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DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

NO. 2684

28 October 2022

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998
(ACT NO. 107 OF 1998)CALL FOR NOMINATIONS - PROPOSED ESTABLISHMENT OF A PANEL OF EXPERTS TO ADVISE ON
THE PROPOSED FISHING-AREA CLOSURES ADJACENT TO SOUTH AFRICA'S AFRICAN PENGUIN
BREEDING COLONIES AND THE DECLINE IN THE PENGUIN POPULATION

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby give notice of my intention to establish a panel of experts including international experts in terms of section 3A of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), to advise on the proposed closure of fishing areas adjacent to South Africa's African Penguin breeding colonies and the decline in the penguin population (the Panel).

The Panel's Terms of Reference and expected scope of work are set out in the schedule to this notice. Panel members will be remunerated in accordance with the Republic's Public Finance Management Act, 1999 (Act No. 1 of 1999) and the associated Treasury Regulations, in consultation with the Minister of Finance for this panel's proposed work.

Members of the public are invited to nominate individual persons, to be considered for appointment as members of the Panel, who are suited to serve by virtue of qualifications, expertise and experience including being appropriately academically qualified and/or who hold an appropriate level of practical expertise on the subject-matter and the work set out in the Terms of Reference. The selection criteria will include the following:

- advanced post-graduate degrees in fisheries and/or ecosystem mathematical models or marine ecology.
- demonstrated expert scientific or policy contributions through peer-reviewed publications for at least a period of 10 years and experience in making science-based policy recommendations in environmental management, preferably in marine conservation; and
- prior experience in serving on a review panel would be an added advantage.

Nominations must comprise a brief covering motivational letter together with a comprehensive curriculum vitae of the nominee, their current employment status and contact details (including telephone number and email). All nominations must be in writing and must be submitted within 30 calendar days of the publication of this notice in the *Gazette*, to the following addresses:


By post to: Department of Forestry, Fisheries and the Environment
Attention: Dr Ashley Naidoo
Private Bag X4390
CAPE TOWN
THE REPUBLIC OF SOUTH AFRICA
8002

By hand at: Foretrust Building, Martin Hammerschlag Way, Foreshore, Cape Town, South Africa, 8001

By email: marinespecies@dffe.gov.za

Any enquiries in connection with the notice can be directed to Ms Millicent Makoala by telephone (+27) 66 082 1010 or email: marinespecies@dfre.gov.za.

The Minister reserves the right to appoint members to the Panel that were not nominated as a result of this call for nominations.



BARBARA DALLAS CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT



**TERMS OF REFERENCE FOR THE INTERNATIONAL REVIEW PANEL REGARDING
FISHING CLOSURES ADJACENT TO SOUTH AFRICA'S AFRICAN PENGUIN BREEDING
COLONIES AND DECLINES IN THE PENGUIN POPULATION [INCLUDING REVIEWING
THE RECOMMENDATIONS FROM THE GOVERNANCE FORUM AND THE MARINE LIVING
RESOURCES CONSULTATIVE ADVISORY FORUM]**

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1. BACKGROUND

In the mid-2000s, a substantial decrease in the numbers of adult African Penguins was observed off western South Africa. In response to this observed decrease from 2006 and the potential impact of food competition between penguins and fishers in the vicinity of breeding islands, a study to assess the effects of closure to purse-seine fishing around penguin breeding colonies was initiated in 2008. Since the study required income sacrifice from the industry, this study, the Island Closure Experiment (ICE), comprised two parts: (i) a feasibility study (2008–2014) during which purse-seine fishing was prohibited in an alternating pattern around two pairs of nearby colonies and data on penguins (as well as on small pelagic fish from the routine pelagic fish management process) were collected to determine whether an experiment would have adequate statistical power to detect a significant effect of closure if such existed; and (ii) an experimental phase (2015–2019) where these alternating island closures were continued with the associated continuation of the monitoring during the feasibility study. The results, however, led to a lengthy debate with

dichotomous views. The plans for and results of the ICE were regularly reviewed by DFFE's Small Pelagic Scientific Working Group, informed by the advice provided from an annual review, i.e., a DFFE review meeting of world-leading quantitative marine resource scientists on ten occasions since 2006. Most recently, the scientific results have been debated in the peer-reviewed literature (Sydeman et al. 2021, Butterworth and Ross-Gillespie 2022, Sydeman et al. 2022).

A Governance Forum (GF), comprising researchers and managers from the Branches: Oceans and Coasts and Fisheries Management as well as SANParks (South African National Parks), was established in 2021. The aim was to prepare a comprehensive Synthesis Report on the current state of knowledge relating to African Penguins, island closures, fisheries management relevant to African Penguins and the socioeconomics of island closures and penguin-related tourism. The Governance Forum compiled a report titled "A Synthesis of Current Scientific Information Relating to the Decline in the African Penguin Population, the Small Pelagic Fishery and Island Closures" (DFFE 2021) which collated science over the last decade on penguins, small pelagic fisheries and their interactions including the Island Closure Experiments. The Synthesis Report was further scrutinized by two independent reviewers who provided extensive comments; the Governance Forum's Extended Task Team (which added fishing industry and conservation NGO representation to the Governance Forum) and then the Minister's Consultative Advisory Forum for Marine Living Resources (CAFMLR). Comments on that Synthesis Report and recommendations produced by these groups remain contested.

The Department now seeks to establish an international Panel of Experts to—

- (i) Review the interpretation of the ICE
- (ii) explore the value of island closures in providing meaningful benefits to penguins
- (iii) review the processes and outcomes completed through the GF and the CAFMLR process
- (iv) make recommendations on the implementation of island closures, including spatial delineation, time frames and
- (v) advise on further science and monitoring methods.

2. OBJECTIVES

The International Review Panel will—

- a) Review the quantitative scientific analyses of the Island Closure Experiment (ICE) and subsequent publications to evaluate whether the scientific evidence from ICE indicates that limiting small pelagic fishing around colonies provides a meaningful improvement to penguin parameters that have a known scientific link to population demography in the context of the present rate of population decline. Assess the cost-benefit trade-off of 1) costs to fisheries, versus 2) the proportion of penguin foraging range protected during the breeding season, for different fisheries exclusion scenarios. The losses to the fishery should be fleshed out using available economic information, such as was used in the GF and CAF processes. The panel may also comment on the limitations of available information and methods (data collection) to improve the assessment of positive penguin outcomes as well as fishery impact. Costs to fisheries must include an assessment of replacement costs accrued during periods closed to fishing during the ICE.

- b) Within the context of an urgent need to implement timeous conservation actions for the African Penguin and considering the information and rationale of the various scientific reviews and associated documents of the Island Closure Experiment evaluate the evidence supporting the benefits of fishery restrictions around African Penguin colonies to adopt precautionary measures by implementing long-term fishery restrictions.
- c) If closures or fishing limitations are viewed to contribute positively to the support of the African Penguin population, recommend a trade-off mechanism as a basis for setting fishing limitations and mapping. This mechanism must consider a potential positive return to penguins and the impact on fisheries. (As a basis for discussion the Governance Forum Approach and the CAF approach can be considered.) Consideration must also be given to the current state of observations, data and analyses (Penguin, Environmental and Fisheries Economic data). Recommendations on these can be included under future science considerations.
 - a. Delineation of fishery no-take areas around six African Penguin colonies (Dassen Island, Robben Island, Dyer Island, Stony Point, St Croix Island and Bird Island) and the duration of the closures, considering life history traits, e.g., age when most birds start breeding, and associated duration required to signal potential population benefits.
- d) Recommendations on the scientific work that is required to evaluate the effectiveness of such no-take areas.
- e) Recommendations about what scientific work is appropriate in the short term to determine the dominant causes of the rapid and concerning rate of decline of the penguin population, including recommendations about the use of ecosystem model approaches such as MICE (models of intermediate complexity for ecosystem assessments).

3. PANEL PROCESS AND PROCEDURES

- a. The panel should attempt to reach a consensus but if not achieved, names supporting each of the alternative views should be noted. There should be no voting.
- b. Virtual and physical meetings are not prescribed at this stage. One option is to have one or two brief virtual meetings to familiarise the panel with the key issues, followed by a week-long physical meeting in Cape Town to wrap it up. Travel expenses will be covered by DFFE. [Panel members may opt to join the weekly session virtually if travelling is not preferred.]
- c. Members of the Panel of Experts will be remunerated in accordance with the Republic's Public Finance Management Act, 1999 (Act No.1 of 1999) and the associated Treasury Regulations, and in particular, according to the remunerative structure for non-official members of Commissions and Committees of Inquiry in consultation with the Minister of Finance for this panel's proposed work.
- d. Meetings may include closed meetings, meetings with protagonists separately and together.
- e. DFFE will appoint the Chair of the Panel and the Chair will report directly to the Minister.
- f. DFFE will provide secretarial services.

4. TASKS

The following tasks are required from the panel (administrative and secretarial functions will be supported by DFFE):

- a. Panel Members must agree to being available and accepting these Terms of Reference and constitute themselves as a Panel with the Chair.
- b. Notification of stakeholders about deadlines for their submissions.
- c. Drawing up of a list of attendees at plenary meetings where submissions are heard, indicating who are key participants and who are observers (Sectors will be asked to submit names of observers to be invited).
- d. The appointed Panel Members to meet with DFFE Senior Managers to clarify their tasks and outputs.
- e. Review documents and information pertaining to proposed island closures for penguin population recovery support. While these will initially be composed of an agreed selection (by local scientists and stakeholders) from the extensive number of documents produced over the last 1.5 years, panel members may request any additional documents such as scientific working group documents. Documents to be categorised into (a) those relevant to the interpretation of the ICE results, (b) documents that propose island closures including stakeholder reports submitted during the ETT and CAFMLR processes and (c) other related documents. This is required to facilitate the panel dividing its focus between (i) an initial assessment of whether the analysis of ICE supports the view that island closures will benefit penguins, and (ii) if (i) suggests that island closures will benefit penguins, what closures should be implemented, or what are the trade-offs involved for such closures.
- f. Meet with conservation and fisheries sector scientists and where each will be allowed to present their arguments/interpretation of information. (At panel discretion, other scientists, and experts may be invited to make presentations.)
- g. Respond to objectives (a) to (e) above.
- h. Prepare report on outcomes.

5. OUTCOMES AND RECOMMENDATIONS

- a) Recommend whether, based on the results from ICE and other evidence-based information, island closures are likely to benefit penguins.
- b) Describe the scientific and evidence-based rationale for recommending implementing/not implementing fishing limitations around penguin colonies
- c) Make recommendations about whether a percentage (%) of penguin foraging range and other biological criteria (such as regional representation, population recovery potential, monitoring and evaluation potential) provide a basis for determining benefits from closures for penguins and assess the merits of different proposed methods to delineate important penguin foraging habitat.
- d) Make specific recommendations on trade-off mechanisms for island closures in the event that the panel finds that the results of ICE and other evidence demonstrate that island closures are likely to benefit penguins, including specific areas and durations. In addition to recommendations on trade-off mechanisms, the panel must preferably advise on biologically meaningful penguin habitat extents for fishery limitations per island, recommendations must be spatially and temporally explicit, and provided on a map. [DFFE will provide mapping capacity.]
- e) Provide advice and recommendations on best estimates and uncertainties of the ratio between penguins gained and losses sustained by the industry as a result of island closures for future suggested closure options.

- f) Provide advice on a well-structured analyses framework to monitor the impact of island closures, including what penguin and fish data needs to be collected; how benefits to penguins are to be determined; and how these will be analysed.
- g) To recommend scientific analyses, including but not limited to MICE, to determine the reasons for the decline in the penguin population.

6. DOCUMENTS

The Department will provide the Panel Members with all the required documents. Sector representatives and panel members may request additional documents to be included. These will include:

1. Key documents detailing the ICE and the recent relevant analyses of the results of the ICE.
2. Key scientific peer-reviewed publications on the results of the ICE
3. DFFE Scientific Summary Report – Coetzee et al 2021. “A Synthesis of Current Scientific Information Relating to the Decline in the African Penguin Population, the Small Pelagic Fishery and Island Closures “. To include all comments requested and provided on this document by stakeholders including seabird conservationists, SAPFIA and other fishing industry representatives.
4. Governance Forum Recommendations (and including Maps from Extended Task Team – these were not finalised as formal recommendations but did move the discussion from the GF which used percentage forage areas to the percentage of Marine Important Bird Areas) and stakeholder reports.
5. CAFMLR Draft Report and recommendations and stakeholder reports.

7. DURATION AND WORK PLAN

The schedule of work will be determined around the earliest availability of the panel. It is however envisaged that the work of the panel should be commenced and completed as soon as possible.

(Assuming a 1-week working session in Cape Town without virtual working meetings except for one or two online introductory pre-meetings which may allow some timesaving for the in-person week schedule.)

Document Distribution as early as possible before the meeting but not less than 2 weeks before the meeting.

Sector representatives will be informed as early as possible on the meeting schedule with the panel, including timelines for submission of any documentation (such as presentations) that may need distribution to the panel. Ideally, documents should also be submitted to the Panel at least two weeks before the meeting.

DFFE (including SANParks) staff (Seabird scientists, Fisheries Scientists, and GIS expert practitioners will be on standby during Panel Deliberations.)

Invited attendees' lists will be finalised a week before the meeting.

Tentative Schedule

DAY 1

1.1 Opening and a brief description

1.2 Clarify ToRs and expected outcomes

1.3 Presentation by Conservation Sector

1.4 Presentation by Fishing Sector

1.5 [Other expert presentations, as may be requested by the panel. The panel may determine if some questions from observers may be heard.]

(Sector presentations will cover perceptions and interpretation of fishing limitations and penguin population success; ICE; GF; CAF and Future Science. Sector representations can include comments on existing/published interpretations.)

DAY 2

2.1 Panel Deliberations: fishing limitations and penguin population success

2.2 Panel Deliberations: ICE

DAY 3

3.1 Panel Deliberations: GF and CAF

DAY 4

4.1 Panel Deliberations: GF and CAF

(Possible time allocation for further engagement with Conservation/Fishing Sector reps)

DAY 5

5.1 Formulate Recommendations & Report Compilation (Contents of the report must include Items in Section 6 above - OUTCOMES AND RECOMMENDATIONS, Report Drafting can occur throughout the week.)

8. ADDITIONAL DOCUMENTS TO BE SUBMITTED TO THE INTERNATIONAL PANEL

- I. Butterworth, D.S. and Ross-Gillespie, A. 2021a. A revised summary of results for the island closure experiment. Department of Forestry, Fisheries and the Environment report FISHERIES/2021/JUN/SWG-PEL/41. 5pp.
- II. Butterworth, D.S. and Ross-Gillespie, A. 2021b. A response to some queries concerning the revised summary of results for the island closure experiment provided in FISHERIES/2021/JUN/SWG-PEL/41. Department of Forestry, Fisheries and the Environment report FISHERIES/2021/SEP/SWG-PEL/59. 6pp.
- III. Butterworth, D.S. and Ross-Gillespie, A. 2022. Comment on "South Africa's experimental fisheries closures and recovery of the endangered African penguin" by Sydeman et al. (2021). ICES Journal of Marine Science. DOI: 10.1093/icesjms/fsac113. Supplementary material to this publication to be included.
- IV. Makhado AB, McInnes AM, Hagen C, Ludynia K, Masotla M, Pichegru L et al. 2020a. Motivation for urgent need to implement closures to purse-seine fishing around South Africa's six largest African Penguin colonies. Report No. FISHERIES/2020/DEC/SWG-PEL/126. Cape Town, South Africa: Department of Environment, Forestry and Fisheries.

- V. Makhado A, McInnes A, Hagen C, Sherley R, Waller L, Pichegru L et al. 2020b. Recommendations for island closures around African Penguin colonies. Report No. FISHERIES/2020/OCT/SWGP/EL/ 105REV. Cape Town, South Africa: Department of Environment, Forestry and Fisheries.
- VI. Ross-Gillespie, A. and Butterworth, D. S. 2021. Updated analysis of results from data arising from the Island Closure Experiment. Department of Forestry, Fisheries and the Environment report FISHERIES/2021/JUN/SWG-PEL/39rev.
- VII. SAPFIA, 2021. Letter to Deputy Director-General: Oceans and Coasts Ms J Beaumont dated 5 November 2021, "Re: Review of The Synthesis of Current Scientific Information Relating to The Decline in The African Penguin Population, The Small Pelagic Fishery and Island Closures, by Philip N. Trathan". 2pp.
- VIII. Sherley, R. B., Barham, B. J., Barham, P. J., Campbell, K. J., Crawford, R. J. M., Grigg, J., Horswill, C., McInnes, A., Morris, T. L., Pichegru, L., Steinfurth, A., Weller, F., Winker, H. and Votier, S.C. 2018. Bayesian inference reveals positive but subtle effects of experimental fishery closures on marine predator demographics. *Proceedings of the Royal Society B: Biological Sciences*, 285: 20172443.
- IX. Sherley, R. B., Barham, B. J., Barham, P. J., Campbell, K. J., Crawford, R. J. M., Grigg, J., Horswill, C., McInnes, A., Morris, T. L., Pichegru, L., Steinfurth, A., Weller, F., Winker, H. and Votier, S.C. 2021. Correction to Bayesian inference reveals positive but subtle effects of experimental fishery closures on marine predator demographics. *Proceedings of the Royal Society B: Biological Sciences*, 288: 20212129.
- X. Sydeman, W. J., Hunt, G. L., Pikitch, E. K., Parrish, J. K., Piatt, J. F., Boersma, P. D., Kaufman, L., Anderson, D.W., Thompson, S.A. and Sherley, R.B. 2021. South Africa's experimental fisheries closures and recovery of the endangered African penguin. *ICES Journal of Marine Science*. <https://doi.org/10.1093/icesjms/fsab231>. Supplementary information to made available
- XI. Sydeman, W. J., Hunt, G. L., Pikitch, E. K., Parrish, J. K., Piatt, J. F., Boersma, P. D., Kaufman, L., Anderson, D.W., Thompson, S.A. and Sherley, R.B. 2022. African Penguins and Localized Fisheries Management: Response to Butterworth and Ross-Gillespie. *ICES Journal of Marine Science*, 2022, 0, 1–7. DOI: 10.1093/icesjms/fsac116. Supplementary information to be made available.
- XII. Trathan, P.N. 2021. Review of the Synthesis of Current Scientific Information Relating to the Decline in the African Penguin Population, the Small Pelagic Fishery and Island Closures. 20 September 2021, 12 pp.
- XIII. Punt, A.E. 2021. Review of the Synthesis of Current Scientific Information Relating to the Decline in the African Penguin Population, the Small Pelagic Fishery and Island Closures. September 2021.
- XIV. Comments by SAPFIA on "Synthesis of Current Scientific Information Relating to the Decline in the African Penguin Population, the Small Pelagic Fishery and Island Closures"
- XV. Extended Task Team: African Penguin Island Closures. Conservation Stakeholder Synthesis Report. 2 November 2021
- XVI. Carpenter-Kling, T., de Blocq, A., Hagen, C. et al. Important marine areas for endangered African penguins before and after the crucial stage of moulting. *Sci Rep* 12, 9489 (2022). <https://doi.org/10.1038/s41598-022-12969-w>

- XVII. National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) Draft African Penguin Biodiversity Management Plan [Government Notice 2302 in *Government Gazette* No. 47061 dated 22 July 2022]
- XVIII. **Sectors will be allowed to add to documents list.**

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