Status of requests related to the management of fin and minke whales in the Central North Atlantic

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This document briefly summarises the status of R-3.1.7 and R-3.3.4.

Fin whales:

> **R-3.1.7 amended (ongoing)**: complete an assessment of fin whales in the North Atlantic and also to include an estimation of sustainable catch levels in the Central North Atlantic. While long-term advice based on the outcome of the RMP Implementation Reviews (with 0.60 tuning level) is desirable, shorter term, interim advice may be necessary, depending on the progress within the IWC. This work should be completed before the annual meeting of the SC in 2015. **Amended at NAMMCO/24**: The new amendment replaces the NAMMCO/23 amendment and reads: The SC is requested to complete an assessment of fin whales in the North Atlantic and also to include an estimation of sustainable catch levels in the Central North Atlantic. A long-term advice based on the new NASS2015 abundance estimate and the available results from the RMP Implementation Reviews (with 0.60 tuning level) is needed in 2016.

The **SC** met via videoconference (sc/24/11) on 2nd March 2017 where the results of the LWAWG were presented.

> The **SC** noted that the IWC's Implementation Review is complete, and these results have been accepted in the IWC SC. The SC **endorsed** the work of the WG and the recommended that a catch limit of 161 fin whales in the WI area and 48 in EI/F area (based on application of the RMP to the EG+WI+EI/F region) is safe and precautionary, and that this advice should be considered valid for a maximum of 8 years (2018 to 2025).

SC re-iterated it's management adivise from the videoconference meeting and consideres R-3.1.7 to be concluded.

Minke whales:

> **R-3.3.4 amended (ongoing):** full assessment, including long-term sustainability of catches, of common minke whales in the Central North Atlantic… assess the short-term (2-5 year) effects of the following total annual catches: 0, 100, 200 and 400. **Amended NAMMCO/24:** The SC is requested to complete assessments of common minke whales in the North Atlantic and include estimation of sustainable catch levels in the Central North Atlantic

The **SC** met via videoconference (sc/24/11) where the results of the LWAWG were presented.

> The projections of the mature female component of the C stock for the next 300 years (see Figure 3 in Appendix 1.) indicate that catches of 400 annually are not sustainable whereas a catch of 300 annually is sustainable in terms of the median trajectory. Noting further that these projections also include annual catches of 50 from the CM sub-area and 12 from the CG subarea, it is reasonable to conclude that an annual catch of about 360 minke whales is a lower bound for the sustainable catch for the Central North Atlantic. This number is described as a "lower bound" because is corresponds to the "lower bound" MSYR value of 1% in terms of the 1+ population, so that annual sustainable catches would be higher than 360 for the higher value of MSYR that likely applies in practice

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The application of the CLA to the CIC sub-area yields a sustainable catch limit for minke whales of 217 and 139 for tuning levels of 0.60 and 0.72 respectively. These values are compatible with the 360 above as they pertain only to the CIC sub-area within the whole Central North Atlantic region, and also precautionary because the CLA also reflects MSYR values that are perhaps unrealistically low

While the management advice above is precautionary and valid for up to 8 years the WG suggested that once the IWC RMP Implementation Review for North Atlantic common minke whales has been completed (anticipated in May 2017), the results from this should be used as a basis to provide long-term catch limit advice for common minke whales in the Central North Atlantic.

The IWC SC met in Bled, Slovenia in 2017 (ForInfo??) where the review of the implementation simulation trials was completed. In the trials five management variants where tested:

(1) Sub-areas CIC, CM, CG, CIP, EN, EB, ESW+ESE and EW are Small Areas, with the catch limits for these Small Areas based on catch cascading from the C and E Combination Areas. The catch from the ESW+ESE Small Area is all taken in sub-area ESE. The catch limits set for the CM, CG and CIP Small Areas are not taken (except that the Aboriginal catch is taken from CG);
(2) Sub-areas CIC, CM, CG, CIP, EN and EB+ESW+ESE+EW are Small Areas, with the catch limits for these Small Areas based on catch cascading from the C and E Combination Areas. The catch from the EB+ ESW+ESE +EW Small Area is all taken in sub-area EW. The catch limits set for the CM, CG and CIP Small Areas are not taken (except that the Aboriginal catch is taken from CG);
(3) Sub-areas CIC, CM, CG, CIP, EN, ESW+ESE, and EB+EW are Small Areas, with the catch limits for these Small Areas based on catch cascading from the C and E Combination Areas. The catch from the EB+ EW Small Area is all taken in sub-area EW and the catch from the ESW+ESE Small Area is taken in the ESE sub-area. The catch limits set for the CM, CG and CIP Small Areas are not taken (except that the Aboriginal catch is taken from CG);
(4) As for variant 1, except that sub-areas CIC+CIP+CM are a single Small Area and all of the catches from this Small Area are taken in sub-area CIC. The catch limits set for the CG Small Area are not taken (except that the Aboriginal catch is taken); and
(5) Sub-areas CIP+CIC+CG+CM, EN, EB, ESW+ESE and EW are Small Areas, with the catch limits for the E Small Areas based on catch cascading from the E Combination Area. All the catches from CIP+CIC+CG+CM Small Area are taken in sub-area CIC (after taking the Aboriginal catch from CG) and those for the ESW+ESE Small Area are taken in sub-area ESE.

Table 5
Summary of the conservation and catch performance of the five RMP variants for the North Atlantic common minke whales.

					C Medium Area				E Medium Area			
					Catch first ten years		Catch average		Catch first ten years		Catch average	
Variant	Trial weight	Acceptable	Border-line	Unacceptable	Mean med	Mean 5%	Mean med	Mean 5%	Mean med	Mean 5%	Mean med	Mean 5%
1	H	9	0	0	132	90	154	144	506	380	424	373
2	H	9	0	0	132	90	154	144	520	398	424	380
3	H	9	0	0	132	90	154	144	514	385	425	378
4	H	9	0	0	280	225	358	352	506	378	424	373
5	H	9	0	0	291	238	390	384	506	378	424	373
1	M	82	9	0	134	94	154	145	451	326	420	370
2	M	82	9	0	134	94	154	145	477	352	420	379
3	M	82	9	0	134	94	154	145	461	334	421	375
4	M	82	9	0	266	214	358	352	446	321	420	370
5	M	82	9	0	273	222	389	384	445	321	420	370

Based on the results of the Implementation Simulation Trials, variants 1, 3, 4 and 5 are acceptable in terms of conservation performance. Of these variants, variant 5 achieves the best performance in terms of catch.

In January 2017, the LWAWG recommended catch levels in accordance to management variants 1 and

3, while terms of catch levels in the Central Atlantic area are more conservative than variant 5, they were deemed acceptable in the implementation simulation trial. This advice was based on the RMP CLA applied with 0.6 to abundance and catches in the CIC area, resulting in 217 whales, using the most recent approved abundance estimate from 2015.
In the long term this advice an implementation simulation trial with a 0.6 tuning would formally be required, but in the short to medium term analysis at the 2017 LWAWG suggested that even with a fixed annual catches of 360 minke whales in the CIC area is safe and precautionary. In addition the results wrt acceptability of management variants from the simulation trials are not expected to substantially change with a change in tuning level to 0.6. **SC** therefore recommends that annual catches of minke whales in the CIC area do not exceed 217 animals during 2018 – 2025 and further considers R-3.3.4, with amendments, to be concluded.

For the next LWAWG meeting the SC may want to consider the following:

1. No management variant has been formally simulation tested that includes catches in the CM area. At the 2017 LWAWG meeting it was noted that Norwegian whalers had expressed interest in taking up to 50 minke whales in the area in the coming years.
2. The CLA with a tuning level of 0.6 should be formally simulation tested. As noted above, this is not expected to produce substantially different results, but could be conducted in tandem with testing a management variant for the CM area.
3. Catch advice for the CIC area on could be based on the best performing management variant from the IWC simulation trials. This would mean that the combined total catch advice for the Central North Atlantic would be taken in the CIC area. This was not possible for the LWAWG meeting in 2017 as abundance estimates from the CM area were not available and there were still some uncertainty on the final result from the IWC simulation trials.