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Oceans and the law of the sea: sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments

Letter dated 31 August 2022 from the moderator of the workshop to discuss the implementation of paragraphs 113, 117 and 119 to 124 of resolution [64/72](#), paragraphs 121, 126, 129, 130 and 132 to 134 of resolution [66/68](#) and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution [71/123](#) on sustainable fisheries, addressing the impacts of bottom fishing on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks, addressed to the President of the General Assembly

In my capacity as moderator of the workshop to discuss the implementation of paragraphs 113, 117 and 119 to 124 of resolution [64/72](#), paragraphs 121, 126, 129, 130 and 132 to 134 of resolution [66/68](#) and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution [71/123](#) on sustainable fisheries, addressing the impacts of bottom fishing on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks, I have the honour to transmit a summary of the discussions held at the workshop (see annex).

In its resolution [76/71](#), the General Assembly recognized the value of having a two-day workshop precede its further review of the actions taken by States and regional fisheries management organizations and arrangements in response to paragraphs 113, 117 and 119 to 124 of resolution [64/72](#), paragraphs 121, 126, 129, 130 and 132 to 134 of resolution [66/68](#) and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution [71/123](#). The workshop was held at United Nations Headquarters in New York on 2 and 3 August 2022, pursuant to paragraphs 209 and 210 of resolution [76/71](#).

I kindly request that the present letter and its annex be circulated as a document of the General Assembly, under item 73 (b) of the provisional agenda.

(Signed) Renée Sauvé
Moderator

* [A/77/150](#).



Annex to the letter dated 31 August 2022 from the moderator of the workshop to discuss the implementation of paragraphs 113, 117 and 119 to 124 of resolution 64/72, paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68 and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution 71/123 on sustainable fisheries, addressing the impacts of bottom fishing on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks, addressed to the President of the General Assembly

Summary of the discussions held at the workshop*

1. Pursuant to paragraphs 209 and 210 of General Assembly resolution 76/71, the workshop to discuss the implementation of paragraphs 113, 117 and 119 to 124 of resolution 64/72, paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68 and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution 71/123 on sustainable fisheries, addressing the impacts of bottom fishing on vulnerable marine ecosystems (VMEs) and the long-term sustainability of deep-sea fish stocks, was held at United Nations Headquarters in New York on 2 and 3 August 2022.

2. Following its previous review of the impacts of bottom fishing on VMEs and the long-term sustainability of deep-sea fish stocks in 2016, the General Assembly decided in its resolution 71/123 to undertake a further review in 2020. Owing to the impacts of the coronavirus disease (COVID-19) pandemic, however, the Assembly decided to postpone the review for two years, to 2022.

3. The workshop was attended by representatives of States, intergovernmental organizations, including regional fisheries management organizations and arrangements (RFMO/As), and non-governmental organizations. An opening statement was made by the Director of the Division for Ocean Affairs and the Law of the Sea, Vladimir Jares. Renée Sauvé (Canada) was appointed moderator of the workshop.

4. In accordance with its agenda and organization of work, as orally revised,¹ the workshop consisted of four thematic segments, each of which was introduced with presentations by relevant experts,² followed by a general discussion among the participants. Summaries of each segment are presented in paragraphs 8 to 45 below. The workshop was informed by the report of the Secretary-General on actions taken by States and RFMO/As in response to paragraphs 113, 117 and 119 to 124 of resolution 64/72, paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68 and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution 71/123 (A/75/157) and the advance unedited material for the report of the Secretary-General on further actions taken by States and RFMO/As in response to paragraphs 113, 117 and 119 to 124 of resolution 64/72, paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68 and paragraphs 156, 171, 175, 177 to 188 and 219 of resolution 71/123 (A/77/155 and A/77/155/Corr.1).

5. Throughout the proceedings of the workshop, participants reiterated the importance of the work of the General Assembly in addressing the impacts of bottom fishing on VMEs and the long-term sustainability of deep-sea fish stocks. They also noted the important role of States, RFMO/As and the Food and Agriculture Organization of the United Nations (FAO) in that regard.

* The present summary is intended for reference purposes only and not as a record of the discussions.

¹ Available from www.un.org/depts/los/bottom_fishing_workshop.htm.

² Available from www.un.org/depts/los/TOPBFW2022.htm.

6. Participants welcomed the workshop as an important forum in which to exchange information and views on the actions that had been taken to implement the resolutions, as well as on areas that required further work.

7. Participants took stock of the considerable progress that had been made at the global, regional and national levels since the adoption of General Assembly resolution [61/105](#) in 2006. However, it was noted that implementation remained incomplete and uneven and that further efforts were needed to improve the implementation of that resolution and subsequent related resolutions.

Impacts of bottom fisheries on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks (segment 1)

8. In segment 1, presentations were made by Marcelo Vasconcellos (Fisheries and Aquaculture Division, FAO), Eugene Nixon (International Council for the Exploration of the Sea), Thomas Blasdale (Northwest Atlantic Fisheries Organization), Amy Baco-Taylor (Florida State University, United States of America) and Matthew Gianni (Deep Sea Conservation Coalition).

9. The panellists highlighted the adverse impacts of bottom fishing, in particular bottom trawling, on VMEs and the sustainability of deep-sea fish stocks.

10. General Assembly resolution [61/105](#) and the FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas were highlighted as transformational instruments in ensuring the long-term conservation and sustainable use of marine living resources in the deep seas and preventing significant adverse impacts on VMEs. It was noted that, while there had been improvements in catch estimation and considerable changes in the monitoring and management of deep-sea fisheries in the high seas by competent RFMO/As, there was still a need for improvement in stock monitoring, with the status of 49 per cent of deep-sea fisheries stocks in the high seas unknown as of 2016. One participant expressed disappointment at the figure and questioned whether better technology was needed to fill in the gap. A forthcoming review of the implementation of the Guidelines was welcomed with interest, as it was noted that the first review had taken place in 2010 shortly after the Guidelines were published and did not allow adequate time to assess their implementation.

11. The considerable progress made to implement the provisions of relevant General Assembly resolutions and the Guidelines since the last review workshop in 2016 was emphasized. In particular, it was pointed out that most RFMO/As had incorporated relevant Assembly resolutions and the Guidelines into their bottom fishing regulations. In that regard, examples of fisheries closures and area closures for the protection of seamounts were highlighted. It was noted, however, that implementation remained uneven, with little progress made in certain regions, and that more progress was needed in some areas, including in obtaining further biological information on the species that comprise VMEs and their interlinkages, protecting biodiversity beyond VMEs, consistent application of the VME criteria in the Guidelines by bottom fishing RFMO/As, the assessment of cumulative impacts and the improvement of move-on rules.

12. While there were still gaps in the coverage of bottom fishing RFMO/As, such as in the South-West Atlantic, it was noted that some flag States were implementing General Assembly resolutions in those areas.

13. Panellists provided information on ongoing applied research to operationalize the Guidelines, including through the establishment of thresholds for determining the existence of VMEs and significant adverse impacts on them. One approach in the

assessment of future significant adverse impacts was to set thresholds on how much fishing activity needed to have occurred in an area before VMEs could be presumed to no longer be present and therefore a closure no longer required. However, other panellists suggested that already degraded VMEs should be protected and that closures to bottom contact gear should be considered in actively fished areas to allow VMEs time to recover. It was noted that, even in some previously heavily trawled areas, there was still evidence of VMEs, and that in some areas where trawling had ceased, VME species were recovering, although the recovery depended on the presence of seed populations and the recovery time was likely in the order of 30–40 years.

14. Specific examples of measures to protect VMEs being taken by RFMO/As were presented, including area closures where scientific justification existed, move-on rules for encounters with VMEs within existing fishing areas and the requirement of an impact assessment as a precondition for fishing in new areas.

15. Bottom trawling was noted for having a far greater impact on VMEs compared with static gear. A practical example of observations of significant adverse impacts of bottom trawling on VMEs on seamounts was highlighted, and recommendations were made to close those seamounts to bottom contact fisheries until the gear being used could be proven not to cause significant adverse impacts. However, the presenter highlighted an experience in which, despite evidence of significant adverse impacts on VMEs being presented to the relevant RFMO, no evident action had been taken.

16. Some panellists pointed to the relatively small scale of bottom trawling, in particular on seamounts, to suggest that phasing out bottom trawling on seamounts involved relatively small economic trade-offs. However, one panellist suggested that bottom trawling for high-value species was an important source of food and revenue. Citing the second World Ocean Assessment, another panellist highlighted that fishing, in particular bottom trawling, constituted the greatest current threat to seamount ecosystems, and the panellist therefore advocated the phasing out of bottom trawling on seamounts and other underwater features.

17. In response to a question regarding the inconsistent application of the VME criteria in the Guidelines by RFMO/As, one panellist suggested that improvements had been made in that regard by at least one RFMO since 2016. In response to a question on whether closures would be recommended solely on the basis of VME predictive habitat mapping, panellists stated that it was too early to say how such modelling would be used for advice, and that such modelling was being used alongside other types of analysis. In response to questions about the scientific consensus on what constitutes significant adverse impacts and on the specific criteria for the identification of VMEs, panellists conceded there were still divergent views on those issues. In particular, it was noted that, while work on thresholds was based on science, thresholds were proxies that could be used for different purposes and, in the opinion of one participant, could be used to reach a political compromise.

Progress made by States in addressing the impacts of bottom fisheries on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks, in particular through the implementation of the relevant paragraphs of resolutions [64/72](#), [66/68](#) and [71/123](#), including in relation to the experience and the special requirements of developing States (segments 2 and 3)

18. In segments 2 and 3 of the provisional agenda, which were merged into a single segment, presentations were made by Teresa Molina Schmid (Subdirector on Regional Fisheries Management Agreements and Organizations, Ministry of

Agriculture, Fisheries and Food, Spain), Sally Truong (Multilateral, Aquaculture and Recreational Fisheries Section, Department of Agriculture, Fisheries and Forestry, Australia), Paul Lansbergen (Fisheries Council of Canada, member of the International Coalition of Fisheries Associations) and Marcelo Vasconcellos (Fisheries and Aquaculture Division, FAO).

19. Several participants shared the experiences of their respective States in addressing the impacts of bottom fishing on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks and stressed their commitment to implementing the provisions of the relevant General Assembly resolutions. In that regard, participants highlighted the progress made both in areas within and those beyond national jurisdiction and reported on the adoption of various management measures at the national level and through the respective RFMO/As. The measures described included identification of vulnerable marine ecosystems, area closures, catch and effort limits, input and output control measures, gear requirements and restrictions, footprint restrictions, use of observers, data collection, impact assessments, move-on protocols, monitoring, enforcement, establishment of marine protected areas and application of encounter protocols. The adoption of self-imposed measures in areas not covered by RFMO/As was emphasized by some participants, as was the importance of sharing information regarding measures taken by flag States.

20. Emphasis was placed on the use of the best available science for the adoption of measures, as well as on the importance of the precautionary approach in the development of policies and regulatory frameworks, especially when data are limited. Although progress has been made in advancing scientific work, panellists stressed the need to improve scientific cooperation across States and RFMOs, and thus enhance the exchange of data and knowledge, which is crucial for efficient fisheries management.

21. The importance of technology and innovation to minimize significant adverse impacts on VMEs was highlighted, as were the obstacles to wider dissemination and use of such technology. In this respect, the role of policy and regulatory certainty in facilitating investment in forward-thinking technology that will ensure the long-term sustainability of bottom fishing was underscored. Some participants emphasized the importance of working with the private sector and other stakeholders, including to build trust and create opportunities.

22. The need for improved implementation by States, including through the identification of barriers to implementation, was emphasized, and in this respect the importance of collaboration at all levels was highlighted. Participants also stressed the essential nature of effective management of bottom fisheries to ensure the long-term sustainability of the sector. The important role of RFMOs in this regard was underlined, while there was recognition that strong action by States was also needed to ensure sustainable practices and the conservation of fish stocks. The need to take into account the cumulative impacts of the activities undertaken by all RFMO members was emphasized. The importance of collaboration with other States was noted.

23. Concern was expressed regarding the use of a one-time threshold for the encounter protocol, which did not take into account the cumulative impact of multiple trawls. A question was also raised as to whether bottom fishing should be allowed to continue in areas that had been recognized as ecologically or biologically sensitive areas. With regard to a specific instance of a VME encounter, it was noted that conservation and management measures were determined on the basis of the best available science at the time and would be reviewed periodically.

24. With regard to the experience and special requirements of developing States in addressing the impacts of bottom fisheries on vulnerable marine ecosystems and the

long-term sustainability of deep-sea fish stocks, it was noted that a number of capacity development projects and initiatives had been undertaken, including through workshops, training sessions, tools and surveys. Information was provided on ongoing capacity-building and capacity development programmes of FAO, including its deep-sea fisheries programme, the Global Sustainable Fisheries Management and Biodiversity Conservation in Areas Beyond National Jurisdiction, which was supported by the Global Environment Facility, the SponGES project, funded by the European Union, Canada and the United States, and the Ecosystem Approach to Fisheries Nansen Programme. However, a lack of continuity and long-term investment in capacity development that would enable sound fisheries management was noted, particularly as technical and institutional capacity could only be built over time. The challenges concerning limited human resources, data limitations and the need for an enabling environment for change were highlighted as being particularly difficult to overcome.

25. Different views were expressed concerning the role of bottom fisheries in ensuring global food security, with one panellist describing it having a critical role, while another participant emphasized the reduced significance of bottom fisheries in the deep sea and in areas beyond national jurisdiction.

Progress made by regional fisheries management organizations and arrangements in addressing the impacts of bottom fisheries on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks, in particular through the implementation of relevant paragraphs of resolutions 64/72, 66/68 and 71/123 (segment 4)

26. In segment 4, presentations were made by Darius Campbell (North-East Atlantic Fisheries Commission), Kerrie Robertson (Cook Islands, Chairperson of the Intersessional Bottom Fishing Workshop Group, South Pacific Regional Fisheries Management Organization (pre-recorded)), Thomas Blasdale (Northwest Atlantic Fisheries Organization), Dirk Welsford (Chair of the Scientific Committee, Commission for the Conservation of Antarctic Marine Living Resources (pre-recorded)), Nicola Ferri (General Fisheries Commission for the Mediterranean) and Lizette Voges (South-East Atlantic Fisheries Organization (pre-recorded)).

27. RFMO/As explained that they continued to refine how they address the impacts of bottom fisheries on VMEs and the long-term sustainability of deep-sea fish stocks through various science-based measures, based on precautionary and ecosystem approaches, that are binding on members. In particular, RFMO/As employed measures including catch limits or bans, closed and restricted areas for VMEs and seamounts, bans on certain activities, restrictions on types of fishing gear, and regulation of and thresholds for encounters with VMEs, including move-on rules upon reaching certain by-catch limits. The progress made by some RFMO/As in implementing the General Assembly resolutions since 2016 was highlighted, including with regard to the application of the precautionary approach and ecosystem approach, the expansion or addition of closed areas, the assessment of cumulative impacts, the review and revision of assessments and the update of measures. Some RFMO/As reported on ongoing or future work.

28. Tools were developed by RFMOs to identify areas where there were high risks of impacts to VMEs. Area closures were sometimes based on historical fishing footprints, with fishing outside those areas subject to evaluation, approval and strict exploratory fisheries protocols. In some cases, members were able to recommend protection for VME locations discovered during marine scientific research. In other

cases, in the absence of sufficient scientific information, area closures were based on precautionary-based probabilities. Certain areas were differentiated according to the gear employed. Marine protected areas were also employed in some areas. In response to questions, participants elaborated on specific measures being employed, how particular protocols, such as those relating to move-on rules, worked in practice, and what amendments to particular measures were being considered. One panellist noted a shift away from the focus on the management of use towards achieving conservation objectives.

29. It was noted that RFMO/As had developed bodies and procedures to promote an effective science-policy interface, although instances of diversity in the approaches taken were also noted, particularly in relation to the collection and assessment of scientific information. RFMO/As reported that they were engaged in the regular review and revision of measures and approaches, including in response to new scientific data and particular VME encounters. Observations were also made regarding certain data limitations, including due to limited historical data and low fishing efforts, as well as documented uncertainties, and resulting difficulties in scientific assessments.

30. Participants acknowledged with appreciation the role and efforts of RFMO/As in taking and continuing to improve measures to manage deep-sea fish stocks and to minimize adverse impacts on VMEs. An expectation was noted that discussions would continue regarding what is required for further improvement based on science.

31. In terms of common issues being faced, issues of compliance, monitoring and enforcement were discussed. Participants emphasized the critical importance of compliance with measures that had been put in place, and effective monitoring to that end, querying where the knowledge gaps lay and how compliance might be strengthened. In this respect, participants stressed that, in many cases, actions to promote compliance were effective, particularly in terms of spatial management and the use of vessel management systems, including to reduce instances of false positive violation alerts. However, they noted greater difficulty in enforcing certain measures, notably move-on rules, where there was a lack of clarity as to whether encounters were not occurring or not being reported, as well as a knowledge gap in terms of the ability of VMEs to recover. In addition, the point was raised that, even if violations could be detected, including through the leveraging of innovative technology to provide reliable data, there was often an inability to effectively follow up on situations of non-compliance and ensure that vessels were not returning to sea. Ongoing discussions, together with work to be undertaken in the context of the second phase of the deep-sea project funded by the Global Environment Facility, would, it was hoped, assist on the issue, while common protocols might also be useful.

32. Participants acknowledged a concern that management actions taken by RFMO/As were unable to address potential impacts resulting from other activities taking place in the same area, thereby affecting the effectiveness of ecosystem-based approaches. Efforts were noted, in this respect, to ensure that regulations were brought to the attention of all relevant national authorities and ensure, insofar as possible and through coordinated action, that other actors did not carry out activities that might have a negative impact on regulated areas. Cooperation with other organizations with complementary activities was also highlighted. Participants also mentioned, in this context, the ongoing negotiations on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, querying whether there were lessons to be learned in terms of what should be taken into account in setting up area-based management tools to ensure that they would be effective once operational, and noting the possibility that the process might address the coordination of many actors.

33. Participants raised various issues relating to the transparency of decision-making processes within RFMO/As, as many assessment reports were still not publicly available, as well as concerns regarding the confidentiality of data, particularly given the importance of high-quality and good-resolution data. Participants noted issues surrounding confidentiality and the public sharing of certain forms of collected data, including catch and scientific data, except at a high level of abstraction, as well as the availability of data more generally. However, positive steps taken towards transparency were also noted in terms of, for instance, inviting submissions and proposals from a wide variety of stakeholders, allowing the participation of observers, including through contributions to scientific and surveillance information, making reports publicly accessible, and sharing information with other RFMOs. The role of research surveys and capacity-building in overcoming knowledge gaps was also noted.

34. Noting the issues being faced, participants queried whether there would be utility in greater standardization across RFMO/As of tools or protocols in use, as well as how RFMO/As were working to share information and ensure that best practices were being employed across their areas of competence, particularly in view of differing levels of data being available and approaches being used. Participants highlighted, in this respect, that some level of standardization might be of assistance, particularly in resource-poor regions. At the same time, it was necessary to be aware that different regions and their ecosystems and needs differed, which meant that a single approach might not be suitable. Not all the stocks in certain RFMO/A regions exhibited, for example, the classic characteristics of deep-sea fish stocks, which tend to be more vulnerable owing to slower reproduction rates, higher ages of maturity and greater sensitivity, and about which there tends to be fewer data. A range of management tools and approaches was therefore required for different stocks, which might also be found in different maritime zones. Only some of the experiences and lessons learned would be applicable to, and could be helpfully shared with, other RFMO/As.

35. Some participants called for the closure of seamounts to bottom fishing in the relevant RFMO, as it was impossible to preclude significant adverse impacts to VMEs in the light of the limited scientific knowledge of VME species, connectivity and local diversity of endemic species even within the same seamount. It was noted that seamount closures should be considered in the context of science-based reviews, including some that were ongoing.

Opportunities for and challenges in further addressing the impacts of bottom fisheries on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks (segment 5)

36. In segment 5, presentations were made by James Brown (Ministry for Primary Industries, New Zealand), Ellen Kenchington (Fisheries and Oceans Canada), Lissette Victorero (Department of Marine Biology, Norwegian Institute for Water Research), and Ivan Lopez van der Veen (International Coalition of Fisheries Associations).

37. Participants highlighted some of the challenges faced by States and RFMO/As in implementing the General Assembly resolutions, as well as some of the opportunities for improving the protection of VMEs and the long-term sustainability of fish stocks. Some panellists highlighted the progress and challenges regarding the measurement of impact, the development of modelling and new technologies to identify the actual or likely locations of VMEs. The challenges posed by knowledge and data gaps, especially in data-poor fisheries, was underscored. It was further noted that, despite the effort to reduce the impact of fishing activities on the environment,

the fishing industry still encountered some challenges, including on how to quantify and prevent significant adverse impacts of fishing activities on VMEs. Attention was also drawn to the uneven implementation of the resolutions across regions and the different approaches taken, including with regard to identifying significant adverse impacts, encounter protocols and the implementation of an ecosystem approach. Compliance and enforcement were also identified as challenges.

38. Participants drew attention to scientific developments and discoveries that provided opportunities to improve the management of deep-sea fisheries and the protection of VMEs. Advancements in technology and modelling contributed to the understanding of deep-sea species, including in relation to connectivity. Those species had certain traits, and those traits were linked to ecosystem functions such as carbon sequestration, nutrient cycling and habitat provision. It was noted that VMEs were important not only for biodiversity but also for the sustainability of fish stocks. Better and more effective management measures could be put in place by understanding the relationship between VMEs and fish stocks. It was noted that VMEs were an important habitat for not only demersal fish but also some pelagic species and contributed to benthic-pelagic couplings. Research also showed that deep-sea fish provided a carbon storage pathway and had the potential of storing a volume of up to 2.5 million tons of carbon dioxide every year. A view was expressed that the value of the ecosystem services provided by VMEs exceeded the value of bottom fishing activities.

39. Concern was expressed that research on nine impact assessments conducted in several regions indicated that none of the impact assessments fully complied with the FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas, as one or more criteria were addressed only partially or not at all. Data availability, especially with regard to the spatial distribution of VMEs and their associated species, was a key factor preventing comprehensive impact assessment, as was a lack of baseline information. It was suggested that there was a need to standardize the content of impact assessments across RFMO/As and to have an independent evaluation of impact assessment. The view was expressed that, in the absence of detailed data on VME locations in the fishing area, a precautionary approach should be implemented until appropriate scientific data were available, rather than only avoiding areas where VME indicators were seen in trawl catches. Based on the research, several recommendations were suggested to improve the impact assessment process. To ensure standardization across RFMOs, a template of questions to assist RFMOs in implementing the relevant guidelines and resolutions related to the impact assessment process was provided. With regard to the precautionary approach, a view was expressed on the need to ensure that decision-making was based on the best available information and science.

40. Despite the need for further improvements regarding impact assessment and data availability, many participants acknowledged the progress made with regard to the understanding of VMEs and the development of new tools and technologies. One panellist highlighted the use of new technologies such as passive acoustic monitoring to observe the seafloor and detect fish noises. Another example was provided, that of the initiative of several countries in developing a system that would allow a more robust and reliable assessment tool. Meanwhile, one panellist reported the introduction of species distribution modelling that had been used in several countries and had provided information on the location of VMEs and sensitive benthic areas. In addition to new technologies and methodologies, one panellist reported on management measures that had been implemented in one fishing area to address a range of bottom contact fishing, such as a ban on high seas gill netting and restrictions on bottom trawling and bottom lining.

41. Increased cooperation among different stakeholders was highlighted as an opportunity. Increased sharing of information and best practices among RFMO/As, including through FAO networks, was considered important. The importance of sharing information regarding the activities of flag States, including in areas where no RFMO existed, was highlighted, with a call for increased contributions to relevant reports of the Secretary-General. A view was expressed that there was an opportunity for more cooperation between States to adopt monitoring, control and surveillance measures for bottom fishing and that more comprehensive management measures had been implemented. The involvement of the fishing industry in management was considered key, given the data and information that could be collected from its activities. One panellist noted that coastal communities were highly dependent on fishing for the supply of nutritious, healthy and sustainable protein. The fishing industry was composed of people who shared the same concern about the current condition of the oceans and how it might affect their livelihood. In this regard, it was considered important to improve communication with the private sector to build trust and buy-in, while recognizing and balancing the economic, social and environmental aspects of the fisheries sector.

Summary segment

42. During the summary segment, the moderator provided an oral summary of the principal elements of the discussion and indicated that she would prepare the present written summary for circulation as a document of the General Assembly on that basis.

43. Participants highlighted the considerable progress that had been achieved since the adoption of General Assembly resolution [61/105](#) but stressed that additional efforts were needed to ensure the full and effective implementation of the Assembly framework for addressing the impacts of bottom fishing on VMEs and the long-term sustainability of deep-sea fish stocks, as well as the Guidelines. While the significant progress that had been made was recognized, the workshop discussions highlighted a few areas where additional effort was needed, including the need to continue to operationalize an ecosystem approach to fisheries; refining procedures for identifying VMEs, detecting significant adverse impacts, and the move-on rule; developing means of factoring in cumulative impacts and allowing for recovery; and building a better understanding of connectivity.

44. It was underscored that the sustainability of the stocks and the sector depended on it, hence a shared interest among all relevant stakeholders. A call was made to recognize the value and ensure the protection of the range of VMEs. Several participants emphasized the important role of RFMO/As in the management of deep-sea fish stocks and the protection of VMEs, while it was noted that implementation among regions remained uneven. The importance of continuing to build and share scientific knowledge on which to base measures and develop and propagate innovative technological tools was also recalled. The need for greater transparency and improved cooperation was stressed.

45. Participants underscored the value of the multi-stakeholder workshop for dialogue and the exchange of information, highlighting its contribution to the review by the General Assembly. They expressed their gratitude to the moderator and to the panellists for the high quality of their presentations. Appreciation was also expressed to the Secretariat, in particular to the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs.