Conditions and Client Action

N/A.

Appendix 5: Revised Surveillance Program

The team conducting the initial assessment determined that this fishery qualifies for reduced surveillance, since the ability to verify remotely was found to be high for all aspects of the fishery and no physical inspections are required to verify milestones. The surveillance program will however depend on the fishery's progress in addressing the causes of the recommended suspension.

Table A5.1: Surveillance level rationale.

Year	Surveillance activity	Number of auditors	Rationale
Year 4	On-site Surveillance Audit	2 auditors	As year 4 marks the starts of re-assessment an on-site surveillance is recommended. Although most of relevant documents can be obtained online or electronically, face-to-face meetings would provide more detailed status of the fishery before re-assessment.

Table A5.2: Timing of surveillance audit.

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
Year 4	December 2018	September 2018	Proposed to coincide with the surveillance of ISF Iceland saithe and ISF Iceland golden redfish. Scientific advice to be released in June 2018*.

Table A5.3: Fishery Surveillance Program.

Surveillance Level	Year 1	Year 2	Year 3	Year 4
Level 4	On site surveillance audit <i>Completed</i>	Off-site surveillance audit <i>Completed</i>	Off-site surveillance audit <i>This audit</i>	On-site surveillance audit and re-assessment site-visit