LDAC ADVICE IN PREPARATION FOR NAFO 41st ANNUAL MEETING
Bordeaux (France), 23-27 September 2019

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BACKGROUND / AIM OF THIS ADVICE

The meeting of the Scientific Council (SCS) of NAFO, held in Halifax (Canada) from the 31st of May to the 13th of June of 2019, assessed the state of main commercial stocks in NAFO and as a result a table with recommendations for fishing opportunities for 2020 was established (see Table 1 below).

A LDAC delegation composed by the Chair, a Vice Chair, the Executive Secretary and 10 members of WG2 representing the concerned EU MS fleets with commercial interest in the fishery participated at a coordination meeting with the DG MARE lead negotiator and his team in Brussels on 29 August 2019. A presentation was given on the report of the Scientific Council and its advice for 2020 and beyond in relation to the main stocks for decision, as well as other conservation issues.

At the meeting there was also a short reference made to the work of several NAFO Working Groups, namely: Performance Review 2 (PR2); Risk Based Management Strategies (WG RBMS); Bycatch, Discards and Selectivity (WG BDS); Ecosystem Approach Framework to Fisheries Management (WG EAFFM); and Catch Estimation Strategy Advisory Group (WG CESAG). Specific emphasis was given to the progress made by the EAFFM on the development of an ecosystem approach roadmap and its associated level objectives, including a multispecies assessment.

At this preparatory meeting, the LDAC delegates held a preliminary exchange of views in reaction to EU proposals, with the Secretary conveying the main recommendations for each stocks and the members adding their qualitative expertise and knowledge. As in previous years, the LDAC committed to produce a written advice prior to the NAFO Annual Meeting and ideally in time for the Commission to be included ahead of the presentation of its proposal for mandate before the Council, planned for 12 September 2019.

Through the present advice, the LDAC would like to make a number of recommendations addressed to the negotiating team of DG MARE on behalf of the European Commission and the Fisheries Administrations of the Member States of the EU, based on the outcomes of the Scientific Council and relevant NAFO WGs.

Through this advice and the participation of its delegates at the Annual Meeting, the LDAC aims to inform the European Commission and the MS for the forthcoming discussions to be held within the 41st Annual Meeting of NAFO, which will take place in Bordeaux (France) from 23-27 September 2019.

The fishing opportunities for 2019 will be decided at that meeting, together with other management and conservation measures which are of relevance of the commercial fisheries for the LDAC members (both EU fleet and other interest groups incl. NGO) in NAFO RA.

For comparative analysis purposes, below is a summary table containing TACs approved for 2018 and 2019, as well as the level of catch in terms of quota consumption and the recommended TAC made by the Scientific Council for 2020.

STOCK	ESTIMATED CATCH 2018 (t)	TAC 2018 (t)	TAC 2019 (t)	Recommended TAC for 2020 (t)
GHL 2+3JKLMNO	16 630	16 500	16 521	16 926
Cod 3M	11 481	11 145	17 500	5619-8531?
Cod 3NO*	401	ndf	ndf	ndf
American Plaice 3LNO*	1 002	ndf	ndf	ndf
American Plaice 3M*	215	ndf	ndf	ndf
Witch Flounder 3NO	669	1 116	1 175	ndf
Redfish 3M	10 479	7 000	10 500	4 811
Redfish 3LN*	11 279	14 200	18 100	18 100
Redfish 3O	6 120	20 000	20 000	12 000?
White Hake 3NO	383	1 000	1 000	406
Capelin 3NO*	2	ndf	ndf	ndf
Rays 3LNO*	2 412	7 000	7 000	4 000
Yellow Tail Flounder 3LNO*	8 693	17 000	17 000	22 500
Shrimp 3M*	0	ndf	ndf	ndf
Shrimp 3LN*	0	ndf	ndf	ndf
Squid 3+4	400	34 000	34 000	??
Alfonsino 6G	2			ndf

Tbd = to be decided / ndf = no directed fishery (Moratorium on Fishing)
** Stocks assessed in previous years.*

SECTION I. STOCKS OF INTEREST FOR DECISION IN 2020

The LDAC notes that the stocks for which SCS has undertaken full assessments with its respective levels of TACs determined for this year are:

- GHL Sub. 2 y Div. 3KLMNO (TAC 2020 applying the HCR)
- Cod Div. 3M (TAC 2020)
- Redfish Div. 3M (TACs 2020 and 2021)
- Redfish Sebastes *marinus* Div. 3M (Assessment)
- White hake Div. 3NOPs (TACs 2020 and 2021)
- Redfish Div. 3O (TACs 2020, 2021 and 2022)
- Squid SA 3+4 (TACs 2020, 2021 and 2022)
- Roughhead Grenadier Subarea 2 y 3

The following stocks have been assessed in previous years with advice for 2020 and the recommendations made have been updated and reviewed in light of the new data available. In general, the review confirms the recommendations made in previous years with the sole exception of Alfonsinos 6G. The Commission also advised to undertake a full assessment of witch flounder 3NO and provide on level of catch for 2020-2021:

- Redfish Div. 3LN (TACs 2019 and 2020)
- American Plaice Div. 3M (TACs 2018, 2019 and 2020)
- American Plaice Div. 3LNO (TACs 2019, 2020 and 2021)
- Yellowtail Flounder Div. 3LNO (TACs 2019 y 2020)
- Thorny Skate Div. 3LNO (TACs 2019 y 2020)
- Witch Flounder Div. 3NO (TACs 2019 and 2020)
- Cod Div. 3NO (TACs 2019, 2020 y 2021)
- Capelin Div. 3NO (TACs 2019, 2020 y 2021)
- Alfonsino Div. 6G (TACs 2019…)

1. <u>Greenland Halibut 2+3KLMNO</u>

The new HCR was adopted by the NAFO Commission at the Annual Meeting in 2017 to calculate TACs for GHL in the Subarea 2 + Div. 3KLMNO. The HCR has two components used to calculate the TAC: one based on the biomass to be achieved ("target") and the other on the trends shown by the surveys ("slope").

The final annual TAC is the result of the mean average of the estimation of TAC from both "target" and "slope", with the restriction of not allowing a TAC variation of +- 10% between consecutive years.

As a result, the HCR calculation method agreed for TAC and the resulting proposed TAC for 2019 was of 16 521t.

The LDAC acknowledges that the HCR has brought stability into the management system since its application in January 2018. The SCS recommends for 2020 a slight increase of the TAC of 4%.

It is also worthwhile to mention that the SCS notes that there has not been any limiting factors to trigger the application of the "exceptional circumstances" so the HCR can be therefore fully implemented without bias or corrections.

LDAC Recommendation for Greenland Halibut 2+3KLMNO

The LDAC considers that the HCR are proving effective in providing stability to the management of this fishery and supports the SCS advice of a 4% increase establishing a TAC of 16,926t for 2020. It also notes that "exceptional circumstances" are not occurring.

2. Cod on NAFO Div. 3M (Flemish Cap)

The NAFO SCS Benchmark assessment of the Flemish Cap (NAFO Div. 3M) cod stock took place in Lisbon on a meeting from 9-13 April 2018 analysing best commercial and scientific data from available surveys. The benchmark process resulted into the selection of the SCSAA model from the four models analysed, three of them monospecific (Bayesian XSA, Bayesian SCSAA, and SAM) and one multi-specific (based on GADGET).

The SCS meeting in June 2019 updated the Bayesian SCSAA model adopted in the benchmark. This model is considered the most robust and flexible in terms of data tuning and it has shown a substantial change of perception of the stock size compared to previous evaluations, with greater stock abundance and higher level of biomass and a lower level of F. As a result, the new limit reference points have changed. Although the current SSB is now well above Blim (median = 15 177t), it is expected a sudden reduction due to poor levels of recruitments observed since 2015. The Flim is now established at 0.167. The LDAC notes with concern the relative low levels of recruitment estimated for the last 5 years, and the dependence of the biomass in the year classes or cohorts from 2009-2011, with projections of a significant declines in stock size expected in the short-medium term.

In view of the above, in line with the precautionary approach and to achieve a proper balance between biological, social and economic sustainability, the LDAC would like to reiterate its proposal from last year in adopting a robust medium-long term approach which can take into consideration the Management Strategy Evaluation (MSE) process for this stock in order to allow to set a correct baseline and flexibility mechanisms in the forthcoming years. This approach will also contribute to avoid huge fluctuations between years and set up a more stable framework which will bring more predictability to the economic performance of the concerned fleets.

The LDAC also acknowledges the ongoing work of the Ecosystem Based Approach WG on species interactions and ecosystem productivity between cod, shrimp and capelin stocks, and encourages following this work in future years to develop consistent and robust models to inform managers and bring ecosystem considerations into the advice. In summary, stability in catches must strike a balance with the future outlook of HCR under development, within the remit of the scientific advice from SCSS and the PA framework, while assuming that exploitation patterns will not vary substantially and will remain stable to allow the SCS to run tests on projections.

However, the LDAC is concerned that, despite the several benchmark meetings held by the SCS working groups thorough 2019, there is still work to do and uncertainty on the possibility of having a robust and reliable advice on HCR in time for the September Annual meeting. The LDAC is well aware of the considerable workload of the SCS, and the number of special requests received by the CPCs. However, given the economic and social importance of this stock for the EU fleet, the LDAC demands that work on this stock is given the highest priority and that resources dedicated to it are intensified as it is currently behind Schedule in terms of planning due to prioritisation of other stocks in previous years.

Regarding selectivity studies, the LDAC cod trawl fleet representatives from Spain, UK and Portugal reiterate their collaboration in continuing carrying out gear selectivity trials in the area, with the use of selective grids and analogue devices already used in the fishing grounds of Norway and Svalbard (also known as the "*Norwegian grid*"). However, it demands that this exercise is done under a coordinated scientific programme with a standardised methodology and protocol validated and supported by the European Commission so it can be incorporated to the HCR to be set by the SCS.

Last, the LDAC is following closely the process of setting a management Strategy Evaluation (MSE) for Cod 3M, with concern on the difficulty of defining a calendar and their future development. Also, there is a certain degree of dissatisfaction in the way the preliminary results are being handled.

The LDAC pleas that specific efforts and increased resources and workload are dedicated to progress on this important part of the work, while it acknowledges the difficulty of the present situation of low estimated recruitments, the future uncertain scenarios of the stock which suggest it has a 20% or higher probability of falling below Blim in 2022 (even in NDF), and the influence of other factors beyond fishing in the rebuilding of the stock. It also takes into consideration that the SCS recommendations for Cod 3M TAC in the past two years have suffered extreme fluctuations, both downward and upward, which suggests the premises of one year´s recommendation might very well not be confirmed in the following year.

Finally, it is worthwhile to indicate that the PNAB survey on the Flemish Cap in Div. 3M, as a result of the campaigns carried out in July and August 2019, show a considerable improvement in recruitment values.

LDAC Recommendation for Cod NAFO Div. 3M:

In view of the advice submitted by the SCS, and the information confirming the stock trends reported in 2018 and two possible TAC scenarios to be set only for 2020, the LDAC would like to note and make the following recommendation:

Considering that:

- **Although current SSB is above Blim, but there are low levels of recruitment in the last years, which is expected produce as a result a decrease of the SSB, regardless of F levels; however, recent surveys from PNAB suggest that recruitment values might be improving;**
- **SSB is mainly composed of or reliant on specimens or big individuals of higher age groups (5+) that will come out soon of the fishery;**
- **The probability of SSB to be above Blim in 2022 is high in all of the catch scenarios projected in 2020 (Flim, 3/4Flim, and F2016-2018);**

The LDAC considers it appropriate and sensible to fix as level of catch for 2020 a TAC in the upper level of 8,531 metric tons (3/4 Flim), as proposed by the SCS.

The LDAC is also of the opinion that a robust HCR should help introducing stability for the exploitation and predictability of catches from a socio economic point of view while targeting big individuals of 5+ year old and not hampering future recruitment. This proposal should be subject to annual review and aligned with the scientific advice coming from the MSE process.

The LDAC reiterates the need for NAFO CPCs to agree and develop an observer programme that allows scientific observers to take samples onboard commercial vessels active in the area, on a voluntary basis, so they are able to feed the information from catch and effort data (CPUEs) into the new assessment model and test the robustness and consistency of the results obtained in comparison with those observed from the scientific surveys (i.e. fisheries data independent information).

3. Redfish 3LN

The outcomes of the scientific evaluation in 2018, based on the production model ASPIC, show that current biomass was about 1.5 times above Bmsy and had a very low probability (less than 1%) to be below Blim. The fishing mortality F is below Fmsy and also with a very low risk (less than 1%) of being above Flim.
The NAFO General Council adopted a management strategy based on a HCR establishing a progressive increase of catches every two years between 2015 and 2020. As a result, the biannual TAC adopted for 2018 and 2019 was 18,100t with a proposal from the SCS to maintain this TAC also for 2020.

LDAC Recommendation for Redfish 3LN:

The LDAC recommends following the HCR in place of maintaining TAC in 18,100t for 2020 in line with scientific advice, given the non-substantial changes on the status of the stock until a new assessment is available. It also notes the importance of this stock for some EU Member States, in particular Baltic States and Germany, which fully utilise their quota, either by catching or through swaps with Portugal and Spain. As a result, it has a high level of catches reported in recent years.

The LDAC is of the opinion that these countries should not be penalised as a reduction of the TAC would have detrimental effects only to them due to the underutilisation of the quota by other CPCs such as Canada. In this respect, rather than a reduction of the TAC in line with the catch levels, these CPCs are welcome to establish an internal system to self-limit their quotas or allow some flexibility for quota reallocation/swaps.

4. Redfish 3M

The catch composition of redfish in this area include three species from the gender Sebastes: the first two, *Sebastes mentella* and *Sebastes fasciatus,* are known as "*beaked redfish*", and managed as one single stock belonging to the population structure of the Northwest Atlantic redfish. The third species is *Sebastes norvegicus* (=*S. marinus*), which is known as "*golden redfish*" and dealt separately in terms of assessment.

It was approved that the stock assessment was based on a model of Virtual Population Analysis (VPA_XSA). The assessment was analysed this year by an external reviewer, showing a decrease in the biomass since 2014, with a further decrease in the abundance given the low levels of recruitment in recent years.

Projections have been mode in the short term (period 2020-2022) under three different scenarios of F, namely Fstatusquo = F2018, F0.1 and Fmax. An assumption was made that catch levels in 2019 are in line with Fstatusquo, even though this means assuming catch levels 19% above the 2019 TAC. The results calculate a decrease in SSB between 2019-2022 of 25% (F0.1), 34% (Fmax) and 36% (Fstatusquo).

The SCS advice departed from the format of the previous year, and instead of several options, it opted by recommending only catch levels not exceeding those of F0.1 given the low level of productivity observed in recent years. This corresponds to a TAC of 4,811t in 2020 and 2021.

The LDAC reminds that, at the last NAFO annual meeting, the TAC was increased from 7,000t to 10 500t for 2018 and 2019. The SCS acknowledged on its report at the Conclusions (page 143that "*the perception of the stock status has not changed*".

The LDAC supported to follow the scientific advice last year. It also highlighted the need to wait until the release of a new stock assessment by the SCS foreseen for 2019.

The LDAC is concerned that the proposal made by SCS, drawn from the results of the assessment, lead to a recommendation for a drastic reduction to the TAC from 10,500 down to 4,811 t. The LDAC acknowledges the increase of F in the last years and the low levels of recruitment, being this year the weakest of the time series. However, it also notes that the biomass is still very high and well above Blim and has very high probability of remaining above Blim in 2022 in all three scenarios.

The LDAC also notes that for the Redfish 3LN stock, which is adjacent to 3M and might have potential stock mixing or population overlaps, a proposal for setting the TAC for 2020 to the maximum level of 18,100 t is maintained.

In the spirit of NAFO Convention, there should be promotion and coordination of conservation and management measures that applies to a stock or group of stocks found both within the Regulatory Area and within an area under national jurisdiction of a coastal State, in particular when taking into account the ecosystem approach to fisheries.

Understanding that the results from the scientific campaigns of a given year cannot currently be used in the SCS advice for the year immediately following, the LDAC also takes note that the preliminary results of the July and August 2019 PNAB campaign show a rise in biomass and recruitment for Redfish 3M.

Recommendation for Redfish 3M:

Looking at the catch option table for short-term projections and the biomass probabilities of reductions, the LDAC considers that it would be more sensible to balance environmental and socio-economic sustainability for the fleets concerned to choose the intermediate scenario (Fmax = 0.188), allowing a TAC of 8,590t for 2020 and 8,448t for 2021, instead of the most restrictive one based on F0.1 (i.e. 4,319t for 2020 and 4,624t for 2021).

5. Redfish 30

This is a data poor stock with qualitative assessment based on trends from surveys and catches and it is associated with high uncertainty. Fishing mortality is low and recent recruitment levels are unknown.

The LDAC fully supports the SCS proposal on the need to enhance the data collection programme to underpin the current stock assessment, which is qualitative and trends-based in order to move to an analytical assessment if possible in the medium term. In this particular, the LDAC believes that it is important to understand the fleet dynamics and fishing patterns linked to the biological conservation targets for this stock.

This year NAFO will decide on the TAC for this stock for the period 2020-2022. In this respect, the LDAC notes that the average catch levels for this stock have remained stable for the last 50 years within the region of 12,000 tonnes, and that these levels are deemed to be sustainable by the Scientific Council.

According to the current quota allocation for this stock, around 35% of the total TAC is allotted to the EU, of which the quota consumption (i.e. real catches) is over 75%.

Russia has 32.5% and Canada near 30% of the total TAC. However, Russia and Canada have only caught in 2018 5.45% and 6.85% of their quota, respectively. The remaining amount is spread in "piecemeal" quotas amongst other CPCs, with 0.75% for Japan, 0.75% for Ukraine, 0.5% for Korea and another 0.5% for other CPCs, with none of them reporting catches with the exception of Japan, with only 4 tons.

This means that the EU is taking most of the reported catches, and it is highly dependent on this stock, which makes their fleet quite vulnerable to possible drastic reductions of TACs in the future.

The SCSS does not give a clear advice, as it merely reports that the average catch of the last years oscillates around 12,000t and that this amount is deemed as sustainable. In this situation, it is likely that as it has been the case for other stocks, other CPCs might ask to align or adapt the TACs to real catches. In this case, the only adversely affected would be the European fleets targeting this species.

Recommendation for Redfish 3O:

Considering that:

- **The average catch levels for this stock have remained stable for the last 50 years within the region of 12,000 tonnes; and even decreased this year.**
- **The SCS is unable to provide an appropriate TAC proposal for 2020-2022 but acknowledges that the levels of catches are deemed to be sustainable.**
- **The EU is practically the main actor interested in this fishery in terms of quota allocation (35% of the total TAC) and consumption (over 75%).**

In view of the above, the LDAC recommends to maintain the *status quo* and set the TAC for Redfish 3O stock at the same level than that establish for 2019, i.e. in the area of 20,000t, considering the historical level of catches and to avoid alternative approaches until new scientific advice is available.

6. Witch Flounder 3NO

The stock was reassessed in 2018 under Scientific Council's own initiative. A Bayesian surplus production model was selected and adopted to evaluate this stock taking into consideration the commercial catches and the spring and autumn Canadian surveys.

At request of NAFO Commission, the assessment model has been analysed by an external reviewer for testing its robustness, running a forecast of the different scenarios to check how they deal with uncertainty under certain settings and see biomass trends. The results presented were very similar to those obtained last year, so the SCS decided to adopt the same settings for the Bayesian model.

The results show an increase of the biomass from 1994 to 2013, followed by a decrease in the period 2013-2015 and a slight increase in the last years. Recruitments based on surveys have been relatively low since 2013 and the last 2017 YC is within the historical mean of the series.

In terms of catches, in 2017 657t were reported, and in 2018 increased slightly to 669t, which was well below the TAC fixed.

In relation to biomass, the stock assessment in 2018 placed this stock near Blim, and this state has been confirmed in 2019 where all the scenarios forecasted in the new assessment model confirm this decreasing trend in terms of biomass, with 41% of Bmsy (60,000t), with risk of 20% of being below Blim and 2% for F to be above Flim. There are also doubts on the quality and representativeness of the recruitment indexes analyzed.

After a closure of almost 20 years, this fishery was reopened in 2014 against the SA advice by request of Canada. The scientific advise recommended in that time "*no directed fishing and keeping the Bycatch at the lowest possible level*". Since then, the fishery remained open at low levels of catches and last year's quota was of 1,175t, with total catches summing up at 669t, mainly declared by Canada that has a 60% of the TAC, followed by Russia with a 25.73% and the EU with a 13.27% (namely Estonia and Latvia).

It must be noted that for 2020 the SC recommends the closure of the fishery.

Recommendation for Witch Flounder 3NO:

Considering that SSB has fluctuated around Blim in 2018 and 2019, and that in all cases where the fishing mortality is higher than 0 in 2020 and 2021 there will be a relatively high probability (over 10%) that this stock falls below Blim for 2020-2021, the LDAC adheres to the precautionary approach framework of NAFO and accepts the SCS proposal for a non-directed fishing (i.e. only by-catch) for this stock for 2020-2021.

7. Yellowtail Flounder 3LNO

In 2017, STACFIS recommended further investigation of the stock production model formulation used to assess this stock and/or alternate models that would be more responsive to the indices for the next full assessment of this stock.

As a result, this stock was assessed by a Bayesian surplus production model for first time. This model reflects more accurately the data collected in the surveys. The stock size has steadily increased since 1994, in particular between the period 1994-2000, and has remained at stable levels up to now, being at present 1.5 times Bmsy. There is also a very low fishing mortality at different scenarios up to 85% Fmsy, corresponding to catches of 24 900t, 22 500 t and 21 100 t in years 2019, 2020 and 2021, respectively. This results in a risk below 30% of exceeding Flim and a probability higher to 80% of maintaining the stock above Bmsy. There is a very low (<1%) risk of the stock being below Bmsy or F being above Fmsy. Recent R appears to be higher than the average.

The SCS allows for an increase of the TAC from 17,000t in 2019 to 22,500t in 2020.

Catches during the last 10 years have remained stable and well below the TAC, at a level of around 10 000t per year (8 693t in 2018), mainly due to the low activity of Canada, that according with the actual distribution key owns a 97.5% of the TAC, and catch only less than 50% of its quota. St. Pierre et Miquelon has a 2% of the TAC and covers all its quota with a chartered vessel, while the 0.5% of the remaining quotas are covered by Russia, declaring a small quantity, and the UE also with small quantities as by-catch in other fisheries.

LDAC Recommendation for Yellowtail Flounder 3LNO

Considering that:

- **The SSB is estimated to be above Blim; and F is estimated to be below Flim and close to Fmsy;**
- **The stock is in the safe zone as defined in the NAFO Precautionary Approach Framework.**
- **The next scientific assessment for this stock is planned for 2021.**

The LDAC recommends to follow current scientific advice.

The LDAC notes that this stock occurs in Divisions 3LNO, mainly concentrated on the southern Grand Bank so management decisions on this stock should also take into consideration impacts on other fisheries. For example, an increased catch of yellowtail flounder may increase as well the by-catch of Div. 3NO cod and Div. 3LNO American plaice.

8. Thorny Skate in Division 3LNO

The last assessment of this stock was made by the SCS in 2018 and its recommendation for 2019-2020 was as follows: *The stock has been stable at recent catch levels (approximately 4 060 t, 2013-2017). However, given the low resilience to fishing mortality and higher historic stock levels, Scientific Council advises no increase in catches.*

The status of the stock is currently above Blim, and the probability that the current biomass is above Blim is >95%. Total survey biomass in Divs. 3LNOPs has remained stable since 2007. Recruitment in 2017 was above average. Fishing mortality is currently low.

With that advice, the TAC for 2019-2020 for division 3LNO was maintained at 7,000t, that is, the same level that has been maintained since 2013. Also, to comply with the SCS recommendation and be sure that catches do not increase, the following note was added to the quota table: "*13) Should catches exceed 5,000 tones, additional measures would be adopted to further restrain catches in 2019*".

The next full assessment of this stock is planned for 2020.

There is also an independent skate fishery in 3PS managed as a separate unit and for which Canada maintain an independent quota of 1,050ts unchanged since 1997.

The stock was also monitored in 2019 in the SCS June meeting, based upon a qualitative evaluation of stock biomass trends and recruitment indices. The SCS stated that the assessment is considered data limited and as such associated with a relatively high uncertainty. Input data are research survey indices and fishery data. SCS also reiterated its advice to avoid an increase in catches, given the low resilience to fishing mortality and higher historic stock levels.

Total declared catches of thorny skate were of 4 463t in 2017 and only 2 412t in 2018, respectively, for a TAC of 7,000t for each year. This difference is mainly due to the lack of activity of Canada and Russia, which have each a 17% of the total 3LNO skate TAC, and that were not active in the fishery. In recent years only the EU has maintained a direct fishery in the zone.

LDAC Recommendation for Thorny skate 3LNO

The LDAC supports the advice from Scientific Council for the 3LNO portion recommending "*no increase in catches*". However, it warns that this should not be interpreted in the sense of reducing the TAC and penalizing one single CPCs as a result those CPCs that are catching their quota.

The LDAC reminds the importance of the Thorny Skate 3LNO stock for some EU MS, in particular Spain, which fully utilise its allotted quota. This is the reason whereby individual MS should not be penalised or have detrimental effects on the TAC due to the underutilisation of the quota by other CPCs.

The LDAC encourage SCS to collect additional data to improve quality and reliability of the stock assessment in future.

The LDAC notes that the addition of footnote under no 13 on the catch table, as it was done in 2019, would be an enough safeguard measure to avoid an effective increase in catches.

9. White hake 3NO

The management unit for this species for which advice is requested by NAFO is Division 3NO although it is part of a wider stock, distributed in Divisions 3NOPs. This stock is considered data poor and relatively unknown with great uncertainty, relying on a qualitative trend-based assessment drawn from scientific surveys and catch indexes. The biomass for this stock fluctuates and it is variable at low levels and there have been no good recruitments since 1999-2000 when there was a peak observed. The fishing mortality remains low.

LDAC Recommendations for White Hake 3NO

Given the absence of new scientific information and the low recruitment indexes observed, the LDAC acknowledges and supports the recommendation from SCS to do not increase catches.

In view of SCS advice, the LDAC asks for a roll-over of the TAC from last year, namely 1,000 t. The LDAC thinks that this recommendation is consistent with keeping with the overall sustainable level of catches, around 400-500t, allowing it to couple it with the complexities of allocation keys for TAC of different species between CPs.

The LDAC notes that this is a non-targeted fishery but a by-catch fishery for most of its catches. It also highlights that this species appearance is variable and seasonal, depending on spawning aggregations. Therefore, it stresses the importance of setting in place an adaptive mechanism that allows to manage accidental catches as a result of these "booms".

The LDAC also supports the possibility of establishing a mechanism to increase the TAC in future years, in case that a significant increase on the CPUE is observed in the scientific surveys.

10. Squid 3+4

Important scientific data were missing for carrying out the stock assessment for this stock in June but it is foreseen to be available in summer. In view of this, the SCS decided perform the assessment and provide advice on this stock at the September AM.

The LDAC notes that, in terms of fishing dynamics, since the 90s, the squid fishery has been mainly a seasonal one with low level of catches. However, there is a number of Spanish vessels represented in the LDAC which have become more active in the area targeting squid during the last years.

Recommendation for Squid 3+4:

The LDAC advises that the European Commission follows the works and conclusions of the SCS assessment which is expected to be released ahead of the NAFO Annual Meeting in September. The LDAC would like the Commission to take into account the socio-economic importance of this fishery for the Spanish cephalopod freezer fleet.

11. Northern Cod 2J3KL

The LDAC notes with concern the situation of this stock, mostly caught within the Canadian EEZ, and expects that Canada reduces the fishing pressure within its EEZ.
The LDAC recommends that the EU should follow closely the evolution of the catches in this area. Not only has Canada not refrained from fishing in these areas of the RA, but the catches there have reportedly increased significantly year after year.

Canada has been fishing more than 4,000 tons/year since 2013. In 2016 it reported 9,645 tons in 2J3KL. In 2019 it set a TAC of 12,350t of cod, which represents a 25% increase from that of 2018 (9,500t), while the EU fleet has not access to 3L cod and there is a moratorium on 3NO (leaving only 3M Cod as the only fishing ground)[1]. Also, one of the theories about the reasons of dwindling population of Cod in 3M is the displacement of the fish towards 3KL, a displacement caused by environmental change but probably also due to the increased seismic vessel activity and increased mineral exploitation of the bottom and oil drilling.

[1] More info: https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/management-plan-gestion/CHP-cod-PPAC-morue-2019-eng.html

The existing agreement between Canada and the EU on the sharing of TAC in that area elapsed in 2005, but that does not mean Canada is entitled to unilaterally set a TAC for itself on this closed stock. The EC should explore the possibilities to fish on those areas based on past track records and considering that this could be a good compensation for the possible reduction of fish in the Flemish Cap due to the new human activities in the area.

LDAC Recommendation for Cod 2J3KL

The LDAC reiterates its advice from last year, i.e. it is imperative that the EC, together with other CP, begin the process of obtaining fishing possibilities in the 2J3KL areas in line with past track records and the existing fishing activity in the area. And Canada should be made aware that, regardless the technical nomenclature and arguments provided, the reality is that they are setting an unilateral TAC and conducting a targeted fishery on this area.

The LDAC would like the EU to ask for data and reporting by Canada on the seismic, deep sea mining and oil drilling activity that are currently going on in that area.

12. 3M Shrimp

The LDAC reiterates the high importance and commercial and socioeconomic value of this stock, which has been in moratorium since 2011. The EU is by far the largest NAFO CPC with a stake in terms of quota share for this stock, which was the most valuable one in terms of landings during the period 1995-2010. Within the EU, Estonia is the largest fishing nation of 3M shrimp followed by other Baltic States (Latvia and Lithuania) and, to a lesser extent, Denmark, Poland, Spain and Portugal.

The detrimental effect of the moratorium is clearly reflected in the fact that Baltic States employed around 350 shrimp fishermen for number of years, with an estimated revenue between 80 and 150 million Euro annually.

The LDAC understands the importance of a sustainable biological approach to this fishery and its interactions with cod and redfish in a multi species context at the Flemish Cap. It also understands the need to consider impact on socio-economic aspects of fisheries and the possible benefits for the EU fleet derived from a reopening of this important fishery.

The LDAC acknowledges the fact that moratorium is known as a management measure for fish stocks in different waters around the North Atlantic Ocean. However, for the case of shrimps there is no full fishing ban (i.e. moratorium) in any other high seas of the North Atlantic. For example, moratorium has never been applied for shrimps in the Barents Sea and the fishing has been taking place for over 50 years with good results and the state of the stock is reported as strong (stock is well above MSY $B_{trigger}$ as per the latest ICES advice).

A moratorium has neither been applied for the offshore oceanic shrimp stocks in Greenland or in Icelandic and Canadian[2] waters. Moratorium for shrimps is mainly useful as management tool in very small and concentrated zones found in inshore fjords areas. The Flemish Cap (Div. 3M) shrimp is not fjord stock, and comprises a vast area of around 58,000 square kilometres in the high seas.

The LDAC believes that the best way of managing this stock is by effort regime, so when the biomass is low the effort must decrease and vice versa. That has proven to be successful in other areas of the North Atlantic with much longer tradition of shrimp trawling such as the Barents Sea including Svalbard, Greenland, Iceland and Canada.

The LDAC appreciates that the EU makes annual surveys for shrimp in areas 3L and 3M. It also appreciates the fact that this year, for first time, the advice will be available in time for the September Annual meeting so CPCs can take an informed decision based on science and data from the last year. This was an old demand from the LDAC as in the past the shrimp stocks were only assessed in October in a Joint NAFO-ICES Assessment Working Group (NIPAG). We hope the release of the advice in time for the NAFO Annual Meeting will continue in future years.

In relation to the scientific assessment, the LDAC notes that B_{lim} in 2018 allows for reopening and is just above levels of 1994, when catches were reported to be around 24 000t. Looking at following years, it increased gradually and reached up to 67 000t. In view of this, the LDAC does not agree with the advice from SCS on maintaining the moratorium because of limited effort data.

[2] The moratorium in NAFO 3L (Canadian zone SFA7) applies to both NAFO and domestic Canadian waters. The biomass for this shrimp stock is mainly found in Canadian fishing zones north of SFA7 and in those zones the fishing continues exclusively for Canadians. Therefore, the moratorium in NAFO 3L is not an example of a moratorium applied in Canadian waters but a fishing ban in zone only that used to be shared one with the EU fleet.

In light of the data from the last year and considering this year´s biomass estimates are approximately at B_{lim}, the LDAC would like to propose a reopening of the fishery. In case of this year's survey showing biomass indicated below B_{lim}, a modest effort should be opened in 2020 with a dedicated data collection programme associated to the fishing.

LDAC Recommendation for Shrimp 3M

Considering:

- **The preliminary results from the scientific assessment, where biomass seems to be around B_{lim};**
- **The high socioeconomic importance and value of this stock for the Baltic States, particularly the Baltic States;**

The LDAC would like to ask the EC proposing a reopening of the 3M Shrimp fishery in 2020 set in line with scientific advice.

In case of biomass estimated for 2019 indicates levels below B_{lim} LDAC requests for modest effort to be allowed in 2020 involving a dedicated data collection programme onboard selected commercial shrimp vessels to improve catch and effort data.

The LDAC is pleased to see that, following demands made on previous advices, the Joint NAFO-ICES Assessment Working Group (NIPAG) that deals with the assessment of this stock have decided to frontload the release of its advice from October to early September so it can be discussed by the CPCs at the NAFO Annual Meeting, allowing a timely and informed decision to be taken there.

13. Shrimp 3LNO

The main CPC here is Canada, with around 87% of the TAC allocated. The LDAC thinks that the shrimp stocks in 3LN and 3M should be treated in the same manner with regards to reopening of current moratorium. It should never be accepted to reopen for fishing the Div. 3LN if the same does not apply to Div. 3M given similar scientific prospects.

Warning signals about the stock were found in scientific papers dating back to 2009 and the biomass estimate critically low from 2012. The socioeconomic importance of Newfoundland was considered, and the fishing continued till 2015. Despite a moratorium has been in place from 2015 the Canadian small vessel fleet (i.e. (<=500 t; LOA<65') has continued to bring catch to shore from domestic waters. The reported catch from this stock was 1 450t in 2015, 3 418t in 2016, 2 149t in 2017 and 1 352t last year despite of the moratorium[3].

It must also be noted that Canada has not applied a moratorium for this shrimp stock, within its EEZ. The entire shrimp population found in waters of the East Coast of Canada is the same stock and the only area fully closed for fishing is the one in the south, referred to by Canadians as SFA7 that partly belongs to NAFO. Furthermore, Canada has also allowed their own flag small vessels to continue fishing in zone SFA7 that partly is found in NAFO waters were fishing ban applies to the EU fleet. It must be also noted here the history of the shrimp fishery by Canada in adjacent SFA6, which went down from 61,632t in the 2010-2011 to a steady and sharp decline since 2014-2015 due to high level of catches by Canada down to 8,730t in 2018-2019 and a proposed 8,960t for 2019-2020. According to Canadian data and national statistics, the NAFO 3LN shrimp stock is heavily fished in the northern zones of Canadian EEZ.
It should be noted that 3M shrimp stock is of much greater importance to the LDAC than 3L. Continuation of a moratorium does not have much socioeconomic impact on EU fishermen, while the 3M stock is of vast importance.

Recommendation for Shrimp 3LNO

Given the similar prospects of this stock to 3M and considering that Canada is the main CPC having stakes at this fishery, the LDAC asks that both stocks are dealt with in a consistent manner.

[3] See page 5 in NAFO/ICES Pandalus Assessment Group Meeting October 2018, NAFO SCR Doc 18/063: https://www.nafo.int/Portals/0/PDFs/sc/2018/scr18-063.pdf

14. Splendid Alfonsinos in Div. 6G

This is a data poor stock, with catch and effort data from the commercial fleet (only 1 Spanish flag vessel). The population structure for this species in the three seamounts of Corner Rise (NAFO Div. 6G) is unknown. Until there is more information available on this, the SCSS assumes that each seamount constitutes an individual stock.

In 2018, an assessment was made advising not to increase the fishing effort in the area exploited ("Kükenthal Peak"). During the June meeting this year, 2018 were revised and it was observed a significant decrease in catches, with only 2t reported by the single vessel operating there, indicating a possible situation of depletion of the stock. Therefore, the SCS decided to undertake a more comprehensive assessment and revise its advice from last year.

As reflected in previous years´ advices, the LDAC highlights that the absence of information and reliable stock assessment and information on population structure hampers a sound advice due to lack of abundance and exploitation data for these stocks. As a result, the SCSS has been unable to provide an analytical assessment and set an appropriate TAC for 2019, 2020 and 2021. In contrast with the lack of specific data on this stock, and considering the non-concerning conservation status of the species, and the small level of catches reported, the LDAC is of the opinion that this stock has been given a disproportionate attention and political focus by CPCs that have no interest in the fishery and/or market.

The LDAC reminds that Alfonsino aggregations were discovered by Russians in the mid-70s in three seamounts of Corner Rise. Two of them fall within the scope of NAFO RA, namely Kukenthal and C-3. The third one, Milne Edwards is located in the West Centre Atlantic. There is fishing activity from one Spanish boat currently in the Kukenthal Seamount, with catches being exported to and commercialised in Russia.

Overall, the LDAC finds it concerning that the SCS takes the CPUE from the commercial catch data as an index for abundance as there is only one fishing boat with very limited activity there. If the single boat were to cease this fishery, there would be virtually no more data being produced for this stock to be assessed.

The LDAC considers this as a risky approach as catches can differ substantially from one year to another as they are seasonal and variable, one of them being that this stock only migrates to the seamount´s surface under specific environmental conditions (it is forbidden to use a bottom contacting gear). When not available, the catches are drastically reduced from one year to another, as it was the case for 2018 where lower catches are observed.

Recommendation for Splendid Alfonsinos in Div. 6G

The LDAC defends that the same management measure currently in force (i.e. *not allowing the expansion of fishing above current levels of 100t unless proven sustainable*) is maintained until an analytical assessment is available, given the uncertainties surrounding the assessment and the weak interpretation method of calculating CPUEs based on catch and effort data from one single vessel with very limited activity of this fishery. The LDAC recommends the level of TAC be maintained for the one vessel fishing in Kükenthal Peak, to allow further exploration and data for improving scientific assessments and knowledge on biology and behaviour of this species.

The LDAC reminds that catches are very low but still can differ substantially from one year to another as they are highly seasonal. This can be due to factors such as changes in Alfonsinos behaviour (migration of the stock up in the seamount surface depending on environmental conditions) and compliance with the NAFO management measures (no allowed to use a bottom gear contact with seafloor).

While being aware of the pressure on the SCS to evaluate several stocks and the need to prioritise stocks in accordance with the recommendations of the recent NAFO performance review, and in view of the high placement of this issue in the political agenda by certain CPCs such as Norway at the last two NAFO Annual meetings, the LDAC is in favour that a full assessment is carried out in the near future for this stock. This might include the possibility of a sentinel or exploratory fishing and setting up of a data collection programme for this purpose. The LDAC thinks that any rush decision should be avoided without a reliable scientific advice to inform any future policy decisions (i.e. no moratorium).

15. Grenadier 2+3

The SCS has carried out this year for first time a qualitative assessment which shows uncertainty in the results.

LDAC Recommendation for Grenadier 2+3:
The LDAC is in favour of continuing doing a follow up of this stock and improve the quality of the assessments before taking any management decision on this respect.

SECTION II. WORK PROGRESS OF NAFO WORKING GROUPS

1. NAFO Working Group on Ecosystem Approach Framework to Fisheries Management (WG EAFFM)

1.1. Implementation of Ecosystem Approach - Road Map

NAFO's ongoing work on an ecosystem road map and efforts to identify total productive capacity of the ecosystem represent the leading edge of RFMO efforts to move towards an ecosystem approach to management.

Given the decline of the primary zooplankton species and the nutrient standing stock by 40% since 2011, the LDAC is pleased to see that NAFO takes into consideration the ecosystem considerations when discussing management measures on NAFO stocks, including fishing possibilities.

NAFO has been praised by the experts' panel drafting the performance review as being one of the most advanced RFMOs in terms of protection of VMEs and research related to ecosystem considerations to be integrated into fisheries management. In this sense, the LDAC is following with interest the discussions within this WG on ecosystem productivity and interactions between species.

The SCS pointed out that the terminology has changed. This is particularly notorious for the concept of "*Total Catch Ceilings*" (TCC) by ecosystem which has changed now into "*Total Catch Indexes*" (TCI). Further explanations are required on the meaning and extent.

In any case, the indicators should provide information for strategic management at the ecosystem level, which may be complementary to advice at the stock level. The SCS affirms that once TCC can be estimated with sufficient reliability and precision, they should provide an ecosystem vision that allows the evaluation of recommendations that arise from the stocks and serve to address questions that are not considered as part of the evaluation of a single species.

The SCS asks the Commission to consider the development of different options with which ecosystem considerations can be integrated into the management of fisheries, taking into account the risk of damage of the ecosystem. The SCS also recommends to set up an ad-hoc COM-SCS working group, composed of a subgroup of WG EAFM members, to identify mechanisms through ecosystem considerations could be integrated into fisheries management.

The LDAC considers that the Total Catch Indicators (TCI) must be underpinned by a solid calculation method, as without it, it will not be possible to implement an ecosystem approach which allows to properly assess the recommendations issued by the SCS for each of the individual stocks.

The LDAC follows with interest the work developed by EAFM WG on this field since the last Annual Meeting and is concerned on the estimates provided for the total production of the Ecosystem Production Units (EPU) as there is a high degree of uncertainty observed in the indicators. The EAFM WG should have a methodology to factor in and consider the above mentioned uncertainties, linking the influence of the ecosystems and factors other than fishing in the state of the stocks, not rushing and carefully considering the robustness of these models before sending them to the SCS or transferring it into management of policy recommendations.

LDAC Recommendation on Implementation of Ecosystem Approach – Road map

The LDAC notes and welcomes the progress made by the WG EAFFM and SCSS in developing a road map to explore methods and models to integrate ecosystem considerations into fisheries management. However, the LDAC warns that there is still a high degree of uncertainty in the terminology used and would like to seek clarification on the meaning and extent of the concept "Total Catch Indexes" (TCI) that has replaced the former "Total Catch Ceilings" (TCC) or the proxies and estimates provided for the Ecosystem Production Units (EPUs).

The LDAC believes that a good understanding of the methodology used will be key for any future ecosystem models to be tested and before introducing the new concept of "*Ecosystem productivity*" into the field of fisheries management and for buy-in from operators and concerned fleets.

In summary, the work progress of the WG EAFFM is welcome but a robust model needs to be built before putting into place effective measures that can lead to false assumptions in relation to the notion of overexploitation of individual fish stocks.

1.2. Impact of Oil and Gas activities in the Ocean

The LDAC would like to encourage the EU to keep up with the very positive work acting as promoter to develop this subject at NAFO since 2014; and continue instigating NAFO fellow CPCs, in particular Canada, to provide detailed impact assessments related to activities other than fishing when designing VME closures. The LDAC would like to remind the commitment and progress made by Canada at last Annual Meeting to provide the relevant environmental assessment information at the forthcoming Annual Meeting.

LDAC Recommendations on Impact of Extractive Activities in NAFO RA

The LDAC would like to ask the EU to continue pushing for further interagency cooperation and improvement on information exchange systems and coordination amongst relevant Canadian authorities and departments with competencies on these areas. Also, further engagement with relevant Canadian and non-Canadian/international stakeholders should be promoted to ensure transparency and efficient operation of fishing activities.

Transparency and inter-agency cooperation in the flow of information in relation to NAFO RA is particularly important in light of the ongoing process of developing a UN Treaty for Biodiversity Beyond National Jurisdiction (BBNJ) to share good practices in the conservation of VMEs with the aim to create a mechanism of "feedback loop" which takes into account all human impacts on the ecosystem for management of an area (e.g. closures).

Furthermore, the LDAC would like to see that any environmental impact assessment carried out in NAFO RA should also include specific research on impacts of anthropogenic noise on marine life pollution at sea in international waters. Ocean noise is recognized as a world-wide problem affecting many species and bibliometric analysed showed rapid growth and diversification of ocean noise research in the last decades. This has also become an international commitment taken by all NAFO CPCs on several international fora and included on UN conventions and resolutions.

1.3. Impact of bottom fisheries on Vulnerable Marine Ecosystems (VMEs)

Similarly to the advice issued in previous years, the LDAC would like to reinforce its recommendation to assess the overlap of fisheries footprint with VMEs, in order to improve the knowledge on fishery specific impacts as proportion of the area. This has already been discussed at WG on Ecosystem Approach Framework to Fisheries (WG EAFFM). It is further considered useful to work on studies regarding functional seriously adverse impact (SAI) assessments criteria, to include in the assessments parameters such as resilience and links with fisheries.

The SCS have made considerable progress in studying the overlap of the different NAFO fisheries with the Vulnerable Marine Ecosystems (VME) in the last years, based on VMS and logbooks and Haul by Haul data. In order to make an accurate estimate of the swept area, the SCS considers necessary to have the fishing gear data of open access by the NAFO Observers.

The LDAC would like to stress that there is a minimum impact on the existing VMEs by the EU fishing fleets operating in NAFO looking at the fishing footprint in those areas based on the info extracted by VMS and ERS data, plus the EC Regulation 734/2008 implementing the UN Resolution 61/105 (in particular par 86: flag state responsibility) on the conservation of VMEs in the high seas from bottom fishing.

The SCS has also made progress in the development of models and methodological approaches that evaluate the functional importance of VMEs and the estimation of recovery rates of different VME indicator species. The work is continuing before the re-evaluation of the closures that is estimated to take place in the year 2020.

The LDAC is looking carefully at the new VME indicator species which had not been considered before (as it was the case for the sea pens in Area 13 in the past), and in particular, the concerned fleets are concerned about the extension of protection to brio zoos fauna, which could generate substantial modifications of areas proposed for closure, despite the fact that the fisheries footprint is minimal in those areas, and respecting the state of the seafloor and adapting their fishing behaviour and gear to the type of floor to avoid gear damage.

The LDAC is deeply concerned on the development of other human activities having a considerable and in many cases unknown impact on the seafloor, such as deep-sea mining or oil and gas prospections and exploitation platforms. In these cases, the conservation and sustainability goals might defer and the measures adopted by their governing or competent bodies be less stringent than those established by NAFO.

When talking about re-evaluation of already established VMEs, and further proposals for maintaining or extending the closure to fishing activities, they should consider not only fishing but also all human economic activities from any extractive industry having an interaction with the features protected, in the regulated area and subjected to surveillance of the SCS, even when the activity does not fall precisely within the remit of competences of the Commission.

Recommendation for impact of bottom fishing in VMEs:

The NAFO work plan established should re-examine all closures from VMEs and aim to have them completed by 2020, as advised by the SCS. It should also be able to analyze relevant data and information from other non-fishing activities and industries notified and reported, while giving specific guidance and recommendations on this respect, including also impact assessments whenever feasible. This will be even more important in the context of the UN BBNJ process, so NAFO can position itself as a key RFMO at the forefront of this debate, given their experience on this field.

1.4. Impact of scientific surveys and trawls within closed areas

The SCS reported that analyses related to the scientific surveys were not carried out in 2017 and 2018 due to workload, but the intention is to complete this task prior to the next SCS meeting in June 2019 assuming necessary resources are made available.

SCS reiterated its recommendation in 2018 that scientific bottom trawl surveys in existing closed areas be avoided if possible and additional work be conducted as soon as possible to further evaluate the implications of excluding surveys in closed areas on stock assessment metrics.

The fishing sector of the LDAC is concerned with the delay incurred by the SCS in finalising their work on this subject as this will be crucial to guide and inform the decision of the NAFO Commission at the Annual Meeting in September. It also notes the elevated risk in giving up on sources of data before having alternatives in place, least the lack of data becomes self-perpetuating.

In absence of submission of this advice within due time, the decision will likely be adjourned in accordance with the precautionary approach, not allowing scientific surveys to be taken within closed areas. This will carry a risk of losing valuable information and disrupting historical data time series for reviewing or monitoring the state of a fishery or environmental features aimed for protection.

The LDAC considers that the impact of carrying out scientific surveys or trawls within these closed areas would be minimal in comparison with the benefits of research knowledge and would not hamper the conservation goals if made carefully through a pre-planned design. Furthermore, the LDAC would like to highlight that in most cases there are other maritime uses and extractive human activities (such an oil and gas exploration) taking place in the same areas that are closed for fishing.

LDAC Recommendation on Impact of Scientific Surveys in closed areas

The LDAC is concerned with the delay on the SCS to produce a report on the convenience of allowing scientific surveys within closed areas. The LDAC urges the SCS to produce a report in time to inform a decision to be taken by the Council on this subject at the NAFO Annual Meeting in September.

The continuation of a prohibition to carry out scientific trawl surveys within closed areas will have implications on stock assessment metrics, resulting in the lack of scientific data and assessment available to measure the effectiveness of designated closed areas.

The LDAC agrees with the sentiment, purpose and rationale of the VMEs on minimising impacts of protected features in closed areas but would like to see proper alternative methods in place to develop regular monitoring plans and sampling methods within closed areas for VME (other than trawls) by scientific surveys which offer an equivalent amount and quality of data and that is easily implementable.

SECTION III. OTHER REQUESTS MADE TO NAFO SCIENTIFIC COUNCIL

1. Multiannual work plan of the Scientific Council

The LDAC wishes to reiterate the importance of the Scientific Council to inform policy and management decisions for all NAFO bodies. Without its advice, the rest of the work would become arbitrary and would not allow a proper conservation of fish stocks within the NAFO RA.

However, the LDAC is fully aware of the increasing workload of the SCS year after year, adding many specific requests coming from the Commission to the already traditional work on stock assessment and ecosystem considerations.

It is very important therefore to consider the need of the SCS of establish priorities to the tasks and responsibilities assigned by the Commission, through smooth and fluid dialogue from all sides, including stakeholders, in order to optimize the response to the advisory needs.

In this respect, the decision of developing a multiannual work plan seems the right approach in order to strike a balance between available resources and the increasing workload, in line with the advice of the NAFO performance review together with an examination of its composition and working methods. A well designed work plan will also allow the General Council and Commission of NAFO to understand the constraints and limits of the scientific work in respect of potential future additional requests to be submitted in future Annual meetings. The SCS should also be open to new scientific approaches and the participation and collaboration of the fishing industry and concerned fleets operating in NAFO.

2. Greenland Shark: Biology and management advice

The SCS reviewed in 2018 the available information on biology, distribution and catches for this species. Due to the shark's longevity and its biological characteristics, the SCS recommended that the retention and landings of this species be prohibited, through live release of Greenland sharks caught and promotion of safe handling practices.
Measures to improve the collection of shark data by fishery observers in all fisheries in the NAFO Convention Area was also recommended.

Furthermore, the SCS suggested that management measures be implemented to reduce the incidence of the by-catch of Greenland sharks. Finally, it recommended that management measures should keep fishing mortality as close to zero as possible, to ensure a low probability that biomass will decrease in the near future.

The NAFO Council adopted this measure with the aim of protecting this emblematic long-lived shark species. The LDAC supports both the SCS advice and the NAFO Council decision on a ban on landings and retention on board for this long lived species, as well as protocols for safe handling practices and release of sharks to ensure survivability of this long lived species.

Recommendation for improving management and science for Greenland sharks

Besides the current measures in force on a ban on landings and retention on board of Greenland Sharks, which the LDAC fully supports, it is recommended that further scientific research takes place for improving knowledge and data collection related to biology and migration patterns for this species, including spawning areas. The LDAC notes that interaction with this species occurs mainly in areas within the EEZs more than outside the 200 nautical miles.

Finally, it should be noted that the requirement of providing observers' data and making available in electronic format since 2008 will be very much dependent on the internal and administrative arrangements of the CPCs, and the way of collecting and processing this data on an individual case by case basis. A transition period to adapt to this format and changes might therefore be considered.

3. Control and Compliance Aspects – STACTIC

The LDAC would like to reiterate its demand to have access to reports of STACTIC Working Group. There has been an omission to stakeholders of several key technical documents in previous years which are necessary for carrying out a proper reflection and comments on the final STACTIC report. Although the LDAC understand the decisions made by STACTIC members and CPCs to maintain confidentiality for the case of non-compliance reports incurred by individual vessels, we cannot agree with the non-sharing of several technical working papers mentioned at the STACTIC general report.

LDAC Recommendation

The LDAC recommends that a preliminary and structured consultation procedure is set up for all identified concerned fleets and/or stakeholders affected by technical measures adopted during STACTIC Working Group meetings which might have a direct effect on the fishing activities at the fishing grounds. The LDAC encourages that the EU supports the US proposal to bring more transparency of the internal working of STACTIC and asks that technical reports can be shared on proposals for changes to NAFO CEM of technical nature with designated or identified key stakeholders, while ensuring confidentiality of sensitive information.

4. NAFO Performance Review

The LDAC welcome the openness of the European Commission in actively involving our organisation in the consultation on the NAFO performance review from the experts' panel addressed to CPCs which took place in the first quarter of 2018. We were pleased to see that the LDAC was able to provide a meaningful contribution to the EU that could be integrated in their work on this subject and certain aspects were reflected in the report from the experts´ panel.

The LDAC was invited to share their thoughts and reflections on the conduct and structure of the performance reviews of the RFMOs, as well as to identify challenges and opportunities for the future, in the UN Fourteenth Round of informal consultations of States Parties to the Agreement, focusing on the topic "*Performance reviews of regional fisheries management organizations and arrangements*". This event UN SCP-14 was held in New York on 2-3 May 2019.

The LDAC made specific references to NAFO on its abstract - link here: www.un.org/Depts/los/convention_agreements/ICSP14/Abstract/Consolidated.pdf

The LDAC supported the opening statement made by the European Union on its contribution to the ICSP-14 that "the RFMO/As are key instruments to ensure the States can meet their obligations under international law regarding cooperation for the conservation and sustainable management of shared stocks. In this regard, RFMO/As are an essential part of the international legal architecture to ensure the long-term conservation and sustainable management of highly migratory and straddling fish stocks as well as associated and dependent species".

The LDAC welcomed the fact that performance reviews have become a well-established practice since 2006 onwards, following the plea made to RFMOs to undergo PR on an urgent basis, as stated in the Review Conference of the 1995 UN Fish Stocks Agreement. To date, all 6 tuna and 11 non-tuna RFMOs have carried out at least one performance review, with many already completed their second performance review, with NAFO being one of them.

The LDAC also issued an advice on December 2018[4] regarding the role of the EU within the context of international ocean governance. It contains a number of recommendations linked to the performance and functioning of the RFMOs following the mandate given by UNCLOS and developed by the 1995 UNFSA.

The main recommendations can be summarized as follows:

Conduct and structure of performance reviews:

- RFMOs must be an example of good governance and ensure adequate and meaningful participation of key fisheries stakeholders in their PR through effective consultation procedures and informal technical coordination meetings. In terms of legitimacy and openness, it shall also aim for public access to information of CPCs proposals and presence in annual plenary meetings under the CPCs delegations or in observer capacity to foster transparency of the decision making process.

[4] http://ldac.eu/images/documents/publications/LDAC_Recommendations_on_EU_Role_in_International_Fisheries_Governance_December2018.pdf

- The RFMOs should make the results of their PR publicly available and be willing to articulate mechanisms for discussing the results and presenting the outcomes accompanied by a follow-up road map with a timeline for implementation and assigned responsibilities to each of the competent bodies. Also, a methodology should be developed to measure progress on the achievement of the recommendations made.

- Performance reviews must be periodic in time and independent (undertaken by external experts), in line with the UNGA Resolutions of Sustainable Fishing, and implemented regionally, e.g. as a policy objective of the EU CFP external dimension.

-END-