

Scientists' Statement to the UN General Assembly 64th Session regarding Progress made in Protecting Vulnerable Deep Sea Ecosystems

We the under-signed marine scientists and practitioners,

Recognizing previous statements made by scientists and practitioners to the United Nations General Assembly (UNGA) highlighting concern regarding the damaging effects of bottom fishing on deep-sea and high seas ecosystems, particularly coral and sponge communities as well as seamounts, including *inter alia*: **Scientists' Statement on Protecting the World's Deep-Sea Coral and Sponge Ecosystems**, signed by 1452 experts, submitted in 2006; and **Statement of concern to the United Nations General Assembly regarding the risks to seamounts, cold-water corals, and other vulnerable ecosystems of the deep-sea**, signed by 142 experts and submitted in 2003;

Heartened by the steps taken by the UNGA to date to address this serious issue, particularly the **2006 Resolution 61/105** (see Annex 1, below), and the review this year of its implementation;

Encouraged by site-specific fisheries closures taken to protect some vulnerable features in some regions, particularly the northeast Atlantic, northwest Atlantic, and southeast Pacific regions;

Encouraged also by some precautionary measures taken in the Southern Ocean, depth restrictions in the Mediterranean and northwest Atlantic, and the "frozen footprint" in the south Pacific;

Remain concerned nonetheless by the inadequate responses of flag states and regional fisheries management organisations (RFMOs) to the scientific requirements of UNGA Resolution 61/105 to protect vulnerable marine ecosystems (VMEs) from the effects of bottom fishing activities, namely:

§83a) **no comprehensive assessments of the effects of individual bottom fishing activities** have occurred; effects of bottom fishing are well documented in the scientific literature, but they have not been taken into account and hence are not being managed to prevent significant adverse impacts;

§83b) **no comprehensive scientific assessments of VMEs** have taken place in any region; and only limited steps have been taken to improve scientific research, data collection and sharing;

§83c) **most VMEs remain unprotected** despite the availability of scientific information indicating their occurrence or likely occurrence; and, due to the lack of regional VME assessments, it is likely that those closures that have been adopted, though commendable, are insufficient;

§83d) **science-based encounter rules have not yet been put in place** to define an encounter with a VME and when fishing activities should stop; furthermore, for the northwest and northeast Atlantic, the provisional rule (100kg live corals or 1000kg live sponges) appears arbitrary, is not science-based, and is so large as to undermine the goal of UN Resolution 61/105;

Therefore conclude that science-based measures supporting §83 of UN Resolution 61/105 have not yet been implemented in the time provided, and **therefore recommend** that flag states and RFMOs cease to authorize fishing vessels to conduct bottom fisheries in areas beyond national jurisdiction (as per §86) until such time that UN Resolution 61/105, especially §83, is demonstratively implemented using the best available science.

Annex 1: paragraphs of the 2006 UN Res. 61/105 referred to in the above text

83. *Calls upon* regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries to adopt and implement measures, in accordance with the precautionary approach, ecosystem approaches and international law, for their respective regulatory areas as a matter of priority, but not later than 31 December 2008:

(a) To assess, on the basis of the best available scientific information, whether individual bottom fishing activities would have significant adverse impacts on vulnerable marine ecosystems, and to ensure that if it is assessed that these activities would have significant adverse impacts, they are managed to prevent such impacts, or not authorized to proceed;

(b) To identify vulnerable marine ecosystems and determine whether bottom fishing activities would cause significant adverse impacts to such ecosystems and the long-term sustainability of deep sea fish stocks, inter alia, by improving scientific research and data collection and sharing, and through new and exploratory fisheries;

(c) In respect of areas where vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals, are known to occur or are likely to occur based on the best available scientific information, to close such areas to bottom fishing and ensure that such activities do not proceed unless conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems;

(d) To require members of the regional fisheries management organizations or arrangements to require vessels flying their flag to cease bottom fishing activities in areas where, in the course of fishing operations, vulnerable marine ecosystems are encountered, and to report the encounter so that appropriate measures can be adopted in respect of the relevant site;

84. *Also calls upon* regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries to make the measures adopted pursuant to paragraph 83 of the present resolution publicly available;

85. *Calls upon* those States participating in negotiations to establish a regional fisheries management organization or arrangement competent to regulate bottom fisheries to expedite such negotiations and, by no later than 31 December 2007, to adopt and implement interim measures consistent with paragraph 83 of the present resolution and make these measures publicly available;

86. *Calls upon* flag States to either adopt and implement measures in accordance with paragraph 83 of the present resolution, *mutatis mutandis*, or cease to authorize fishing vessels flying their flag to conduct bottom fisheries in areas beyond national jurisdiction where there is no regional fisheries management organization or arrangement with the competence to regulate such fisheries or interim measures in accordance with paragraph 85 of the present resolution, until measures are taken in accordance with paragraph 83 or 85 of the present resolution.

Annex 2: Signatories (as of 14 September 2009)

1. Elliott Norse, Ph.D., Marine Conservation Biology Institute, USA
2. Jeff Ardron, M.Sc., Marine Conservation Biology Institute, USA
3. Cindy Van Dover, Ph.D., Duke University, USA
4. Daniel Pauly, Habilitation, UBC Fisheries Centre, Canada
5. Craig Smith, Ph.D., University of Hawaii, USA
6. Chuck Fisher, Ph.D., The Pennsylvania State University, USA
7. Les Watling, Ph.D., The University of Hawaii, USA
8. Sylvia Earle, Ph.D., National Geographic, USA
9. Boris Worm, Ph.D., Dalhousie University, Canada
10. Alex David Rogers, Ph.D., Zoological Society of London, United Kingdom
11. Stuart Pimm, Ph.D., Duke University, USA
12. Kevin Zelnio, M.Sc., Duke University, USA
13. Jason Hall-Spencer, Ph.D., University of Plymouth, United Kingdom
14. J. Frederick Grassle, Ph.D., Rutgers University, USA
15. Jeremy Jackson, Ph.D., Scripps Institution of Oceanography, UCSD, USA
16. Callum Roberts, Ph.D., University of York, UK
17. Elizabeth Rauer, M.A., Marine Conservation Biology Institute, USA
18. Peter Auster, Ph.D., University of Connecticut, USA
19. P.P.E. Weaver, D.Sc., Ph.D. National Oceanography Centre, Southampton, United Kingdom
20. Juan A. Sanchez, Ph.D., Universidad de los Andes, Columbia
21. Sandra Brooke, Ph.D., Marine Conservation Biology Institute, USA
22. Erik Cordes, Ph.D., Temple University, USA
23. Jim Barry, Ph.D., Monterey Bay Aquarium Research Institute, USA
24. Tom Guilderson, Ph.D., University of California - Santa Cruz, USA
25. Stephen Cairns, Ph.D., Smithsonian Institution, USA
26. Robert Y. George, Ph.D., George Institute for Biodiversity and Sustainability, USA
27. Santiago Herrera, M.Sc., Woods Hole Oceanographic Institution, USA
28. Shadananan Nair, Ph.D., Centre for Earth Research and Environment Management, India
29. Eleni Anagnostou, Ph.D., Rutgers University, USA
30. Lonny Lundsten, M.S., Monterey Bay Aquarium Research Institute, USA
31. Helen Bostock, Ph.D., National Institute of Water and Atmospheric Research, New Zealand
32. Scott C. France, Ph.D., University of Louisiana at Lafayette, USA
33. Marcelo Kitahara, M.Sc., James Cook University, Australia
34. Keith Probert, Ph.D., University of Otago, New Zealand
35. Owen Sherwood, Ph.D., Canada
36. Evan Edinger, Ph.D., Memorial University, Canada
37. Diana M. Davies, Ph.D., University of Tasmania, Australia
38. Mikael Dahl, Ph.D., University of Gothenburg, Sweden
39. Sascha Flögel, Ph.D., IFM-GEOMAR, Universität Kiel, Germany
40. Andres Rüggeberg, Ph.D., IFM-GEOMAR, Universität Kiel, Germany
41. Valentina Kirienko Fernandes de Matos, Ph.D., Portugal
42. Michael F. Hirshfield, Ph.D., Oceana, USA

43. Karen Miller, Ph.D., University of Tasmania, Australia
44. Frederic Sinniger, Ph.D., University of the Ryukyus, Japan
45. Max Wisshak, Ph.D., GeoZentrum Nordbayern, Erlangen University, Germany
46. Samantha N. Burgess, Ph.D., University of Oxford, United Kingdom
47. Andrew Shepard, M.Sc., University of North Carolina Wilmington, USA
48. Ben Halpern, Ph.D., National Center for Ecological Analysis and Synthesis, University of California Santa Barbara, USA
49. Greg Cailliet, Ph.D., Moss Landing Marine Laboratories, USA
50. Sheril R. Kirshenbaum, M.Sc., Duke University, USA
51. Judith S. Weis, Ph.D., Rutgers University, USA
52. Mark Hay, Ph.D., Georgia Institute of Technology, USA
53. Kiho Kim, Ph.D., American University, USA
54. Joseph Bonaventura, Ph.D., Duke University, USA
55. Fiorenza Micheli, Ph.D., Stanford University, USA
56. Robin Harvey, Ph.D., Dunstaffnage Marine Laboratory, Scotland
57. Charles H. Peterson, Ph.D., University of North Carolina at Chapel Hill, USA
58. Richard S. Ostfeld, Ph.D., Cary Institute of Ecosystem Studies, USA
59. John Marr, Ph.D., Perry Institute for Marine Science, USA
60. Laurence Mee, Ph.D., The Scottish Association for Marine Science , Dunstaffnage Marine Laboratory, Scotland
61. Alberto Lindner, Ph.D., Universidade Federal de Santa Catarina, Brazil
62. Clive J. Fox, Ph.D., The Scottish Association for Marine Science , Dunstaffnage Marine Laboratory, Scotland
63. Anthony J. Grehan, Ph.D., National University of Ireland, Ireland
64. Andrew Bakun, Rosenstiel School of Marine and Atmospheric Science University of Miami, USA
65. Robert T. Paine, Ph.D., University of Washington Seattle, USA
66. William D. Anderson Jr., Ph.D., Grice Marine Biological Laboratory, USA
67. John Avise, Ph.D., University of California, Irvine, USA
68. Charles Birkeland, Ph.D., University of Hawaii, USA
69. J. Murray Roberts, Ph.D., Scottish Association for Marine Science, United Kingdom
70. Peter Lamont, B.Sc., Scottish Association for Marine Science, United Kingdom
71. Krista Baker, M.Sc., Memorial University of Newfoundland, Canada
72. Filiper M. Porteiro, Ph.D., University of the Azores, Portugal
73. Geoffrey Shester, Ph.D., Monterey Bay Aquarium, USA
74. Elva Escobar, Ph.D., Instituto de Ciencias del Mar y Limnología (ICML), Mexico
75. Brigitte Guillaumont, M.Sc., IFREMER, France
76. Matthias Gorny, Ph.D., Oceana Chile, Chile
77. Ellycia Harrould-Kolieb, M.Env., Oceana, USA
78. Mark Hixon, Ph.D., Oregon State University, USA
79. Alan J. Kohn, Ph.D., University of Washington, USA
80. Ellen Hines, Ph.D., San Francisco State University, USA
81. Laila Sadler, Ph.D., Dunstaffnage Marine Lab, Scotland
82. Philipp Boersch-Supan, M.Res., Scottish Oceans Institute, University of St Andrews, UK

83. Lin Mei-Fang, M.Sc., Biodiversity Research Institute, Taiwan
84. John Croxall, Ph.D., Birdlife International, UK
85. Santi Roberts, M.Sc., Oceana, USA
86. Steven Morgan, Ph.D., University of California Davis, USA
87. Anthony R. Picciolo, Ph.D., NOAA, USA
88. Martin P. Schreibman, Ph.D., Brooklyn College, USA
89. Thomas C. Shirley, Ph.D., Harte Research Institute, Texas A&M University – Corpus Christi
90. John Ogden, Ph.D., University of South Florida, USA
91. Barbara MacGregor, Ph.D., University of North Carolina, USA
92. Laura E. Petes, Ph.D., FSU Coastal & Marine Laboratory, USA
93. John Guinotte, Ph.D., Marine Conservation Biology Institute, USA
94. Larissa Sano, Ph.D., Marine Conservation Biology Institute, USA
95. Lance Morgan, Ph.D., Marine Conservation Biology Institute, USA
96. Fan Tsao, M.M.A., Marine Conservation Biology Institute, USA
97. Carlos Martínez del Rio, Ph.D., University of Wyoming, USA
98. C. Grant Law, Ph.D., OHSU-CMOP, USA
99. Brian Walker, Ph.D., Nova Southeastern University, USA
100. Ed Bowlby, M.A., Olympic Coast National Marine Sanctuary, USA
101. Rob van Soest, Ph.D., Zoological Museum of the University of Amsterdam, The Netherlands
102. Dawn Wright, Ph.D., Oregon State University, USA
103. Johan Kotze, Ph.D., University of Helsinki, Finland
104. Lisa Levin, Ph.D., Scripps Institution of Oceanography, USA
105. Fanni Aspetsberger, Ph.D, MPI Bremen, Germany
106. Dorinda G. Dallmeyer, M.Sc. J.D., University of Georgia, USA
107. Miguel Angel Garcia Campos, M.Sc., Consultant in Coastal Engineering, Spain
108. Amatzia Genin, Ph.D., The Hebrew University of Jerusalem, Israel
109. Steve O’Shea, Ph.D., Auckland University of Technology, New Zealand
110. Joana Xavier, M.Sc., University of Amsterdam, The Netherlands
111. John Engle, Ph.D., University of California, Santa Barbara, USA
112. Michael E. Soule, Ph.D., Professor Emeritus, University of California - Santa Cruz, USA
113. Heidi W. Weiskel, M.S., University of California – Davis, USA
114. Emilio Soler Ons, Ph.D., University of Las Palmas de Gran Canaria, Spain
115. Garry Grossman, Ph.D., University of Georgia, USA
116. Marian Glenn, Ph.D., Seton Hall University, USA
117. Robert Warner, Ph.D., University of California, Santa Barbara, USA
118. Frank Veit, Ph.D., NABU - Nature and Biodiversity Conservation Union Germany, Germany
119. Rod Salm, Ph.D., The Nature Conservancy, USA
120. Anne Wakeford Berry, M.Sc., M.A., USA
121. Norm Sloan, Ph.D., Gwaii Haanas National Park Reserve and Haida Heritage Site, Canada
122. Daniel Rodriguez, M.Sc., Auburn University, USA
123. Jane Williamson, Ph.D., Macquarie University, Australia
124. Gerald T. Lang, M.Sc., M.A., Carnegie Museum N.H./ Butler C.C. College, USA
125. Pamela Roe, Ph.D., California State University Stanislaus, USA
126. Terry Done, Ph.D., Australian Institute of Marine Science, Townsville, Australia

127. Ana Colaco, Ph.D., IMAR-DOP-University of Açores, Portugal
128. Kristine B. Hartney, Ph.D., California State Polytechnic University, Pomona, USA
129. Howard Daugherty, Ph.D., York University, Canada
130. Drew Ferrier, Ph.D., Hood College, USA
131. Adelino V.M. Canario, Ph.D., University of Algarve, Portugal
132. Nan Hauser, Ph.D. Candidate, Director Cook Islands Whale Research, Cook Islands
133. Martin Hovland, Ph.D., Marine Geology Specialist, Norway
134. Philippe Jatteau, Engineer, Cemagref, France
135. Alba Ruth Vergara Castao, Ph.D., Institute of Marine Research (CSIC), Spain
136. Beau M. Tjizoo, M.Sc., Ministry of Fisheries and Marine Resources, Namibia
137. Gadea Martnez, M.Sc., Instituto de Investigaciones Marinas, CSIC, Spain
138. Just T. Bayle, Ph.D., University of Alicante, Spain
139. Ben C. W. van der Waal, Dept of Zoology, University of Venda, South Africa
140. Ben De Mol, Ph.D., University of Barcelona, Spain
141. Salvatore De Rosa, Dr., Istituto di Chimica Biomolecolare C.N.R., Italy
142. André Freiwald, Prof. Dr., GeoZentrum Nordbayern, Germany
143. Maarten Raes, Ph.D., Ghent University, Belgium
144. N. Moroff, M.Sc., Namibia
145. Renato Chemello, Ph.D., University of Palermo, Italy
146. Jorge Alonso, Ph.D., University of Santiago de Compostela, Spain
147. Teresa Cerveira Borges, Ph.D., University of Algarve, Portugal
148. Francisco José Machín Jiménez, Ph.D., Instituto de Ciencias del Mar, Spain
149. David L. Moss, D. Phil., Dsc., University of Manchester, UK
150. Jan Vanaverbeke, Ph.D., Ghent University, Belgium
151. John Starmer, M.Sc., Pacific Marine Resources Institute, Northern Mariana Islands
152. William Silvert, Ph.D., Universidade do Algarve, Portugal
153. David Boshier, D. Phil., University of Oxford, UK
154. Gustav Paulay, Ph.D., University of Florida, USA
155. Douglas C. Keran, Ph.D., Central Lakes College, USA
156. Emanuel Goncalves, Ph.D., Eco-Ethology Research Unit – ISPA, Portugal
157. Patricia Gallagher, Ph.D., Centre for Coastal Studies, Simon Fraser University, Canada
158. María Ordonez, Ph.D., CRIM- Universidad nacional Autónoma de México, México
159. Leah Gerber, Ph.D., Arizona State University, USA
160. Camilo Martinez I, M.Sc., Instituto de Ecologia Aplicada, Ecuador
161. Varvara Kandia, M.Sc., ICS-FORTH, Hellas
162. Danilo Calliari, Ph.D., Facultad de Ciencias, Universidad de la República, Uruguay
163. Klaus Riede, Zoological research Museum Alexander Koenig, Germany
164. Fiona Maisels, Ph.D., Wildlife Conservation Society, Central African Region
165. Luis Conceicao, Ph.D., CCMAR, Portugal
166. Jonathan L. Temte, M.D./Ph.D., University of Wisconsin, USA
167. Gerald R. Smith, Ph.D., University of Michigan, USA
168. Christoph Richter, Ph.D., Queen’s University, Canada
169. Jeffrey Levinton, Ph.D., Stony Brook University, USA
170. Dawn McGrath, Ph.D., USA

171. Henry M. Reiswig, Ph.D., University of Victoria, Canada
172. Arthur H. Kopelman, Ph.D., Coastal Research and Education Society of Long Island, USA
173. Joern Selling, Foundation for Information and Research on Marine Mammals, Spain
174. Manfred Verhaagh, Ph.D., State Museum of Natural History Karlsruhe, Germany
175. Kate McFadden, Ph.D., Columbia University, USA
176. Cynthia Klepadlo, M.A., Scripps Institution of Oceanography, UCSD, USA
177. Lawrence M. Dill, Ph.D, FRSC, Simon Fraser University, Canada
178. Richard Rosenblatt, Ph.D., Scripps Institution of Oceanography, University of California San Diego, USA
179. Clare Bradshaw, Ph.D., Stockholm University, Sweden
180. Vicente Anislado-Tolentino, Ph.D., UMAR (Universidad del Mar), Mexico
181. Carol T. Stuart, Ph.D., University of Massachusetts Boston, USA
182. Kareen Schnabel, Ph.D., National Institute of Water and Atmospheric Research Ltd., New Zealand
183. Kostis Grimanis, M.Sc., MEDASSET, Greece
184. Sharon Thompson, Ph.D., The Royal Society for the Protection of Birds (RSPB), UK
185. Annie Smith, M.Sc., UK
186. David Combosch, M.Sc., Northeastern University, USA
187. Richard Murphy, Ph.D., Ocean Futures Society, USA
188. Clayton Apps, PH.D., University of Calgary, Canada
189. Rosario Dominguez-Petit, Ph.D., Institute of Marine Research (CSIC), Spain
190. Euan Dunn, Ph.D., BirdLife International, UK
191. Manfred Krautter, Prof. Dr., University of Stuttgart; Leibniz University of Hannover, Germany
192. Susan von Thun, M.Sc., Monterey Bay Aquarium Research Institute, USA
193. Hjalmar Thiel, Dr., Emeritus, University of Hamburg, Germany
194. Fabian Ritter, Ph.D., M.E.E.R.e.V., Germany
195. John Hocevar, M.Sc., Greenpeace, USA
196. Peggy Kalas, Ph.D., Deep Sea Conservation Coalition, USA
197. Robert J. Miller, Ph.D., University of California Santa Barbara, USA
198. Jon-Arne Sneli, Ph.D., Norwegian University of Science and Technology (NTNU), Norway
199. Ana Minerva Arce Ibarra, Ph.D., El Colegio de la Frontera Sur, Mexico
200. Sidney Holt, D.Sc., Independent scientific consultant, Italy
201. Sybille van den Hove, Ph.D., Median and Autonomous University of Barcelona, Spain
202. Ulrich Karlowski, M.Sc., Society for Dolphin Conservation, Germany
203. Azara Gijon, Ph.D., Spain
204. Joaquim Pinto da Costa, M.Sc., INAG, Portugal
205. Katja Guilini, Ph.D., University of Ghent, Belgium
206. Francois Catzeflis, Ph.D., Universite des Sciences de Montpellier, France
207. Patricia Castillo-Briceño, M.Sc., University of Murcia, Spain
208. Sophie Arnaud-Haond, Ph.D., Ifremer, France
209. Ricardo Serrao Santos, Ph.D., University of the Azores, Portugal
210. Erdal Ozhan, Ph.D., MEDCOAST Foundation, Turkey
211. Lemaire Benjamin, Ph.D., Universit Catholique de Louvain (UCL), Belgium
212. Saskia Van Gaever, Ph.D., Belgium

213. Emily Dolan, Ph.D., National Oceanography Centre, Southampton, UK
214. Antoni Calafat, Ph.D., University of Barcelona, Spain
215. Angelika Brandt, Prof. Dr., Zoological Museum, University of Hamburg, Germany
216. Susanne Baden, Ph.D., Dept Marine Ecology, University of Gothenburg, Sweden
217. Tomas Lundalv, M.Sc., University of Gothenburg, Sweden
218. Genoveva Gonzalez Mirelis, M.A., University of Gothenburg, Sweden
219. Anna-Lisa Wrangé, Ph.D. Candidate, University of Gothenburg, Sweden
220. Peter Thor, Ph.D., University of Gothenburg, Department of Marine Ecology, Sweden
221. Joanna Norkko, Ph.D., Marine Research Centre (SYKE), Finland
222. Margot Stiles, M.S., Oceana, USA
223. Hasan Orek, Ph.D., Middle East Technical University, Turkey
224. Alf Norkko, Ph.D., Marine Research Centre, Finnish Environment Institute, Finland
225. Bo Johannesson, Ph.D., Department of Marine Ecology- Tjärnö, University of Gothenburgh, Sweden
226. Olafur K. Palsson, Dr.rer.nat., Marine Research Institute, Iceland
227. Kazutaka Takahashi, Ph.D., Tohoku National Fisheries Research Institute, Japan
228. Dan Dorfman, M.A., NOAA/Biogeography Branch, USA
229. Konrad Thorisson, M.Sc., Marine Research Institute, Iceland
230. Lydia Beuck, Ph.D., Erlangen University, Germany
231. Pipa Gravestock, M.Sc., University of York, UK
232. Even Moland, M.Sc., Ph.D. Candidate, University of Oslo, Norway
233. Verena Tunnicliffe, Ph.D., University of Victoria, Canada
234. Virginie Stirbois, M.Sc., Malta
235. Danilo S. Balete, M.Sc., Laksambuhay Conservation, Philippine National Museum, Philippines