

The Terms of Reference of the SWG on SPP stipulate that the report should be circulated at least 30 days before the meeting. It therefore is consistent with these ToR to *invite comments from Contracting Governments* up to that 30-day point. Comments may be sent to the IWC Secretariat where they will be compiled and considered in preparing a subsequent version as appropriate. The 30-day deadline is 12 August 2018.

Report of the Standing Working Group on Special Permit Programmes

1. Background

Article VIII of the *International Convention for the Regulation of Whaling* (1946) provides that Contracting Governments may grant a special permit authorising whaling for purposes of scientific research (ICRW, p. 2). The Convention requires Parties to provide scientific information about the results of the research to the Commission (or authorised subsidiary body) annually. For much of the International Whaling Commission's history, this information was provided directly to the Commission's Scientific Committee for review.

In 2009, the International Whaling Commission agreed to a new process for reviewing special permit programmes. This included establishing Expert Panels to host small, specialist workshops to review new programmes. The Scientific Committee also established Expert Panels to carry out interim, periodic and final programme reviews. Scientific Committee guidelines, known as Annex P, set out the process for the review of special permit programmes.¹

In 2016, the Commission adopted Resolution 2016-2, which establishes a Standing Working Group to consider the reports and recommendations of the International Whaling Commission's Scientific Committee with respect to all new, ongoing and completed special permit programmes.

The Standing Working Group was convened in 2017. Its members are Australia, Brazil, Chile, Kenya, New Zealand, Norway, United Kingdom, and the United States, along with IFAW, NRDC, WWF and the Scientific Committee as observers. The Standing Working Group reports to the Commission. Its Terms of Reference are provided at **Annex A**.

The Standing Working Group was established to provide a "factual, accessible and succinct report" on the scientific review of special permit programmes (Resolution 2016-2, Appendix, paragraph 5). Working by correspondence the Standing Working Group has developed summaries of the reviews of the New Scientific Whale Research Program in the Antarctic Ocean (NEWREP-A), the New Scientific Whale Research Program in the western North Pacific (NEWREP-NP), and the Western North Pacific Japanese Special Permit Program (JARPN II) (**Annexes B-D**).

¹ Annex P is a living document and has been updated since 2009. This report refers to the version of Annex P appended to the Scientific Committee's 2016 report.

In accordance with the Standing Working Group's Terms of Reference, each summary addresses the five aspects of the review process:

- A. A high level summary of the outcomes and recommendations of the Scientific Committee's review
- B. Advice on whether the review process complied with procedures set out in Annex P
- C. A summary of the Scientific Committee's view on whether the special permit programme meets the criteria set in Annex P
- D. Recommendations to improve the communication and management of the review
- E. Other relevant information or advice from the Scientific Committee

2. Views, recommendations and directions for Commission consideration

Resolution 2016-2 agrees that the Commission will consider the reports of the Scientific Committee and the Standing Working Group, and form its own view on various aspects of each special permit programme and its review.

The Standing Working Group **recommends** that the Commission considers and adopts the following views, recommendations and directions into its report at IWC67.

NEWREP-A

a) Commission view regarding NEWREP-A

- i. whether the review process has adequately followed the instructions set out in Annex P and any additional instructions provided by the Commission*

The Expert Panel's review of NEWREP-A complied with all of the procedures set out in Annex P. The Commission did not provide any additional instructions.

- ii. whether the elements of a proposed special permit programme, or the results reported from an ongoing or completed special permit programme, have been adequately demonstrated to meet the criteria set out in the relevant terms of reference in Annex P, and any additional criteria elaborated by the Commission*

The proposed elements of NEWREP-A have not adequately met the criteria set out in Annex P. It is the Commission's view that NEWREP-A has not provided adequate evidence to justify the need for lethal sampling.

- iii. any other relevant aspect of the new, ongoing or completed special permit programme and review in question*

Not applicable.

b) Recommendations to the responsible Contracting Government regarding any aspect of the special permit programme

The Commission notes that the proponent has only addressed 4 and partially addressed 3 of the 29 recommendations that an Expert Panel provided in 2015. The Commission further notes the Expert Panel's advice that delaying the lethal components of NEWREP-A for two to three years would not have a significant impact on the proponent's ability to meet its stated objectives.

In the context of any recommendations made by the Commission to the Government of Japan in relation to NEWREP-A, the Commission recognises and respects the unilateral rights granted to Parties under Article VIII of the International Convention for the Regulation of Whaling, to grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research 'notwithstanding anything contained in this Convention'. As such the Commission recognises that while its recommendations are non-binding, they represent an informed view of the Commission on the scientific merit of the research proposal and on measures Japan might take to improve the manner in which it pursues its research objectives.

In that context the Commission recommends that the Government of Japan address all 29 of the Expert Panel's 2015 recommendations, as well as the advice of the Scientific Committee, as soon as possible, in order to improve the scientific quality and justification of NEWREP-A. The Commission also recommends that the Government of Japan resubmit a new proposal for an Expert Panel's review before additional field seasons of NEWREP-A have passed.

The Commission further recommends that the Government of Japan provides members of the Scientific Committee with unrestricted and continuing access to all data used in the development of NEWREP-A, and any data used in ongoing reviews of NEWREP-A, in accordance with Resolution 2016-2 (paragraph 5).

c) Direction to the Scientific Committee

Notwithstanding progress made since the review of NEWREP-A commenced, the Commission directs the Scientific Committee to implement the recommendations included in the Standing Working Group on Special Permit Programmes report on NEWREP-A. This includes recommendations to improve the Expert Panel and Scientific Committee's communication and management of future special permit programme reviews.

NEWREP-NP

d) Commission view regarding

- i. whether the review process has adequately followed the instructions set out in Annex P and any additional instructions provided by the Commission*

The Expert Panel's review of NEWREP-NP complied with most of the procedures set out in Annex P. However, the Expert Panel's capacity to conduct a full review was limited by the fact that the proponent did not submit a final, fully justified proposal. The Scientific Committee did not provide advice structured in accordance with Annex P.

- ii. whether the elements of a proposed special permit programme, or the results reported from an ongoing or completed special permit programme, have been adequately demonstrated to meet the criteria set out in the relevant terms of reference in Annex P, and any additional criteria elaborated by the Commission*

The proposed elements of NEWREP-NP have not adequately met the criteria set out in Annex P. It is the Commission's view that the proponent of NEWREP-NP has not provided sufficient scientific evidence that justifies the need for lethal sampling.

- iii. any other relevant aspect of the new, ongoing or completed special permit programme and review in question*

Not applicable.

e) Recommendations to the responsible Contracting Government regarding any aspect of the special permit programme

The Commission notes that the proponent has only addressed eight and partially addressed four of the 29 recommendations that an Expert Panel provided in 2017. The Commission further notes the Expert Panel's advice that the proponent should delay the lethal components of NEWREP-NP until the proponent responded to its recommendations.

In the context of any recommendations made by the Commission to the Government of Japan in relation to NEWREP-NP, the Commission recognises and respects the unilateral rights granted to Parties under Article VIII of the International Convention for the Regulation of Whaling, to grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research 'notwithstanding anything contained in this Convention'. As such the Commission recognises that while its recommendations are non-binding, they represent an informed view of the Commission on the scientific merit of the research proposal and on measures Japan might take to improve the manner in which it pursues its research objectives.

In that context the Commission recommends that the Government of Japan address the yet to be completed recommendations of 2017 Expert Panel, as well as the advice of the Scientific Committee, as soon as possible, in order to improve the scientific quality and justification of NEWREP-NP. The Commission also recommends that before issuing further permits under NEWREP-NP the Government of Japan submit a final proposal for review by Scientific Committee and the Committee provide its advice to the Commission in accordance with Annex P.

The Commission further recommends that the Government of Japan provides members of the Scientific Committee with unrestricted and continuing access to all data used in the development of NEWREP-NP, and any data used in ongoing reviews of NEWREP-NP, in accordance with Resolution 2016-2 (paragraph 5).

f) Direction to the Scientific Committee

The Commission directs the Scientific Committee to provide advice to the Commission in accordance with Annex P. The Scientific Committee needs to ensure that when special permit proposals are to be reviewed that this is accorded the highest priority and sufficient time so that the Commission is not in future without advice from the Scientific Committee provided in accordance

with Annex P. It further directs the Scientific Committee to implement the recommendations to improve the communication and management of the review included in the Standing Working Group on Special Permit Programmes report on NEWREP-NP, notwithstanding the improvements the Committee has already made to improve the clarity of its reports.

The Commission notes the recommendation of the Expert Panel that the Scientific Committee clarifies that proposals submitted for review by Expert Panel's should be in final proposals. The Commission considers that proposals submitted for review should be final. Where improvements are made to proposals pursuant to recommendations of Expert Panels or the Scientific Committee that these should be incorporated into the proposal as revisions. The Commission recommends that members issuing special permits maintain their research proposals such that all revisions are consolidated within the proposal at least annually and forwarded to the Scientific Committee. The Commission directs the Scientific Committee to amend Annex P accordingly.

JARPN II

a) Commission view regarding JARPN II

- i. whether the review process has adequately followed the instructions set out in Annex P and any additional instructions provided by the Commission*

The Expert Panel was not able to comply fully with the procedures set out in Annex P. This is because the proponent submitted the programme for final review before the completion of special permit whaling under the programme. A proponent should not request a final programme review unless the programme is complete, and it has finalised data and results for the programme.

- ii. whether the elements of a proposed special permit programme, or the results reported from an ongoing or completed special permit programme, have been adequately demonstrated to meet the criteria set out in the relevant terms of reference in Annex P, and any additional criteria elaborated by the Commission*

Only one of the three objectives of JARPN II met the criteria set out in Annex P. The Expert Panel found that JARPN II had provided data about the population structure of some species of whales.

- iii. any other relevant aspect of the new, ongoing or completed special permit programme and review in question*

The proponent did not adequately justify the sample size for the portion of the research programme that required either lethal or non-lethal sampling. The Expert Panel and Scientific Committee have not provided a view as to whether this objective could have been more effectively addressed through non-lethal research methods.

b) Recommendations to the responsible Contracting Government regarding any aspect of the special permit programme

The Commission notes that the proponent has only partially addressed 5 of the 40 recommendations that an Expert Panel provided in 2016.

In the context of any recommendations made by the Commission to the Government of Japan in relation to JARPN II, the Commission recognises and respects the unilateral rights granted to Parties under Article VIII of the International Convention for the Regulation of Whaling, to grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research 'notwithstanding anything contained in this Convention'. As such the Commission recognises that while its recommendations under Article VI of the International Convention for the Regulation of Whaling are non-binding, they represent an informed view of the Commission on the scientific merit of the research proposal and on measures Japan might take to improve the manner in which it pursues its research objectives.

In that context the Commission recommends that the Government of Japan address all 40 of the Expert Panel's 2016 recommendations, as well as the advice of the Scientific Committee, as soon as possible, in order to improve the scientific quality and justification of JARPN II. The Commission notes that the Expert Panel has found that work undertaken on Objective 1 and Objective 2 of JARPN II has not contributed to improvements in the conservation and management of cetaceans. The Commission therefore recommends that the Government of Japan, as a matter of urgency, revise its lethal research protocols that are related to these objectives in its remaining special permit programmes and submit those for review by Scientific Committee.

The Commission further recommends that the Government of Japan provides members of the Scientific Committee with unrestricted and continuing access to all data used in the development of JARPN II, and any data used in ongoing reviews of JARPN II, in accordance with Resolution 2016-2 (paragraph 5).

c) Direction to the Scientific Committee

Notwithstanding progress made since the review of JARPN II was completed, the Commission directs the Scientific Committee to implement the recommendations included in the Standing Working Group on Special Permit Programmes report on JARPN II-A.

3. Future work

The Standing Working Group's Terms of Reference note that the group will consider the Scientific Committee's review of new, ongoing and completed special permit programmes. It is therefore **recommended** that the Standing Working Group provide new summaries of Scientific Committee's mid-term and final reviews of NEWREP-A and NEWREP-NP, and any other special permit programmes. The Working Group should present its summaries at the same Commission meeting the Scientific Committee presents its review of each programme. This will ensure the Commission is able to form its own view and provide any recommendations in a timely way.

Annex A

Terms of Reference for a Standing Working Group on Special Permit Programmes

Membership:

1. The Standing Working Group on Special Permit Programmes (“the Working Group”) will consist of Commissioners or other Contracting Government delegates, and represent the range of opinions on the issue of special permits. The Chair of the Scientific Committee will also participate in the Working Group.
2. The Contracting Government proposing or responsible for the special permit programme in question may participate in the Working Group as an observer only. As an observer, this Contracting Government may provide information to the Working Group at the Working Group’s request, to assist its work.
3. The Working Group will elect from its membership a Chair and Vice Chair. The Chair and Vice Chair will be responsible for ensuring that the business of the Working Group is carried out efficiently and in accordance with this Resolution.

Methods

4. The Working Group will work by correspondence in the intersessional period, or, if convenient or cost-effective, in face to face meetings.
5. The Working Group will consider the reports and recommendations of the Scientific Committee with respect to all new, ongoing and completed special permit programmes, and provide a factual, accessible and succinct report at least 30 days in advance of the Commission meeting. The Working Group will present its report verbally to the Commission plenary. The Commission may draw on the report in its consideration of any relevant item of business submitted in accordance with Rule J1 or J2 of the Rules of Procedure.
6. The Working Group will begin by considering the Scientific Committee’s review of Japan’s Southern Ocean whaling programme, known as “New Scientific Whale Research Program in the Antarctic Ocean (NEWREP-A)”. The Working Group will also consider the Scientific Committee’s subsequent reviews of special permit programmes.
7. The Commission will consider the operation of the Working Group at its 67th meeting.

Reporting

8. For each new, ongoing and completed special programme considered by the Scientific Committee, the Working Group will produce the following:
 - a. A high-level summary of the outcomes and recommendations of each review of new, ongoing and completed special permit programmes conducted by the Scientific Committee, to aid the Commission’s understanding of the Scientific Committee’s advice;
 - b. Advice on whether each review process has complied with the procedures set out in Annex P, and any additional procedures provided by the Commission, whether in resolutions or otherwise;
 - c. A summary of the Scientific Committee’s view on whether the elements of a proposed special permit programme, or the results reported from an ongoing or completed

programme, have been adequately demonstrated to meet the criteria set out in the relevant terms of reference in Annex P, and any additional criteria elaborated by the Commission, whether in resolutions or otherwise;

- d. Recommendations to improve the communication of the outcomes of each review and the management of reviews, including time allocation, procedural management and data availability; and
- e. Any other relevant information or advice from the Scientific Committee arising from the new, ongoing or completed special permit programme and review in question.

Indicative process

9. An indicative process for the preparation of the Working Group's report within the biennial meeting cycle is as follows:

Potential submission of a special permit proposal and/or scheduled ongoing or final review
Expert Panel review
Scientific Committee (a) review in the year between Commission meetings
Working Group receives the report of the Scientific Committee (a)
Potential submission of a special permit proposal and/or scheduled ongoing or final review (if not already submitted under step 1), followed by Expert Panel review
Scientific Committee (b) review in the year of a Commission meeting
Working Group receives the report of the Scientific Committee (b)
Working Group prepares its report and provides it to the Commission at least thirty days in advance of the Commission meeting
Working Group presents its report at the Commission meeting

Annex B

REVIEW OF NEWREP-A

Special Permit Programme: New Scientific Whale Research Programme in the Antarctic Ocean (NEWREP-A)

Proponent: Japan

Proposed special permit whaling: 333 Antarctic minke whales (*Balaenoptera bonaerensis*) per year

Duration: 12 years (2015-2026)

The Expert Panel's report includes conclusions regarding a number of criteria as required by Annex P, as well as recommendations that the proponent carry out further scientific work and provide additional information to the Scientific Committee. At its meetings in 2015, 2016, 2017 and 2018 the Scientific Committee discussed the extent to which the proponent had addressed the Expert Panel's recommendations.

Summary of the proponent's proposal

The programme has two primary objectives. Each objective includes both lethal and non-lethal components.

Objective 1

The first objective of NEWREP-A is to provide biological information about Antarctic minke whales and their habitats. The lethal component involves an examination of Antarctic minke whale earplugs and ovaries. The proponent states that this sampling will provide estimates of the age of individual whales, and help to determine Antarctic minke whale ages at sexual maturity. The proponent states that data on ages and changes in sexual maturity will help to estimate the number of new whales added to the population each year. This is known as population recruitment. The programme also uses non-lethal genetic sampling and sighting surveys to define the size of the population and its geographical distributions in the part of the Southern Ocean that samples are taken.

The proponent states that information gathered from lethal sampling and non-lethal research will improve the application of the Revised Management Procedure (RMP) for Antarctic minke whales. The RMP is a scientific tool developed by the Scientific Committee to estimate sustainable catch limits for the commercial whaling of baleen whales.

Objective 2

The second objective of the programme is to use lethal and non-lethal data about different species of whales and their prey to help build ecosystem models of the Antarctic marine ecosystem. Ecosystem models are abstract simulations of processes in the ecosystem, and aim to characterise the relationship between predators and their prey populations. Ecosystem models seek to

understand how different species are influenced by each other and the physical conditions of the environment.

The lethal component examines the thickness of Antarctic minke whales' blubber and their stomach contents. The proponent states that this will provide information about the diet and energy use of Antarctic minke whales and whether food availability impacts body condition, including the age of sexual maturity. The proposal also includes non-lethal methods, such as satellite tagging of Antarctic minke whales to understand where they feed, blubber biopsies for information about the nutritional health of other baleen whale species, and acoustic surveys of krill populations. The proponent argues that all of this information will contribute to the application of the RMP, and help provide estimates of sustainable catch limits for Antarctic minke whales and other species of baleen whales.

Selection of sample size

The proponents set a sample size of 333 whales per year, stating that this was calculated to achieve a high (90%) probability of detecting an increase of 1.2 years in the mean age at sexual maturity over the 12 year sampling period.

Assessment of the review process against Resolution 2016-2 Terms of Reference

A. High level summary of the outcomes and recommendations of the Scientific Committee's review

The need for lethal sampling

The Expert Panel could not determine whether lethal sampling is necessary to achieve the two major objectives or whether the lethal components would lead to improvements in the conservation or management of whales; therefore, the proposal **does not demonstrate** the need for lethal sampling. The Expert Panel noted that a short break in data collection to prepare a new proposal addressing its recommendations would not substantially compromise the utility of any data or their analysis. The proponent has not completed further analyses **recommended** by the Expert Panel and **agreed** by the Scientific Committee, as necessary to correctly calculate sample sizes.

Comparing lethal and non-lethal methods

The Expert Panel observed that the proposal had not shown that it was feasible to meet either of the project's objectives irrespective of whether using lethal and/or non-lethal methods; therefore, the proposal **does not demonstrate** the need for lethal sampling. The Expert Panel found that the lethal methods proposed will generate data, but that the proponent has not shown how this information is useful for the conservation and management of whales. The Expert Panel and Scientific Committee **agreed** that they would not be able to determine whether non-lethal means can be used to achieve certain objectives until the recommended field experiments, laboratory work and analyses are conducted. The proponent has not completed the work required to address these recommendations.

The Expert Panel's February 2015 review of NEWREP-A concluded that the proposal contains "insufficient information for the Expert Panel to complete a full review" ... and "does not demonstrate the need for lethal sampling" (SC/66/a/Rep/6, p. 35). The Expert Panel made 29 recommendations for further work that the proponent would need to complete to enable a full review. None of the recommendations required further lethal sampling. The Expert Panel stated that this work "should be completed and the results evaluated before there is a final conclusion on lethal techniques and sample sizes." (SC/66/a/Rep/6, p. 35). The Expert Panel noted that delaying the lethal components by two to three years would allow the proponent time to address its recommendations and would not have a significant impact on the proponent's ability to meet its stated objectives (SC/66/a/Rep/6, p. 35).

The Scientific Committee reviewed the Expert Panel's report and recommendations at its annual meeting in May 2015. The Scientific Committee acknowledged that "substantial progress has been made on several of the recommendations (IWC/66/Rep01 (2015), p.74), and that the objectives of the programme "are directed to improvements in the conservation and management of whales" (IWC/66/Rep01 (2015), p.75). The Scientific Committee agreed with the Expert Panel that "it will not be able to determine whether non-lethal means can be used to achieve certain objectives until the recommended field experiments, laboratory work and analyses are conducted" (IWC/66/Rep01 (2015), p. 75).

At the 2016 Scientific Committee meeting, the proponent stated that it had completed, or "completed to a reasonable level", four of the 29 recommendations (IWC/66/Rep01 (2016), p.93-99). The Scientific Committee summarised progress on the recommendations (IWC/66/Rep01 (2016), p. 93-100), but could not reach consensus on whether the four recommendations had been completed to a reasonable level. Some members were unconvinced that the proponent had fully addressed the Expert Panel's recommendations, while others said the response was "satisfactory" (IWC/66/Rep01 (2016), p. 101).

At the 2017 Scientific Committee meeting, the proponent did not present additional work responding to the Expert Panel's 2015 recommendations (see IWC/67/Rep01 (2017) Annex P, pp. 1-8). The proponent maintained that it had responded to the Expert Panel's recommendations "to a reasonable level" (IWC/67/Rep01 (2017), p.107). Further, the proponent stated that it would not prioritise any further work to address the Expert Panel's recommendations, but would provide the information "at a later (but as yet unspecified) date during the programme"(IWC/67/Rep01 (2017), p.107). The proponent and other members of the Scientific Committee do not contest that 25 of the 29 Expert Panel recommendations have not been completed.

The proponent presented new work at the 2018 Scientific Committee meeting. The Scientific Committee agreed that four of the 29 recommendations have been completed, with a further five requiring additional analyses (ICW/67/Rep01 (2018), p79). The Scientific Committee noted that the remaining recommendations have not been addressed (ICW/67/Rep01 (2018), p79).

B. Advice on whether the review process complied with procedures set out in Annex P

For new research programmes, Annex P requires that the review comments briefly on the "perceived importance of the stated primary objectives" (IWC/67/Rep01 (2015) Annex P, p. 411). Although the Expert Panel addressed the other matters listed in Annex P, such as an evaluation as

to whether the programme is likely to lead to improvements in the conservation and management of whales, its report does not appear to have addressed this matter. The Scientific Committee also did not comment on the importance of the primary objectives.

The Expert Panel's review of NEWERP-A complied with the other procedures set out in Annex P. The Expert Panel's review addressed all of the matters identified in Annex P, as instructed by Resolution 2014-5. The Expert Panel meetings were held more than 100 days before the annual Scientific Committee meeting (IWC/67/Rep01 (2015) Annex P, p. 411), and all listed deadlines were met. The Scientific Committee accepted that the individuals selected to serve on the Expert Panel were appointed in accordance with Annex P.

C. Summary of the Scientific Committee's view on whether the special permit programme meets the criteria set in Annex P

In accordance with Annex P, and as directed by Resolution 2014-5, the Expert Panel and Scientific Committee provided advice on five aspects of NEWREP-A (see *a* through *e* below). The first two matters (*a* and *b*) were considered together, as they both relate to whether lethal sampling is necessary. Similarly, the next two matters (*c* and *d*) were also considered together, as they both assess whether the proposal's objectives could be achieved through non-lethal research. The Expert Panel and Scientific Committee were also invited to comment on other relevant matters (*e*). This section of the report follows a similar format.

The justification for lethal sampling

The Expert Panel and Scientific Committee considered:

- a. whether the design and implementation of the programme, including sample sizes, are reasonable in relation to achieving the programme's stated research objectives*
- b. whether the elements of the research that rely on lethally obtained data are likely to lead to improvements in the conservation and management of whales*

Objective 1

The Expert Panel agreed that Objective 1, which aims to obtain good estimates of population abundance and trends, is "central to (the) successful conservation and management" of whales (SC/66/a/Rep/6, p.6). However, the Expert Panel made several recommendations related to the design of Objective 1. The Expert Panel recommended that the proponent improve the design of its statistical analyses of age and genetic data in order to justify why it needed to take 333 Antarctic minke whales per year, rather than a larger or smaller number (SC/66/a/Rep/6, p.6). The Expert Panel noted that the proposal "provides no direct link" between change in age at sexual maturity and the ability to conserve and manage Antarctic minke whales (SC/66/a/Rep/6, p.40). The Expert Panel therefore recommended the proponent complete a number of different analyses to justify its hypothesis that the sampling of earplugs and ovaries would help scientists to better estimate different populations of Antarctic minke whales (SC/66/a/Rep/6, p. 10-11). Further, the Expert Panel recommended that the proponent revise its proposal to show an explicit link between change in age at sexual maturity data and the conservation and management of Antarctic minke whales (SC/66/a/Rep/6, p.40).

At its 2015 meeting, the Scientific Committee agreed that “additional work needs to be done” to show how much the age data will improve the estimates of different populations of Antarctic minke whales (IWC/66/Rep01 (2015), p.76). Some members of the Scientific Committee concluded that the proponent had still not justified the sample size, particularly how many lethal samples were needed to detect a trend in age of sexual maturity. They argued that the proponent’s estimates of Antarctic minke whale age of sexual maturity had very little impact on population estimates (IWC/66/Rep01 (2015), p.76). Other members of the Scientific Committee said that the proponent’s attempts to justify the sample size are “a work in progress” and that the age of sexual maturity calculations had “small impacts” on population estimates (IWC/66/Rep01 (2015), p.76). The Scientific Committee noted that the proponent had not yet demonstrated whether the age data are “likely to lead to substantial improvements in conservation and management” (IWC/66/Rep01 (2015), p.74).

In response, the proponent provided details of further statistical analyses to the 2016 Scientific Committee meeting. The Scientific Committee agreed that the results addressed some of the Expert Panel’s recommendations. However, the Scientific Committee agreed that “several steps remain to be completed” to address the Expert Panel’s recommendations related to the calculation of sample sizes (Recommendations 1 and 26) (IWC/66/Rep01 (2016), p.92). Some members said that the proponent had now shown that better estimates of population recruitment would help to more precisely estimate sustainable catch limits for the commercial whaling of Antarctic minke whales (IWC/66/Rep01 (2016), p.102)

At the 2017 and 2018 Scientific Committee meeting, the proponent did not report further work to justify the programme’s sample sizes, or the value of the population recruitment data.

In summary, the Expert Panel had a unanimous view that the proponent had not adequately justified the proposed sample sizes, or shown that the lethal research would be likely to assist with the conservation and management of whales. By contrast, the Scientific Committee could not reach a consensus on these matters.

Objective 2

The Expert Panel agreed that Objective 2, which aims to build ecosystem models that provide information about the Antarctic marine ecosystem, was an important area of research (SC/66/a/Rep/6, p.8). The Expert Panel recognised that ecosystem modelling is a developing research area, and that it was therefore difficult to evaluate how likely it was that NEWREP-A would meet its objectives (SC/66/a/Rep/6, p.8). The Expert Panel also noted that the structure of the model is “lacking in details”... “did not fit the data adequately” and “appeared to perform poorly” (SC/66/a/Rep/6, p.29). In particular, the Expert Panel observed that the proposal did not specify all of the species that would be used in the ecosystem model, or a hypothesis for the predator and prey relationship between these species in the ecosystem. The Expert Panel recommended that the proponent revise the model to address how its data needs will be achieved (SC/66/a/Rep/6, p.29).

At its 2015 meeting, the Scientific Committee agreed that the proponent’s revisions to its model would ensure lethally obtained data provides some information about the Antarctic marine ecosystem. However, some members stated that the information collected from whale stomach contents under NEWREP-A was unnecessary, and would not have any scientific value. They argued

that the Committee has repeatedly discussed the difficulties in using stomach contents data to estimate the amount of krill whales consume, which means that whale stomach contents do not provide any useful information. Further, they noted that there is already a large amount of data on Antarctic minke whale krill consumption that could be used for ecosystem modelling. These data were obtained during the commercial whaling era (IWC/66/Rep01 (2015), p.74-76). Other members disagreed with this view, arguing that comparing stomach contents from NEWREP-A with data collected from previous special permit programmes would help to show trends in Antarctic minke whale krill consumption over time (IWC/66/Rep01 (2015), p. 76).

At its meetings in 2016, 2017 and 2018, the Scientific Committee noted that the proponent's models still required development. The Scientific Committee's 2016 summary of progress showed that the proponent had not yet addressed any of the Expert Panel's recommendations related to Objective 2 (IWC/66/Rep01 (2016), p. 93-99).

In summary, the Expert Panel agreed that the ecosystem models used in NEWREP-A lacked the detail necessary to evaluate whether lethal sampling was justified. However, there was disagreement in the Scientific Committee about whether using lethally obtained data in ecosystem models would be likely to lead to improvements in the conservation and management of whales (IWC/66/Rep01 (2016), p. 101).

The feasibility of non-lethal alternatives

The Expert Panel and Scientific Committee considered:

- c. whether the objectives of the research could be achieved by non-lethal means or whether there are reasonably equivalent objectives that could be achieved non-lethally*
- d. whether the scale of lethal sampling is reasonable in relation to the programme's stated research objectives, and non-lethal alternatives are not feasible to either replace or reduce the scale of lethal sampling proposed*

The Expert Panel observed that the proposal had not shown that it was feasible to meet either of the project's objectives "irrespective of whether using lethal and/or non-lethal methods" (SC/66/a/Rep/6, p. 39). The Expert Panel nevertheless compared the lethal and non-lethal methods the proponents proposed to support Objective 1 and Objective 2.

Objective 1

The Expert Panel recommended that the proponent conduct "a quantitative comparison of lethal and non-lethal methods" to determine what "management outcomes" each method provides (SC/66/a/Rep/6, p. 40). This would compare data produced from analyses of Antarctic minke whale earplugs and ovaries with that generated from non-lethal biopsies and whale sighting surveys. The comparison would also take into account the costs and difficulty of both the lethal and non-lethal methods. The Expert Panel recognised that the comparison is complex, but necessary to conclude whether lethal methods are warranted (SC/66/a/Rep/6, p. 40). The Expert Panel noted that a short

break in data collection to prepare a new proposal addressing its recommendations would not substantially compromise the utility of any data or their analysis.

In 2015, the Scientific Committee stated that it would not be able to determine whether non-lethal means could be used to achieve Objective 1 until the field experiments, laboratory work and analyses recommended by the Expert Panel have been conducted (IWC/66/Rep01 (2015), p. 75). Members of the Scientific Committee disagreed about whether non-lethal analysis from biopsies was as effective as lethal earplug analysis in estimating the age of Antarctic minke whales (IWC/66/Rep01 (2015), p. 77). In 2016, the Scientific Committee reported progress and some preliminary results in comparing lethal and non-lethal methods related to Objective 1. For instance, the proponent has made progress in the study comparing non-lethal DNA analysis with lethal earplug research (IWC/66/Rep01 (2016), p.95). Further analysis on DNA analysis was encouraged in 2018 (IWC/67/Rep01 (2018), p. 78-79).

The Scientific Committee's 2017 table summarising progress with recommendations shows that the proponent has not presented any results that demonstrate whether or not scientific questions related to Objective 1 could be answered using non-lethal means (see IWC/66/Rep01 (2016), pp. 93-99 and IWC/67/Rep01 (2017) Annex P, pp. 1-8). The proponent presented work in 2018 that sought to address this issue. The Scientific Committee did not state whether Objective 1 could be answered using non-lethal means in its 2018 report.

Objective 2

The Expert Panel stated that data obtained under this objective (lethal and non-lethal) are likely to contribute to the development of ecosystem models "in some way" (SC/66/a/Rep/6, p. 40). However, the Expert Panel stressed that "it is not how much the methods can tell us about any one factor (e.g. stomach contents) but how useful this information is in understanding how the ecosystem works and how this relates to conservation and management of that ecosystem" (SC/66/a/Rep/6, p.40). The Expert Panel recommended that the proponent develop a "conceptual framework ... to evaluate the relative merits of lethal and non-lethal methods" in developing ecosystem models (SC/66/a/Rep/6, p.40). The Expert Panel also recommended further experiments to obtain biopsy samples from Antarctic minke whales (SC/66/a/Rep/6, p. 40).

In 2015, the Scientific Committee stated that it would not be able to determine whether non-lethal means could be used to achieve Objective 2 until the field experiments, laboratory work and analyses recommended by the Expert Panel have been conducted. The Scientific Committee's 2015, 2016 2017, and 2018 reports did not clearly address whether non-lethal methods could be used to address Objective 2 (see for instance, (IWC/66/Rep01 (2015), p. 77).

In 2017, the Scientific Committee noted that the proponent has presented some results that support the design of the ecosystem models, and will present further results in 2018 (IWC/67/Rep01 (2017) Annex P, p. 7). However, no papers on this subject were presented in 2018. The Scientific Committee's 2017 report also notes that the Expert Panel recommended that this work should be completed in three months (as of February 2015) (IWC/67/Rep01 (2017) Annex P, p. 7).

Other matters

- e. *such other matters as the Scientific Committee considers relevant to the programme, having regard to the decision of the International Court of Justice, including the methodology used to select sample sizes, a comparison of the target sample sizes and the actual take, the timeframe associated with a programme, the programme's scientific output; and the degree to which a programme coordinates its activities with related research projects.*

The Expert Panel did not explicitly report on all of the matters covered under item e, but included some commentary of these matters throughout its report. The Expert Panel noted that the data collected from lethal sampling "have been proposed to be used for a variety of purposes", and that the methodologies used to select the sample size are "at an early stage" of development (SC/66/a/Rep/6, p.40). The Expert Panel agreed that it may not be possible for the proponent to determine the appropriate sample size for the programme until further studies are carried out (SC/66/a/Rep/6, p.40).

The Scientific Committee noted in 2015 that the proponents had begun to address the Panel's recommendations regarding using statistical methods to detect changes in Antarctic minke whales' age at sexual maturity. These are the analyses used by the proponents to set the proponent's sample size. The simulations presented by the proponents generally followed the approach the Panel suggested. However, the Scientific Committee agreed that not all sources of variance were taken into account, and therefore the calculated sample sizes were not revised. As a consequence, some members concluded that the proponent had not demonstrated that lethal sampling could achieve its objectives. Other members noted that the initial evaluations have shown that all but one of the extra sources of variability mentioned as needing incorporation in age at sexual maturity calculations, when considered individually, have small impacts. The Scientific Committee noted that no new analyses on this matter had been presented in 2017.

The Expert Panel noted that the original proposal lacked information on timelines, but acknowledged that the proponent provide greater detail in 2015. Nevertheless, the Expert Panel recommended that the proponent provides further information on how it will manage the lethal and non-lethal research across the 12 year timeframe, as well as what personnel and logistical resources are required (SC/66/a/Rep/6, p.40).

The Expert Panel noted that the proposal provided "little detail" on "the degree to which the programme coordinates its activities with related research projects" (SC/66/a/Rep/6, p.34). The Expert Panel noted that that the proponent proposes collaboration with the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) on two krill surveys, but that the surveys are in an area that does not have an active krill fishery, and is "not a high priority for CCAMLR" (SC/66/a/Rep/6, p.35).

The Scientific Committee has not discussed any additional matters with regards to item e at its meetings, but included some papers in an annex to its 2015 report.

D. Recommendations to improve the communication and management of the review

The Expert Panel and Scientific Committee's reviews of the NEWEP-A proposal are substantial improvements on earlier reviews of special permit programmes. The Expert Panel's review is thorough, and addresses the programme based on the Scientific Committee's instructions in Annex P. However, the Expert Panel's report is very technical, and large parts of the report are difficult for

a non-scientific audience to understand. ***The Standing Working Group therefore recommends that future Expert Panel reports pay more attention to using plain language.*** This does not mean that future reports should not cover the complex scientific arguments raised during the review. Rather, the Expert Panel's analysis of each matter should begin with a high-level, plain language summary of its findings and recommendations, and then move to a discussion of more technical details. In particular, it would be useful if the Executive Summary of future reports explain the objectives of the programme, and whether the programme design is reasonable to achieve each objective.

The Expert Panel's report includes a useful table of recommendations for the proponent to address, and the Scientific Committee to track (SC/66/a/Rep/6, pp. 36-38). This table helpfully lays out the further scientific work the proponent needs to do for NEWREP-A to be properly assessed, but would be further improved by prioritising the recommendations. ***The Standing Working Group therefore recommends that future Expert Panels should prioritise recommendations both in terms of how critical the work is to achieve the research objectives (for instance: high, medium, or low), and provide reasonable deadlines for the work's completion, as the Scientific Committee did in its 2018 report.***

Another strength of the Expert Panel's review is that was able to form a consensus view on NEWREP-A. By contrast, the Scientific Committee is divided on most matters related to NEWREP-A, including on fundamental questions such as whether or not the programme demonstrates the need for lethal sampling. As a result, Scientific Committee discussions of NEWREP-A are reported in an unsatisfactory and inconclusive "some and others" format, for instance:

Some members commented on information provided by the proponents (SC/66a/SP01 and SC/66a/SP08) in response to recommendations by the NEWREP-A review panel with respect to Objective II. They noted that the JARPA II review panel in 2014 had expressed similar concerns to those expressed by the Panel regarding the lack of details of the ecosystem model structure proposed, and the issues associated with the data needed to parameterise the models. (SC/66/a/Rep/6, p. 75)

Other members disagreed. They believed that sufficient information had been provided in SC/66a/SP01-SP02 and SC/66a/SP08 as well as Kitakado et al. (2014b), with respect to model structure for initial work. This initial work had led to the expanded work on krill data contained in NEWREP-A. (SC/66/a/Rep/6, p. 75)

It is recommended that the Commission request that the Scientific Committee put greater effort into seeking to form a consensus view on matters relating to special permit programmes, and ensures it allocates sufficient time for discussion during its meetings. Where a consensus cannot be reached, the Scientific Committee needs to make a more concerted effort to ensure that only statements supported by scientific evidence are included in its report. ***The Scientific Committee report should not include beliefs or opinions that are not substantiated by evidence, and should provide a view on the relative strength of evidence provided.*** Sufficient time should be allocated at the end of the meeting for the Committee to review the final text of the report to ensure it is as clear as possible.

The Scientific Committee's reporting on NEWREP-A from 2015-17 is also very technical. The Scientific Committee's report would benefit from using plainer language when discussing whether or not

NEWREP-A meets the standards set out in Annex P. The reports should clearly identify instances where the Scientific Committee has reached agreement on a technical issue, but there is not a consensus on the implications for the evaluation of the programme. Further, the Scientific Committee's reports do not fully address all of the matters raised in Annex P. For instance, its 2015 report does not clearly address whether Objective 2 could be achieved using non-lethal methods (IWC/66/Rep01 (2015), p.77). *Future Scientific Committee reporting on special permit programmes should discuss progress made towards all objectives.*

The Scientific Committee's reports should also more clearly indicate that its recommendations and advice about particular research methods are without prejudice, and not an endorsement of the proposal or its methods, unless that is what is agreed.

The Scientific Committee's 2018 report is clearer and uses plainer language. This report includes a useful summary table of the status of each of the high-priority recommendations in the main body of the report – this summary is a significant improvement in the report's readability and should be continued.

E. Other relevant information or advice from the Scientific Committee

After the 2015 Scientific Committee meeting, some members of the Scientific Committee requested data collected from the proponent's earlier special permit programs in the Southern Ocean (JARPA and JARPA II) to calculate the sample sizes required for some of the research. The proponent denied this request.

Annex C

REVIEW OF NEWREP-NP

Special Permit Programme: New Scientific Whale Research Programme in the North Pacific (NEWREP-NP)

Proponent: Japan

Proposed special permit whaling: 170 common minke whales (*Balaenoptera acutorostrata*), and 134 sei whales (*Balaenoptera borealis*) per year

Duration: 12 years (2017-2028)

The Expert Panel's report includes conclusions regarding a number of criteria as required by Annex P, as well as recommendations that the proponent carry out further scientific work and provide additional information to the Scientific Committee. At its meetings in 2017 and 2018, the Scientific Committee discussed the extent to which the proponent had addressed the Expert Panel's recommendations.

Summary of the proponent's proposal

NEWREP-NP has two primary objectives, which include both lethal and non-lethal components. Each objective broadly concerns the abundance and population structure of two species of whales—with Objective 1 directed at common minke whales in Japan's coastal waters, and Objective 2 examining North Pacific sei whales.

Objective 1

The first objective of NEWREP-NP is to provide biological information about common minke whales and their habitats. The lethal component involves an examination of common minke whale earplugs, sexual organs, and eye lenses. The proponent states that data from this sampling will provide estimates of the age of individual whales, and help to determine common minke whale ages at sexual maturity. The proponent states that data on ages and changes in sexual maturity will help to estimate the number of new whales added to the population each year. This is known as population recruitment. Additionally, the programme uses sighting surveys and satellite tracking to learn more about the geographical distribution of common minke whales in Japan's coastal waters.

The proponent states that information gathered from lethal sampling and non-lethal research will help scientists to improve the application of the Revised Management Procedure (RMP) for common minke whales. The RMP is a scientific tool developed by the Scientific Committee to estimate sustainable catch limits for the commercial whaling of baleen whales.

Under this objective, the programme also examines the stomach contents of common minke whales. According to the proponent, this will help to determine whether changes in the marine environment have affected populations of common minke whales.

Objective 2

The second objective of NEWREP-NP is to provide biological information about North Pacific sei whales and their habitats. This objective closely relates to Objective 1; it also involves an examination of earplugs, sexual organs, and eye lenses, but taking samples from North Pacific sei whales, rather than common minke whales. Similarly, the proponent states that this sampling will provide estimates of the age of individual whales, and help to determine sei whale ages at sexual maturity. The programme also uses sighting surveys and satellite tracking to learn more about the diet and geographical distribution of North Pacific sei whales. The proponent states that information gathered from lethal sampling and non-lethal research will help scientists to improve the application of the RMP for North Pacific sei whales.

According to the proponent, data from lethal sampling will also help to estimate the mortality of sei whales from “natural” causes, such as old age, disease and pollution.

Assessment of the review process against Resolution 2016-2 Terms of Reference

A. High level summary of the outcomes and recommendations of the Scientific Committee’s review

The Expert Panel made 29 recommendations for further work that the proponent would need to complete to enable a full review. Further lethal sampling was not required to address any of the recommendations.

The Expert Panel recommended that the lethal sampling components of the programme should not occur until the further work identified in its report has been completed and reviewed (SC/67A/REP/01, p. 44).

The Scientific Committee reviewed and endorsed the Expert Panel’s recommendations in 2017 (IWC/67/Rep 01 (2017), p.110). The Scientific Committee’s 2017 report noted that seven of the 29 recommendations have been completed and three recommendations have been partially completed (IWC/67/Rep01 (2017), p. 116-121).

The Scientific Committee agreed that the proponent addressed the Expert Panel’s major concerns with the effects of catches on minke whales (IWC/67/Rep01 (2017), p. 111) and recommended further work to improve the performance of the Implementation Simulation Trials. The Scientific Committee also agreed that the proponent had addressed the Expert Panel’s recommendations relating to effect of catches on North Pacific sei whales (IWC/67/Rep01 (2017), p. 111).

In summary the Standing Working Group notes:

The need for lethal sampling

The Expert Panel could not determine whether lethal sampling is necessary to achieve the two primary objectives or whether the lethal components would lead to improvements in the conservation or management of whales; therefore, the Expert Panel concluded that proposal **does not demonstrate** the need for lethal sampling.

The Expert Panel also concluded that the planned sample size is not fully justified.

The Scientific Committee agreed the proponent did address the Expert Panel's major concerns with respect to the effect of the proposed catch on the population, but the Scientific Committee could not reach consensus on the scientific utility of lethally obtained age data (IWC/67/Rep01 (2017), p.110).

The Scientific Committee's 2018 report notes the proponent unilaterally decided to address sample size calculations (which determines the number of whales to be taken) at the mid-term review despite the Scientific Committee identifying the associated recommendation as a very high priority.

Comparing lethal and non-lethal methods

The Expert Panel observed that the proposal had not shown that it was feasible to meet either of the project's objectives irrespective of whether using lethal and/or non-lethal methods; therefore, the Expert Panel concluded that the proposal **does not demonstrate** the need for lethal sampling.

The Expert Panel found that the lethal methods proposed will generate data, but that the proponent has not shown how this information is useful for the conservation and management of whales.

The Expert Panel **agreed** that they would not be able to determine whether non-lethal means can be used to achieve certain objectives until the recommended field experiments, laboratory work and analyses are conducted.

The Scientific Committee's 2018 report notes that the proponent has addressed eight recommendations and partially addressed four (IWC/67/Rep01 (2018), p.81). The proponent has not addressed seventeen recommendations.

The Scientific Committee could not reach consensus on whether the proponents had adequately assessed the utility of lethal versus non-lethal methods to address the programme objectives (Recommendation 1).

B. Advice on whether the review process complied with procedures set out in Annex P

The Standing Working Group notes the review process did not fully comply with the procedures set out in Annex P. The Expert Panel notes that a key reason for this is that the proponent did not provide a "final, fully justified proposal" for review (SC/67A/REP/01, p. 37).

The proponent submitted a proposed research plan and advised that they would finalise it "taking into account the comments and suggestions on scientific aspects to be provided by experts inside and outside the IWC SC" (SC/J17/JR01, p. 7). The Expert Panel observed that it believes its role is to review a "*final proposal*" (emphasis in the original), and recommended that the Scientific Committee clarify that this is the case (SC/67A/REP/01, p.37).

The Standing Working Group agrees with the Expert Panel's understanding of its role, as provided in Annex P, but supports the recommendation that the Scientific Committee further clarify this in Annex P.

For new research programmes, Annex P requires that the review comment briefly on the “perceived importance of the stated primary objectives” (IWC/67/Rep01 (2015) Annex P, p. 411). The Expert Panel’s report briefly address this in a column of an annexed table (SC/67A/REP/01, p. 42-43); however, its comments are not comprehensive and primarily focus on the proposal’s sub-objectives. To properly comply with Annex P, the Expert Panel’s report should provide a higher level view on the scientific importance of the stated primary objectives.

The Expert Panel’s review of NEWERP-NP complied with the other procedures set out in Annex P.

C. Summary of the Scientific Committee’s view on whether the special permit programme meets the criteria set in Annex P

In accordance with Annex P, and as directed by Resolution 2014-5, the Expert Panel and Scientific Committee were tasked with providing advice on five aspects of NEWREP-NP (see *a* through *e* below).

The first two matters (*a* and *b*) relate to whether lethal sampling is necessary, and are discussed separately by the Expert Panel and Scientific Committee. The Expert Panel and Scientific Committee’s review considered matters (*c* and *d*) together. These matters both relate to whether the proposal’s objectives could be achieved through non-lethal research. The Expert Panel and Scientific Committee also commented on other relevant matters (*e*). This section of the report follows a similar format.

The justification for lethal sampling

- a. whether the design and implementation of the programme, including sample sizes, are reasonable in relation to achieving the programme’s stated research objectives*

Objective 1

The Expert Panel stated that the sampling design was “unusual for a scientific survey”, and that it “will complicate and possibly compromise data analyses” (SC/67A/REP/01, p. 28). The Expert Panel stated that a key issue is that the proponent will take a large proportion of common minke whales in inshore areas close to port—127 out of a total of 170 common minke whales will be taken in these areas. The Expert Panel explained that oversampling of the areas close to port means that the special permit programme does not cover the whole distribution range of common minke whale habitat (SC/67A/REP/01, p.40) making it very difficult to collect samples that are representative of the common minke whale population. The Panel recommended that analyses be conducted, before the start of the programme, to assess the extent of loss in precision due to the sampling strategy for the objectives related to common minke whales and the implications for the meeting Secondary Objectives (SC/67A/REP/01, p. 40).

Further, the Expert Panel stated that even if the proponent addressed these concerns, the planned sample size would still have a “fundamental problem” (SC/67A/REP/01, p.40). This relates to the way in which the proponent intends to use age data. The Expert Panel noted that the proponent has not demonstrated why it needs age data from 170 common minke whales per year to better understand the abundance and population structure of common minke whales. While in 2017 the proponent did address the Expert Panel’s major concerns with respect to the effect of the proposed catch on

the population, the Scientific Committee did not reach consensus on the utility of the proponent's use of age data (IWC/67/Rep01 (2017), p.110).

Objective 2

The Expert Panel also found that the proponent's sampling design and sample sizes for the take of 134 sei whales per year was not reasonable. The proponent claimed that it needed to take this number of sei whales in order to estimate natural mortality.

The Expert Panel also concluded that the proponent's sample size calculations "ignored the effects" of critical age related data (SC/67A/REP/01, p.31). The Expert Panel further found that some of the sample size calculations relied on modelling that "would not be available in reality" (SC/67A/REP/01, p.31). The Expert Panel agreed that the proponent has not justified the sample sizes for sei whales (SC/67A/REP/01, p. 4) and recommended that the proponent conduct further analyses to better justify its sample size.

The Scientific Committee considered new information on the analytical methods relating to sample sizes for sei whales in 2017. The Scientific Committee was not able to assess the implications of these new analyses and did not reach consensus on whether it would improve the management of sei whales (IWC/67/Rep01 (2017), p. 110).

The Scientific Committee's 2018 report notes the proponents unilaterally decided not to consider sample size calculations until the mid-term review despite the Scientific Committee identifying this recommendation as a very high priority as it could lead to a reduction of the lethal sample size (IWC/67/Rep01 (2018), p. 81).

b. whether the elements of the research that rely on lethally obtained data are likely to lead to improvements in the conservation and management of whales

Objective 1

The Expert Panel agreed that "this overall broad objective", which aims to improve estimates of common minke whale population abundance and trends, is important for the conservation and management of whales (SC/67A/REP/01, p. 38). The data collected in the programme could be used in future scientific analyses that attempt to calculate sustainable catch limits for common minke whales.

The Expert Panel found that the data collected from stomach contents is "unlikely to make a direct contribution" to improvements in the conservation and management of whales. The Expert Panel did not agree with the proponent that this data would help to determine whether changes in the marine environment have affected common minke whale populations.

Objective 2

The Expert Panel agreed that Objective 2, which aims to improve estimates of North Pacific sei whale population abundance and trends, is broadly important for the conservation and management of whales (SC/67A/REP/01, p. 38). The data collected in the programme can be used in future scientific analyses that attempt to calculate sustainable catch limits for North Pacific sei whales. However, in commenting on the design of the programme, the Expert Panel noted that it "did not see a clear link

between the ability to estimate natural mortality and improvements in the conservation and management of sei whales" (SC/67A/REP/01, p.31). The Panel agreed that the proponents have not justified the sample size for sei whales (SC/67A/REP/01, p.41).

The Scientific Committee's 2017 report summarises the Expert Panel's conclusions but does not expand or comment on them (IWC/67/Rep01 (2017), p. 112-114). The 2018 report does not provide any expansion either.

In summary, the Expert Panel was not able to determine if the samples sizes were reasonable.

The Expert noted that the overall broad objective of NEWREP-NP is important for the conservation and management of whales. However, the Expert Panel either did not provide a clear view on whether the specific objectives of NEWREP-NP would lead to improvements in the conservation management of whales although they noted that it was unlikely that the data collected through NEWREP-NP would do so.

The feasibility of non-lethal alternatives

- c. whether the objectives of the research could be achieved by non-lethal methods or whether there are reasonably equivalent objectives that could be achieved non-lethally*
- d. whether the scale of lethal sampling is reasonable in relation to the programme's stated research objectives, and non-lethal alternatives are not feasible to either replace or reduce the scale of lethal sampling proposed*

The Expert Panel agreed that some of the data that the proponent seeks to collect could not be collected using non-lethal methods (SC/67A/REP/01, p. 38). The proponent intends to use most of this data for age and body measurements. However, the Expert Panel recommended that the proponent more thoroughly review how the data collected using lethal methods will help it to achieve its primary objectives.

For instance, although the proponent has demonstrated that it needs to undertake lethal sampling to collect age data, it has not shown that these data will enhance knowledge about the abundance and population structure of either common minke whales or sei whales (SC/67A/REP/01, p. 39). The Expert Panel also noted that the proponent may be able to determine age data through genetic analysis of skin biopsies (non-lethal research), as well as genetic analysis of existing tissue samples (SC/67A/REP/01, p.33).

The Expert Panel observed that the proponent already has access to "extensive" samples and data from previous special permit programmes (SC/67A/REP/01, p. 34). It noted that the proponent could use these samples to undertake the further analysis required to demonstrate the need for lethal sampling. The Expert Panel therefore noted that comparing lethal and non-lethal methods should be a priority for the proponent and non-lethal methods should be "incorporated into the programme as soon as they are deemed plausible" (SC/67A/REP/01, p.34).

The Expert Panel stated that using biopsy sampling can contribute to the determination of stock structure and other issues (SC/67A/REP/01, p. 32). The Expert Panel recommended that the proponent place greater attention on biopsy sampling, and use biopsy sampling to "reduce the

lethal sample size as soon as it is deemed feasible rather than wait until the mid-term review” (SC/67A/REP/01, p. 32).

In summary, the Expert Panel noted that some of the data could not be collected through non-lethal methods but also noted that the link between this data and the primary objectives of NEWREP-NP required further consideration.

The Expert Panel also noted that existing data or non-lethal methods could be used to justify lethal sampling, without the need for further lethal sampling.

Both the Expert Panel and Scientific Committee encouraged the proponent to have a greater focus on using non-lethal methods to achieve its research objectives.

Other matters

- e. *such other matters as the Scientific Committee considers relevant to the programme, having regard to the decision of the International Court of Justice, including the methodology used to select sample sizes, a comparison of the target sample sizes and the actual take, the timeframe associated with a programme, the programme’s scientific output; and the degree to which a programme coordinates its activities with related research projects.*

The Expert Panel did not explicitly report on all of the matters covered under item e, but included some commentary of these matters throughout their report. The Expert Panel stated that the proponent’s planned take of common minke whales may reduce the abundance of certain populations of common minke whales by as much as 20% by 2030. The Expert Panel said that this was “of concern”, and recommended the proponent carry out further analysis before the programme commences (SC/67A/REP/01, p. 35).

At its 2017 meeting the Scientific Committee noted that the proponent has addressed major concerns with respect to the effect of catches on the minke whale population (IWC/67/Rep01 (2017), p. 111).

The Expert Panel also commented on the programme’s intermediate targets. The Expert Panel noted that a mid-term review is expected after six years. It further noted that for this to fully effective, the proponent must ensure that data are promptly analysed. In particular, the Expert Panel stressed that the proponent needs allocate more resources to common minke whale biopsy sampling to facilitate their prompt use (SC/67A/REP/01, p. 41).

D. Recommendations to improve the communication and management of the review

The Standing Working Group agrees that the Expert Panel’s review of the NEWREP-NP proposal rightly focuses on the relationship between the data proposed to be collected and their potential utility for conservation and management. However, the Expert Panel review does not fully comply with the requirements in Annex P.

This is due, in part, to the Expert Panel's reporting style and the fact the proponent did not submit a final proposal for consideration (SC/J17/JR01, p7). The Expert Panel's report is also very technical, with large parts of the report difficult for a non-technical audience to understand. ***The Standing Working Group therefore recommends that future Expert Panel reports pay more attention to using plain language.***

Neither the 2017 nor 2018 reports of the Scientific Committee provide a thorough summary of NEWREP-NP or the Expert Panel's findings for a non-technical audience. Although the summary tables are welcomed, they should provide more discussion to allow a non-technical audience to understand the Expert Panel's review, the progress made to address the Expert Panel's recommendations, the significance of this work with respect to the overall programme, and the conclusions drawn by the Scientific Committee. ***The Standing Working Group therefore recommends that future reports from the Scientific Committee:***

- 1. pay more attention to using plain language;***
- 2. describe the proponent's progress against each of the Expert Panel's recommendations and***
- 3. if completed, how addressing the recommendation has informed or influenced the programme.***

E. Other relevant information or advice from the Scientific Committee

Nil.

Annex D

REVIEW OF JARPN II

Special Permit Programme: Western North Pacific Japanese Special Permit Programme (JARPN II)

Proponent: Japan

Special permit whaling: Up to 160 minke whales, 100 sei whales, 50 Bryde's whales, and 10 sperm whales per year.

Duration: 16 years (2000-2016)

The Expert Panel's report includes conclusions regarding the criteria as required by Annex P, as well as recommendations that the proponent carry out further scientific work and provide additional information to the Scientific Committee.

At its meetings in 2016 and 2017, the Scientific Committee discussed the extent to which the proponent had addressed the Expert Panel's recommendations, and reviewed programme results from 2014-2016. The new information on JARPN II provided at the Scientific Committee's 2018 meeting is only relevant to discussion of aspects of NEWREP-NP. The Scientific Committee plans to comprehensively analyse how effectively the proponent has responded to the recommendations in 2019.

Summary of the proponent's proposal

The programme had three primary objectives. Objectives 1 and 3 include both lethal and non-lethal components. Objective 2 includes only lethal components.

Objective 1

The first objective of JARPN II was to provide information about the food habits and preferences of common minke whales, Bryde's whales, sei whales and sperm whales. The lethal component examined the stomach contents of these species of whales, which were caught in 'hot-spots' in the Northwest Pacific Ocean. The proponent stated that stomach contents data would provide information about the diet of the four species of whales, and whether a particular diet preference impacts the body condition of these species. The proponent also used non-lethal techniques to gather information about the abundance of prey populations.

The proponent stated that it would use data about the type and quantity of prey that the four species of whales consume to build ecosystem models in parts of the northwest Pacific Ocean near Japan. Ecosystem models are abstract simulations of processes in the ecosystem, and aim to characterise the relationship between predators and their prey populations. Ecosystem models seek to understand how different species are influenced by each other and the physical conditions of the environment. A particular focus was studying whether whales' prey consumption impact the size of fisheries.

Objective 2

The second objective was to provide information about pollutants in the marine ecosystem. The lethal component examined the concentration of pollutants, such as mercury and other heavy metals, in blubber, muscle, kidney and liver samples from common minke whales, Bryde's whales, sei whales and sperm whales. The proponent stated that this would provide information about the concentration of pollutants in whales, and the impact of pollutants on whales' health. The proponent further stated that it would compare information about pollutants in whales with data on pollutants in prey species taken from whales' stomachs. JARPN II aimed to use this information to analyse how pollutants move through the food chain.

Objective 3

The third objective was to provide information about different stocks of common minke whales, Bryde's whales, sei whales and sperm whales in the Northwest Pacific. Stocks, also known as populations, are discrete groups of animals of a given species with particular genetic and physical characteristics. It is useful to have data about the size and structure of different populations, rather than just the species. This is because some populations of a species can be reasonably abundant, while other populations of the same species can be critically endangered.

The programme used genetic information obtained from tissue samples from lethal sampling and samples from previous programmes to assign animals to different populations of the four species. The programme also used non-lethal methods, including biopsies to research populations.

The proponent stated that information gathered about the structure of different populations will improve the application of the Revised Management Procedure (RMP) for the four species of whales. The RMP is a scientific tool developed by the Scientific Committee to estimate sustainable catch limits for the commercial whaling of baleen whales.

Selection of sample size

The proponents set a maximum sample size of 160 minke whales, 100 sei whales, 50 Bryde's whales, and 10 sperm whales. The proponent changed the sample size (as well as the species of whales included in the programme) a number of times throughout the 16 year programme.

Assessment of the review process against Resolution 2016-2 Terms of Reference

A. High level summary of the outcomes and recommendations of the Scientific Committee's review

Did the programme meet its research objectives?

The Expert Panel found that the programme met one of its three stated objectives (Objective 3). The Expert Panel concluded that JARPN II was successful in providing information about the genetic and physical differences between different populations of whales. However, the Expert Panel concluded that JARPN II did not meet its objectives related to understanding whales' food sources (Objective 1), or the impact of pollutants on whales and the marine ecosystem more broadly (Objective 2).

Did the programme contribute to demonstrated improvements in the conservation and management of whales?

The Expert Panel concluded that the programme's research on population structure had made a contribution to the conservation and management of whales. In the Expert Panel's view, all other research conducted under JARPN II did not make a contribution to conservation and management.

Sample size and design

The Expert Panel concluded that the proponent had not adequately justified the number of whales taken under JARPN II. The Panel also noted "worrying differences" between the proposed and actual whaling locations (SC/66b/Rep/06, p. 9). The Expert Panel recommended that the proponent submit a new document that addresses questions on sample size and the location of whaling activity to the Scientific Committee's 2016 meeting.

At its 2016 meeting, the Scientific Committee discussed the proponent's document on sample size and the location of whaling activity. The Scientific Committee noted that the proponent had partially addressed the Expert Panel's recommendations on the location of whaling activity, but noted that further analysis was still required (IWC/66/Rep01(2016), pp. 106). The Scientific Committee further noted that much of the information the proponent provided on sample size was "already available" to the Scientific Committee (IWC/66/Rep01(2016), p. 107). The Scientific Committee requested that the proponent provide further information that linked the programme's sample size with the original objectives of JARPN II (IWC/66/Rep01(2016), p.107).

The proponent therefore did not properly address recommendations on sample size and the location of whaling activity.

Comparing lethal and non-lethal methods

An analysis of whether the objectives could be achieved using non-lethal methods was outside the scope of the review. However, the Expert Panel noted that the proponent modified the programme in 2013, adding an objective to compare non-lethal and lethal techniques. The Expert Panel stated that the information provided to address this objective was "confusing" and pointed out several areas for improvement (SC/66b/Rep/06, p. 10). The Expert Panel therefore recommended the proponent submit a new document to the Scientific Committee's 2016 meeting that more comprehensively compares the results of lethal and non-lethal research methods.

At its 2016 meeting, the Scientific Committee discussed the proponent's document comparing non-lethal and lethal techniques. The Scientific Committee further noted that much of the information the proponent provided on sample size was "already available" to the Scientific Committee (IWC/66/Rep01(2016), p. 107). The proponent therefore did not properly address recommendations to compare lethal and non-lethal techniques. The Scientific Committee requested that the proponent provide further information on the non-lethal methods used as part of JARPN II.

Progress on Expert Panel recommendations

At the 2017 Scientific Committee meeting, the proponent stated that it had completed five of the 40 recommendations (IWC/67/Rep01(2017) Annex P, pp.9-15). The Scientific Committee could not reach consensus on whether the five recommendations had been completed to a reasonable level (IWC/67/Rep01(2017) Annex P, pp.9-15).

B. Advice on whether the review process complied with procedures set out in Annex P

According to the Annex P guidelines, the Expert Panel should complete a final programme review within three years of the completion of a special permit programme. The Expert Panel was unable to comply with this procedure, as the proponent submitted the programme for a final review in 2013. This was three years before the completion of special permit whaling under JARPN II in 2016. As a result, the Expert Panel was unable to review the results of research carried out under JARPN II from 2014-2016. The Expert Panel noted that this occurred for “political rather than scientific reasons”, and that it was “difficult for the Panel to properly assess the results of the programme against the original objectives” (SC/66b/Rep/06, p. 45).

The Expert Panel’s review of JARPN II complied with other procedures set out in Annex P. The Expert Panel meetings were held more than 100 days before the annual Scientific Committee meeting (IWC/67/Rep01 (2015) Annex P, p. 411), and other listed deadlines were met.

For the final programme review of JARPN II, the Expert Panel was required to evaluate how well the objectives of the research have been met, and the extent to which the programme led to demonstrated improvements in the conservation and management of whales.² The Expert Panel addressed these matters in its report, noting the challenges in carrying out the review while special permit whaling under JARPN II was continuing.

For final programme reviews, Annex P only requires the Scientific Committee to discuss the Expert Panel’s report, provide comments on the report, and refrain from amending the Expert Panel’s report. The Scientific Committee met these requirements.

C. Summary of the Scientific Committee’s view on whether the special permit programme meets the criteria set in Annex P

In accordance with Annex P, the Expert Panel and Scientific Committee provided advice on two aspects of JARPN-II (see *a* and *b* below). This involved an analysis as to whether JARPN II met its research objectives, and whether the research was likely to lead to improvements in the conservation and management of whales. This section of the report considers the Expert Panel and Scientific Committee’s views on these two matters.

² Annex P includes more prescriptive guidance for new and ongoing special permit programme reviews.

f. How well the initial, or revised, objectives of the research have been met

Objective 1

The Expert Panel agreed that the proponent had provided a “substantial” amount of data to address Objective 1, which aimed to use information about whales’ prey preferences to build ecosystem models (SC/66b/Rep06, p. 30). The Expert Panel found that data provided by JARPN II may provide an indication of the diet of common minke whales, Bryde’s whales, sei whales and sperm whales. However, the Expert Panel noted that “stomach contents only reflect what was consumed during the last 1-2 meals”, and was therefore a weak method for understanding the prey preferences of different species of whales (SC/66b/Rep06, p. 30). The Expert Panel noted that the proponent’s analysis of whales’ stomach contents did not provide useful information about the amount of prey these four species of whales consume. Further, the stomach contents data did not produce any reliable information about how much energy that whales typically use (SC/66b/Rep06, p. 31).

The Expert Panel concluded that the ecosystem modelling produced as part of JARPN-II is “incomplete in several ways” and “not suitable” to address questions about whether whales have an impact on the population size of different target species for commercial fisheries in waters off Japan (SC/66b/Rep06, p. 35).

At its 2016 meeting, the Scientific Committee did not form conclusions as to whether any of the information provided by the proponent following the Expert Panel review had contributed to meeting this objective.

At its 2017 meeting, the Scientific Committee discussed stomach contents data collected under JARPN II in 2016. The Scientific Committee did not form any conclusions as to whether these data helped to meet this particular objective. A particular focus of the Scientific Committee’s discussion related to whether the data collected to address this objective (as well as others) could be collected using non-lethal methods, particularly through biopsy samples. The Scientific Committee did not reach a consensus regarding the proponent’s claim that it was “infeasible” to carry out biopsy sampling on common minke whales (IWC/67/Rep01(2017), p. 109). The Scientific Committee agreed with the Expert Panel’s view that the proponent should continue to collect biopsy samples, and analyse these samples to address Objective 1 (IWC/67/Rep01(2017), p. 109).

Objective 2

The Expert Panel stated that JARPN II had “provided new information” on the concentration of pollutants, such as mercury, in common minke whales, sei whales, Bryde’s whales and sperm whales (SC/66b/Rep06, p. 41). The Expert Panel concluded that the proponents had addressed some of the sub-objectives, but considered that the “physiological and ecological interpretation of the results requires improvement” (SC/66b/Rep06, p. 41).

It was the Expert Panel’s view that the proponent had not sufficiently explained how the pollutants impacted whales’ health, or how pollutants moved through the food chain. These questions were key to Objective 2. For instance, the Expert Panel noted that JARPN II made “little attempt to assess the risk to the populations” presented by different pollutants, and had not addressed “central” questions about how pollutants moved through the food chain (SC/66b/Rep06, p. 41).

At its 2016 and 2017 meetings, the Scientific Committee discussed new work produced to address Objective 2. The Scientific Committee did not form any conclusions as to whether this work helped to meet this particular objective.

Objective 3

The Expert Panel concluded that JARPN II has provided fundamental data about the different populations of common minke whales, Bryde's whales, and sei whales, but not sperm whales. The Expert Panel stated that the proponent had used lethal data from JARPN II to distinguish different populations (SC/66b/Rep06, p. 41). The data can help calculate the size and conservation status of different populations, as part of the Scientific Committee's application of the Revised Management Procedure (RMP). The Expert Panel recommended that the proponent develop a non-lethal satellite tagging programme to better understand the migration patterns of different populations (SC/66b/Rep06, p. 69).

At its 2016 and 2017 meetings, the Scientific Committee discussed new work produced to address Objective 3. At the 2017 meeting, the Scientific Committee noted that the proponent had not addressed Expert Panel recommendations about the population structure of common minke whales in the Northwest Pacific (IWC/67/Rep01(2017), p. 109). The Scientific Committee did not form any conclusions as to whether these data helped meet this particular objective.

g. Have results led to demonstrated improvements in the conservation and management of whales?

Objective 1

The Expert Panel concluded that the ecosystem models developed in JARPN II "are not suitable for addressing strategic management questions", and "have not led to improved conservation and management of cetaceans or of other marine living resources" (SC/66b/Rep06, p. 48). The Scientific Committee agreed with the Expert Panel (SC/66b/Rep06, pp. 110-111).

Objective 2

The Expert Panel's report did not link the proponent's work on environmental pollutants in cetaceans to any demonstrated improvements in the conservation and management of whales. The Scientific Committee agreed with the Expert Panel (SC/66b/Rep06, pp. 110-111). *Objective 3*

The Expert Panel concluded that data on population structure "has made, and will continue to make, important contributions to the conservation and management of cetaceans" (SC/66b/Rep06, p. 48). The Scientific Committee agreed with the Expert Panel (SC/66b/Rep06, pp. 110-111).

D. Recommendations to improve the communication and management of the review

The Expert Panel noted that its management of the review was made "considerably more difficult" because the proponent submitted "a very large number of documents of varying levels of completeness and quality" (SC/66b/Rep/06, p. 45). The Standing Working Group recognises the challenges of managing a programme review in these circumstances, and agrees that it is crucial that the proponent uses the self-assessment checklist adopted at the Scientific Committee's 2016

meeting (IWC/67/Rep01(2016) Annex P). The use of the checklist in future programme reviews will assist the Expert Panel to carry out its work.

The Expert Panel's review was thorough, and addressed the programme based on the Scientific Committee's instructions in Annex P. However, the Expert Panel's report is very technical, and large parts of the report are difficult for a non-scientific audience to understand. ***The Standing Working Group therefore recommends that future Expert Panel reports pay more attention to using plain language.*** This does not mean that future reports should not cover the complex scientific arguments raised during the review. Rather, the Expert Panel's analysis of each matter should begin with a high-level, plain language summary of its findings and recommendations, and then move to a discussion of more technical details.

The Standing Working Group appreciated that the Expert Panel's Executive Summary summarises its conclusions regarding each of the objectives of JARPN II (SC/66b/Rep06, p.3-4). In this respect, the Executive Summary of JARPN II is a clear improvement on the Executive Summary included in the Expert Panel report on NEWREP-A (SC/66a/Rep06).

However, it is the Standing Working Group's view that future Expert Panel executive summaries could more clearly explain the Expert Panel's findings. For instance, the Executive Summary concludes that work completed on Objective 3 has made "important contributions to the conservation and management of cetaceans", but does not explain how this work will support conservation and management.

The Expert Panel and Scientific Committee were not required to consider whether the objectives of JARPN II could be achieved using non-lethal methods, or whether the scale of lethal sampling was reasonable. This information would have supported the Commission to provide a more informed view on the outcomes of the review of JARPN II. However, Expert Panels and the Scientific Committee are required to consider this question when assessing all new and ongoing programmes from 2015. ***The Standing Working Group therefore recommends that the Scientific Committee amend Annex P to require that all programme reviews—including end of programme reviews—consider whether the objectives of the programme could be achieved using non-lethal methods and whether the scale of lethal sampling was reasonable.***

As discussed in Section B, the Expert Panel's management of the review was constrained by the fact that it was only able to review JARPN II's outputs from 2000-2013, despite the fact that the programme continued until 2016. As a result, the Expert Panel recommended that the Scientific Committee develop a process for the completion of Expert Panel reviews "if a review is incomplete until further information/analyses is provided" (SC/66b/Rep/06, p. 46).

The Scientific Committee is currently considering an appropriate process to complete Expert Panel reviews in this situation, but did consider research carried out from 2014-2016 under JARPN II, and conducted a brief annual review of the proponent's progress with recommendations at its meetings in 2016 and 2017. The Scientific Committee's discussion of the proponent's progress is very technical, and very difficult for a non-scientific audience to understand. When discussing the proponent's research from 2014-2016, the Scientific Committee report goes into granular detail about some of the research methods the proponent undertook in this period (IWC/66/Rep01(2016), pp.107-9). However, it is very difficult for a non-technical reader to determine which JARPN II

objective each piece of research relates to. *Future reports would benefit from including subheadings for each special permit programme objective, and explaining how the research related to the objective.* Further, it would have been useful for the Scientific Committee to provide a view about whether the proponent's work from 2014-2016 helped to meet the objectives of JARPN II, and contributed to the conservation and management of whales.

The Expert Panel's report includes a useful list of short and medium-term recommendations for the proponent to address, and the Scientific Committee to track (SC/66/b/Rep/6, p. 42). This helpfully lays out the further scientific work the proponent needs to do, but would be further improved by prioritising the recommendations. *The Standing Working Group recommends that the Expert Panel should also prioritise recommendations in terms of how critical the work is to achieve the research objectives (for instance: high, medium, or low or perhaps with a numerical ranking from 1 to "n"), and provide clear deadlines for the work's completion.*

Further, the Standing Working Group recommends that the Scientific Committee more clearly report on the progress that has been made against each recommendation in its annual report, noting the 2018 report is an improvement on earlier reports. The Scientific Committee's reports in 2016 and 207 discuss the progress JARPN II has made against some of the recommendations, but do not clearly indicate the Scientific Committee's view on whether recommendations have been fully addressed. The Scientific Committee's reports should also more clearly indicate that its recommendations and advice about particular research methods are without prejudice, and not an endorsement of the proposal or its methods, unless that is what is agreed.

E. Other relevant information or advice from the Scientific Committee

None were provided.