

**Special Project Report on the review
of the TAC for
West Coast Rock Lobster for
the 2021/22 fishing season
by the Consultative Advisory Forum for
Marine Living Resources**

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Executive Summary

West Coast Rock Lobster (WCRL) *Jasus lalandii* is South Africa's most valuable crustacean resource. The species is slow growing and long lived and the fishery has suffered from historical overfishing, a decrease in somatic growth, environmental changes and recent recruitment that is lower than anticipated. In addition, poaching is threatening the sustainability of the resource and the people who depend on it. Challenges in developing co-management arrangements and in implementing the small-scale fisheries policy have also had serious implications for the fisheries targeting this important resource and the difficulties in fairly apportioning a diminishing resource are substantial. The WCRL resource is now considered severely overexploited with current resource estimates of adult males above 75 mm carapace length at less than 1.5% of its 1910 pristine biomass. Fishing communities that depend on this resource are equally at risk and face dire socio-economic circumstances.

In November 2021, the Minister of Forestry and Fisheries and Environmental Affairs assigned a special project to the Consultative Advisory Forum to advise on the west coast rock lobster fishery. Specifically, the Minister tasked the Forum to advise her on the following: (1) consider presentations and representations from stakeholders on the methodology used to determine the TAC; (2) review the appropriateness of the proportional cuts within the various sectors of the fishery; (3) review data on the poaching and local sales estimates used in the TAC model; (4) advise on whether the current cut is an appropriate approach to sustainable use of the resource and (5) advise on an appropriate way in which fishing communities can assist the department to co-manage the stock.

A total of nine meetings (42 hours) were held with observer participation (7 in initial meetings and 3 in deliberations) in all meetings. More than 10 presentations and many more documents were provided by observers and officials from or working on behalf of DFFE. The CAF appreciated the technical detail, ideas and valuable discussions from all parties on the topics covered.

The CAF developed five cross-cutting recommendations that are considered to be critical to the sustainability of this fishery and the people who depend on it.

- DFFE must urgently **co-develop and implement a WCRL poaching reduction strategy** by next season, if not sooner.
- An **integrated socio-economic study** must be conducted in parallel
- Implement **co-management** particularly in the small-scale sector with this fishery able to pilot immediate implementation of a more participatory approach
- A **WCRL Fisheries Improvement Program** should be advanced by the Department through collaboration with WWF and stakeholders
- Fishing communities need to receive **fair benefits along the entire value chain**. This will require capacity building and mechanisms to support regulation of marketers

In terms of the **methods** used to determine the TAC, CAF recognise that the model has been subjected to thorough peer review by international experts and is sound, but there are some weaknesses and challenges, particularly with input data that need to be addressed. CAF recommended that the Department; consider whether the relatively high variance of the Fishery Independent Monitoring Survey (FIMS) data could be affecting trend estimates; consider the implications of un-surveyed components of stock (especially in deeper water and outside

of Area 8); consider introducing a coastal “reference fleet” to support closing data gaps; and review commercial catch per unit effort (CPUE) data, specifically trap landing slips which incorrectly over report trap effort. It is important to improve understanding of stock sizes less than 75mm carapace length (especially females). There is a need for meaningful engagement between small scale fishers, industry, scientists and managers during the TAC determination and decision-making process.

A **more supported poaching estimate** should be agreed upon by the SWG, SSF and industry observers and used in the TAC determination of the 2021/2022 season, if possible, but certainly by the 2022/23 fishing season. Addressing differing poaching estimates to obtain better agreement could improve estimates and confidence in fishery model inputs and outputs. There is an urgent need for stronger co-operation between the Department (research and compliance), TRAFFIC, industry, and small-scale fishers to advance this work and CAF recommends the DFFE urgently sets up a Task Team/Subgroup with Compliance, SWG and observers to re-consider poaching estimates. A clear timeline is essential as these ongoing discussions on poaching estimates still lack consensus.

In terms of the recommended TAC cut for 2021/2022, CAF recognises the severe socio-economic impacts of the 600 tons TAC. Given the dire socio-economic conditions of fishers reliant on WCRL for their livelihood, it is recommended that the **TAC for 2021/2022 be set at 700 tons (700/550/400)**, with annual re-assessment. While 700 tons is sustainable and is a recommended option by the SWG, it is noted that the level would not allow immediate resource recovery but should also not lead to further decline in the resource above 75 mm carapace length. However, the three-year phased reduction (700/550/400) must be re-assessed each year. The recommended TACs will depend heavily on the extent of poaching and the urgent implementation of a poaching reduction strategy will support resource recovery

The **poaching reduction strategy** should include steps to improve estimates of illegal fishing and thereby increase confidence in fishery model inputs and outputs; apply technology and co-management to support traceability and improved compliance and monitoring. The strategy should develop a process for the Department to approve marketers for the sector to close poaching loopholes; and inter-agency co-operation, with links to the Operation Phakisa Integrated Enforcement Task Team. Drivers of poaching warrant consideration, including formal exclusion from a lack of legal fishing rights.

In terms of **proportional cuts**, it is advised that the 700 ton recommended TAC be implemented in such a manner that the recreational fishing sector remain at the allocation level of 21.57 tons (based on TAC of 600 tons), which means a negligible decrease in their proportion of the revised TAC. The “savings” should be split equally between the commercial fishing (nearshore) and the small-scale fishers (nearshore) and Interim Relief. Options for financial compensation packages for small-scale fishers should be explored with National Treasury. In addition, economically viable baselines especially for SSF (equivalent of a minimum wage) must be investigated. This should be a key element in the **integrated socio-economic assessment**. Awareness raising to support voluntary measures to reduce impacts on the resource and increase benefits for communities must be considered.

In terms of **co-management**, CAF noted that the current co-management approach could be considered partially consultative, but close to instructive, rather than co-operative, which is the desired model and would be consistent with the Small-Scale Fisheries Policy. The current approach poses challenges particularly in terms of

meaningful participation of fishing communities who have expressed a willingness to support the Department in terms of research, administration, monitoring and compliance. Current arrangements limit the ability of communities to support the Department in this context. It was clear that human and financial constraints are the key limitation in shifting towards a more co-operative model but if these can be addressed, there are opportunities to improve co-management and achieve improvements in research, monitoring, administration and compliance. Co-operative research and monitoring must be encouraged with specific recommendations including a representative reference fleet and inclusion of indigenous and local fisher knowledge in research and management. The Department must review structures, roles and participation in working groups to be more meaningful for all stakeholders. In terms of compliance, CAF recommends that the Department together with SSF and stakeholders co-develop and implement the Poaching Reduction Strategy

CAF re-iterates that limited capacity is currently impacting all the primary components of governance of this fishery, covering research, management, monitoring, compliance and surveillance (MCS), and that will need to be addressed if progress is to be made. CAF recommends that **urgent attention must be given to strengthening the capacity of the Department**. Three focus areas to strengthen capacity were identified

- 1) Capacity to implement effective **Monitoring Compliance and Surveillance** (MCS) is critical in order to reduce the scale and impacts of illegal fishing on WCRL
- 2) Capacity must be strengthened in the **Small-Scale Fisheries Management** unit so that the policy for small-scale fisheries can be implemented rapidly and effectively, including greater participation in co-management.
- 3) The Department needs strategic partnerships for more **coordinated research and co-management** to assess and mitigate cumulative risks to this valuable resource.

Finally, CAF extends thanks and appreciation to the observers, the Department and other participants who contributed to this process.

1. Introduction and background

The Consultative Advisory Forum for Marine Living Resources (the “Forum”) was established by the Minister responsible for fisheries in terms of section 5 of the Marine Living Resources Act, 1998 (Act No.18 of 1998) and Section 6 of the MLRA sets out the functions of the Forum (Appendix 1). The Forum must advise the Minister on any matter referred to the Forum by the Minister. In November 2021, Minister assigned a special project to the Forum to advise on the west coast rock lobster fishery. Specifically, the Minister tasked the Forum to advise her on the following:

- 1.1 consider presentations and representations from stakeholders on the methodology used to determine the TAC;
- 1.2 review the appropriateness of the proportional cuts within the various sectors of the fishery;
- 1.3 review data on the poaching and local sales estimates used in the TAC model;
- 1.4 advise on whether the current cut is an appropriate approach to sustainable use of the resource; and
- 1.5 advise on an appropriate way in which fishing communities can assist the department to co-manage the stock

(Appendix 2 TOR)

South Africa’s West Coast Rock Lobster (WCRL) fishery targets the temperate or cold water species *Jasus lalandii* and is South Africa’s most valuable crustacean fishery, an important resource for small-scale and recreational fishers and valued by many cultures in the country. It is a resource with a high market value, provides jobs for more than 4 200 people and is of considerable socio-economic importance, particularly for small-scale fishers. The species is slow growing and long lived and there are complexities in the biology, distribution, fishing patterns in time and space and illegal activity that are relevant in this fishery and that have been considered. These include historical overfishing, a decrease in somatic growth, environmental changes, an eastward expansion of the resource and recent recruitment to the fishable stock that is lower than anticipated. There have also been important changes in fisheries policies, rights, the recognition of small-scale fishers and associated changes in sectors (including the introduction of interim relief co-management). There are various sub-sectors; offshore, near-shore, small scale fishers (SSF), interim relief (IR) and recreational, with different gear used in the nearshore (hoop nets) and offshore (traps) zones. The fishery has suffered from illegal fishing or poaching and formal exclusion resulting from the lack of legal harvesting rights is a recognised driver of fisheries crime in the sector. The management of this fishery is challenged by many uncertainties linked to historical issues, data gaps, discrepancies in poaching estimates, climate change, resource movements, capacity challenges in research, management and compliance. In addition, challenges in developing co-management arrangements and in implementing the small-scale fisheries policy have serious implications for the fisheries targeting this important resource.

Background

The South African fishing industry, which was once concentrated in the hands of a few, largely white-owned companies, has undergone intensive transformation over the past few years. The South African fishing industry comprises of commercial marine fisheries, ranging from small, less lucrative to large and capital-intensive

fisheries. The fishing industry contributes to less than 1% of the gross domestic product (GDP) of the country. Following the change of government in 1994, South Africa's market opened substantially with the lifting of international sanctions. The South African government currently regards the fishing industry as a sector for employment expansion within the country (WWF, 2011).

The policies also serve as the key regulatory tool that guided the allocation of fishing rights. Commercial fishing rights were allocated across fisheries, ranging from capital intensive and financially lucrative fisheries to traditional and less lucrative. According to South African legislation, a commercial fishery in South Africa is a fishery conducted with the aim of earning money for the entrepreneur, his company and its employees. Commercial fishers are defined as fishers fishing for profit and earning an income sufficient to meet more than their basic needs of life. They may employ staff or operate as profit-sharing collective groups, focus on fish resources that are managed by TAC (total allowable catch) or TAE (total allowable effort) or a combination thereof and which have high value or can be caught in large quantities, and may use capital-intensive high-technology gear and methods of processing. Prior to being adopted as national policy, each of the fishing policies was subjected to both a notice and comment period as part of a public participation process.

The policy for allocation of fishing rights was based on four core considerations. These considerations instruct that the decision-maker implements each policy so as to ensure that the following considerations are given effect to:

- Broad based black economic empowerment: Applicants were evaluated on their empowerment or transformation credentials. Specific criteria included measuring black ownership and control, representatively of blacks and women at all levels of the organisation, ownership of equity by workers, corporate social investment, affirmative procurement and compliance with employment equity and skills legislation.
- Biological considerations: The allocation of fishing rights occurred within a biologically determined and sustainable management framework.
- Ecological considerations: South Africa, together with all other fishing nations are bound by the Johannesburg Plan of Implementation adopted at the World Summit on Sustainable Development to measure the impacts of fishing on marine ecosystems and to mitigate against such impacts; and
- Socio-economic considerations: There are two important components to this consideration. The first component is premised on the recognition that sustainable fisheries management must ensure that the manner of management must sustain an environment that is conducive to growth and investment. The second component is premised on the recognition that fisheries must play a crucial role in fulfilling the socio-economic objectives of job creation, poverty elimination and empowerment along the coast.

Furthermore, the Marine Living Resources Act has the following objectives and principles:

- a) The need to achieve optimum utilisation and ecologically sustainable development of marine living resources;
- b) the need to conserve marine living resources for both present and future generations;

- c) the need to apply precautionary approaches in respect of the management and development of marine living resources;
- d) the need to utilise marine living resources to achieve economic growth, human resource development, capacity building within fisheries and mariculture branches, employment creation and a sound ecological balance consistent with the development objectives of the national government;
- e) the need to protect the ecosystem as a whole, including species which are not targeted for exploitation;
- f) the need to preserve marine biodiversity;
- g) the need to minimise marine pollution;
- h) the need to achieve to the extent practicable a broad and accountable participation in the decision-making processes provided for in the MLRA;
- i) any relevant obligation of the national government or the Republic in terms of any international agreement or applicable rule of international law; and
- j) the need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry.

The review of the WCRL TAC for 2021/22 was undertaken with this backdrop.

The West Coast Rock Lobster Fishery

Two major fishing sectors harvest this resource; the offshore trap vessels operating in waters up to 200 m or even 250 m depths, and the inshore sector that uses hoop nets to harvest WCRL in shallow water up to 1 nautical mile from the shore. Hoop Nets (also known as fyke, barrel or fiddler nets) are tubular shaped nets with a series of tapered hoops spaced along the length of the net to keep it open. The net is laid out and the bait is placed in the closed or tail end of the net, relying on lobsters to enter voluntarily and becoming trapped inside. Traps can be shaped as tubes or boxes that are set out and left to soak for a period of time, and also rely on lobsters being lured by bait and becoming trapped inside. The near-shore resource is also harvested by small-scale and recreational fishers.

There are 103 declared small-scale fishers in Northern Cape. These are from Hondeklipbaai and Port Nolloth. The declared SSF in this Province are grouped into small-scale fishing co-operatives for the respective fishing communities. They were allocated 15-year fishing rights in 2018 and these include WCRL. In the Western Cape, the decision to declare SSF and small-scale fishing communities is currently under review by the Courts to set aside the process and decision of declaring SSF and small-scale fishing communities in the Western Cape. Due to this, the Minister approved for all those who were declared through this process (2741) to be added as part of the interim relief dispensation until a new process is initiated.. However, the majority were already under the interim relief. This increased the total number of interim relief fishers from 1998 to 2856. In the Eastern Cape there are 73 small scale fishing co-operatives that represent about 4884 fishers. In KwaZulu Natal the 37 co-operatives represent about 2008 fishing communities. All the co-operatives are allocated a 15-year long fishing right and they are currently fishing.

The WCRL in South Africa's coastal waters is historically overexploited and often illegally fished. The Status of the South African Marine Fishery Resources report of 2020 indicates that the WCRL resource remains heavily depleted, with fishable stock size (above 75 mm carapace length) currently being at only 1.8% of pre-fished levels. There is continued concern regarding the levels of illegal harvesting of the resource. Our 3000km coastline is rich in its high quality of marine resources that has become the playground of fish crime syndicates. Highly recognize, well-financed transnational criminal activities are taking place within our waters. There is however a huge dilemma in identifying which poachers on a broader scale is depleting this resource at such high estimated levels. While the focus of law enforcement within the fisheries crime paradigm is on the high end of the spectrum such tackling well-financed, large-scale transnational recognize criminal activities, primarily in the commercial fisheries sector, this also has ramifications for illegal harvesting where SSF who did not qualify for fishing permits, are poaching this resource to feed their families and sustain their livelihoods. This is often referred to as "protest fishing".

Cumulative impacts on marine ecosystems and this resource are also a concern. As marine sectors, expand and diversify there is increasing pressure on marine ecosystems and resources. WCRL fishers are particularly concerned with increasing overlap of mining activities with their fishing grounds (Figure 1).

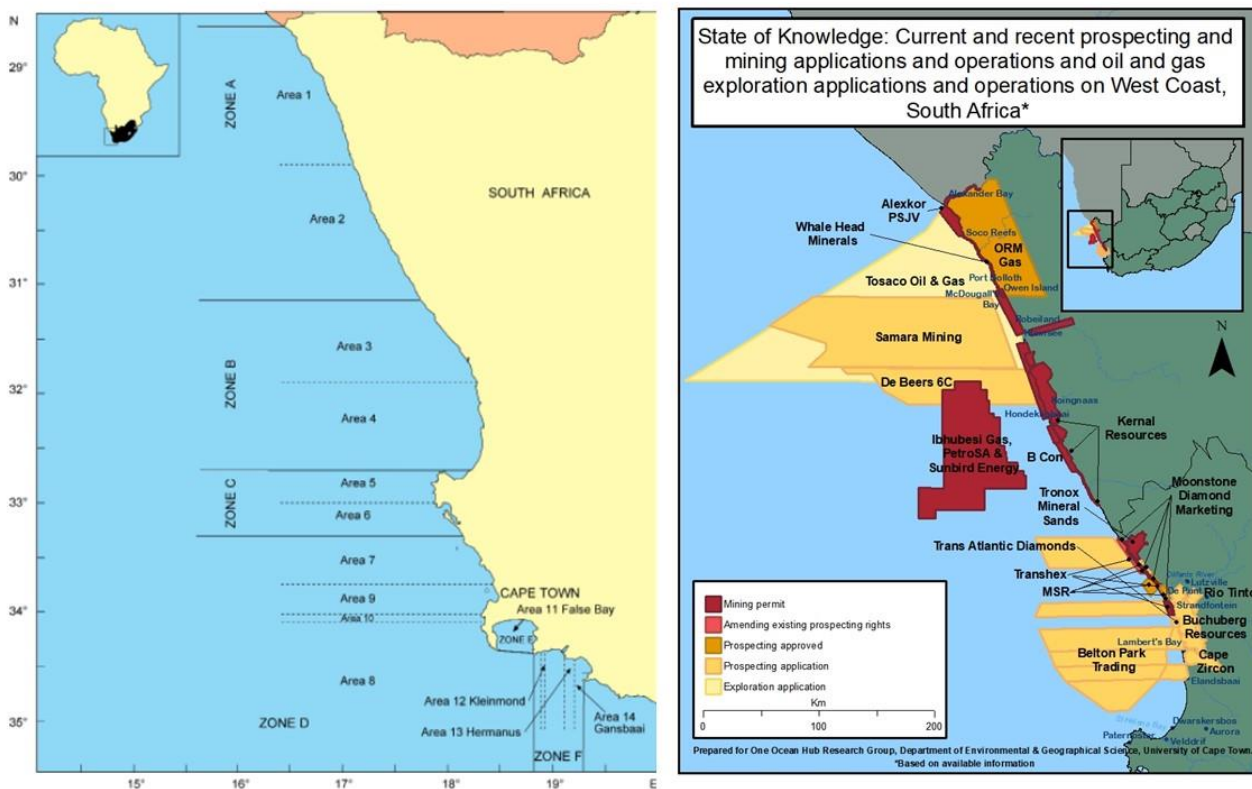


Figure 1: Map showing the super areas used in managing the WCRL resource (left) and the increasing overlap between mining and fishing communities and grounds on the west coast.

2. Process and stakeholder engagement

In line with the terms of reference (Appendix 2), the Forum gave consideration to information submitted to it by industrial bodies, small-scale fishers and interest groups who have been formerly recognized by the Minister in terms of section 8(1) of the MLRA. The Forum also considered other relevant information from stakeholders in the fishing industry which the Forum believes should be brought to the attention of the Minister as part of the Forum's advisory role. The Forum received presentations and documents from the WCRL Scientific Working Group, the Management Working Group and representatives from the West Coast Rock Lobster Association and various small-scale fishing Community-Based Organisations /associations ensuring that the views from small-scale communities were given due consideration.

The Minister appointed 7 persons with observer status for the review as follows:

- Ms Shamera Daniels*, Chairperson of the West Coast Rock Lobster Association;
- Ms Hilda Adams, Chair of the South African Small-scale Fisheries Collective;
- Mr Naseegh Jaffer, Chair of the Masifundise Development Trust;
- Chief Reagan James, Chief of the Katz Korana Royal House;
- Mr Pedro Garcia*, Chair of the South African United Fishing Forum;
- Mr Charles Jordaan, Chair of the St Helenabaai Vissergemeenskaps Forum;
- Mr Faez Poggenpoel*, Chair of the United South African Fisheries Association.

These 7 observers had speaking rights; the right to cross-examine expert witnesses and the right to present their own evidence. In addition, three observers* participated in the deliberations and formulation of recommendations by the CAF.

A total of nine meetings were held (Appendix 3) and the full list of documents provided and considered are shown in Appendix 4. Six meetings included CAF members and 7 observers (approximately 27 hours) and three deliberation meetings including CAF members and 3 observers (Approximately 15 hours).

3. Capacity and resources: Constraints and Needs

Deficiency in capacity and resources to fulfil essential tasks and responsibilities was a problem raised in nearly all the presentations by stakeholders, observers and DFFE officials. CAF recognises that this is a serious constraint and that it will not be possible to make real progress in addressing the crises in the WCRL fishery, and in small-scale fisheries in general, unless it is satisfactorily addressed.

Limited capacity is currently impacting all the primary components of governance of this fishery, covering research, management, and monitoring, compliance and surveillance, and needs to be addressed. As an example, CAF heard reports that the budget for fisheries research was cut by about 40 percent when Fisheries was moved from Marine and Coastal Management to what was then DAFF, and there have been further cuts since then. At present there is only one DFFE staff member employed in research on this complex WCRL fishery. In Marine Resource Management, limited capacity is preventing more engagement with stakeholders, which is badly needed, and it is not possible with the current number of staff to interact with right holders who reside across the coastal towns in the Northern Cape and Western Cape.

Particularly, but not exclusively, CAF recommends that urgent attention should be given to strengthening the capacity of the Department i) to implement effective monitoring, compliance and surveillance in order to reduce the scale and impacts of illegal fishing on WCRL and ii) in the Small-Scale Fisheries Management unit so that the policy for small-scale fisheries can be implemented rapidly and effectively, including greater participation in co-management.

CAF notes that the Department will need support and finances from government as a whole to build the required capacity but stresses that without this, the crises being experienced in fishing and coastal communities will almost certainly escalate.

Even with strengthened capacity in the Department, good cooperation with other government departments involved in security and law enforcement is required in order to tackle illegal fishing. The successes achieved through Initiative 5: Enhanced and Coordinated Compliance and Enforcement of Operation Phakisa demonstrated the value and importance of such cooperation and coordination.

4. Considerations of presentations and representations from stakeholders on the methodology used to determine the TAC (3.1)

Brief description of methodology (provided by DFFE)

The WCRL resource is seriously depleted, and its decline has continued since the turn of the century, despite the reductions in TAC implemented in an attempt to promote some recovery. The efficacy of these reductions has been compromised by a number of factors, probably the most important of which has been a marked increase in poaching. The 2021 assessment, updated from the 2019 assessment given the further data now available, has indicated that the resource is appreciably further depleted than was thought to be the case two years ago. This is when compared to the then minimum recovery 2006 target level (now only 70% thereof, compared to the 90% estimated in 2019). This means that the resource is now at a mere 1.5% of its pristine (1910) abundance (expressed in terms of the legally harvestable component of the resource - males above 75 mm carapace length). Hence, even if the (legal) fishery is closed, the previous minimum recovery target of reaching the 2006 abundance level by 2025 cannot be achieved.

Accordingly, recommendations from the WCRL Scientific Working Group (SWG) had to be based on a much lower target of achieving no to minimal growth above the current (2021) abundance by 2025, if other than a closure of the fishery was to be put forward. Given that the updated assessment results rendered some meaningful reduction in the 2020/21 season TAC of 837tons unavoidable, the recommendations nevertheless aimed, for socio economic reasons, to provide the largest TAC which could reasonably be argued to be compatible with the 2018 decisions of the Western Cape High Court – specifically that the utilisation of lobster must be sustainable and must also aim for some increase in abundance given the highly depleted status of the resource.

More specifically, a two-step phased reduction (phased with the intent of reducing socio-economic stress) of the global TAC (for all sectors) was recommended to be 600 tons for the 2021/22 season and 400 tons for the 2022/23 season (and implicitly for the seasons following). This recommendation also advised that the amount from 2022/23 might be revised later, given further data and analyses forthcoming over the next 12 months. The projections calculated were based on medians, thus giving the most optimistic result compatible with the Court ruling, rather than adopting a precautionary approach by taking account of a lower percentile of the probability distribution for projections, as recommended by a previous international review panel. The SWG also drew attention to the need

to reduce poaching, and for effort limitation as an aid in that regard.

A summary of the key technical aspects is provided in Appendix 4.1 of this report.

Summary of representations and recommendations from stakeholders on the methodology

Recommendation	Organization
The WCRL TAC methodology is highly questionable because it is based on an international standard determined by mathematical calculations as explained in the presentations. This must be revisited so that we can find an improved way of determining the annual WCRL TAC.	SASSFC – The Collective
a) Include the factual yearly data of the recreational sector. b) include the factual data of the WCRL left in the water annually of all sectors.	SASSFC – The Collective
Commercial CPUE data is most influential in estimating resource trends and abundance. The standardisation method considers seasons, months and sub areas but does not consider other important factors that affect CPUE such as • Changing weather conditions• Resource performance shift to deeper waters • Effort limitation • TAC reduction / the cost of catch and• The declining number of vessels in areas per month over past seasons.	USSFA+KKRH
A 100 T experimental offshore allocation be granted in zone F at depth of 100-250 meters and 100% of the profits invested into resource research.	USSFA+KKRH
Given the far greater socio-economic benefits associated with the 700/550/400 option compared to the 600/400 option, we have indicated in our comments to DFFE that the association recommends the 700/500/400 step down option, with the need to review the step down every year	WCRLA
Zone F must be restructured to match other zones (D and E) in A8+ which means Zone F should have one Area 12 (see figure C below) and remove the no fishing areas between Hangklip, Kleinmond and Hermanus. Offshore fishing be allowing especially in the deeper areas 100-200 meters, this adjustment will result in an increase in global TAC for 2022/23 season.	United Small-scale Fishers Association + Katz Korana Royal House (USSFA+KKRH)
There is a strong argument against this approach [i.e. the current TACs] with the most obvious examples being that all previous recovery plans failed to achieve its targets The reasons attributed to these failed strategies are a lack of funding, compliance, research, human resources, and data. Our current economic condition suggests even less finances are available to support the success of any proposed recovery strategy.	USSFA+KKRH

Integrated considerations and recommendations by CAF members

The CAF welcomed the presentations from DFFE officials and representatives from the observers as well as the valuable discussions from all parties on the topic of exploitation of the WCRL. CAF understands that the mathematical model has been developed in a participatory and transparent process within the SWG over many years. CAF also supports and recognises that the model has been subject to rigorous peer review by international experts through a series of annual workshops. These give considerable assurance that the general approach is sound and it does conform with global best practice for high value commercial and small scale fisheries.

There are, however, some limitations in the data available that increase the uncertainties in the model outputs. Most of these are recognised by the SWG (see Appendix 4.1). Some concerns have been raised by observers

and CAF that may need to be re-considered by the SWG in order to increase the confidence in the methodology and the results presented to stakeholders. In addition, what needs to be addressed, with urgency, is that SSF and some smaller rights holders expressed that they have been excluded from the scientific process and that their knowledge and perspectives have been ignored.

CAF has the following recommendations on the methodology:

- As a high priority, there is a need for greater collaborative interaction between SSF, scientists and managers during the TAC and decision-making processes to benefit from the collective knowledge of this group and also to raise confidence, amongst all stakeholders, in the process and the outcomes. Such meaningful interaction will require additional time from both the DFFE and the stakeholders, and related expenses, which will need government support.
- In terms of the scientific process in particular, the WCRLA employs a specialized stock assessment scientist to support the commercial right holders on the SWG and related discussions. A similar approach in which a scientist with the necessary expertise could assist the SSF in interactions with the SWG could be considered. Especially under the current economic conditions of the fishery and funds would be needed to cover the costs of such support.
- Some observers are of the opinion that there is a substantial abundance of lobster outside of Area 8+ and at depths of 100-250 meters in Zone F that, if included in the assessment, could lead to a higher TAC. DFFE contends that lobster in these zones are effectively included in the assessments and therefore would not affect the TAC recommendations. CAF is not in a position to advise on these two opinions but recommends that consultation between the two different opinions is necessary in order to try to resolve the differences. Surveys in deeper water and outside Area 8 must be undertaken to provide further information on this issue.
- A subject of concern to some CAF members was the use of inverse variance to weight the CPUE series in the assessment model. The FIMS data include lobster smaller than the legal size and also, by design, should be providing more representative information on stock abundance. However, the FIMS data have comparatively high variance, which results in lower weight being assigned to these series. This could be skewing the results compared to the real trends in biomass. If not already done, the SWG should examine the effect of different weightings of the CPUE series on the model outputs.
- The measure of biomass used in the assessments and TAC recommendations is the biomass of males above 75 mm carapace length. This is an important indicator but CAF agrees with the recommendation from one observer that there would be value in considering other indicators such as total biomass for all sizes (male and female) and biomass of mature females. The CAF understands that such outputs could be produced by the model with existing input data but that they would probably not be as reliable as the estimates for males above 75 mm carapace length. Nevertheless, such indicators should be considered by the SWG and, as reported by that observer, that could lead to different estimates of depletion and sustainability.

5. Review of data on the poaching and local sales estimates used in the TAC model (3.3)

Brief description of methodology (provided by DFFE)

Illegal fishing is recognised as a serious problem in the WCRL fishery and it is essential to take this into account when formulating TAC recommendations. While it may seem surprising to some, the magnitude of the actual amount being poached (extracted illegally) may have little impact on the assessment of resource status. This is most easily understood by considering the situation where the magnitude of illegal fishing has been unchanged over the recent past and will remain so in the immediate future. TAC recommendations will then remain unchanged whatever that magnitude is. This is because the bigger it is, the larger the resource and its productivity must be and that larger productivity will simply be offset by the bigger unchanged future illegal take, so that the recommended legal take (TAC) remains unchanged. This is the basic reason why the assessments of the current status of the lobster resource relative to the 2006 benchmark (now 70% thereof) are hardly impacted by different estimates of the magnitudes of past poaching.

But this general result no longer holds if the quantity poached each year has been changing over time, particularly as regards projections and hence TAC recommendations. For this reason, attempts have and continue to be made to estimate the magnitude of lobster poaching and its trends, despite the very limited data available. The assumption standardly made for projections is that poaching will continue at its current level into the future and those projections and therefore estimates of what (legal) TAC will be sustainable depend on the estimated level, especially of recent poaching.

There are only two sources of information about the magnitude and trend of the illegal take of lobsters in this fishery: analyses by TRAFFIC of international trade (which provide values in tons for exports of illegal catches) and Fisheries Branch: Compliance information (which provides a relative index, and hence trend information for the total amount of illegal catch over time, both that exported and that disposed of (“sold”) locally. There are no direct observations available of the size of the illegal catch sold locally.

The broad trends indicated by these two sources are (from TRAFFIC) that illegal exports have declined from about 1800 to 400 tons over about the last 12 years, but (from DFFE Compliance data) that the total of the combined exported and locally sold poached catch has increased about two to three times over most of that period, and considerably more so over the last two years in the A8+ (Cape Peninsula) region which is now the dominant region for poaching. Clearly then, these two sources of information imply some increase in illegal local sales over the period, but when it comes to attempting to integrate these data at a more quantitative level, it becomes evident that they are not fully consistent unless one assumes recent illegal local sales of a magnitude have been so large as to be considered unrealistic.

A “marriage” method was therefore developed which attempts a form of compromise between these two sets of information. In broad terms, the outcome from this is a downward trend over most of the last 12 years, but with an uptick at the end of this period, where the size of that uptick depends on the value input for illegal local sales at present. The TAC recommendations finally developed were based on values for these sales in the range of 400 and 700 tons (which happened to be the same as the conclusion reached by the SWG the previous year). Lower and higher values were also considered for various reasons, but were ultimately rejected by the SWG. The former led to an inconsistency between the information provided by the TRAFFIC and Compliance trends that was judged to be too large. The latter were seen to be unrealistic, given comments made by industry stakeholders.

A summary of the key technical aspects is provided in Appendix 4.2 of this report.

Summary representations and recommendations from stakeholders on the poaching and sales estimates

RECOMMENDATION	ORGANIZATION
Implement a proper and effective compliance mechanism for the recreational sector. Post Offices must supply the total number of WCRL permits issued every year.	SASSFC – The Collective
Engagement with DFFE and TRAFFIC on reliability of local confiscations/poaching estimates and TRAFFIC illegal exports estimate	USSFA+KKRH
It is clear from this slide (in WCRLA presentation) that the poaching figures are important for the forecasts. The plausibility of poaching data has been questioned: With reliance on observation or anecdotal evidence vs actual data. The association has objected to the method used to determine the poaching figure	WCRLA

Integrated considerations and recommendations by CAF members

CAF acknowledges the valuable presentations made by the DFFE and the observers on the issue of poaching of the WCRL resource.

The CAF reinforces the need for a more integrated approach by the DFFE to combat fish crime under the auspices of Phakisa Initiative 5, to collaborate with other law enforcement authorities, focused on preventing illegal harvesting and poaching of high value species such as WCRL and other marine resources. It has been reiterated in the CAF discussion that enforcement efforts from Fisheries Monitoring Compliance and Surveillance (MCS) must not only work with other enforcement agencies but also draw in the fisher communities and utilise a co-management approach as a remedial action to curb the scourge of poaching of our valuable fish resources. Recommendations were made to the Department to investigate supplementary livelihoods. This recommendation warrants in depth discussion with multiple stakeholders. In essence, this calls for urgent action from the DFFE and its Monitoring, Compliance and Surveillance chief directorate to co-develop a poaching reduction strategy in collaboration and through active engagement with various role players and stakeholders in the fishing industry. The result should be a sustainable WCRL resource for the beneficiation for current and future generations

CAF has noted the concern around the uncertainties in the current poaching estimates, the history of overfishing and the limited research available on poaching estimates. Also, the capacity constraints in both research and compliance were highlighted by presentations as areas that needs to be addressed urgently.

After intensive deliberations, considering all the information provided from all parties, CAF recommends an urgent intervention for stronger co-operation from the DFFE Fisheries Research, its Monitoring, Compliance and Surveillance components together with TRAFFIC, industry role players and SSF, to review, and refine as necessary poaching estimates used in the current model.

CAF has the following recommendations on Poaching:

- DFFE to urgently co-develop and implement a WCRL poaching reduction strategy by 2022/23, with clear targets to be achieved by 2025 (for indications of resource recovery). The strategy will require an integrated, two-pronged enforcement approach. The one aspect would involve tackling the organised crime component of illegal fishing and the other to focus on addressing the drivers of poaching and community involvement in crime prevention, enforcement, awareness. The strategy should include:

- An improved compliance and policing effort required during the open and closed months of the fishing season.
 - Inter-agency co-operation with links to the Operation Phakisa Integrated Enforcement Task Team
 - Application of improved technology to assist with traceability;
 - Effective co-management with support from the sector in tackling illegal fishing;
 - Implementation of a system whereby marketers need to be approved by the DFFE, thereby helping to close poaching loopholes.
- The DFFE SWG, Compliance, SSF and industry observers to establish a Task Team to work cooperatively to try to arrive at estimates, or bounds, of the extent of illegal fishing that are considered by all to be as close to the realities as possible. This could result in improved estimates and should lead to improved confidence in model inputs and thereby outputs and should be done in time for use in determination of TAC recommendations for the 2022/23 fishing season. The rationale for this recommendation is that there has been ongoing discussions and differences on poaching estimates for years and no consensus has been reached. The inclusion of suitable impartial experts in the Task Team may facilitate achieving consensus.

6. Advice on whether the current cut is an appropriate approach to sustainable use of the resource (3.4)

Brief description of methodology

A summary of the methodology for determining the TAC for the 2021/22 season is provided in section 4 of this report. As stated there, the WCRL resource is seriously depleted and despite attempts to set TACs at sustainable levels that also allow for some recovery, the stock has continued to decline this century. The most recent estimates are that the abundance of males above 75 mm carapace length, the primary indicator used in assessments and projections, is now 1.5% of its pristine (1910) abundance and that even if the legal fishery was to be closed, the recovery target of rebuilding the stock to the 2006 abundance level by 2025 would not be achieved.

Faced with this information and to avoid recommending closure of the fishery, the WCRL SWG considered options that were projected to achieve only no to minimal growth above the current abundance by 2025. The available results indicated that a reduction from the 2020/21 season TAC of 837 tons could not be avoided but the recommendations made by the SWG aimed at setting the largest TAC that would be sustainable with some increase in abundance, thereby attempting to reconcile sustainability with socio-economic impacts as far as possible.

The recommendation preferred by the SWG, and which was accepted, was for a two-step phased reduction (aiming to reduce socio-economic stress) of the global TAC (for all sectors) with 600 tons for the 2021/22 season and 400 tons for the 2022/23 season (and implicitly for the seasons following). The SWG also drew attention to

the need to reduce poaching, and for effort limitation as an aid to achieving that.

The SWG also put forward projections for a three-step phased reduction of 700 tons for the 2021/22 season and 550 tons and 400 tons for the following two seasons respectively. Referring to the arguments for and against this option, the SWG report that it was forecast to lead to some growth of the resource by 2025 if poaching was assumed to remove an additional 400 tons per year but no growth by 2025 if poaching was 700 tons per year (but moderate growth by 2030). The SWG pointed out that this option would lead to the least socio-economic stress of the three options presented and that it could be argued to be compatible with 2018 Cape High Court ruling. However, the SWG expressed concern that in previous cases where a phased down approach had been recommended, only the first phase had been implemented, with further reduction in the resource in subsequent years.

Summary of representations and recommendations from stakeholders on the sustainability

Recommendation	Organization
Retain the 2019-2020 WCRL TAC. Cutting the TAC by nearly 30% undermines the value of SSF.	SAUFF, Masifundise, and St Helena Bay FCF
Given the far greater socio-economic benefits associated with the 700/550/400 option compared to the 600/400 option, we have indicated in our comments to DFFE that the association recommends the 700/500/400 step down option, with the need to review the step down every year	WCRLA

Integrated considerations and recommendations by CAF members

The CAF appreciated the presentations from DFFE officials and observers and the insightful discussions from all parties on the topic of the sustainability of the proposed TAC reductions with discussions reflecting both resource and economic elements. CAF notes the information presented to it by DFFE on behalf of the SWG and the explanations of the 2021/22 TAC options presented in the recommendations to the Minister from the SWG. The CAF also acknowledges the explanations provided for why the SWG favoured the 600/400 tons option, given the depleted status of the resource and the threats to its future abundance. This recommendation was subsequently accepted and set as the official 2021/22 TAC but was not well received by the fishing industry and fishers. Responding to the decision, the observers overwhelmingly referred to the serious social and economic impacts that a 600 ton option for this season would have on fishers and others who depend heavily on the WCRL fishery for their livelihoods and in many cases for their food security.

The seriousness of the socio-economic problems, crises in many cases, referred to by the observers in relation to the latest cut in TAC cannot be denied or ignored. At the same time, the threats to the sustainability of the fishery and thereby to the medium and long-term livelihoods of those represented by the observers are also very real and serious. Faced with the need to reconcile these two as far as possible and to adhere to the available scientific advice:

- The CAF recommends opting for the least drastic of the three options put forward by the SWG, which is the three step reduction of 700/550/400 tons. This would mean increasing the TAC for the 2021/22 season to 700 tons from the current approved 600 tons.

This recommendation comes with some important caveats if a downward spiral in resource abundance and the livelihoods of those dependent on the fishery are to be avoided.

These are:

- The recommendation is for the phased reduction, as put forward by the SWG. This must be adhered to, subject to a re-assessment annually and the results and recommendations that arise from that.
- While there are some disagreements about the actual extent of poaching, there is unanimity that illegal fishing of WCRL is a serious problem and a threat to the future of this fishery. It is therefore essential that an effective poaching reduction strategy is implemented as a matter of urgency, commencing this season, to support rebuilding of the resource. This strategy must include effective targets and timelines.
- The regulating of marketers can help to address the poaching crisis and needs to be an important component of this strategy. Associated with this, the traceability project spanning the entire sector, as proposed by the WCRLA, is strongly supported by the CAF. Traceability rollout of proof of concept will support real time data capture with many associated management and research benefits and support poaching management.

CAF also has the following recommendations:

- Appointment of an independent monitoring contractor to manage landings would allow inspectors the time to focus on preventing poaching, which would improve the compliance effort.
- The recommendation by Skipper Associations that every vessel in the offshore sector should have an AIS unit to track position of vessels should be considered for inclusion in the poaching reduction strategy. Amongst other benefits, this would allow offshore vessels to monitor their own fleet (preventing illegal operations especially at night).
- A coastal reference fleet, consisting of fishers on a voluntary contract agreement with DFFE to reliably record their daily catches at a scientific resolution and detail, as implemented in Norway (<https://www.hi.no/en/hi/cruises-and-field-work/the-reference-fleet> and see Appendix 5) can also support discard level rates, gear use, fishing positions, catch rates and individual sizes and should be considered to help address priority research needs, but exemptions to protect the fishers from prosecution and back tracing of identity would have to be considered to allow for collection of such data. The advantages are a much higher sampling frequency in time and space, and that the high resolution data are generated by the fishers so that there are agreements about their validity, which is an important step towards co-management.
- There is a need to pick up and advance the Fisheries Improvement Project to improve the status of this resource not only in the water but also in terms of consumer awareness programs such as the Southern Africa Sustainable Seafood Initiative (SASSI). The influence of SASSI on the local and international market is recognised and the implications of this assessment has serious social and economic implications for fishers.
- Calls to regulate the market warrant further investigation and efforts are needed to help fishers fairly derive benefits across the full value chain.
- CAF recommends catalysing research to improve the understanding of other risks that may hinder the recovery of the WCRL resource including seabed mining, increasing underwater noise, other predators, ecosystem impacts from other fisheries discards and climate change. These risks should then be prioritised for management interventions and be communicated to relevant departments e.g. through relevant working groups. Explore strategic research partnerships to achieve this.

7. Review of the appropriateness of the proportional cuts within the various sectors of the fishery (3.2)

Brief description of methodology for TAC apportionment (provided by DFFE)

The WCRL SWG has for a considerable time continued to recommend that TAC allocations to sectors should be such that there is no substantial change in recent average inshore:offshore catch ratios. This is based on the rationale that the limited information available indicates that mixing of lobsters inshore-offshore takes place on a time scale of many years, so that large changes to the distribution of catches offshore-nearshore in a Super-area could lead to heavy depletion in one, rendering future fishing there uneconomic. Monitoring and management of the resource is critically dependent on continuation of the time series of commercial catch rates (from traps and from hoops) currently available, so that allocations must be sufficient that these are representatively maintained (see also above recommendation of establishing a reference fleet). Different sectors operate preferentially in different depth zones and TAC allocations to sectors should be such that there is no substantial change in recent average inshore:offshore catch ratios. This is important in avoiding any compromise to the comparability of the CPUE indices from those Super-areas which is critical for the provision of reliable advice on TACs in the future. Other aspects considered include historical decisions linked to the previous rights allocation process, equal distribution among sub-sectors where feasible, area/zonal allocations and the number of fishers per community.

Summary of representations and recommendations from stakeholders on the proportional cuts

Recommendation	Organization
The apportionment split across sectors can no longer continue to be a political driven decision. Year after year the commercial sector gets 50+% of the total WCRL TAC. we need equality and transformation of the sector.	SASSFC – The Collective
The harvesting component of the SSF WCRL offshore allocation must be returned to SSF operations on the basis that overlapping harvesting activities of offshore vessels clearly indicates that they (offshore vessels) regularly harvest in areas specifically “zoned” for smaller vessels.	SAUFF, Masifundise, and St Helena Bay FCF
Suspend the current recreational fishing season for high-value species for small-scale fishers.	SAUFF, Masifundise, and St Helena Bay FCF
The TAC allocation for WCRL needs to prioritize community-based WCRL legal entities. The WCRL allocations for large companies and industrial fishing is where the TAC cuts should take place, as they have the ability to absorb losses into other lucrative fisheries sectors in which they are rights holders.	SAUFF, Masifundise, and St Helena Bay FCF
There is a need for an overall transformation of the sector. It is not possible for the resource to sustain 3 sectors, as there is no doubt the resource is in decline. The socio-economic needs of the sectors must be considered in the allocation of the WCRL resource.	SAUFF, Masifundise, and St Helena Bay FCF
The issue is not with proportional cuts within various sectors but rather the unsustainability of Rights because of TAC cuts. We therefore recommend an economically viable baseline for the SSF/IR sector be set at 120kg/person in the lobster fisheries.	USSFA+KKRH
Recommend apportionment remains as is noting that both the Commercial Nearshore and Offshore is extremely transformed as set out in the presentation. The current wage bill for both these sectors is in excess of R75 million, it must be noted that the majority of these jobs are on vessels and factories are in our fishing communities. This number does not take into account secondary jobs.	WCRLA

During discussions, a further proposal advanced by one observer was that the large Offshore commercial companies cede their increase based on the recommended 700 tons TAC, to the SSF, as they have rights in other sectors and are not solely reliant on WCRL. However, this was considered to be beyond the purview of the scope and objectives of CAF for the WCRL special project.

Integrated considerations and recommendations by CAF members

The CAF valued presentations from DFFE officials and observers and the insightful discussions from all parties on the topic of resource apportionment. There was substantial discussion about the rationale for the apportionment approach, challenges in fair allocation across sub-sectors and the value and challenges associated with the recreational sector.

In terms of the rationale for apportionment, CAF noted a lack of clarity and to what extent socio-economic information was considered in decisions in this context. As noted above, there is a general lack of social and economic data and knowledge to effectively guide management in this fishery. There were multiple concerns raised in the context of this sufficiency particularly in the discussions on apportionment and calls for prioritisation of SSF, interim relief and near shore fishers. Importantly, CAF recognised the need to fairly support all the people that get their income solely from the WCRL sector and to advance co-management arrangements in this context. This is particularly important for small scale fishers. CAF notes the need to consider the historical context, socio-economic needs and legal obligations in the apportionment process. A number of questions were put to the DFFE in this context but timing was a significant constraint in exploring this further.

In terms of the recreational fishery, CAF noted the limited information to assess the actual catch of this sector and its economic contribution, particularly considering the short 12-day fishing period in the current season. The potential for new innovative arrangements to diversify benefits from this sector were discussed including new ecotourism ventures and other ideas to increase community benefits associated with the recreational sector. These warrant further consideration in the future. The lack of awareness in terms of the dire state of this resource was recognised with an identified need to improve awareness about this issue. The potential of an improved listing in terms of the Southern African Sustainable Seafood Initiative (SASSI) must be considered (increased license fees, community links, etc.).

CAF has the following recommendations that are pertinent to resource apportionment

- Should the TAC be set at 700 tons, the recreational fishing sector should remain at the allocation level of 21,57 tons (based on TAC 600 tons), which means a negligible decrease in their proportion in terms of the revised TAC. The “savings” should be split equally between the commercial fishing (nearshore) and the SSF (nearshore) and Interim Relief
- Undertake an integrated socio-economic study in parallel with poaching reduction strategy. This study can support future apportionment and allocation decisions. The proposal that large Offshore commercial companies cede their increase based on the 700 tons TAC, to the SSF could be considered, recognising the likely challenges in implementation.
- Explore options for financial compensation packages for SSF through National Treasury –based on TAC reduction from 2020/21 to 2021/22

- Ensure that economically viable baselines especially for SSF (equivalent of a minimum wage) are investigated as part of the integrated socio-economic study recommended above
- Awareness raising and voluntary measures to reduce impacts on the resource and increase benefits for communities must be considered
- Spatial management of this fishery warrants further consideration particularly to reduce overlap between near shore and offshore fishers. The Marine Living Resources Act and the small-scale fishing policy provide for effective spatial management that can protect vulnerable fishing communities. The emerging spatial plans that will be developed for Marine Spatial Planning will need effective maps of all fishing grounds but more vulnerable fishing communities will need to be prioritised as South Africa expands its ocean economy.

8. Advice on an appropriate way in which fishing communities can assist the department to co-manage the stock (3.5)

Brief description of current approach in terms of stakeholder engagement and co-management

Stakeholder engagement

This summary was based on a document submitted by DFFE to CAF (see Appendix 5). The Chief Directorate: Marine Resource Management (CD: MRM) hosts one Management Working Group (MWG) meeting per year prior to the opening of the WCRL season. Ad hoc meetings are arranged when specific issues need to be dealt with (e.g. the challenges faced during the start of the COVID pandemic). These meetings aim to engage right holders, but factories, marketers and consultants that represent right holders also attend. Frequent discussion points include the recommended or approved TAC, permit conditions for the new season, permit application processes and various operational requests and challenges. The DFFE noted that limited capacity and high administrative workloads in CD:MRM limits engagement especially with right holders who reside outside of the Western Cape. In addition to the MWG, season planning meetings are conducted with IR communities and SSF cooperatives. These meetings serve as a platform for the DFFE and stakeholders to plan for an upcoming fishing season, application processes and operational/administrative legal requirements.

Co-management

DFFE noted that co-management is “a partnership arrangement primarily between government and resource users, but may also include other stakeholders, to share the responsibility and authority for managing resources” and thus a process that entails a participatory management approach. It is characterised by consultation between the relevant parties; negotiation over rules governing the resource; agreement on management roles and responsibilities; the delegation of certain management functions to resource users; conflict resolution; and capacity building and empowerment. Adaptive co-management is the on-going evaluation and modification of management practices as new information comes to light and involves experimentation and ‘learning by doing’. It is increasingly recognised as an appropriate approach in managing small-scale fisheries.

Co-management in managing small-scale fisheries

DFFE acknowledged that although co-management is a process that requires time and resources over a continued period of time, it is critical for the success of the small-scale fisheries sector.

The aim of the co-management structures is to:

- introduce a more holistic and people-centred approach in managing the marine living resources within the small-scale fisheries sector;
- manage the small-scale fisheries sector effectively through a partnership between Government and the small-scale fishing communities;
- ensure the sustainable utilisation and equitable and orderly access to small-scale fisheries resources through improved management and regulation;
- implement an adaptive management approach; and
- provide on-going support to small-scale fishing communities.

The Directorate Small-Scale Fisheries has developed a three-tiered institutional model for co-management which seeks to:

- provide a mechanism to deal with the critical issues of the over-exploitation of resources, user conflicts, disruption of social systems and increasing levels of poverty and food insecurity among small-scale fishers and the communities at large;
- create an enabling structure for the devolution of some management decisions to small-scale scale fishing communities; and
- provide a platform for the inclusion of other stakeholders such as provincial governments, municipalities and
- the private sector.

Based on the above, DFFE noted that SSF are at the centre of co-management efforts. Therefore, representatives of recognised small-scale fishing co-operatives are the targeted key stakeholders that would co-manage the small-scale fisheries sector. The involvement of Community-Based Organisations (CBOs), such as those that are observers in the review of the WCRL TAC by the CAF, are secondary in the prioritisation and targeting of relevant direct partners in the co-management structures.

Community-Based Organisations, like any other fishing associations, may apply to be recognised as Recognised Industrial Bodies in line with Section 8 of the Marine Living Resources Act, Act 18 of 1998. Therefore, it is with this reason that the establishment of co-management structures in the Western Cape will only be established once SSF are declared and small-scale fishing co-operatives are registered. This will ensure that those who serve on the co-management structures represent their co-operatives in operational, policy and strategic issues affecting their sector in the local, regional and national level of the co-management structures. Establishment of co-management structures in Northern Cape, Eastern Cape and KwaZulu-Natal commences from the beginning of the 2022/23 financial year.

DFFE noted that there is a need for improved communication, collaboration and transparency between themselves and its stakeholders for all areas of work (research, management, monitoring, compliance and surveillance). One of the key challenges of the DFFE is the ineffective communication and engagement with its stakeholders. This results in stakeholders having limited information and reacting based on information that that may result in misunderstandings. This further causes uncertainty and mistrust in the fishing sector. Therefore, clearer communication and stakeholder engagement is required. The co-management structures can be one of many tools that can be used to address these issues.

Summary of representations and recommendations from stakeholders on co-management

Recommendation	Organization
An important aspect for transforming the sector, is to implement a practical co-management structure in our regions which include fishers in the regions. Since it is not our fault that SSF coops are not registered in the Western Cape, after 17 years of interim relief. We recommend an interim SSF co-management structure.	SASSFC – The Collective
DFFE and WWF/SASSI scientists must include our fishers in the research studies. Research studies must be undertaken during lobster seasons.	SASSFC – The Collective
The Department must present the agreed upon co-management strategy to which fishing communities can provide inputs on areas of assistance.	USSFA+KKRH
Department research must be improved and integrated with commercial research which includes data collected from observers' onboard vessels during the season.	USSFA+KKRH
Blend local knowledge with scientific knowledge in the development of the TAC and decision-making processes.	SAUFF, Masifundise, and St Helena Bay FCF

Integrated considerations and recommendations by CAF members

The CAF appreciated the presentations, inputs and discussions from DFFE officials and observers on the topic of co-management. CAF noted that the current co-management approach is consultative and closer to instructive than co-operative (Figure 2) which poses challenges in terms of the topic at hand. Fishing communities have expressed a willingness to support DFFE in terms of research, administration, monitoring and compliance. Current arrangements limit the ability of fishing communities to support the DFFE in this context.

It was clear that DFFE recognise the need to improve co-management on all fronts (research, management, compliance) and that human and financial constraints are a key limitation in shifting this towards a more co-operative model.

Recommendations to improve co-management of the WCRL stock

- CAF emphasise that co-management of this fishery is essential and should shift towards a more co-operative approach with increased collaboration in planning and decision making (Figure 2). This shift is in alignment with the small-scale fisheries policy (Section 4.3.1 of the SSFP). CAF notes that additional resources would be required to achieve this.
- CAF agrees with DFFE on the need to improve co-management on all fronts (research, management arrangements compliance) for this resource. Recognise progress (bigger companies, capacity issues) and challenges.

- Research and monitoring: Encourage co-operative research, experimental fishing, a representative reference fleet and inclusion of indigenous, local and fisher knowledge in research and management.
- Co-management structures: Representations of small-scale fishers on SWG and MWG must be maintained but roles should be re-examined to increase meaningful participation. Advance from participation as observers towards a more influential equal role. Review structures, roles and participation in WGs to be more meaningful for all stakeholders. If a reference fleet is established members should also be able to participate in meetings. Fisher collaboration, see examples from the Norwegian fisher reference fleet, can be considered as an approach to strengthen the research base and credibility of research outputs leading to better cooperation and mutual trust between management bodies and fishers.
- In terms of compliance, CAF recommends that fishers co-develop the Poaching Reduction Strategy that was previously recommended. (landing information)

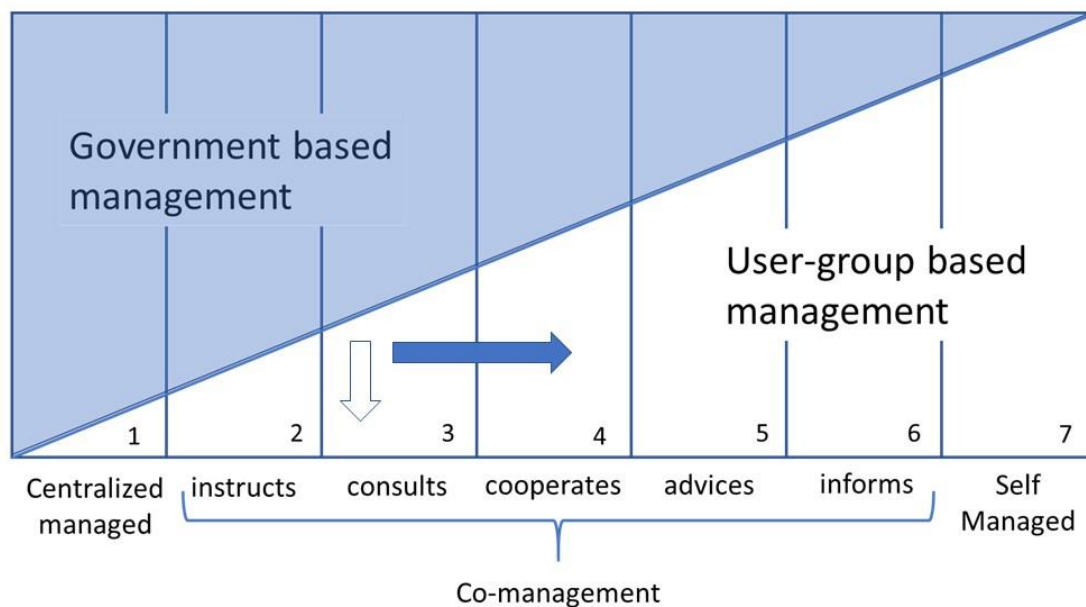


Figure 2. Current position (white arrow) and direction of the recommended shift (blue arrow) in terms of the co-management approach needed for this sector which should advance from a largely consultative approach towards a more co-operative approach. Adapted from Sen S and Nielsen 1996.

9. Summary of Recommendations

As evident in the specific recommendations noted above, there are a number of cross-cutting recommendations that are relevant to multiple aspects of the terms of reference for this special project. The five cross-cutting recommendations that are considered to be critical to the sustainability of this fishery and the people who depend on it are

- DFFE must urgently **co-develop and implement a WCRL poaching reduction strategy** by next season, if not sooner.
- An **integrated socio-economic study** must be conducted in parallel
- Implement **co-management** particularly in the small-scale sector with this fishery able to pilot immediate implementation of a more participatory approach
- A **WCRL Fisheries Improvement Program** should be advanced by the Department through collaboration with WWF and stakeholders
- Fishing communities need to receive **fair benefits along the entire value chain**. This will require capacity building and mechanisms to support regulation of marketers

In terms of the Poaching Reduction Strategy, this is urgent and should constitute a new approach (business unusual) by the next season (2022/23) and should cover

- Better estimates and improved confidence in model inputs and outputs
- Technology
- Traceability
- Develop a process for DFFE to approve marketers for the sector to close poaching loopholes
- Independent monitors
- Co-management
- Inter-agency co-operation with links to the Operation Phakisa Integrated Enforcement Task Team
- Drivers of poaching warrant consideration

Multiple authors of scientific papers examined by CAF during this task reflected the need for 'an integrated, two-pronged enforcement approach, with the one aspect addressing organised crime facet and the other 'focusing on community involvement in crime prevention, enforcement, awareness, resource ownership, resource management, and local governance'. (See publications by Hauck, Sowman, Isaacs, Witbooi, Eggers and Cochrane in Appendix 5)

The **Integrated socio –economic study** should be conducted in parallel with the poaching reduction strategy and focus on WCRL, which could serve as a benchmark for other sectors.

In terms of **co-management**, CAF noted that the current co-management approach could be considered partially consultative, but close to instructive, rather than co-operative, which is the desired model and would be consistent with the Small-Scale Fisheries Policy. The current approach poses challenges particularly in terms of meaningful participation of fishing communities who have expressed a willingness to support the Department in terms of research, administration, monitoring and compliance. Current arrangements limit the ability of communities to support the Department in this context. It was clear that human and financial constraints are the key limitation in shifting towards a more co-operative model but if these can be addressed, there are opportunities to improve co-management and achieve improvements in research, monitoring, administration and compliance. **Co-operative research and monitoring** must be encouraged with specific recommendations including a representative reference fleet and inclusion of indigenous and local fisher knowledge in research and management. The Department must review **structures, roles and participation** in working groups to be more meaningful for all stakeholders. In terms of **compliance**, CAF recommends that the Department together with SSF and stakeholders co-develop and implement the Poaching Reduction Strategy.

Importantly CAF recognises the need for

- ❑ Fisheries improvement program – to be co-developed by DFFE, with WWF and stakeholders
- ❑ There is a need to ensure that SSF and their communities receive fair benefits along the entire value chain (including harvest, transport, processing, marketing, export forex, etc.). This requires capacity building with government support to inform and empower communities, enabling them to develop partnerships with those involved at all stages and take ownership of their catches along the value chain

Some other recommendations for **improving equity** between stakeholders and potential ways to ensure that a viable income can be achieved by the different actors in this fishery include the following:

- Prioritising research to consider economic viability of quotas
- achieving a better balance between fishing capacity and effort and the sustainable yield from the WCRL resource;
- fostering more and better co-governance;
- better participation and representation of stakeholders in management;
- increased training and support particularly to the IR sector awaiting the implementation of the SSF Policy;
- ensuring transparency and fairness within the value chain;
- and research into and implementation of methods of increasing the international market price achieved for WCRL.

In terms of the **Recreational fishery**; CAF note the need to improve improve monitoring and management, catch estimates, awareness, ecotourism development.

CAF re-iterates that limited capacity is currently impacting all the primary components of governance of this fishery, covering research, management, monitoring, compliance and surveillance (MCS), and that will need to

be addressed if progress is to be made. CAF recommends that **urgent attention must be given to strengthening the capacity of the Department**. Three focus areas to strengthen capacity were identified

- Capacity to implement effective **Monitoring Compliance and Surveillance** (MCS) is critical in order to reduce the scale and impacts of illegal fishing on WCRL
- Capacity must be strengthened in the **Small-Scale Fisheries Management** unit so that the policy for small-scale fisheries can be implemented rapidly and effectively, including greater participation in co-management.
- The Department needs strategic partnerships for more **coordinated research and co-management** to assess and mitigate cumulative risks to this valuable resource.

Finally, CAF extends thanks and appreciation to the observers, the Department and other participants who contributed to this process.

APPENDIX 1 TERMS OF REFERENCE FOR THE CONSULTATIVE ADVISORY FORUM FOR MARINE LIVING RESOURCES

1. **Forum's Official Designation.** Consultative Advisory Forum for Marine Living Resources (the "Forum"). The Forum is established by the Minister responsible for fisheries in terms of section 5 of the Marine Living Resources Act, 1998 (Act No.18 of 1998) (the "MLRA")
2. **Authority.** Section 5 of the MLRA requires the Minister responsible for fisheries to establish the Forum, which the Minister established on 21 June 2021.
3. **Objectives and Scope of Activities.** Section 6 of the MLRA sets out the functions of the Forum. The Forum must advise the Minister on any matter referred to the Forum by the Minister. Specifically, the Forum will advise the Minister on:
 - i. the management and development of the fishing industry, including issues relating to the total allowable catch;
 - ii. marine living resources management and related legislation;
 - iii. the establishment and amendment of operational management procedures, including management plans;
 - iv. recommendations and directives on areas of research, including multi-disciplinary research; and
 - v. the allocation of money from the Marine Living Resources Fund.

The Forum may also advise the Minister on any matter in respect of the objectives and principles set out in section 2 of the MLRA, which govern the implementation of the MLRA. The objectives and principles are the following:

- k) The need to achieve optimum utilisation and ecologically sustainable development of marine living resources;
 - l) the need to conserve marine living resources for both present and future generations;
 - m) the need to apply precautionary approaches in respect of the management and development of marine living resources;
 - n) the need to utilise marine living resources to achieve economic growth, human resource development, capacity building within fisheries and mariculture branches, employment creation and a sound ecological balance consistent with the development objectives of the national government;
 - o) the need to protect the ecosystem as a whole, including species which are not targeted for exploitation;
 - p) the need to preserve marine biodiversity;
 - q) the need to minimise marine pollution;
 - r) the need to achieve to the extent practicable a broad and accountable participation in the decision-making processes provided for in the MLRA;
 - s) any relevant obligation of the national government or the Republic in terms of any international agreement or applicable rule of international law; and
 - t) the need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry.
4. **Industrial bodies and interest groups.** The Forum must give consideration to information submitted to it by industrial bodies and interest groups who have been formerly recognised by the Minister in terms of section 8(1) of the MLRA. The Forum may consider other relevant information from stakeholders in the fishing

industry which the Forum believes should be brought to the attention of the Minister as part of the Forum's advisory role.

5. **Description of Duties.** As set out above, the Forum will advise the Minister on marine living resources matters. The Forum will be required to submit written reports and written recommendations to the Minister. The Forum will function solely as an advisory body, and will comply fully with the MLRA and its regulations, and in particular, these TORs.
6. **Office or Official to Whom the Forum Reports.** The Forum shall report to the Minister responsible for fisheries through the Office of the Minister.
7. **Support.** The Branch: Fisheries Management of the Department responsible for fisheries will provide administrative support for the Forum.
8. **Estimated Annual Operating Costs.** The estimated annual cost of operating the Forum is R 200 000 (two hundred thousand rands). This includes fees for members' attendance at Forum meetings, preparation and research as approved by the Chairperson, travelling time to Forum-meetings as well as travel and subsistence allowances to support 11 (eleven) Forum meetings per annum, as necessary. These costs will be covered and paid for by the Marine Living Resources Fund.
9. **Estimated Number and Frequency of Meetings.** The Forum will meet approximately eleven times during a year, generally once a month, OR as determined by the Minister and/or Chairperson. No member or co-opted member of the CAFMLR shall meet with any external parties regarding the work of the CAFMLR without knowledge and approval of the Minister. All formal meetings with any external parties regarding the work of the CAFMLR shall occur with a minimum of 5 members present and a resolution to do so by the CAFMLR.
10. **Disclosure.** The CAFMLR members and co-opted members shall annually disclose all fisheries related interests to the Minister and at every CAFMLR meeting and/or sub-committee meeting, per item discussed, to be so minuted.
11. **Duration.** The duration of the CAFMLR shall not exceed a period of three (3) years from the date of appointment.
12. **Review.** This Terms of Reference shall be reviewed and updated every two (2) years or "as and when" necessary.
13. **The Chairperson of the CAFMLR.** The Minister will appoint a Chairperson for a period determined by the Minister that shall not exceeding three (3) years at a time. The Chairperson will arrange all of the CAFMLR meetings, prepare and approve all meeting agendas (with the support of the Chief Directorate: Fisheries Operations Support), chair, attend and adjourn all meetings.
14. **Membership and Designation.**
 - a. The CAFMLR shall consist of a minimum of five (5) and a maximum of eleven (11) members, including a Chairperson, appointed by the Minister for the period determined by him or her, but not exceeding three (3) years at a time, to ensure a broadly representative and multidisciplinary CAFMLR. The Small-Scale Fisheries sector will be represented by a member who will be nominated and appointed once the top management structures in each coastal province have been established.
 - b. Criteria for membership are qualifications, knowledge and expertise in one or more of the following areas of science, industry or management:
 - i. Marine
 - ii. Ocean
 - iii. Agricultural
 - iv. Aquaculture
 - v. Fisheries

- vi. Agribusiness
 - vii. Social
 - viii. Financial
- c. The members of the CAFMLR may be appointed for a period not exceeding three (3) years and shall serve at the discretion of the Minister in accordance with the Marine Living Resource Act, 1998 (Act No. 18 of 1998).
 - d. Terms of appointment are contingent upon the CAFMLR continuation and the active participation of members.
 - e. An appointment may be terminated if a member of the CAFMLR:
 - i. becomes insolvent;
 - ii. is of unsound mind;
 - iii. is convicted of an offence and is sentenced to imprisonment without the option of a fine;
 - iv. is absent from three consecutive meetings of the CAFMLR without leave of the chairperson;
 - v. resigns by written notice to the Minister;
 - vi. is removed from office by the Minister if there are sufficient reasons in the opinion of the Minister for doing so;
 - vii. no longer serves the interests of the CAFMLR; or
 - viii. is found to be in breach of the signed Code of Conduct and Ethics Agreement and Confidentiality and Non-Disclosure Agreement, attached as **Annexures A** and **Annexure B** to this Terms of Reference.
 - f. CAFMLR members shall sign and adhere to the Code of Conduct and Ethics Agreement and Confidentiality and Non-Disclosure Agreement, attached as Annexures A and B to this Terms of Reference.
 - g. The CAFMLR may establish up to a maximum of two sub-committees, which will be comprised of existing members, which shall be technical in nature and whose purpose shall be to aid the CAFMLR in the carrying out of its functions as contained in this Charter. The CAFMLR shall obtain the approval of the Minister prior to establishing such sub-committees through the submission of a sub-committee Terms of Reference.
 - h. The CAFMLR may co-opt members to the CAFMLR or to the approved sub-committees in 13 f above. Co-opted members shall possess highly technical skills not present in the CAFMLR, possess a minimum academic qualification at NQF level 9, with a minimum of 12 years' experience and expertise in their respective specialist field. No more than four members may be co-opted collectively to the CAFMLR and its sub-committees.

15. Remuneration. Membership to the CAFMLR shall be remunerated in accordance with the determined remuneration of Category B, sub-category B2 of the National Treasury published remuneration levels: Service benefit packages for office-bearers of certain statutory and other institutions (as amended from time to time).

Category Classification B2 (Part-time Members)		
Remuneration	2021 Rates	
Position	Meeting rate	
	Per day	Per hour
Chairperson	R 3 888	R 486
Members	R 2 382	R 298

Remuneration shall include attendance at Forum meetings, preparation and research as approved by the Chairperson, travelling time to Forum-meetings (up to a maximum of 7 days per meeting) as well as travel and subsistence allowances. The following shall be applicable to all remuneration matters concerning the CAFMLR members:

- i. Members shall register as Services Providers with National Treasury and shall submit invoices in lieu of payment for all remuneration accrued and expenses incurred in serving on the CAFMLR;
- ii. Members shall register as provisional Tax Payers with the South African Revenue Services (SARS) and in addition shall register for Value Added Tax (VAT) (should they be earning above the SARS threshold), such proof shall be submitted to the Chief Directorate: Fisheries Operations Support (or any such name the post may operate under at some point in future) on an annual basis, or as and when requested.
- iii. Members shall be remunerated for each hour served up to a daily rate maximum of 7 days per meeting (as published by National Treasury for office bearers of certain statutory and other institutions), applicable to sitting fees, research and travelling time.
- iv. Members shall in addition to the daily rate above, receive Travel and subsistence allowances in line with the Department of Forestry, Fisheries and the Environment (DFFE) Policy and rates.
- v. Flights, accommodation, car hire, transfers, conference registration and attendance fees, venue fees, catering etc. shall be arranged by the Chief Directorate: Fisheries Operations Support to be paid for by the DFFE in line with DFFE Policy and rates.
- vi. Members utilising their private vehicles for official travel related to the CAFMLR shall maintain a travel log and submit claims on a monthly basis *via* the Chief Directorate: Fisheries Operations Support for payment. Mileage claims shall be paid in line with DFFE Policy and rates.
- vii. Employees of National, Provincial and Local Government or Agencies and Entities of Government serving as Members on the CAFMLR are not entitled to additional remuneration.

16. Recordkeeping. The records of the CAFMLR shall be handled in accordance with the Protection of Personal Information Act, 2013 (Act No. 4 of 2013), and the Minimum Information Security Standards for the State as approved by Cabinet on 04 December 1996.

All meetings shall be minuted and any recommendations provided to the Minister shall be compiled in a report and shall include any dissenting views from members.

17. Communication. All communication related to the CAFMLR shall be exclusively limited to the Minister of Forestry, Fisheries and the Environment through the Office of the Minister.

In this Terms of Reference, the “Minister” shall mean the Minister of Forestry, Fisheries and the Environment or such other Ministry under whose ambit the CAFMLR may operate at some point in future.

MS B D CREECY, MP

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

DATE:

ANNEXURE A

CODE OF CONDUCT AND ETHICS AGREEMENT

BY:

_____ [CAFMLR Member's name]

_____ [ID number]

of

_____ [Address]

I, _____, in my capacity as a CAFMLR Member, hereby agree to:

1. always serve the public in an impartial manner in order to create confidence in the CAFMLR;
2. have regard for the circumstances and concerns of the public in performing my duties and in the making of decisions affecting them;
3. not unfairly discriminate against any member of the public on account of race, gender, ethnic or social origin, colour, sexual orientation, age, disability, religion, political persuasion, conscience, belief, culture or language;
4. not abuse my position in the CAFMLR to promote or prejudice the interest of any political party or interest group;
5. respect and protect every person's dignity and his or her rights as contained in the constitution;
6. co-operate fully with other CAFMLR members to advance the public interest;
7. refrain from favouring relatives and friends in work-related activities and never abuse his or her authority or influence another CAFMLR members, or influenced to abuse my authority;
8. be punctual in the execution of my duties;
9. execute my duties in a professional and competent manner;
10. recuse myself from any official action or decision-making process which may result in improper personal gain, and this should be properly declared by me;
11. accept the responsibility to avail myself for ongoing training and self-development throughout term as a CAFMLR member;
12. in the course of my CAFMLR term, report to the appropriate authorities, fraud, corruption, nepotism, mal-administration and any other act which constitutes an offence, or which is prejudicial to the public interest;
13. honour the confidentiality of matters, documents and discussions, classified or implied as being confidential or secret;
14. not use my official position to obtain private gifts or benefits for myself during the performance of my CAFMLR term duties nor to accept any gifts or benefits when offered as these may be construed as bribes;
15. promote sound, efficient, effective, transparent and accountable administration;
16. give honest and impartial advice, based on all available relevant information; and
17. be transparent by disclosing information that will enable stakeholders to hold the CAFMLR to account and that provides a holistic representation of the CAFMLR performance and its prospects for future value-creation.

Signed at _____ on this _____ day of _____, 2021 in the presence of the undersigned witnesses.

AS WITNESS:

1. _____

2. _____

ANNEXURE B

CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT BY AND BETWEEN:

THE MINISTER OF THE DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT,

MS. BARBARA CREECY

of Environment House, 473 Steve Biko Street, Arcadia, Pretoria, 0001

(hereinafter referred to as “the disclosing party”)

And

_____ [CAFMLR Member’s name]

_____ [ID number]

of

_____ [Address]

(hereinafter referred to as “the receiving party”)

I, the receiving party, in my capacity as a CAFMLR Member, agree that in consideration for access to information submitted to me, I will:

1. Keep all information provided to me relating to any and all business of the CAFMLR in strict confidence.
2. Disclose only the information relating to any and all business of the CAFMLR solely to individuals who have signed a confidentiality and non-disclosure agreement with the disclosing party or who are by the operation of the law request and authorised to receive this information.

Signed at _____ on this _____ day of _____, 2021 in the presence of the undersigned witnesses.

AS WITNESS:

MS. BARBARA CREECY

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

1. _____

2. _____

Signed at _____ on this _____ day of _____, 2021 in the presence of the undersigned witnesses.

AS WITNESS:

[CAFMLR Member’s name]

1. _____

2. _____

APPENDIX 2 TERMS OF REFERENCE FOR THE CONSULTATIVE ADVISORY FORUM FOR MARINE LIVING RESOURCES - SPECIAL PROJECT TO REVIEW THE WEST COAST ROCK LOBSTER TOTAL ALLOWABLE CATCH (TAC) FOR THE 2021/2022 FISHING SEASON

1. **Forum's Official Designation.** Consultative Advisory Forum for Marine Living Resources (the "**Forum**"). The Forum is established by the Minister responsible for fisheries in terms of section 5 of the Marine Living Resources Act, 1998 (Act No.18 of 1998) (the "**MLRA**")
2. **Authority.** Section 5 of the MLRA requires the Minister responsible for fisheries to establish the Forum, which the Minister established on 21 June 2021.
3. **Objectives and Scope of Activities.** Section 6 of the MLRA sets out the functions of the Forum. The Forum must advise the Minister on any matter referred to the Forum by the Minister. Specifically, the Minister is requesting the Forum to advise her on the following:
 - a) consider presentations and representations from stakeholders on the methodology used to determine the TAC;
 - b) review the appropriateness of the proportional cuts within the various sectors of the fishery;
 - c) review data on the poaching and local sales estimates used in the TAC model;
 - d) advise on whether the current cut is an appropriate approach to sustainable use of the resource;
 - e) advise on an appropriate way in which fishing communities can assist the department to co-manage the stock.
4. **Industrial bodies and interest groups.** The Forum must give consideration to information submitted to it by industrial bodies and interest groups who have been formerly recognised by the Minister in terms of section 8(1) of the MLRA. The Forum may consider other relevant information from stakeholders in the fishing industry which the Forum believes should be brought to the attention of the Minister as part of the Forum's advisory role. In particular, the Forum should receive presentations from the WCRL Scientific Working Group and Management Working Group. The representatives from the Small-scale sector must ensure that the views and representations from small-scale communities are given due consideration.
5. **Appointment of Observers.** The Minister has appointed 7 persons with observer status for the duration of the review as follows:
 - a) Ms Shamera Daniels, Chairperson of the West Coast Industry Association;
 - b) Ms Hilda Adams, Chair of the South African Small-scale Fisheries Collective;
 - c) Mr Naseeg Jaffer, Chair of the Masifundise Development Trust;
 - d) Chief Reagan James, Chief of the Katz Korana Royal House;
 - e) Mr Pedro Garcia, Chair of the South African United Fishing Forum;
 - f) Mr Charles Jordaan, Chair of the St Helenabaai Vissergemeenskaps Forum;
 - g) Mr Faez Poggenpoel, Chair of the United South African Fisheries Association.

These 7 observers will have speaking rights; the right to cross-examine expert witnesses and the right to present their own evidence but will not be party to the final deliberations and formulation of recommendations by the CAF to the Minister. The observers will be paid at the same rates as ordinary members for the six weeks of their appointment.

6. **Description of Duties.** The Forum will be required to submit written reports and written recommendations to the Minister within 6 weeks, commencing from 28 October 2021. The final report with recommendations must be submitted to the Minister by 10 December 2021. The Forum will function solely as an advisory body, and will comply fully with the MLRA and its regulations, and in particular, these TORs.
7. **Office or Official to Whom the Forum Reports.** The Forum shall report to the Minister responsible for fisheries through the Office of the Minister.
8. **Support.** The Branch: Fisheries Management of the Department responsible for fisheries will provide administrative support for the Forum.
9. **Estimated Annual Operating Costs.** The duration of this project is for six weeks. This includes fees for members' attendance at Forum meetings, preparation and research as approved by the Chairperson, travelling time to Forum-meetings as well as travel and subsistence allowances, as necessary. These costs will be covered and paid for by the Marine Living Resources Fund.
10. **Disclosure.** The CAFMLR members and members with observer status shall annually disclose all fisheries related interests to the Minister and at every CAFMLR meeting and/or sub-committee meeting, per item discussed, to be so minuted.
11. **Duration.** The duration of the WCRL Review of the 2021/2022 TAC is for a period of six (6) weeks, commencing 28 October 2021 and ending on 10 December 2021. CAFMLR members shall sign and adhere to the Code of Conduct and Ethics Agreement and Confidentiality and Non-Disclosure Agreement, attached as Annexures A and B to this Terms of Reference.
12. **Remuneration.** Membership to the CAFMLR shall be remunerated in accordance with the determined remuneration of Category B, sub-category B2 of the National Treasury published remuneration levels: Service benefit packages for office-bearers of certain statutory and other institutions (as amended from time to time).

Category Classification B2 (Part-time Members)		
Remuneration	2021 Rates	
Position	Meeting rate	
	Per day	Per hour
Chairperson	R 3 888	R 486
Members	R 2 382	R 298

Remuneration shall include attendance at Forum meetings, preparation and research as approved by the Chairperson, travelling time to Forum-meetings (up to a maximum of 7 days per meeting) as well as travel and subsistence allowances. The following shall be applicable to all remuneration matters concerning the CAFMLR members:

- viii. Members shall register as Services Providers with National Treasury and shall submit invoices in lieu of payment for all remuneration accrued and expenses incurred in serving on the CAFMLR;
- ix. Members shall register as provisional Tax Payers with the South African Revenue Services (SARS) and in addition shall register for Value Added Tax (VAT) (should they be earning above the SARS threshold), such proof shall be submitted to the Chief Directorate: Fisheries Operations Support (or

any such name the post may operate under at some point in future) on an annual basis, or as and when requested.

- x. Members shall be remunerated for each hour served up to a daily rate maximum of 7 days per meeting (as published by National Treasury for office bearers of certain statutory and other institutions), applicable to sitting fees, research and travelling time.
- xi. Members shall in addition to the daily rate above, receive Travel and subsistence allowances in line with the Department of Forestry, Fisheries and the Environment (DFFE) Policy and rates.
- xii. Flights, accommodation, car hire, transfers, conference registration and attendance fees, venue fees, catering etc. shall be arranged by the Chief Directorate: Fisheries Operations Support to be paid for by the DFFE in line with DFFE Policy and rates.
- xiii. Members utilising their private vehicles for official travel related to the CAFMLR shall maintain a travel log and submit claims on a monthly basis *via* the Chief Directorate: Fisheries Operations Support for payment. Mileage claims shall be paid in line with DFFE Policy and rates.
- xiv. Employees of National, Provincial and Local Government or Agencies and Entities of Government serving as Members on the CAFMLR are not entitled to additional remuneration.

13. Recordkeeping. The records of the CAFMLR shall be handled in accordance with the Protection of Personal Information Act, 2013 (Act No. 4 of 2013), and the Minimum Information Security Standards for the State as approved by Cabinet on 04 December 1996.

All meetings shall be minuted and any recommendations provided to the Minister shall be compiled in a report and shall include any dissenting views from members.

14. Communication. All communication related to the CAFMLR shall be exclusively limited to the Minister of Forestry, Fisheries and the Environment through the Office of the Minister.

In this Terms of Reference, the “Minister” shall mean the Minister of Forestry, Fisheries and the Environment or such other Ministry under whose ambit the CAFMLR may operate at some point in future.

**MS B D CREECY, MP
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT**

DATE:

ANNEXURE A
CODE OF CONDUCT AND ETHICS AGREEMENT

BY:

_____ [CAFMLR Member's name]

_____ [ID number]

of

_____ [Address]

I, _____, in my capacity as a CAFMLR Member, hereby agree to:

1. always serve the public in an impartial manner in order to create confidence in the CAFMLR;
2. have regard for the circumstances and concerns of the public in performing my duties and in the making of decisions affecting them;
3. not unfairly discriminate against any member of the public on account of race, gender, ethnic or social origin, colour, sexual orientation, age, disability, religion, political persuasion, conscience, belief, culture or language;
4. not abuse my position in the CAFMLR to promote or prejudice the interest of any political party or interest group;
5. respect and protect every person's dignity and his or her rights as contained in the constitution;
6. co-operate fully with other CAFMLR members to advance the public interest;
7. refrain from favouring relatives and friends in work-related activities and never abuse his or her authority or influence another CAFMLR members, or influenced to abuse my authority;
8. be punctual in the execution of my duties;
9. execute my duties in a professional and competent manner;
10. recuse myself from any official action or decision-making process which may result in improper personal gain, and this should be properly declared by me;
11. accept the responsibility to avail myself for ongoing training and self-development throughout term as a CAFMLR member;
12. in the course of my CAFMLR term, report to the appropriate authorities, fraud, corruption, nepotism, mal-administration and any other act which constitutes an offence, or which is prejudicial to the public interest;
13. honour the confidentiality of matters, documents and discussions, classified or implied as being confidential or secret;
14. not use my official position to obtain private gifts or benefits for myself during the performance of my CAFMLR term duties nor to accept any gifts or benefits when offered as these may be construed as bribes;
15. promote sound, efficient, effective, transparent and accountable administration;
16. give honest and impartial advice, based on all available relevant information; and
17. be transparent by disclosing information that will enable stakeholders to hold the CAFMLR to account and that provides a holistic representation of the CAFMLR performance and its prospects for future value-creation.

Signed at _____ on this _____ day of _____, 2021 in the presence of the undersigned witnesses.

AS WITNESS:

3. _____

4. _____

ANNEXURE B

CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT BY AND BETWEEN:

THE MINISTER OF THE DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT,
MS. BARBARA CREECY

of Environment House, 473 Steve Biko Street, Arcadia, Pretoria, 0001
(hereinafter referred to as “the disclosing party”)

And

_____ [CAFMLR Member’s name]

_____ [ID number]

of

_____ [Address]

(hereinafter referred to as “the receiving party”)

I, the receiving party, in my capacity as a CAFMLR Member, agree that in consideration for access to information submitted to me, I will:

1. Keep all information provided to me relating to any and all business of the CAFMLR in strict confidence.
2. Disclose only the information relating to any and all business of the CAFMLR solely to individuals who have signed a confidentiality and non-disclosure agreement with the disclosing party or who are by the operation of the law request and authorised to receive this information.

Signed at _____ on this _____ day of _____, 2021 in the presence of the undersigned witnesses.

AS WITNESS:

MS. BARBARA CREECY

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

1. _____
2. _____

Signed at _____ on this _____ day of _____, 2021 in the presence of the undersigned witnesses.

AS WITNESS:

[CAFMLR Member’s name]

1. _____
2. _____

APPENDIX 3 SUMMARY OF MEETINGS HELD

1. **A total of twelve (12) CAF meetings and fifty-four (54) hours were scheduled to ensure that the Report is submitted to Minister by the deadline date of 10 December 2021**
2. **Platform of Meetings held: MS Teams**
3. **Meetings attended by the following groups and individuals**
 - **CAF Members**
 - Dr Theresa Frantz (TF) – Appointed as the Chairperson
 - Prof Anesh Govender (AG) – Appointed as the Deputy Chairperson
 - Prof Kerry Sink (KS)
 - Prof Kevern Cochrane (KC)
 - Prof Jeppe Kolding (JK)
 - Dr Welly Qwabe (WQ)
 - Mr Zolani Mbanjwa (ZM)
 - Mr Loyiso Mbanjwa (LM)
 - **CAF Observers**
 - Ms Shamera Daniels (SD)
 - Ms Hilda Adams (HA)
 - Mr Naseeg Jaffer (NJ)
 - Chief Reagan James (RJ)
 - Mr Pedro Garcia (PG)
 - Mr Charles Jordaan (CJ)
 - Mr Faez Poggenpoel (FP)
 - **Department of Forestry, Fisheries, and the Environment (DFFE)**
 - Mr Cheslyn Liebenberg (CL)
 - Mr Sharief Starke (SS)
 - Mr Tshepanang Morobane - Secretariat (S)
 - Mr Wade Theron (WT)
 - Ms Wendy West (WW)
 - Dr Kim Prochazka (KP)
 - Mr Abongile Ngqongwa (AN)
 - Ms Jean Patricia Glazer (JPG)
 - Ms Alieya Haider (AH)
 - Mr Liwalam Madikiza (LM)
 - **WCRL Scientific Working Group**
 - Dr Lutz Auerswald (LA) (DFFE Fisheries – Chair WCRL Scientific Working Group)
 - Prof Doug S. Butterworth (DB) (MARAM, UCT – Contracted consultant to DFFE Fisheries)
 - Dr Sue J. Johnston (SJ) (MARAM, UCT – Contracted consultant to DFFE Fisheries)

4. CAF Members Meetings Held

A total of twelve (12) CAF meetings and fifty-four (54) hours were scheduled to ensure that the Report is submitted to Minister by the deadline date of 10 December 2021

LIST OF MEETINGS HELD

DATE	TIME	DURATION
12 November 2021	15:00 – 17:00	2 hours
19 November 2021	13.00 -17.00	5 hours
26 November 2021	11.00 -12.30	1-hour 30mins
4 December 2021 (Saturday)	10.00-1.30	3 hours 30 mins
6 December 2021	10:00 -17:00	7 hours
8 December 2021	13:00 -17:00	5 hours
Total hours		24

DATE	TIME	DURATION
16 November 2021	13.00-17.00	5 hours
18 November 2021	13.00 -17.00	5 hours
23 November 2021	13.00 -17.00	5 hours
25 November 2021	13:00 – 17:00	5 hours
30 November 2021	13.00 -17.00	5 hours
02 December 2021	13.00-17.00	5 hours
Total hours		30 hours

APPENDIX 4 ADDITIONAL TECHNICAL INFORMATION RELEVANT TO CURRENT METHODS AND APPROACHES BY DFFE IN THE WCRL SECTOR

Additional technical detail on TAC method provided by DFFE

Some key technical aspects of the methodology applied and rationale for the SWG recommendations are as follows.

The assessment methodology used is a variant of “integrated analysis”, which is the approach now used most widely internationally and is based on maximum likelihood estimation.

A key distinction in this instance, however, is that the underlying model is length- rather than the conventional age-based; it uses annual growth estimates based on tagging as direct age data are not available.

The resource is modelled as five separate stocks in five geographical areas (“super-areas”). Allowance is made for discard mortality of undersized lobsters returned to the sea.

The method uses data in two ways:

- 1) Pre-specified inputs (e.g. annual somatic growth, poaching removals).
- 2) Data used in estimating model parameters by maximizing the likelihood (CPUE and FIMS indices of abundance and associated catch-at-length information, as well as the female proportion of the catch). Unfortunately, limitations of the funds available for monitoring have meant no catch-at-length information has been collected from the fishery since 2008.

The assessments have been subject to peer review by international panels of world leading stock assessment experts on six occasions since 2005, with the last two of these focused in particular on the estimation of poaching.

Fits of the model to the data, while not perfect, have been deemed satisfactory and are not indicative of any serious model mis-specification.

The primary reason for the worse results for the 2021 compared to the 2019 assessment is that especially the new CPUE data that became available over this period had lower values than was the case in 2019. These were inconsistent with the CPUE short-term projections made in 2019.

Projections assume that the estimates of poaching for the most recent year continue unchanged into the future.

The SWG preferred a two- rather than three-step TAC phase down process, inter alia because of the lower final TAC under the latter, and also because of poor implementation of subsequent steps in phase downs recommended in the past for lobster and abalone.

The fact that only length distribution and somatic growth rate data, rather than age data, are available, means that recruitment cannot be estimated annually, but typically over more recent decades only and are set as averages over five-year intervals for each super-area. The most recent estimates are subject to considerable uncertainty, which in turn impacts the reliability of projections.

A particular weakness of analyses is the extremely limited data available (especially for females) on somatic growth for animals of less than 75 mm carapace length (which includes merely all the females). Improved efforts are deemed necessary, as this compromises the evaluation and interpretation of the FIMS data, which are dominated by lobsters of less the 75 mm carapace length, in the assessment.

Additional technical detail on Poaching estimates provided by DFFE

In the interests of simplicity, the summary has been expressed in terms of two time series of data – poaching trend information from TRAFFIC and from Compliance. However, those two series are themselves not “raw” data/observations, but follow from considerable and sometimes complex pre-analysis of those original data. The information below briefly summarises those pre-analyses.

- TRAFFIC estimates of poaching are based on differences between reports by export countries of their legal exports, and those from import countries of their total imports. However, the product codes used by exporters in their reports do not refer to west coast rock lobster alone, but cover a combination of species. Detailed discussions with TRAFFIC have occurred over many years in the SWG as to how best to “subtract out” the contribution of, e.g., south coast rock lobster, with this approach improved over time.
- The resultant estimates of the amount of lobster poached annually are confounded by delays (typically many months) between the dates of harvesting and of import to a foreign country. Approaches have been developed to smooth the data, and to adjust for clear retrospective patterns indicating a negative bias in the value calculated for the most recent year.
- The Compliance data are used to provide an index: “Confiscations per unit of policing effort”, which is taken to be proportional to the amount of lobster poached each year.
- Calculations are confounded because for most of the period considered, confiscations are not linked to the particular policing effort type (e.g., vehicle inspection, beach patrol) that gave rise to that confiscation. This policing type needs to be taken into account, as different effort types have different confiscation efficiencies, so that the analysis needs to adjust for those as the proportions of the different types change from year to year.
- Analysis of the data as a whole to take account of both those with and without this linkage has been achieved by a method developed in conjunction with the international review panel on the last two occasions when it reviewed the west coast rock lobster assessment.
- These Compliance analyses distinguish the A8+ regions and those further north, as the trends over time for the two differ (this complication was not mentioned in the summary above for simplicity); however, it is the A8+ region which now dominates the overall poaching removals.
- The method used to “marry” the two sources of information starts from the assumptions that the TRAFFIC series provides values of the annual illegal takes exported in mt, and the Compliance series is linearly proportional to the overall annual illegal take (both as exported and as sold locally). However, a model fitting process is used which allows for errors in this last assumption, and estimates the annual illegal takes sold locally in mt. It does this by introducing further weighted constraints that seek to prevent any estimates of that illegal take being negative (especially so), and an overall poaching trend over time which is reasonably smooth.
- This “marriage” procedure would still result in very high estimates of the current illegal local sales, so that the model is run for different fixed inputs for that quantity, which are judged to bound within a realistic range.
- This “marriage” method was introduced because the two most recent very high indices of total poaching provided by the Compliance data became especially difficult to reconcile with the TRAFFIC trends, and in the interests of having a clear, objectively based and replicable procedure, despite still being somewhat sensitive to weighting parameter value choices.

Brief description of methodology for TAC apportionment provided by DFFE

This summary of the apportionment approach was based on a document submitted by DFFE to CAF (DOCUMENT called WEST COAST ROCK LOBSTER SECTOR TAC APPORTIONMENT 2021 CAF). TAC allocations per area are split into the offshore and inshore components, the proportions of which have been provided by CD:FR&D and have assumed not to have changed over recent years. The proportion between the offshore and inshore have been based on a general 60:40 split, though Zone A, Zone C and Super-Area 7 are either exclusively offshore or inshore. The 2% of the Super-Area 7 allocation to the recreational sector in the inshore resulted from a decision taken by the DDG in November 2016 to remove the restrictions in the MLRA Regulations for this Super-Area for the recreational sector.

The TAC quantum is allocated to commercial and small-scale/interim relief sectors, with 63% allocated to offshore components (offshore commercial and small-scale (utilised by the interim-relief sector until rights are allocated to small-scale)) and 38% to the inshore components (nearshore commercial and small-scale (utilised by the interim-relief sector until rights are allocated to small-scale)). At the time that rights were allocated to the commercial sectors under the fishing rights allocation process (FRAP 2015/16), the delegated authority had decided to grant 20% of the offshore component's TAC to small-scale, resulting in the 13% that they hold, and granting 50% of the inshore components TAC to the small-scale which resulted in the 17% that they hold. Since this decision was taken, the DDG has maintained these splits when approving the TAC allocation for the new fishing season.

The requested area allocations and the approved sector allocations are adhered to when granting TAC to individual right holders (commercial) and cooperatives/communities (small-scale/interim relief). The three groups of rights/exemption holders in the commercial nearshore consist of right holders that are individuals, small-scale fishing (SSF) cooperatives and Interim Relief (IR) communities. These groups receive a TAC allocation in one Zone/Super-Area (in which they reside). Their fishing operations make use of small vessels (bakkies/chukkies) that have limited range, so they are only permitted to operate within that specified Zone/Super-Area. The allocation to the area is divided up equally to these individuals. Since the allocation per area is different and the number of right/exemption holders per area is different, the TAC allocation for these individuals differ across Zones/Super-Areas.

Commercial offshore right holders are companies and they receive TAC allocations in multiple Zones/Super-Areas where offshore fishing is allowed. The same area splits per right holder has been used as before the rights were allocated under FRAP 2015/16. Since the bulk of the TAC is found in Area 8+, all Commercial offshore right holders have an allocation in this area, whilst Zone B/Area 3+4 has the fewest right holders. The area splits per right holder for the new entrants to the sector (approx. 60 companies) were decided based on their business address with only few granted TAC in Zone B/ Area 3+4.

The offshore TAC is shared between the small-scale fisheries cooperative (rights holders) and the Interim relief communities (exemption holders). The SSF cooperatives received 8.8% of the offshore TAC and the IR communities have access to the remainder of the 91.2% offshore TAC. The allocation for the two SSF cooperatives is further divided based on a percentage representation of the cooperatives and hence remains the same percentage split between the two cooperatives every season. However, the 53 IR communities equally share access to the TAC for the zone/area the IR community resides in. Hence, the allocation per community

may differ depending on the approved TAC and the area/zonal allocations. It is further noted that the allocation per communities may differ due the number of fishers per community, but the individual allocation per fisher in that community will be equal to other fisher in the same area/zone.

APPENDIX 5 LIST OF DOCUMENTS

1. All Voyages Map provided by Professor Doug Butterworth
2. Terms of Reference for the Consultative Advisory Forum for Marine Living Resources - Special Project to Review the West Coast Rock Lobster Total Allowable Catch (TAC) for the 2021/2022 fishing season. Sent by Tshepanang Morobane to all CAF members and Observers.
3. International Peer review of WCRL Assessment Methodology
4. Presentation by L. Auerswald (DFFE Fisheries – Chair WCRL Scientific working Group))
D.S. Butterworth (MARAM, UCT – Contracted consultant to DFFE Fisheries) S.J. Johnston (MARAM, UCT – Contracted consultant to DFFE Fisheries) called “The West Coast Rock Lobster Fishery: A Brief Historical Summary and the rationale underlying the recent TAC recommendation”, 16 November 2021
5. Climate Change Impacts on Fisheries and Aquaculture – A Global Analysis – Chapter 15 (22 May 2018)
Johann Augustyn et al (includes Lutz Auerswald)
6. Coastal and Fisheries Co-management in South Africa by M. Hauck and M. Sowman
7. Email information - A one pager deemed as additional information from Professor Doug Butterworth to summarise the “Review data on the poaching estimates used in the TAC model”
8. MARAM documents/IWS Panel reports relating to WCRL poaching since 2018. This is a reference list from Professor Doug Butterworth
9. “Fisheries crime, human rights and small-scale fisheries in South Africa: A case of bigger fish to fry” by Moenieba Isaacs, Emma Witbooi, Vol 105 (2019) pp 158-168, sent by Dr Kevern Cochrane
10. Deep water report from Professor Doug Butterworth which is an unpublished report titled “Summarized Results of Surveys Conducted off Rocky Bank”, 1-4 pages
11. Nomination of Observers representation in the Consultative Advisory Forum for Marine Living Resources members sent to CAF members by Tshepanang Morabane
12. Observer Presentation of the South African Small-Scale Fisheries Collective - SASSFC, presentation for the Consultative Advisory Forum - CAF re WCRL TAC Review presented by Hilda Adams, 30 November 2021
13. Observer Presentation by United Small-Scale Fishers Association by Faez Poggenpoel

14. Observer presentation supported by Chief Reagan James from Katz Korana Royal House, 29 November 2021
15. Observer Presentation by West Coast Rock Lobster Association: CAF Presentation by Shamera Daniels, 30 November 2021
16. Observer Presentation by SAUFF, Masifundise and St Helena Bay Fishing Community Forum “Impacts of the Proposed WCRL TAC cuts on SSF”, CAF Presentation by Pedro Garcia, 30 November 2021
17. Presentation by DFFE Chief Directorate: Monitoring, Control and Surveillance
“West Coast Rock Lobster Compliance Statistics” by Bernard Liedemann, 2 December 2021
18. Presentation by DFFE, Fisheries Management Branch, Chief Directorate: Marine Resources Management Directorate: Inshore Fisheries Management “West Coast Rock Lobster sector” by Wendy West, 16 November 2021
19. West Coast Rock Lobster sector TAC apportionment from Abongile Ngqongwa sent on 6 December 2021
20. FISHERIES/2021/AUG/SWG-WCRL14 “Standardized CPUE indices in the West Coast Rock Lobster trapboat fishery” Summary by J.P. Glazer
21. FISHERIES/2021/AUG/SWG-WCRL16 “Standardized CPUE indices per Super-area in the West Coast rock lobster hoopnet fishery” Summary by J.P. Glazer
22. FISHERIES/2021/JUL/SWGTT/WCRL19 “Final poaching trends using the new approach to combine estimates of illegally exported and locally sold west coast rock lobster”, Summary by Johnston, S.J. and Butterworth, D.S.
23. FISHERIES/2021/JUL/SWGTT/WCRL04 “Updated male somatic growth rate estimates for West Coast rock lobster” by OLSPS Marine Silvermine House Steenberg Office Park, Tokai 7945, July 2021
24. FISHERIES/2021/JUNE/SWG/WCRL11 “Compliance poaching trends updated up to 2020 for West Coast rock lobster from modelling the “old” and the “new” databases simultaneously “by A. Brandão and D.S. Butterworth, Marine Resource Assessment & Management Group (MARAM) Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch 7701, Cape Town, June 2021
25. FISHERIES/2017/JAN/SWG-WCRL/02 Inshore versus offshore split of available quota, Summary by S.J. Johnston, and D.S Butterworth, 2017
26. INTERNATIONAL REVIEW PANEL REPORT FOR THE 2018, INTERNATIONAL FISHERIES STOCK ASSESSMENT WORKSHOP, 26 -30 November 2018, UCT by [Sean Cox, Sarah Gaichas, Malcolm Haddon, and André E Punt], Summary of General Issues

27. Acid base balance and changes in haemolymph properties of the South African rock lobsters, *Jasus lalandii*, a palinurid decapod, during chronic hypercapnia” by Jarred L. Knapp, Christopher R. Bridges, Janina Krohn, Louwrens C. Hoffman, Lutz Auerswald, *Biochemical and Biophysical Research Communications*, vol. 461, pp 475-480, 2015
28. “The effects of hypercapnia on the West Coast rock lobster (*Jasus lalandii*) through acute exposure to decreased seawater pH — Physiological and biochemical responses” by J.L. Knapp a, C.R. Bridges b, J. Krohn, L.C. Hoffman, L. Auerswald, *Journal of Experimental Marine Biology and Ecology*, vol. 476, pp 58, 2016
29. Effects of chronic hypercapnia and elevated temperature on the immune response of the spiny lobster, *Jasus lalandii* by Jarred L. Knapp, Lutz Auerswald Louwrens C. Hoffman, Brett M. Macey, *Fish and Shellfish Immunology*, vol. 93, pp 752-762, 2019
30. Letter from Mafukuzela Fishing (PTY) Ltd “Reduction of Quota over the last twenty years”, sent on 21 October 2021
31. Letter from the WEST COAST ROCK LOBSTER ASSOCIATION, to DFFE, Fisheries Management Branch, Acting Director, Inshore Fisheries Management, Mr Odwa Dubula RE: RESPONSE:
 - 1.) THE TAC DETERMINATION FOR THE 2021/2022 SEASON and 2.) WCRL OFFSHORE SKIPPERS ASSOCIATION, sent on 21 September 2021 by Chairperson, Shamera Daniels
32. “Quantifying the ecological and socio-economic implications of a recovery/collapse of South Africa’s West Coast rock lobster fishery”, by Jessica M. Eggers, Kevern L. Cochrane and Warwick H.H. Sauer, Department of Ichthyology and Fisheries Science, Rhodes University, Makhanda, A Report to WWF South Africa and the Responsible Fisheries Alliance, 25 June 2021
33. FISHERIES/2020/AUG.2020/WCRL/WP4 Projected TRAFFIC estimates for 2019 assuming different starting years for linear regressions
34. Chief Directorate: Marine Resources Management Directorate: Inshore Fisheries Management, West Coast Rock Lobster sector TAC apportionment
25 November 2021, by Wendy West (MRM) and Bernacia Mullins (SSF)
35. FISHERIES/2016/AUG/SWG/WCRL27, Bakkies and Trapboats
36. Letter from Shamera Daniels, Chairperson of the West Coast Rock Lobster Association to the Chief Director, Fisheries Research and Development, Dr Kim Prochazka RE: Unhappiness about the accuracy of data utilised during TAC determination and involvement in the process by industry representatives, 19 August 2021
37. TAC Methodology Summary provided by Professor Doug Butterworth

38. Poaching Estimates Summary provided by Professor Doug Butterworth
39. Covering email regarding Poaching documents provided as additional explanation by Professor Doug Butterworth
40. WWF Presentation D on Litigation and Appeals “South Africa vs Minister of Agriculture, Forestry and Fisheries and Other Judgment delivered: 26 September 2018 presented by Liezel Tsegarie from Legal Services, DFFE
41. Recommendations of the Rock Lobster Scientific Working Group for the sustainable management of the west coast rock lobster resource for the 2021/2022 season – A Summary, August 2021
42. Small-scale fisheries (SSF) policy: A handbook for fishing communities by Masifundise Development Trust
43. Fishery Co-Management: A Practical Handbook by Robert S. Pomeroy and Rebecca Rivera-Guieb, 2006
44. A diagnosis of the status and effectiveness of marine fisheries management in South Africa based on two representative case studies by Cochrane KL, Eggers J, Sauer WHH, Marine Policy 112: article 103774, 2020
45. Presentation by TRAFFIC “CAF Review: Poached WCRL internationally exported from South Africa” by Simone Louw & Markus Burgener