

ANNEX 122

Independent Facilitator's collation of responses

COLLATION OF RESPONSES

Rosemary Stevenson, Consultation Facilitator

WHETHER TO ESTABLISH A MARINE PROTECTED AREA IN THE BRITISH INDIAN OCEAN TERRITORY

The following table provides a summary of the main points made in all submissions received before the consultation deadline of 5 March. It is grouped by type of response: written responses with comments; written responses without comments; outcomes from meetings; and petitions. Within the section 'written responses with comments', further disaggregation is done by: private individuals; academic and scientific institutions; environmental organisations and networks; Chagosian groups; fishing interests; yachts; British peers, MPs and Councillors; and representatives of other governments. There is scope for some debate about which entries should be placed in each of these groups. For example, there is a question over whether every entry with an academic e-mail address should be included in the academic and scientific group. I have taken the view that where the respondent is clearly giving an institutional view, or where s/he is a professor or head of department who could be representing an institutional view they should be included in that section. Where the person is a graduate student or one of a number of responses from the same department I have treated them as giving a private view. In a number of other cases a judgment has had to be taken about whether an individual using a business address writes personally or for the institution. It does not appear that decisions on that matter will materially affect the overall picture or outcome. Finally, full contact details are included for all respondents (as provided by them), on the assumption that this document will be for internal use. The consultation document will include an annex with names only, which will be more suitable for wider circulation or making public.

Respondent	Create MPA? Which of the options? Or others?	Benefits (p11)? How important?	Any other measures to protect environment?
A. WRITTEN RESPONSES with comments			
Private Individuals			
1. Caitlin McCormack (cmlv07@soton.ac.uk)	Option 1	- Given threats to the marine environment, protecting relatively unspoilt areas vital, especially reef habitats.	
2. Hannah Spencer	Option 1	- Richest marine ecosystem under UK jurisdiction,	

(Hannah.spencer@geotex.co.uk)		<p>opportunity to establish different future.</p> <ul style="list-style-type: none"> - Significant long term benefits for coastal communities and helps sustainability of ocean. - Invaluable reference site for global science to look at effects of pollution, global warming, state of coral etc. - Option 1 covers larger area, covers more species and reduces effect of external factors. - Tuna fishing should be banned – decline of stocks, and by-catch. -Think of long term opportunity rather than short term costs. 	
<p>3. Michael Kavanagh, PO Box 5272, Hove, BN52 9QF (mepkav@btinternet.com)</p> <p>Member of the Baltic Exchange, ex Marine Engineer, interests in ocean mining and gas hydrate extraction.</p>	'some degree of support' to protection or reefs and waters	<ul style="list-style-type: none"> - Running out of what sustains us – metals, minerals and fuel. Use what we find, where we find it. Much in the ocean beds. - Those involved in ocean mining and gas extraction are doing their utmost to restrict disturbance. There are clean methods of working in the oceans. 	
4. Mary Lidgate (Mary@Theatre4business.com)	Option 1	- Vital to do whatever possible to protect coral reefs and marine diversity: golden opportunity to save some of the richest and most diverse marine life	
5. Christine Randall (mrschristinerandall@yahoo.co.uk)	Option 1	- Many benefits to protecting this environment	
6. Anthony and Christine Elliot (acrece@eclipse.co.uk)	Option 1	- Potential benefit to environment, and so to humans, immeasurable and probably incapable of being replicated elsewhere.	
7. Jay Luciani (dg21env@cwnetdg.io)	Option 1	- Important step to preservation of global marine environments	
8. Jenny Habib, 13 Doctors Common Road, HP4 3DW (j.habib@ntlworld.com)	Option 1	- Wonderful opportunity; it must not be lost, or pure sample will become polluted and damaged and most of these very special species may	

		become extinct.	
9. Jenny Maxwell, Court Cottage, Walford, Leint Wardine, Craven Arms, Shropshire SY7 8JT	None, without views of Chagos Islanders. Oppose.	<ul style="list-style-type: none"> - Chagos islanders, shamefully removed, should be central part of consultation. - Nothing, such as total ban on fishing, should be done which might prevent their return, or without their consent. 	
10. Kate Cooper (Katie.cooper@extelligence.org)	Option 1	<ul style="list-style-type: none"> - Extraordinary opportunity to make this the largest marine protected area in the world. - Proposal put forward by Chagos Environment Society at the Royal Society and strongly supported by the National Oceanography Centre, Southampton, where many leading UK marine scientists participated. 	
11. Fran Buckel (Fran.Buckel@btinternet.com)	Option 1	<ul style="list-style-type: none"> - Fantastic opportunity for UK to show commitment to protecting a pristine environment. - British Overseas Territories should not just be swept under the carpet; proper environmental protection is their right. 	
12. Peter Drummond, Commander RN (retired), Fernbrook, Melcombe Bingham, Dorchester, Dorset DT2 7PF - Writing as individual, but is a member of Chagos Conservation Trust. (pandk.drummond@care4free.net)	Option 1	<ul style="list-style-type: none"> - Lived in Diego Garcia 20 years ago and has seen unspoilt beauty of outer islands, wildlife and reefs. - Pristine example of coral atolls. Worth saving for itself. - Vital reservoir for reseeding damaged areas around Indian Ocean with fish and corals. - Important comparator against which the state of atolls and reefs around the world can be judged. - Full no take marine reserve has best chance of maintaining and improving its current state. - Opportunity to do a great deal of good at modest cost. 	

13. Ursula Braybrooke (latinamericatours@hotmail.com)	Option 1	- Magnificent legacy for British Government. - Makes no sense to do it with options 2 or 3, which allow continuation of existing international industrial fishing with large commercial catches, destructive and wasteful by-catches and wider damage and disturbance to the ecosystems.	
14. Catherine Watts, 32 Church End, Everton, Sandy, Bedfordshire SG19 2JZ (Cathewatts@tiscali.co.uk)	Option 1	- Unique opportunity to create a conservation area of lasting worldwide significance.	
15. David Watts (address above, no.43) (davidwatts2@tiscali.co.uk)	Option 1	- Text identical to 43 above	
16. Kate Tanner (pushka_21@hotmail.com)	Option 1	- Unique opportunity to increase protection of marine environment. - Benefits on p11 all seem fantastically important: near pristine environment; legacy for posterity; could increase knowledge base for elsewhere; MPA a reference area; - 'Development benefits' category odd – benefits described more conservation/scientific. - Attach great importance to all the benefits listed, especially as this would be a step towards protection of coral reefs.	Vital that it is properly enforced, all the more necessary if there is to be cessation of all fishing activity, so it will not be possible even to use informal policing by legitimate fishermen.
17. Dr RL Coe, 43 Collingwood Place, Walton on Thames, Surrey, KT12 1LU	Option 1	-Marine life suffering massive losses, MPA would provide opportunity for a different future. -Larger the area, more habitat types it covers, bigger population protected, smaller effect of external factors such as fishing. -Opportunity to do something of great importance and value.	
18. Dr Nik Cole (nikccole@hotmail.com) (Conservation biologist focusing on tropical and subtropical islands; has spent time in Chagos Archipelago)	Option 1	- Chagos Archipelago truly unique, largest and most unspoilt. - Far reaching benefits: fish stocks, coral reef, seabird and marine turtle nesting grounds,	Potential for restoration of some islands to enhance abundance of native

		coconut crabs; in decline or locally extinct.	species. Protection of marine ecosystem could also lead to preservation of terrestrial ecosystem.
19. Toby Clarke (tobyxxxx@googlemail.com)	Option 1	- Should be saving this amazing area and do so now before it is too late.	
20. Jonathan Hall, 16 Lonsdale Road, Chiswick, W4 1ND (jonnyghall@aol.com)	Option 1		Need sufficient funds to make sure it is well managed and protected
21. Bob Clarke (bobclarke310@btinternet.com)	Option 1	- With so much of the planet under attack from commercial enterprises and global warming we should do what we can to preserve what is left of real value.	
22. Dominic Rannie (dive instructor and marine photographer) (dom@vividblu.com)	Option 1	- Need to protect as much as possible of depleted seas and Chagos MPA a great example.	
23. Roger Brown (roger.brown@dsl.pipex.com)	Option 1	- Vital to preserve ecosystems, biodiversity. Oasis in overexploited waters. - Globally important benchmark for monitoring elsewhere.	
24. Grace Leung (graceml@hotmail.com) (biology graduate from Hong Kong)	Option 1	-Help conserve coral reefs and endangered marine lives. -Should work together to protect nature before it is too late.	
25. Daniel Pullan (Daniel@pullanisimo.plus.com)	Option 1	-All benefits listed are important, and un-counterable when taken together. -Partial protection would invalidate the MPA's ability to act as a reference or control site and would remove its benefit as a refuge and likely change species relationships and ecosystems. -Area needs to be big enough to reduce influence of fishing etc on the control area.	Should also address anthropogenic pressures on terrestrial habitats.

26. Dr Gary Allport (garyallport@hotmail.com)	Option 1	<ul style="list-style-type: none"> -Last two generations have exploited the oceans, causing reductions in sea mammals, large predatory fish and less high profile species. Need strict protection to maintain viable stocks. - Chagos a special and rare place; opportunity for UK to show leadership and save coral reefs that can be protected and monitored. 	
27. Dr Anthony D Tindale (tonytindale@ntlworld.com)	Option 1	<ul style="list-style-type: none"> - Anything less would be extremely disappointing and result in continued over-exploitation of fish-stocks, which is unsustainable. - Must be preserved for future generations. 	
28. Edward Pollard (ehbpollard@gmail.com)	Option 1	<ul style="list-style-type: none"> -In recognition of global importance for biodiversity. 	
29. Sophie Allebone-Webb (allebonewebb@yahoo.co.uk)	Option 1,	<ul style="list-style-type: none"> - Losses from over-exploitation: can create different future. - Significant long term benefits to coastal communities around Indian Ocean, and sustainability of ocean. - Reference site for global science. - Larger the area more habitat types covered smaller effect from external factors. - Costs – have to look at long term/legacy. - Tuna fishing should be banned: tuna stocks declining, and massive bycatch contributing to decline in other stocks: no benefit beyond small financial income for fisheries. 	
30. Henry Brown, Zoological Society of London (Henry.Brown@zsl.org)	Option 1	<ul style="list-style-type: none"> -Marine life suffering over-exploitation. -Larger area, more habitats protected. -Lasting benefits, importance and value to the world. 	
31. Sarah Foster, Project seahorse (s.foster@fisheries.ubc.ca)	Option 1	<ul style="list-style-type: none"> -Marine life suffering over-exploitation. -Larger area, more habitats protected. -Lasting benefits, importance and value to the 	

		world.	
32. Stephen Price (lizardburns@yahoo.com)	Option 1	<ul style="list-style-type: none"> - Marine life is under strain as a result of overfishing, bycatch and pollution. - Chagos islands have impressive biodiversity, and are relatively unpolluted. - Option 1 would send a clear message of caring for the environment, and would provide scientists with a reference site. - The coastal communities of the Indian Ocean would get a better environment, fishing and eco-tourism. - The surrounding waters would have better fish stocks, thanks to dispersal from protected areas. - The biggest possible area conserves a larger gene pool and more species are covered. 	
33. Peter Smith, 141 Stoneleigh Avenue, Enfield, EN1 4HH (Peter.Smith@zsl.org)	Option 1	<ul style="list-style-type: none"> -Marine life suffering over-exploitation. -Larger area, more habitats protected. -Lasting benefits, importance and value to the world. 	
34. Douglas Parkes (douglas.parkes@which.net)	Option 1	<ul style="list-style-type: none"> - Value of ongoing scientific investigation of long term effects of climate change on fragile ecosystems. 	
35. Richard Beales, 8 Hamlash Cottages, Hamlash Lane, Frensham, Farnham, Surrey GU10 3AT (Richard.beales8@btinternet.com) Retired DFID fisheries adviser	Option 1	<ul style="list-style-type: none"> - As well as intrinsic global benefits, would reflect well on UK -Might create opportunities for employment for some Chagossians in management and in supporting increased level of scientific research in the Chagos archipelago. 	
36. Atholl Anderson (atholl_anderson@anu.edu.au) leader of AUS, NZ,UK scientific expedition just back from Diego Garcia	Option 1	<ul style="list-style-type: none"> - Extraordinarily high scientific value 	
37. David Bailin (bailin.david@googlemail.com)	Option 1	<ul style="list-style-type: none"> -Appalled by House of Lords ruling and trusts 	

		European Court of Human Rights (ECTHR) will rectify situation. -Meanwhile, important that area is fully protected as valuable environmental and scientific resource.	
38. Richard JR Martin (rjrmartin@googlemail.com)	Option 1	-Unmissable opportunity; goodwill of other Indian Ocean littoral states; real and lasting benefit to all forms of migratory fish breeding in Indian Ocean and nations that depend on them. - Complete no take zone more effective than one where fisheries allowed but with restrictions. -In his view it would have the support of most of the Chagossian community.	Should be a step towards protection of land species as well.
39. Dr WPP Bourne, Ardgath, Station Road, Dufftown, AB55 4AX (writer about Chagos birds)	Option 1	- Option 3 least desirable and option 2 would need fishing expertise to comment.	Supervision will be a future problem – any chance of international money? Benefits should include breeding places for birds, and turtles and perhaps fish. Need to pay attention to terrestrial protection too.
40. Gareth Long (lewishampc@hotmail.com)	Option 1	- Vast unspoilt ecosystem of significant importance. Deserves highest protection. - Can be achieved with little or no detriment to existing entities and relatively insignificant cost.	
41. Peter H Sand (peterhsand@t-online.de)	Oppose	- Not a bona fide consultation. Goes beyond BIOT's territorial waters. No basis in the laws of the sea. Only legitimate way to establish and enforce would be intergovernmental agreement and multilateral designation.	

		<ul style="list-style-type: none"> - A challenge to Mauritius' territorial sovereignty: colonial arrogance; provocative. - Unilateral prohibition of fisheries hard to reconcile with Southern Indian Ocean Fisheries Agreement. 	
<p>42. Sarah Outen, 25 Buckingham Road, Oakham, Rutland, LE15 6RX (sarahdouten@googlemail.com) Rowing interests.</p>	Option 1	<ul style="list-style-type: none"> - Less than full protection shows no real commitment, does not safeguard already depleted fish stocks. - If there are robust enough stocks could be possible to allow artisanal fishing, if it provides social and economic benefit to communities. - Over-fished species like tuna should be allowed to recover, and all large scale fishing banned. - Benefits on p11 are all important and should not be overlooked in favour of commercial options. - Benefits wide-ranging and linked. 	Needs to be supported, patrolled, monitored. 'Paper Park' is pointless. More research, to highlight and understand, important.
<p>43. Clara Perez Stevens (marysol@hotmail.co.uk)</p>	Option 1	<ul style="list-style-type: none"> - If it is about marine protection it is not compatible to consider continuing existing large scale commercial fishing (as option 2). Wasteful by-catch 	
<p>44. Steve Swayne, PO Box 1088 , Malery QLD 4552, Australia (steve@serendigity.net) In 1982 based at Diego Garcia in Royal Australian Navy</p>	Option 1	<ul style="list-style-type: none"> - Surrounding countries developing, with increasing populations to feed. - Large scale fishing companies seeking out new grounds. - Marine ecosystem under greater stress. - Use of satellite based surveillance technology to mitigate future cost of enforcing – cost in any case small. - Support all the benefits on p11. - In due course no military presence – could become maritime research station. 	
<p>45. Paul Heaton (psheaton@onetel.com)</p>	Oppose in current	<ul style="list-style-type: none"> - Must fully involve Chagossian population and 	

Founder member of Chagos Support Association	form	<p>include limited resettlement at sustainable levels on northern atolls previously inhabited.</p> <ul style="list-style-type: none"> - They could be employed within the plan. Would allow small-scale selective eco-tourism, to develop and bring income to support environmental activities. - This would be in line with All Party Group thinking. 	
46. Graeme Pagan (neaveton@tiscali.co.uk)	Oppose in current form	<ul style="list-style-type: none"> - Best way to protect Chagos environment is to let Chagossians return. They would be there to care for their homeland and its environment as they used to. 	
47. Peter Harris (peter@peterharris.com) member of Chagos Support Association.	Oppose	<ul style="list-style-type: none"> - Disapproves of this consultation. Excludes Chagossians and makes clear that resettlement is not an option: narrows discussion. - Future would be best served by population being allowed to return to be stewards of the islands. -Wrong starting point – should have fundamental rethink. 	
48. Sir Thomas Harris (Commissioner 1992-94. Member Chagos Conservation Trust) (Thomas.Harris@sc.com)	Option 2	<ul style="list-style-type: none"> - Could not understand what difference it would make – already heavily protected. - Waters pristine. Only serious threat comes from poaching and vessels avoiding licensing requirements. MPA does not change that risk. -But, to encourage others, would not object. -But not option 1 – sounds good but costs money and there is no budget for effective enforcement. - Allow fishing as now, option 2. - Nothing to be done to allow community to be re-established: human activity spoils the environmentally sensitive habitats. - Not option 3; does not do enough to discourage 	<p>Not an urgent need – should wait till ECtHR ruling and public spending outcome. Should consult further once have decided what to do.</p>

		population.	
49. Dr Ted Hinton Clifton, West Layton Manor, Richmond, DL11 7PP (HintonClifton@aol.com)	Option 1	<ul style="list-style-type: none"> - Finest marine habitats in Indo-Pacific region. - Immense importance to bird life. - Amazing recovery after effects of El Nino in 1998: duty to preserve. -If MPA allows some activity it will make it hard to police, and unlikely to bring benefit. 	
50. James Lewis (datum@gn.apc.org)	Oppose in current form	<ul style="list-style-type: none"> - Questions of sovereignty. - Obstruction to future resettlement? - A population elsewhere on the archipelago could be helpful? MPA can accommodate human settlement and sustainable (not commercial) fishing. - Should take account of present and future populations. 	
51. Geoffrey Emmett, 16 Harvey Close, Croxley Green, Rickmansworth WD3 6BW	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit 	
52. Kenneth Armitage (intrepid001@hotmail.com)	Option 2	<ul style="list-style-type: none"> -Support an MPA which allows controlled, licensed fishing, without over-fishing or destroying the reef. - Cost an issue, but should not stop protection. 	<p>UN or other international bodies could pay? Impose heavy penalties on those polluting the seas.</p>
53. Margaret Godwin (Margaret@pixeljunkie.net)	Option 1	<ul style="list-style-type: none"> - Everything possible should be done to protect 	
54. Capt. GP Brocklebank RN, 26 Gatwick Road, SW18 5UF	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and 	

		<p>reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned.</p> <ul style="list-style-type: none"> -Costs small compared to benefits -Real and lasting benefit. 	
<p>55. Emma Kennedy, Marine Spatial Ecology Lab, Hatherly Laboratories, University of Exeter, Prince of Wales Road, Devon, EX4 4PS (e.kennedy@exeter.ac.uk)</p>	Option 1	<ul style="list-style-type: none"> - Have read the literature that shows MPAs have proven benefits. - Strongly feel creation of a conservation area would be a good thing for fish stocks, biodiversity and the reef. 	
<p>56. Richard Potez, Brookby Ridge Vineyard, 129 Brookby Road, Omaha, R.D.2, Blenheim 7272 (Potez@brookbyridge.co.nz)</p>	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit. 	
<p>57. TG Evans, Botanical Society of the British Isles (BSBI) recorder vc35mons (tg8evans@talktalk.net)</p>	Option 1	<ul style="list-style-type: none"> - To save the world's largest atoll and associated 55 tiny atolls 	
<p>58. Tom Fremantle, Wayside Cottage, High Street, East Markham, Newark, Notts NG22 0RE (tfremantle@executalk.co.uk)</p>	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit. 	
<p>59. Dr Tony Matthews (tonyandsue@phonecoop.coop)</p>	Option 1	<ul style="list-style-type: none"> - Such a completely sacrosanct marine reserve will have long term benefits in the area way beyond its costs. Don't need to spell them out. 	
<p>60. Miss J L Dodworth, 14 Deverell Way, Leighton Buzzard, Bedfordshire, LU7 4UN</p>	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as 	

		<p>pelagic fishing. Tuna fishing should be banned.</p> <ul style="list-style-type: none"> -Costs small compared to benefits -Real and lasting benefit. 	
61. John Doune (Lord Doune) (jdoune@msm.com)	Option 1	- Too ecologically important for any alternative	
62. Steve Pocock (stevenpocock@hotmail.co.uk)	Option 1	<ul style="list-style-type: none"> - As ex-seafarer feel it is important not to protect only marine environment close to home but also far away. - Being able to make a difference to the biggest coral reef in the world is a chance we should not squander. It is shattering to be in the middle of the ocean, hundreds of miles from shore and see manmade litter, esp. Plastic, floating on the surface. - Need to act to protect the sea, and every little we can do must be done. 	
63. Dr Darren Tebbutt, Westgate on Sea, Kent (darrentebbutt@googlemail.com)	Option 1	- University student studying environmental science. Sole reason for retraining was to help make a difference to all the wrongs happening to our planet. As a person in power, your duty to our children's children to preserve some of the good and natural beauty there is to see.	
64. MJ Milligan CBE (milligan@trebay.fsnet.co.uk)	Option 1	- Have visited the area and am convinced this initiative would be for the everlasting benefit of the worldwide environment	
65. Alan J Partfitt BSc, 9 Elizabeth Road, Henley on Thames, Oxon, RG9 1RG	Option 1	<ul style="list-style-type: none"> - Experience only in terrestrial ecology and have not visited BIOT, so do not have detailed knowledge, but advocate fullest protection to ensure greatest level of conservation for the few remaining pristine marine areas in the world. -From a practical point of view, if one of the partial options were selected abuse of the resulting controls would almost certainly occur 	As much as possible of the terrestrial land should also be protected to the highest degree, since ecology of land and marine systems never operate in isolation.

		<p>over time – would be hard to prevent and would require costly policing.</p> <ul style="list-style-type: none"> - With complete no-take there would be less ambiguity, simpler and less costly to administer. 	
66. FPG Hill, Spring Bank, Well Lane, Little Witley, Worcester WR6 6CN	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit. 	
67. Dr Fredrik Svennelid, Lund, Sweden (fsvannelid@gmail.com)	Option 1	<ul style="list-style-type: none"> - Would set an example for the rest of the world to follow. -Would keep UK in the scientific and cultural frontline. 	
68. Richard (Ted) Ingram (tingram@nexicom.net)	MPA, but not clear which option	<ul style="list-style-type: none"> -Support preserving the Chagos Reef. Swift action vital in a disintegrating natural environment 	
69. David Millard, 108 Magdalen Road, Norwich, NR3 4AN	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit. 	
70. Rachel Jones (rthackrayjones@gmail.com)	Option 1	<ul style="list-style-type: none"> --Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit. 	
71. Javier Cuetos-Bueno, Scripps Institution of Oceanography, University of California San	Option 1	<ul style="list-style-type: none"> - At current rate of ocean degradation it seems especially critical to preserve the very few 	

Diego, La Jolla, California (jcuetosb@ucsd.edu)		pristine remaining habitats. - Great opportunity to really change something.	
72. Paul Stephens (paul_stephens_@hotmail.co.uk)	Option 1	- Area rich in rare and endangered flora and fauna which it is our duty to protect as best we can. Option 1 the best way to do so. - Cost involved is acceptable. - No effect on the Chagossian community.	
73. Nick Hook, GE Water and Process Technologies Ltd, Foundry Lane, Widnes, Cheshire, WA8 8UD (nick.hook@ge.com)	Option 1	- Have seen so much destruction of the natural world. Until explosion in human population growth is brought under control will not have a fair world for everyone which is fully sustainable. - Destruction of seas and marine life has become so severe one wonders if it will ever recover, even with full protection. - If Chagos can be fully protected can see that the area could support a modest tourism industry. -Fishing activities outside the MPA could benefit if catches were managed scientifically: where there are well managed MPAs people fishing on the boundary can expect increased catches that are sustainable. - Hugely significant. Others will take note and spread of large potential areas will follow. - Will give a breathing space to commercially over-fished areas and allow them to recover. - Could be a benchmark for marine conservation throughout the world, with scientific research helping convince the world of the benefits of protection for wildlife.	
74. Charles Borman (chborman@hotmail.com)	-		-Disappointed that preservation of plantation estates not addressed. (separate

			response sent)
75. Carol Murtha, 3 Edde Cross St., Ross on Wye, HR9 7 BZ (carolmurtha@aol.com)	Option 1	-Lifelong supporter of global environmental protection	
76. DT Frost, 4 Cherrycroft Drive, Naphill, High Wycombe HP14 4QG	Option 1	-Have visited many years ago	
77. J Heasman, 1 Alison Road, Church Stretton, Shropshire SY6 7AT	Chagossian agreement essential	-Welcome proposal in comparatively uncontaminated area but would urge in depth discussion with rightful owners, Chagos Islanders, many of whom live in poverty in Mauritius. Matter of time before justice done and they are allowed to return, if only to outer islands. -Their agreement and co-operation with this venture essential. Imagine they would be eager to protect and live in harmony with their heritage.	
78. Lucy Boddam-Whetham (lucy@savethe rhino.org) (personal view)	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit	
79. Mrs Hester Gordon, La Petite Renaudie, Ville-toueix, 24600, France	Option 1	-As much as possible should be done to protect all nature projects. -One of the greatest marine environments left on earth	
80. Claudia Watts (cmwatts@bultitude.com)	Option 1	-Agree all benefits on p11. -Current global fish stocks in decline and important to have undisturbed areas where research can be done to establish the impact that no take zones and MPA's have on fish populations and their recovery. Essential to have areas which help slow down or halt rate of species extinction, especially in 2010,	

		international year of biodiversity.	
81. David Todd (d.todd@bangor.ac.uk)	Option 1	-Vital to protect oceans from growing fishing pressure, both legal and illegal. Present rate of exploitation beyond sustainable in many regions. -This would be a step towards protecting some of most beautiful and natural regions. -Think of future of oceans. Would be great to be remembered as one who saw needs of planet as a whole and protected something beautiful and pure for future generations.	
82. Mandy Jane Knott ospalf@bangor.ac.uk) Masters student in marine environmental protection	Option 1	-Ideal opportunity to provide full range of protection to marine ecosystems round Chagos	
83. Suzanna Jackson (osp835@bangor.ac.uk)	Option 1	-Imperative to make the right decision with this area by listening to the scientific community	
84. Wendy Lidgate, 23 Milton Road, Harpenden, Herts, AL5 5LA (wendy.lidgate@ntlworld.com)	Option 1	-If Chagossians granted leave to return in future funding should be provided to set up employment in conservation and scientific study. -Should also be dispensation to allow line fishing of a fixed small quota of abundant fish species to supplement diet of small number who could return. -If tourism ever allowed fishing sports should not be allowed.	
85. Ben Wray (ben@aquashot.co.uk)	Option 1	-Fundamental step towards global understanding highlighting the need for MPA's and their necessity to protect the planet's diversity. -Would double the size of MPA's worldwide, significantly helping reduce over-exploitation of fast depleting seas and oceans.	
86. Dr Dave Dawson, 80 Home Park Road, Wimbledon Park, London SW19 7HS (davegdawson@googlemail.com)	Option 1	-Unique opportunity to work for world biodiversity and with the local community	

87. Timothy Whitton (osp830@bangor.ac.uk)	Option 1	-In light of marine environmental degradation which has been observed all round the world. -Would provide a real treasure for future generations and the organisms which inhabit and visit the Chagos islands.	
88. Alice Hutchings, marine scientist (wonderlandalice@yahoo.co.uk)	Option 1	-Can think of nothing more beneficial for our increasingly impoverished oceans.	
89. Kerry-Ann Duffy (kadmax22@hotmail.com)	Option 2	-Some business will be gained, but the area still protected and should not impact as much on the rare species. -Conservation benefits very important, these places very rare. Important to have something positive towards climate change. Crucial to have natural place to continue learning. Development benefits also important.	Marine protection in addition to existing land and habitat protected sites in place sufficient for now.
90. SA Renvoiza, Royal Botanic Gardens, Kew (retired)	Option 1	-After many years of scientific investigation and conservation effort clear that this the only way to protect the marine environment -Fishing by small indigenous groups in Indian Ocean region should be protected and best way to do this is by preserving Chagos and providing a refuge for any threatened fish species. From there fish can re-colonise other areas. -Fish stocks have been disastrously depleted through overfishing in all areas of Indian Ocean, often by large commercial operations, left local populations without basic source of food. Protected area would be source of new fish. -Also important to preserve diversity of species; contribution of fish to balance of nature should not be overlooked.	
91. Matt Argyle, Editor, SUPGlobal.com (matt.argyle@supglobal.com)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	

92. Gabriele Peniche (hard copy letter without address)	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit	
93. Gary Littlejohn (gary@garylittlejohn.com)	Oppose at this time - EctHR	-Chagos case before European Court. Total fishing ban would pre-empt the judgement of the court by denying Chagos islanders a livelihood if permitted to return home. Consider diplomatic implications and opprobrium	
94. Linda Foley (linfoley@yahoo.com)	Option 1	-Best way to protect unique marine environment	
95. John Warren (Hoboken@tiscali.co.uk)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
96. Jill Sherry (jill.sherry@gmail.com)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
97. Debbie Coleman (stone.circle@virgin.net)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
98. Durand Hotham, Ashcroft Furlong, West End, Chadlington, Chipping Norton OX7 3NJ (durandhotham@aol.com)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
99. Sheri Bankes, Ty Ucha'r Llan, Cilcain, Mold, CH7 5PA (sheri@sherbanks.co.uk)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
100. Dr Sidney J Holt, vbc. Palazzetta 68, Paciano(PG), 06060, Italia (sidneyholt@mac.com)	Support MPA, similar to Option 2 but different conditions; fishing not limited to pelagic, but with stringent restrictions to ensure the resources are available and in a good state for	-No definitive act should be taken until serious effort has been made for all exiled Chagossians to be fully informed and express their considered views. -Until they return there should be complete precautionary ban on all fishing. While they await return should be proper consideration of a future regime taking full account of the need of Chagossians to use the resources sustainably for	

	the inhabitants of the islands when they succeed in their efforts to return home.	subsistence or regulated commercial purposes, including fisheries and benign uses such as tourism or sponsored scientific research. -Convene a workshop, possibly in Mauritius, with supporters invited to make presentations and all Chagossian participants allowed their say.	
101. Martin Abrams (martin.abrams@hotmail.co.uk)	Option 1	-Highly important site for sea birds, safe haven for thousands of breeding pairs -Territorial waters contain at least a thousand species of fish and globally significant populations of sharks, dolphins, marine turtles. -World's largest coral atoll – and coral some of healthiest, benefitting from exceptionally low levels of pollutants – scientific analysis has shown waters cleanest recorded. One of most ecologically important reef systems. -Safe refuge for migratory fish and other marine life. Could boost fish stocks and so improve livelihoods for coastal communities. -No detriment to displaced Chagossians – islands and their resources would remain healthy no matter what the future holds and conservation arrangements could be modified in the light of a change in their status.	
102. Matthew Cassidy, 9 Victoria Terrace, Kemnay, Inverurie, AB51 5RL	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit -Love animals past and present and hope all the wildlife is given the best chance to survive.	
103. Mrs Marjorie Peters	Option 1	-Amazing achievement to make it happen in	

(peters.malcolm@neuf.fr)		2010, year of biodiversity.	
104. Mike Downey (mike_downey@btinternet.com)	Option 1	-Would go a long way towards protecting precious and fragile marine environment and demonstrating world leadership in marine conservation and sustainability	Also welcome government's commitment to UK marine bill and encourage extension of UK protected zones
105. Louise Lieberknecht , private view, MPA specialist in non-professional capacity (l_lieberknecht@yahoo.co.uk)	Working with Chagossians to help them develop a zoning system.	-Option 1 from an environmental point of view, but nature conservation should never come at the cost of human rights and international law (though notes not settled yet). -Chagos cannot be considered a flagship case for successful marine conservation. If they return Chagossians will need to eat. -Work with them from the beginning to provide tools to develop a zoning system that would allow them to meet needs in a sustainable way while protecting unique marine environment for the future.	
106. Richard L Bennett	Option 1	-No delay, to protect unique and precious environment. Potential to become outstanding natural conservation area.	
107. Carl Villanueva, 871 North Pownal Road, North Pownal, Vermont 05260	Option 1	-Coral reef in precipitous decline. Chagos MPA would send a message about a groundswell of support for conservation of reefs. -Would set precedent for worldwide establishment of extraordinarily large MPA's and provide lessons on how to manage study and police them.	
108. Jennifer Bixby, Lt. USN, 1539Spencer St., Lansing, MI48915, USA	Option 1	-Coral reef in precipitous decline. Chagos MPA would send a message about a groundswell of support for conservation of reefs. -Would set precedent for worldwide	

		<p>establishment of extraordinarily large MPA's and provide lessons on how to manage study and police them.</p> <p>Personal experience of poachers in Chagos, and the waste of fish.</p>	
<p>109. Stephen F Snell, Commander USN (retired) 2716 Aloma Oaks Drive, Oviedo, Florida, 23765,USA</p>	Option 1	<p>-Pristine condition. May never again be such opportunity to protect species and environments threatened by pollution, over-fishing and other activities. Green Turtles only survive through protection efforts</p> <p>-Clock is ticking</p>	
<p>110. Carol Garner, 1221 New Gambier Road, Mount Vernon, Ohio 43050, USA</p>	Option 1	<p>-Would be largest MPA in world. Supported by scientific workshop in Southampton, 2009. Opportunity to do now, before it is too late</p> <p>-Extensive protected areas most effective. Indian Ocean surrounded by developing countries where people depend on corals for food, coastal protection etc, but degraded because of impact of human activity</p> <p>-Chagos reef less human impact. If managed well could last 20-40 years more, giving time for global climate change mitigation measures to be implemented and marine life to recover.</p>	
<p>111. John Rimington, 20 Berkeley Square, W1J, 6LH</p>	Option 1	<p>-Marine life suffering from over-exploitation, bycatch and pollution</p> <p>-Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned.</p> <p>-Real and lasting benefit</p>	
<p>112. Commander L L Grey DSCRN, Two Bridges, River Road, Taplow, Maidenhead SL6 0BB</p>	Option 1	<p>-Marine life suffering from over-exploitation, bycatch and pollution</p> <p>-Larger area protects more habitat types, and reduces effect from external factors such as</p>	

		pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit	
113. Dr Hugh Dunkerley (H.Dunkerley@chi.ac.uk)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
114. Gordon A Williams, BA FRAeS, FIOD, The Ridings, Heather Drive, Sunningdale, Berkshire SL5 0HS (info.air@dsl.pipex.com)	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit	
115. Ross Maclean (rossmaclean@hotmail.com)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
116. Howard Martin, London (howardjohn.martin@virgin.net)	Option 1	-Benefits set out on p11 -£1m from public purse seems negligible price for conservation, scientific source site. -UN could pay? But establishment of MPA should not be dependent on this funding	
117. Gerald Penny, 33 Marlborough Road, Sheffield S10 1DA (gerrypenny@googlemail.com)	Option 1	-If option 1 not possible, option 2 would be possible, though concerned about world fish stocks. Option 3 would be better than nothing, but not much.	
118. Paul Douch (paul.douch@virgin.net)	Option 1	-Increased cost of patrol vessel a small price to pay for huge potential conservation benefits. -Uniquely unpolluted area; rare opportunity, which should be taken up if (as seems to be the case) rights or economic and social welfare of inhabitants not seriously impinged or go unrecompensed. -Agree all benefits, highlighting it as a source site and reserve for species overexploited, and secondly as an unpolluted reference site. -International fishing community should see benefit of a reserve.	

		<ul style="list-style-type: none"> -Reluctantly accept exclusion of Diego Garcia if US need operational control, and as long as existing conservation measures, or better, remain -Hope it would not preclude constant effort research by succession of researchers 	
119. Samantha Jayne Mason (samason5@hotmail.co.uk)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
120. Aimee Middlemiss, Primrose Cottage, 13 Caroline Row, Hayle, TR27 4EQ (almiddlemiss@googlemail.com)	Support MPA	<ul style="list-style-type: none"> -Should be taking a lead on protection of the world's natural resources, particularly in context of over-exploitation of natural resources and climate change. -Large and unique ecosystem, opportunity to safeguard part of our inheritance for broader impact on the world. -Already deprived Chagos islanders for military purposes, perhaps make broader remedy by protecting the environment they so value. 	
121. Keith Lawrie (keith.ann123@tiscali.co.uk)	Support MPA	-Do whatever possible to protect what little we have of natural wildlife, or very little to leave for future generations.	
122. Jeremy Lattin, Cmdr RN (retired), 88 Wakehurst Parkway, Narrabeen, NSW2101, Australia (jlattin@bigpond.net.au)	Option 1	<ul style="list-style-type: none"> -If need to relax arrangement in future, easier to do that than subsequently increase. -Loss of income from fishing licenses needs to be managed. Will need to be enforced: poaching already widespread on a commercial basis. -US should demonstrate convincingly what operational impact an MPA would have on the base. -Opportunity to do something of lasting benefit. 	
123. Tony Wells, Manor Cottage, Shrewton, Salisbury, SP3 4DB (cagwel@shrewcot.freeserve.co.uk)	Option 1	-Wonderful opportunity for UK to make relatively uncontroversial but hugely powerful intervention on behalf of marine wildlife and the coral atoll ecosystem	

		-2010 year of biodiversity	
124. Dr Fergus Dignan (fjdignan@aol.com)	Support initiative	-Opportunity to show commitment to sustainability of the marine environment.	
125. Dr Peter Higgs, 16 Alleyn Road, London SE21 8AL	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Fully protecting Chagos would bring significant long-term benefits to coastal communities and sustainability of ocean -Provide reference site for science -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs small compared to benefits -Real and lasting benefit. 	
126. CR Hunneyball OBE, Northmuir, St Bryde's Road, Kemnay, Inverurie, AB51 5RD	Option 1	<ul style="list-style-type: none"> -Over-exploitation decimating marine resources worldwide. -UK been in forefront of discussion to address global warming. Chagos Archipelago biggest sea area relatively unaffected by man. Declaring it a protected zone would reinforce credibility of Government in environmental issues. -Opportunity that should not be missed. -Option 1 gives greatest chance of area recovering and maintaining its special nature. Splitting or applying caveats will result in people seeking ways to circumvent them. 	
127. Heather Williams, Holly Cottage, Prolley Moor, Wentnor, Bishop's Castle, SY9 5EH.	Must have full approval of Chagossians	<ul style="list-style-type: none"> -Concerned that Chagos Islanders not being given central role in the consultation that they should. -Any decision made as a result of this consultation must have the full approval of the Chagos islanders and nothing, such as a total ban on fishing, should be done which might prevent their eventual return to their home. 	

128. Miss Sarah Teversham, 7 James Court, Wake Green Park, Moseley, Birmingham B13 9XY	Must have full approval of Chagossians	<p>-Chagos islanders have been only marginally part of the consultation.</p> <p>-Any decision must have the approval of the Chagos islanders who should be a central part of the consultation. Nothing, such as a total ban on fishing should be done which might prevent their return.</p>	
129. Jon Gulson (jong_409@fsmail.net)	Option 1	<p>-While this may limit income from fisheries it would seem to be the most protective and easiest to police. Any form of licensed fishing likely to be subject to abuse.</p> <p>-Good stocks in Chagos will replenish stocks elsewhere.</p> <p>-UK has potential here to create a large haven for coral reef organisms.</p> <p>-If a reserve not created here with 'Chagos' relatively politically simple environment' UK's commitment to the environment and biodiversity will be questioned, and will struggle to influence others.</p>	Land should be managed to reduce introduced organisms and encourage/restore a more natural fauna/flora
130. Colin Wilkinson (colin.wilkinson@rspb.org.uk) (Personal view based on experience of Anguilla)	Option 1		-All OTs deserve higher levels of protection and UK funding than they currently receive
131. Jamie Guerrero (jguerrero@carbonpuert.com)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
132. Alan Knight (alan@internationalanimalrescue.org)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
133. Iain Henderson, Meadow House, Hunton, Sutton Scotney, Hampshire, SO21 3PS	Option 1	<p>-Marine life suffering from over-exploitation, bycatch and pollution</p> <p>-Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned.</p>	

		-Real and lasting benefit	
134. RH Finzel, Flat 1, 38 Elvaston Place, London SW7 5NW (finz27@yahoo.co.uk)	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit	
135. Stephen Rutherford (no contact details given)	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit	
136. Mrs Marjorie J Lewis, 4 Scots Close, Hereford, HR1 2RT	Option 1	-Sufficient scientific evidence for MPA, to protect fish stocks and coral reefs -Global significance of BIOT as a pelagic/archipelagic eco-system -Would protect around half the high quality coral reefs in the Indian Ocean; world's largest MPA. - Legal and illegal fishing has impacted the area; sharks, sea cucumbers, turtles and fish known to have declined. -Benefits (p11) cannot be overstressed -Would provide a platform for a scientific programme of global importance -Cost a small price to pay	-Holistic system of protection needed -Further conservation management of atolls to include seabirds, eradication of rats, restoring native vegetation
137. Alison Bunn, 76 Baker Road, Abingdon, OX14 5LJ (Alison-smith.environment@virgin.net)	Option 1	-Diverse and valuable ecosystem of Chagos islands must be protected at all costs. -Coral reefs threatened by pollution and fish stocks that depend on them threatened by over-fishing. -Fully protected reserve could play a hugely valuable role in conserving fish stocks and	

		biodiversity and still allow islanders to make a living through sustainable activities and eco-tourism.	
138. Martin Grimshaw, 21b Wilbury Rd Brighton and Hove, East Sussex BN3 3JL (martin@greenspeak.org.uk)	Option 1	-Fantastic opportunity to show leadership, creating a momentum where others may be persuaded to follow this example. -Vital that remaining habitats of significant importance are protected, for its own sake but also because their health is inextricably linked to our own. -Ensure any positive moves to protect are not soured by excluding the original, displaced inhabitants of the islands, who should be part of the solution and trusted as stewards to maintain the islands sustainably, for the benefit of us all.	
139. Tim Sutton (tps@globalrecovery.com)	Cannot support until Chagossians allowed to return	- Personally support option 1, but cannot do so until evicted people of the islands are returned to their rightful homes and given a choice in the matter. -Scandal that Chagossians are living in poverty in other places round the world when they have a perfectly good home of their own but can't because of the Americans/British occupying their land.	
140. Jen Spence (jen.spence@gmail.com)	Option 1	-Would be the largest MPA in the world. -Was put forward by Chagos Environment Network at the Royal Society and strongly supported by scientific workshop at National Oceanography Centre, Southampton. -Now before it's too late.	
141. Judy Keyse (jude.keyse@mac.com)	Option 1	-Coral reefs are in rapidly declining health, chiefly because of human induced impacts. -MPA's thought by leading coral reef ecologists to	

		be best tool we have for their protection.	
142. Robert Burstow (rob.burstow@gmail.com)	Option 1	- Future conservation plans should be coupled with movements to assist or return the archipelago islanders, as any conservation movements require permanent presence and policing.	
143. Mike Ogden (mike.ogden@btinternet.com)	Option 1	-Wonderful idea for lots of reasons	
144. Hywel Thomas (hywel.thomas@thomsonreuters.com)	Option 1	-Will preserve the area for generations to come -Will assist in recovery of surrounding areas which have been subject to overfishing	
145. Leo Chesterton (leo.chesterton@kbcfp.com)	Option 1	-Rare opportunity for UK to directly protect important habitats and biological diversity at low cost.	
146. Louise Savill (louise.savill@fco.gsi.gov.uk) personal interest, having been administrator and director of fisheries 1996-2002	Yes MPA, but no strong view on which option	-Some practical reservations on option 1: funds, and whether it would have any impact on tuna, which only pass through at certain times, and impact of yachts anchored in outer islands. -Benefits do not include political or reputational -Conservation case slightly weakened by fact that BIOT waters/marine life not as abundant or unique as other regional ecosystems. -Hard to see climate benefits, given how little fishing there is. -Scientific benefits not strongly articulated, but is a case in relation to effect of MPA on marine life.	
147. Jon Irwin, JI Events Ltd (jon.irwin@jievents.co.uk) (personal response)	Option 1	-Given major depletion of fish stocks globally, only realistic hope of letting stocks rebalance is with no-fish zones. -Illegal fishing will always happen, but stopping industrial fishing will give a chance to repopulate. -High level of importance, key environmental interest. Marine equivalent of Amazon basin.	

		-Needs to be protected.	
148. Chris Simm (chris@eco-tube.com)	Option 1	-Easy to set up the conservation of the Chagos Islands -As only livelihoods that will be affected are the fish, surely this is a straightforward no brainer.	
149. Gary Parker, Little Mead, Pipehouse Lane, Freshford, Bath, BA2 7UH (gary@jammy.eclipse.co.uk)	Option 1	-Wonderful opportunity to preserve an area in excellent condition and could be of great value internationally. -Sea often overlooked in conservation efforts, though scientists realising that ocean acidification might be one of most serious aspects of climate change threat. -Special responsibility to preserve the biodiversity of shallow and nutrient rich waters. -Importance of reefs hard to overstate. -Far reaching benefits.	
150. Dr Jeremy Kemp (marine park specialist)(jeremymarkkemp@yahoo.co.uk)	Option 1	- Option 2 would be an enforcement nightmare, probably expensive. Could undermine efforts to protect and manage some of larger more mobile species, such as sharks and turtles (Option 3 likewise). -Option 3 will not be effective in the long term (enforcement problems) and undermines some of the stated benefits, particularly large size of area available and the high proportion of good quality reefs encompassed. -Attach high importance to all benefits on p11.	Terrestrial Zoning approaches to integrate marine (subtidal) and coastal management.
151. Requests anonymity	Option 1, with caveat that if indigenous people need fishing for sustenance that should be permitted	-Be open to suggestions from scientific community and those with direct links/knowledge of relevant issues -All listed benefits important -Support conditional on being without prejudice to any pending legal case.	Engage scientific community and those with links to assess benefits, but consider control of non-native species in BIOT, future

			tourism or visitation in terms of usefulness or complementarity to MPA.
152. Phil Arnold, 12 Scott Avenue, Chorlton, Manchester, M21 9QW (philipaarnold@hotmail.com)	Option 1	-Ways should be explored to repatriate the Chagossian community while limiting their impact on the marine reserve and overcoming US concerns they are a security risk. Surely such a small number of people could return. -Conservation of pristine environment is a great opportunity for providing a safe haven for many species.	
153. Jackie Wilson (jaxspax@hotmail.com)	Option 1	-Important it remains in its present state	
154. Chris Cathrine (c.cathrine@hotmail.co.uk)	Option 1	-Unprecedented opportunity to protect biodiversity and ecosystem services, essential to supporting global economy and healthy planet for future generations. -True value outweighs those described in consultation document and reach beyond headings listed.	
155. Barry Shoesmith (barryshoesmith@yahoo.com)	Option 1	-Take this opportunity to protect this area by stopping pelagic fishing and sending a message showing our commitment to marine conservation. -Would represent a huge contribution to global environmental commitments including halting the decline of biodiversity by 2010, establishing global marine protection networks by 2012 and restoring depleted fish stocks by 2015.	
156. Josephine Tucker, 10 Spring Hill Close, SE5 8AJ (tuckerjos@yahoo.com)	Option 1	-Unique environment, virtually free of human interference. Merits highest level of protection, to conserve biodiversity, retain ecosystem as opportunity for scientific research and help	

		rebuild threatened fish stocks, for which the environment provides a vital refuge, such as tuna. -Valuable contribution to large number of international conventions and agreements.	
157. Matthew Waterkeyn, MSc Student, (m.c.waterkeyn@cranfield.ac.uk)	Option 1	-A legacy our generation, our nation and our leaders will be proud of.	
158. Victoria Brownlee, PO Box 36, 105 Cedarwood Way, Millwood, West Virginia 25262, USA (vebree@gmail.com)	Option 1	-Care about saving the biodiversity of the planet	
159. David Marsland (dmarsland@wrightcablenorth.net)	Option 1, with proviso that islanders should be allowed to live on their island		
160. Dr P Jollands, Hallsannery, Bideford, Devon EX39 5HE (Pip@igiltd.com)	Option 1	-Most pristine coral reefs in the world -Especially relevant in year of biodiversity	
161. Patrick Loughran (pcloughran@googlemail.com)	Option 1	-Cleanest and most diverse sea waters in the world. To sustain global ocean stocks must be protected.	
162. Adeline Cantais (adelinemmc@yahoo.co.uk)	Option 1	- As a diver keen to see Chagos protected to maximum level	
163. Raphael Sibille, AECOM, The Johnson Building, Hatton Garden, EC1N 8JS (rapael.sibille@aecom.com) – personal view	Option 1	-Most important benefit to reduce biodiversity loss and so increase resilience in wider Indian Ocean marine ecosystem. -High value in a minimally disturbed reference site.	Beyond marine protection, environment in BIOT should be protected through research into its climate change resilience, and learning by comparison with related, exploited ecosystems.
164. Alison Mosson, 11 Southlea, Cliddesden, Basingstoke, Hants RG25 2JN	Option 1	-Cost so small to be insignificant -All the benefits listed are of great importance	

(Alison@abe.co.uk)			
165. Ian Gordon, 2a Station Parade, Balham High Road, London SW12 9AZ (ian@tiger-shark.co.uk)	Option 1	<ul style="list-style-type: none"> -Groundbreaking measure. Currently no significant marine protection zone in region. -Overfishing rife. Need large no-take zones to allow species to recover. -Catch rates just outside the zones increase and can be maintained -No take zones easier to police than other 'managed' fisheries. Strict enforcement needed and high penalties for breach; enough to deter (fines, confiscation of catch and boat). -Costs of enforcement could be subsidised by eco-tourism; would be a prize target for liveaboard diving boats – which could help report illegal fishing. 	
166. Alison Dark, 134 Station Road, Crayford, Kent, DA1 3QQ (a.dark@ajllp.com)	Option 1	<ul style="list-style-type: none"> -Could be the single most important achievement [of Foreign Secretary's career] -Planet has been cruelly plundered for too long and time to give something back 	
167. Bridie Keyse (bridie.keyse@yahoo.co.uk)	Option 1	<ul style="list-style-type: none"> -Such unspoilt area should be afforded protection for benefit of scientific research and for future generations. 	
168. Bob Perry (bob5773@hotmail.co.uk)	Option 1	<ul style="list-style-type: none"> -Visited in 1978/79. Understand from subsequent studies that climate, visitors and over-fishing are taking their toll. Therefore crucial we take steps to protect, for reasons in consultation paper and for future generations. 	
169. Chris Goodenough (chrisgoodenough@hotmail.co.uk)	Support MPA	<ul style="list-style-type: none"> -Time running out for protecting the environment. 	
170. Ridlon Kiphart (sharkman@live-adventurously.com)	Option 1	<ul style="list-style-type: none"> -Extraordinary opportunity for science, conservation and doing the right thing. -There are also economic benefits to the listed proposal 	

		-Landmark opportunity	
171. Jennifer Williams, Wingham House, Bishop's Waltham, Southampton, SO32 1BZ (jennypushkin@hotmail.co.uk)	Option 1	-Rare opportunity to preserve precious environment for future generations. -Importance of long term view as opposed to short term commercial gain. -So little family silver left and so few chances to lead the world in the right direction – could and should take this one.	
172. Michael Ward, 15 Whinberry Way, Moorside, Oldham OL4 2NN	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Real and lasting benefit	
173. Kerry Merchant (KJM@hardenhuish.wilts.sch.uk)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
174. Clive Hurley (clive.hurley@tiscali.co.uk)	Option 1	-To obviate the likelihood of any conflict of interests with other options	
175. Jack Brodie, Hawkshead, Cumbria (jackbrodie@hotmail.com)	Option 1	-Monumental, glowing display of UK commitment to environmental conservation and biodiversity. -Would raise prestige of UK in scientific and environmental community due to extensive potential benefits to Indian Ocean marine and avian wildlife and the preservation of such a rare study environment. -Role model; help encourage other countries to protect their wild places.	
176. Jeremy Fraser, The Farmers Club Flat, 8 Market Place, Horncastle, LN9 5HF (JFraser@lincstrust.co.uk) Personal view	Option 1	- Remarkable opportunity to create one of the world's largest MPA's and double global coverage of ocean's benefitting from full protection -Area to be protected widely understood to support an exceptional level of biodiversity.	Comprehensive environmental protection for non marine areas.

		<p>-Area already subject to much environmental protection and virtually uninhabited, which makes upgrading to full marine protection more feasible than elsewhere.</p> <p>-Should go hand-in-hand with conservation of whole territory – degradation of non-marine habitats can have negative effects on surrounding seas</p> <p>-Scientific community would benefit enormously from being able to study protected area for comparison with other areas which are more disturbed.</p> <p>-Benefits far outweigh costs.</p>	
177. Rosemary Woods (wiserbud48@hotmail.com)	Support MPA	-Lost too many of the world's beautiful sea creatures already. Duty to keep as many remaining places safe for future generations.	
178. Mike Jennings, 27 Morefields, Tring, Herts HP23 5EU (Michael.a.jennings@btinternet.com)	Option 2	<p>-Include and consult with the Chagossians</p> <p>-Diego Garcia and its waters should not be subject to exclusion from protection.</p> <p>-In the same way that Ramsar site and other nature reserves exist on and in proximity of the island there will be no reason or need to exclude the marine reserve.</p>	Involve local people
179. Mrs J Boardman, 44 Yew Tree Road, Liverpool L9 1AL (joan.boardman@blueyonder.co.uk)	Support MPA (option not clear)	<p>-Best action is consultation, especially with local people</p> <p>-All benefits equal and important, and should bring equal benefits for local population</p> <p>-Is there a problem with bycatch from trawlers near the conservation area?</p>	
180. Andrew Jonathan Price (jon.price@live.com)	Option 1	-Amazing achievement to make it happen in 2010, year of biodiversity.	
181. Robert Jutsum (p.s.ferris@btinternet.com)	Option 1	-To celebrate year of biodiversity	
182. Nigel Wenban-Smith	Option 1	-Only option that allows complete protection of	Take complementary

(nigel@wenbarlow.com) (Commissioner 1982-85)		<p>all reef and pelagic communities.</p> <p>-Without that, results of scientific studies liable to be skewed/open to question.</p> <p>-Not valid to say removal of controlled fishing in one area necessarily results in reduced overall protection for the species in question.</p> <p>-Partial ban harder to police than blanket ban</p> <p>-Transitional measures could be useful in relation to Mauritian inshore fishing interests.</p> <p>-Agree wholeheartedly with benefits described and put more emphasis on dangers of continued inaction.</p>	<p>steps to restore original diversity of terrestrial ecology, so increasing population of seabird species and recovery of rare turtles.</p>
183. Douglas Hadler, 8 Fulmer Drive, Gerrards Cross SL9 7HJ (douglas.hadler@btinternet.com)	Option 1	-Benefit to exceptionally fine area of marine wildlife of BIOT	
184. Mrs Rosemary Brown, Radfall Court, Radfall Road, Whitstable, Kent, CT5 3EN (rosemaryjbrown@tiscali.co.uk)	Option 1	-Benefits outlined in document make this an opportunity too good to miss	
185. Mrs Wendy Eifflander, 53 Böllinbarn Drive, Macclesfield, Cheshire, SK10 3DN (paulandwendy.eifflander@googlemail.com)	Option 1	-Understand that small-scale fishing rights of the Chagossian people can be sympathetically considered at a future time.	
186. Bryan Dawkins (bryan.dawkins@btinternet.com)	Support MPA	-Islands must be conserved at all costs for ourselves and more importantly for our children.	
187. Heath Bradshaw, London, member of Chagos Conservation Trust (heath_bradshaw@metronet.co.uk)	Option 1	<p>- Option 3 offers little benefit over current. Very difficult to police just a selected area, and continued slow decline would continue.</p> <p>-Exception for certain pelagic fishing is an environmental contradiction. Tinkering with selected aspects of the environment has knock-on effects: not knowledgeable enough to predict such consequences and impact on fine balance of nature. Having fishing vessels in the area makes policing other aspects more difficult.</p> <p>-Anything less than Option 1 a waste of time and</p>	<p>Terrestrial conservation. Reverse immense damage done by coconut plantations and man's habitation; return those that have lost endemic flora and fauna to pristine conditions still found on those not</p>

		resources. Protected Chagos would be major sanctuary for Indian Ocean wildlife.	inhabited. But could allow some visitors, as source of revenue.
188. Aycha al-sheikh (aycha.al-sheikh@hotmail.com)	Support MPA	<ul style="list-style-type: none"> -Help stop loss of marine biodiversity -Conserve habitats of sea animals and protect coral reef -Will provide more jobs for local people -Public in India should have a say in this 	
189. Rebecca Short (rshort86@hotmail.com)	Option 1	<ul style="list-style-type: none"> -Exclusion of tuna fisheries would be another example of fishing industries ability to lean on government to turn legislation to their advantage whilst ignoring warnings of a solid scientific base. -Preserving whole area would make the project unique. -Food chain, migratory and resident species, must remain intact, to maintain as close as possible a pristine environment as a reference site for future education and science -Kick start a global growth in MPA's 	
190. Richard Page, Sutton Court, Sutton St Nicholas, Hereford HR1 3AT (richardwymiondpag@btinternet.com)	Decision for Chagossians, not UK	<ul style="list-style-type: none"> -Scientific justification for establishing no-take MPA's well established and case well made in reports of Chagos Environmental Network. -But decision not for UK but Chagossians. Eviction and subsequent actions shameful. -Stopping fishing now a good idea as a means of protecting the resources of the Chagossians. But on their return they will have to decide how these waters are best managed and which if any should be open to fishing. -Chagossians could return in a way which is ecologically sustainable with limited fishing in prescribed areas, managing tourism, conducting science programmes etc. 	Should have large-scale marine reserves in UK waters and adjacent EU waters.

		<ul style="list-style-type: none"> -Marine reserves yield greatest benefits when supported by the local community. -Military presence on Diego Garcia has had detrimental effect since inception. Will there be EIA of base and related activities on the MPA – e.g. use of mid or low frequency sonar, known to be harmful to cetaceans. 	
191. Simon E Hughes, 29 Champion Hill, SE5 8AL (simonhughes@hughes-mccormack.co.uk)	Option 1	<ul style="list-style-type: none"> -Tuna and other fish being driven to extinction. Even managed fisheries have collapsed and IOTC has shown itself unable to manage efficiently. -Accept exclusion of Diego Garcia where US already protect diversity to good effect (as well as combating terrorism) -Option 1 will also protect the whole BIOT ecosystem to benefit of all flora and fauna and rejuvenate reefs in western Indian Ocean. -We spend £482m pa on protecting diversity and can clearly afford it. 	
192. Matthew Hanson, 14 Brockley View, SE23 1SN	Option 1	<ul style="list-style-type: none"> -How will livelihoods of local fishers be preserved? -How will reserve be enforced to prevent illegal commercial fishing? -Most important reasons are 5, 7, 4 from list -Should have a core philosophy of sustainable relationships with robust natural environments -MPA's should be copied all over the world in robust network of reserves - Should be public clarification of why US military want exclusion. 	
193. Giles Blunden (giles.blunden@jamesgilbertandson.com)	Option 1	<ul style="list-style-type: none"> -MPA's have vital role to play in protecting seas from increasingly destructive forces of dredging and fishing. 20-50% of oceans should be set aside and protected in this way. 	

		<ul style="list-style-type: none"> -Chagos archipelago ideal candidate for such reserve, providing refuge to allow species to recover. -Fishing activities should be prohibited for full protection. 	
194. Mike Freeman	Option 1	<ul style="list-style-type: none"> -Best way ahead for HMG is to declare full moral and social responsibility for environmental protection of OT's and Crown dependences. -Complete absence of settled population not necessarily a negative factor. Debatable whether military base has a minimal footprint. -‘get rid of Diego Garcia’ 	
195. Trevor Evans, BSBI Recorder for ve35 Mons, La Cuesta, Mounon Road, Chepstow, Mon. NP16 5BS	Option 1	<ul style="list-style-type: none"> -Chance to halt decline 	
196. Eleanor Gloster, BBC Learning South East, 40-42 Queens Road, Brighton, BN1 3XB (Eleanor.Gloster@bbc.co.uk) – as individual	Option 1	<ul style="list-style-type: none"> - Been scuba diving and seen that the only areas in which marine life fully flourish are those with no-take MPA's -Allow some scuba-diving liveaboard operators to offer diving to help raise funds for patrol vessels and as a visible deterrent to illegal fishing vessels. (evidence from Galapagos) -Oceans are being fished to death. 	
197. Helen Marie Meatcher (ospa19@bangor.ac.uk)	Option 1	<ul style="list-style-type: none"> -Few pristine habitats. Rare opportunity to preserve for science, and as refuge for fish, which will lead to adequate replenishment of important fish stocks in the Indian Ocean. - Despite Fisheries Conservation Management Zone with commercial catches limited by licence legal and illegal fishing have impacted the area. -Need to decide now to preserve world's biodiversity before it is degraded too far. 	
198. Hugh Govan, WCPA Marine, Melanesia,	4 th option	<ul style="list-style-type: none"> -Local inhabitants can make excellent stewards of 	

<p>PO Box S-37, Superfresh, Suva, Fiji Islands (hgovan@gmail.com)</p>		<p>environments they are intimately linked to -Sustainable use is a valid approach to conservation and could be reinforced through ensuring use for local subsistence only -Claims of Chagossians to return</p>	
<p>199. John McGeehin, 4 Standings Rise, Whitehaven, CA28 6SX</p>	<p>Option 1</p>	<p>-Duty to return overseas territories to best environmental state now possible -From climatic, economic and development points of view an opportunity not to be missed -Well worth the cost of administration – custodians of the planet; small price to pay for climatic benefits alone, whilst human direct benefits modest in the short term</p>	<p>Islands should be maintained predator free.</p>
<p>200. Karin Sinniger, c/o BP Angola, Chertsey Road, Sunbury on Thames, Middlesex, TW16 7LN (kbsinniger@yahoo.com)</p>	<p>Option 3 (status quo)</p>	<p>- Premature to engage in any discussion about marine park or no-take zones until ECtHR has determined whether Chagossians can return. -Certainly must be consulted as must Mauritius, to whom islands will be ceded when no longer needed for defence purposes.</p>	
<p>201. Edward Hind, Salisbury (edd_hind@hotmail.com)</p>	<p>Only if in consultation with Mauritius and Chagossians, and none of the options proposed are suitable.</p>	<p>-Suggestions just come from scientific/environmental and fishery experts. -Need marine scientists trained as integrated coastal zone managers, aware of social and environmental issues. -Should have effective stakeholder consultation, including socio-economic research, with a professional non-partisan facilitator -Environmentally brilliant MPA's can be wasted by top-down legislation that alienated local stakeholders. -Experts from other countries should be brought in to help in the consultation process – more experience of coral reefs.</p>	<p>Consultation on land use control should be done, as before, with all stakeholders, not separate from marine</p>

		<ul style="list-style-type: none"> -Costs around £1million looks cheap and should be accepted as reasonable expense. -Broadly agree the environmental benefits, though leave comment to someone more expert 	
202. Joseph Reynolds, 13 Silver Street, Wiveliscombe, Somerset, Taunton TA4 2PA	Option 1	<ul style="list-style-type: none"> -Has only escaped the hazards of tourism and fisheries due to long term usage of Diego Garcia by US and UK armed forces. -Unilaterally declare zone without further consultation. Time to talk is over. 	
203. Sarah Gall (sarah_gall16@hotmail.com)	Option 1	<ul style="list-style-type: none"> -Chance to make a real difference and to send a very important message to the international community. 	
204. Dr Andrew Gill, Cranfield University, School of Applied Sciences (but responding as individual) (a.b.gill@cranfield.ac.uk)	Option 1 (but future consideration to local sustainable use)	<ul style="list-style-type: none"> -Gives biggest impact, but should not disconnect human activities and requirements from local natural resources. Preservation approach will end up as living museum. Need dynamic ecosystem management, once management framework is in place and operating effectively. -Need to look at environmental impact of military presence – need not always be in same form. -Humans an intrinsic part of ecosystem management -Local community that live and depend on the environment need to be engaged in the process, and could potentially be used as guardians. -Need to show global leadership. Significant statement to rest of the world. 	
205. Andy Daer, Downend, Bristol, BS16 6EE	Support MPA	<ul style="list-style-type: none"> -De-globalise resource which is over-exploited and give ownership and control back to local community, which has an interest in preserving it over a longer period than commercial fishermen. -Another approach is entirely to exclude fishing boats from area. Can allow regeneration and 	

		<p>spillover.</p> <p>-Only certain way to avoid further reduction is to establish marine reserves.</p>	
<p>206. Mike Crew, 11 Islandview Drive, Mary Esther, FL 32569 (mike@crewlaw.com)</p>	<p>Option 1</p>	<p>-Any other option would permit depletion of segments of marine life, resulting in unbalanced ecosystem, incapable of providing refuge, and would prevent use as scientific reference site.</p> <p>-Many species that would be targeted for commercial harvesting are the same species that are threatened or endangered.</p> <p>-Non-full protection options would require substantial oversight and regulation. Simpler to ban completely, with large penalties, boat seizure to prevent.</p> <p>-Recreational yachting can be valuable eyes and ears. Provision should be made for yacht mooring or anchoring areas</p> <p>-May be last opportunity to preserve relatively undisturbed part of our planet.</p>	
<p>207. Natasha Hill (natashajadehill@gmail.com)</p>	<p>Option 2</p>	<p>-Sea life stocks dwindling</p> <p>-Need forms of management and conservation to secure survival of the oceans</p> <p>-Vital that coral reef systems be protected</p> <p>-Ocean contributes to human survival.</p> <p>-No take but with exceptions for certain forms of pelagic fishing (eg tuna) certain zones at certain times of year will be extremely beneficial for future survival of marine wildlife.</p> <p>-A secure balance is the only way to protect the planet. Global fish economy will not be especially affected and fish reserves can recuperate and raise numbers.</p>	
<p>208. Alec Dawson Shepherd, 1 Lockner</p>	<p>Doubts – potential</p>	<p>-Presumably BIOT already has some</p>	

<p>Cottages, 136 Dorking Road, Guildford, GU4 8RF</p>	<p>liabilities</p>	<p>environmental protection.</p> <ul style="list-style-type: none"> -Conservation does not need to be no take – could use zoning and sustainable take in line with Marine Stewardship Council or equivalent. -Need to ensure those with traditional rights to access and use lose out to minimum extent -No clear indication of threats, though precautionary OK -Conservation benefits – more than a few places where this is possible. BIOT is relatively undisturbed and requires little investment in restoration, but could require significant in future. -Climate change benefits may require investment in management to ensure it can be a control (nb. may have a carbon sequestration value) -Would be value in showing objective links between environmental health, ecosystem goods and services provided by it and sustainable livelihoods and poverty alleviation benefits derived -If no obligation to designate a protected area then great care should be taken in accepting it. Could be significant recurring costs in maintaining assets in the face of adverse impacts of climate change. 	
<p>209. John Topp, Commander RN FLS, 20 Lupus Street, SW1V 3DZ (johntopp@johntopp.org.uk)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> - FCO have already treated Chagos 'as if' it were World heritage Site -Aware of political, legal and financial hurdles -Support submissions of Chagos Conservation Trust and Chagos Environment Network -Legacy; value to future generations 	
<p>210. Joe Barnes, 10 Riverside, West Kirby,</p>	<p>Support MPA</p>	<ul style="list-style-type: none"> -Important enough to put pen to paper. 	

Wirral, CH48 3JB			
211. Sally Barnes,(address as above)	Supports MPA	-Vital refuge for amazing plant and animal life in the oceans to recover from commercial fishing -Need 50% of oceans set aside and protected to create a healthy ocean. Would also help combat climate change.	
212. Carol Newing, Hayes, Bromley, Kent	Support MPA	-Obvious reasons	Also need round UK
213. Jayne Russell, 13 Cairns Road, Crosspool, Sheffield, S10 5NA	Option 1	-MPA's have vital role to play in protecting seas from increasingly destructive forces of dredging and fishing. 20-50% of oceans should be set aside and protected in this way. -Chagos archipelago ideal candidate for such reserve, providing refuge to allow species to recover. -Fishing activities should be prohibited for full protection.	
214. JH Milner, City University, School of Engineering and Mathematical Sciences (j.h.milner@city.ac.uk)	Support MPA	-World's oceans really vital to the survival of the earth	
215. Janet Robertson, 35 Gloucester Road, Kew, Richmond, Surrey, TW9 3BS (janetrobertson@sky.com)	Option 1	-MPA's have vital role to play in protecting seas from increasingly destructive forces of dredging and fishing. 20-50% of oceans should be set aside and protected in this way. -Chagos archipelago ideal candidate for such reserve, providing refuge to allow species to recover. -Fishing activities should be prohibited for full protection.	
216. Anne Edward, 108 Withersfield Road, Haverhill, CB9 9HE	Option 1	-MPA's have vital role to play in protecting seas from increasingly destructive forces of dredging and fishing. 20-50% of oceans should be set aside and protected in this way. -Chagos archipelago ideal candidate for such	

		<p>reserve, providing refuge to allow species to recover.</p> <p>-Fishing activities should be prohibited for full protection.</p>	
217. EA Bridgstock, Cressey, Park Gate, Stokewake, Blandford Forum, DT11 0HA	Option 1	<p>-Marine life suffering from over-exploitation, bycatch and pollution</p> <p>-Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned.</p> <p>-Real and lasting benefit</p>	
218. Dr MW and Mrs AE Pienkowski, 102 Broadway, Peterborough, PE1 4DG (m@pienkowski.org)	Option 1	<p>-Only option which can maintain current pristine state: others allow for continued exploitation, albeit controlled, which will be logistically and financially expensive to deliver.</p> <p>-Others allow opportunities for illegal and over-exploitative fishing.</p> <p>-Greater cost in policing where some fishing is legal</p> <p>-If Chagossians were to resettle matters would need to be re-examined, but the best course now is to safeguard.</p> <p>-Scientific case well made by others, and agree</p> <p>-Fully protected MPA will ultimately increase food stocks in the wider area.</p>	<p>Terrestrial habitat must also be protected, and invasive species eliminated and natural habitat restored. Monitor and protect turtle nesting areas. Coconut crabs undisturbed. Should be planned programme of restoration of native plant communities.</p>
219. Simon Jackson, Antibes. (simon_jackson@operamail.com)	Yes to MPA, preferably including Diego Garcia	-Allowance should be made for sport fishing among the Diego Garcia population and for transiting yachts to supplement their diet with fish	
220. Dr John Tarbit, 34 Dolphin Quays, North Shields, NE29 6HF (tarbit379@btinternet.com) (has worked for governments of coastal states of Indian Ocean, then for DFID in fisheries)	MPA, but specifically designed to enhance protection of vulnerable reef systems and islands	-Success of measures taken to date. Only immediate threats are illegal fishing and impact of various visitors – yachts, scientists, former residents when permits issued. Could be addressed by local action without need for an	Terrestrial issues: nature reserves, eradication of exotic animals such as rats, looking at impact of

	(excl. Diego Garcia) so that it is affordable, widely acceptable and sustainable.	<p>extensive MPA, e.g. by strengthening regulations, declaring 'strict nature reserves', extending prohibition on unlicensed fishing, increasing monitoring.</p> <p>-Generally accepted that monitoring will have to be increased and costs will rise. But licenses from tuna fishing are main source of funding.</p> <p>-Migratory nature of tuna and mobility of oceanic fleet will just lead to displacement of fishing effort rather than reduction. Would be more productive to intensify discussion, including on by-catch, with IOTC.</p> <p>-Declaring an MPA will not stop illegal fishing – perhaps discussions with governments of Sri Lanka and Maldives will have greater effect.</p> <p>-For acceptability may need more focused consultation than current. Need to look more broadly at stakeholders, to include, e.g., line fishermen of Mauritius, and talk to regional organisations frankly on social and economic aspects.</p> <p>-Sounds like a science park in Indian Ocean; benefits in food and jobs in the region entirely speculative</p>	beach litter on turtle breeding, conserving the built environment. Contingency plans for various levels of resettlement.
221. Eemelda Mawamure (emelda_4@live.com)	Support MPA	-Need to involve Chagossians, who know best how to keep the islands and its species.	
222. Chris Davies, Commander RN retired, 23 Caspian Close, Swanwick, Fareham, PO15 7BP (chrisdavies59@talktalk.net) Spent two years in Chagos as British representative, 2004-06.	Option 1	<p>-Local protection orders slow and cumbersome process.</p> <p>-Chagos corals resilient – perhaps vibrant marine life played a part. Same marine life seeds Indian Ocean and provides sustenance to those who live around ocean rim.</p> <p>-Climate change will affect sea levels.</p>	

		<ul style="list-style-type: none"> -UK chance to set an example, lead to protection of other resources. -No impact on operational capability of operations on Diego Garcia. Area would be policed in much the same way as it is now, and simpler if no fishing. 	
223. Paul Buckley, West Farm Barn, Coombe Keynes, Dorset BH20 5PS	Option 1	<ul style="list-style-type: none"> -Make it as robust as possible in face of environmental threats -Exceptional value for money -Do everything possible to involve Chagossian community in developing MPA. 	
224. Hugh Hobbs, 4 Grena Road, Richmond, Surrey, TW9 1XS. (hrfh20@yahoo.co.uk)	Option 1	<ul style="list-style-type: none"> -Another measure to protect the BIOT environment would be to encourage the US to surrender its military base. -Should trust to Chagos islanders to decide their own destiny. Should have a referendum amongst them. Otherwise undemocratic. -Rights of islanders – do rights of nature take precedence over rights of indigenous islanders? 	
225. Eric Machinist (ericsvmeander@hotmail.com)	Option 1	<ul style="list-style-type: none"> -Not the time for half measures and compromises. -Attach highest importance to benefits listed 	Should be final financial settlement with the Chagossian Community to assure them the ability to live securely and possibly to offer relocation again to where they want to live. US should be one possibility, and should be party to a settlement.
226. David MacLennan (BIOT Commissioner 1994-6) (member@byndes.fsnet.co.uk)	Option 1	<ul style="list-style-type: none"> -Conservation legacy almost unrivalled in scale and significance and outstanding legacy. 	

		<ul style="list-style-type: none"> -Show UK as leader in conserving world's marine resources -Will give rise to financial costs that UK government should be prepared to underwrite. -Future of Chagossians should not be used as an excuse for inaction, nor should claim of Mauritian government to have a say or stand in the way of what is manifestly the right decision. 	
227. Richard Heron, Grove House South, Station Road, Grove, Wantage, OX12 7PF (rheron@kmtcentre.co.uk)	Oppose creation at this time	<ul style="list-style-type: none"> -Disgraceful even to consider MPA at this time. -Designed to pre-empt ECtHR judgement -To create a fait accompli to keep US secure in military base 	
228. Jon Slayer(jon@jonslayer.net)	Option 1	<ul style="list-style-type: none"> -Will not impact military base – environmental measures already stringent. -Very strong case for conservation -Costs might be funded by payments from carbon trading schemes? - Potential role for Chagossians in enforcement? And possibly on vessel-based tourism. -Go ahead but re-evaluate following court case 	<p>Islands themselves should also be protected. Question of enforcement, currently inadequate; could be supported by light aircraft, 2 or 3 smaller patrol boats.</p>
229. Robert Philpott, The Gables, 1 Youngs Place, West Haugham, Dover CT15 7AU	Option 1	<ul style="list-style-type: none"> - Pristine bountiful seas -Chagossian treatment dreadful, but clock cannot be turned back, but UK and US can work together to preserve what remains. 	
230. GJ and MV Heath, 90 Catlins Lane, Pinner, Middlesex HA5 2BX	Option 1	<ul style="list-style-type: none"> -Marine exploitation -No-take reserve would give maximum protection and would give UK a leadership position – especially for 2010, year of biodiversity 	
231. Rachel Jones, 73c Corinne Road, Islington, N19 5HA.	Option 1	<ul style="list-style-type: none"> -Various habitats connected and mutually supportive. Chance to create a world class reserve on unprecedented scale -Patrolling essential to prevent illegal fishing, 	<p>Habitat restoration</p> <p>Should not allow long term mooring of</p>

		<p>mooring etc</p> <ul style="list-style-type: none"> -Can become example of best practice for other countries -Can protect pelagic fishery, encourage others and send message that fish stocks too valuable to fish out completely. -Obvious financial implications to closing the licensed fisheries but may have power to attract significant funding from other sources. 	<p>yachts – anchor damage and pollution from waste</p>
232. Peter Jackson, 8 St Dunstons Avenue, Acton, W3 6QB (Jackson_pn@pobox.com)	Option 1	<ul style="list-style-type: none"> -Associated running costs well worth bearing -Contribution to science and to protection of diversity 	<p>Set up permanent research station close to the region. Could be internationally supported, and used for monitoring.</p>
233. Simon Goddard, 45 Ullswater Crescent, Bramcote, Nottingham NG9 3BE	Option 1	<ul style="list-style-type: none"> -Unmissable opportunity; other options a dangerous compromise. -Can consider exploiting it in a genuinely sustainable way if there is sufficient recovery – but at least for this decade it should be given fullest protection while we can. -Important contribution to various international environmental conventions to which UK is party. -Value for money – almost trivial cost to execute and enforce. 	<p>Control rat population; restore indigenous trees and clear old coconut plantations. Could allow access for this, but not as tourism backdoor.</p>
234. Sue Wells, 95 Burnside, Cambridge, CB1 3PA (suewells100@tiscali.co.uk)	None of proposed options. Zoned or multiple use marine protected area, or network: and involvement of all stakeholders.	<ul style="list-style-type: none"> -Strongly endorse need for more and urgent protection of BIOT marine environment, whether through single MPA or network of smaller, but not Government's options. -Insufficient evidence about how they would be successfully implemented and enforced, given social, economic and political realities. -Do not seem to follow internationally recognised 	

		best practice of involving stakeholders in the planning stage. More considered approach should be taken with participation of all interested parties and a new consultation when all relevant information made available.	
235. Juliette Coudert (juliettecoudert@hotmail.com)	Option 1	-Provide shelter and nursery ground for threatened species -Could represent a zone of stock replenishment	Protect forests of mainland
236. Daniel Bayley (danbayley@hotmail.com)	Option 1	-Point of reference. -For future generations -Negatives of fishing outweigh its income generating aspect -Needs to be comprehensively and vigorously protected -Have to get involvement and support of Mauritius Government and Chagossians, or not likely to remain viable. -Resettlement not viable or beneficial, but could see recompense and potential employment as guards for reef protection.	
237. Adam Fetherstonhaugh (osu634@bangor.ac.uk)	Option 1	-Unique natural resource, undisturbed -Other options do not allow enough protection -Do not yet understand pelagic species' impact on the reef -Social aspect of displaced Chagossians, but return would probably be single worst disaster islands could encounter: would most likely destroy bird and plant life and surrounding marine habitat, and no real profession to provide support.	
238. Wendy Strahm, 'La Criblette', CH-1268 Burtigny, Switzerland (wendy.strahm@gmail.com)	Option 1	-Two sets of views – 'fortress' which ignores Chagossians – and other group which advocates working with local community, but here there is	

		<p>no appropriate community to work with, and doubts about Mauritius track record in conservation.</p> <ul style="list-style-type: none"> -There are no people there now – keep it that way -Need to protect, and to finance that protection – do so from rent received from the US base? -Provide Chagossians with better livelihood opportunities in Mauritius, UK or elsewhere. -Have a governance system like for Antarctica - why should any one nation have sovereignty? 	
239. Dr Charles Anderson, PO Box 2074, Male, Republic of Maldives (charles.anderson11@btinternet.com)	Option 1	<ul style="list-style-type: none"> -Tuna and oceanic shark have been heavily exploited by pelagic fisheries over last couple of decades. Clear need for strong management measures to reduce catches and fishing effort. -Creation of large MPA would not in itself solve all the problems, but would make a significant contribution towards that goal, and set a strong precedent for other countries to follow. 	
240. Dr Julie Hawkins, Environment Department, University of York, Heslington, York, YO10 5DD (jph7@york.ac.uk)	Option 1	<ul style="list-style-type: none"> -Wealth of scientific evidence for benefits to marine conservation of fully protected no-take zones. -British public opinion shows huge support for taking protective measures in the sea (cites evidence of a postal survey she conducted) 	
241. Vanessa Cheney, Northchurch, Berkhamsted, Herts, HP4 3XP	Option 1	<ul style="list-style-type: none"> -Oceans suffering losses -Chagos rich marine ecosystem -Demonstrate UK leadership – unparalleled opportunity 	
242. Dinah Atkinson, 2A Stafford Drive, Broxbourne, Herts, EN10 7JT	Option 1	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Larger area protects more habitat types, and reduces effect from external factors such as 	

		<p>pelagic fishing.</p> <p>-Real and lasting benefit</p>	
243. Christopher Morgan, Foxfield, Sherston, Malmesbury, Wiltshire SN16 0QA	Option 1	<p>-Marine life suffering from over-exploitation, bycatch and pollution</p> <p>-Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing.</p> <p>-Real and lasting benefit</p>	
244. S. Mfsud, 6 Bassetts Way, Orpington, BR6 7AE	Support MPA	<p>-Importance of atoll, and vastly important fish stocks that will thrive in these waters if they receive the protection they so desperately need.</p> <p>-Stocks have been exhaustively overfished and this mass plunder cannot continue.</p>	
245. Joyce Murray, Flat 1, 62 The Upper Drive, Hove, East Sussex, BN3 6NE	Option 1, with possible exclusion for local small fishing boats on sustainable basis	<p>-Need to urgently conserve what pristine areas are left</p> <p>-Would have said no-take, but understand Mauritius would like to set up a mechanism for issuing joint fishing licences – if they would not accept MPA otherwise, then agree limited fishing for sustainable local small boats or line fishing, but not for tuna, an endangered species.</p> <p>-Against purse seine or long line on any scale that would be detrimental.</p> <p>-All benefits on p11 are important.</p> <p>-Sustainable ecosystem outweighs any economic benefit, so patrol vessel should be subsidised by public purse.</p>	
246. P Robert Wood, 2 Mount Earl Close, Bridgend, Mid Glamorgan, CF31 3HA	Option 1	<p>-MPA's have vital role to play in protecting seas from increasingly destructive forces of dredging and fishing. 20-50% of oceans should be set aside and protected in this way.</p> <p>-Chagos archipelago ideal candidate for such reserve, providing refuge to allow species to</p>	

		<p>recover.</p> <p>-Fishing activities should be prohibited for full protection.</p>	
247. Valerie MacFarlane, Flat 7, 12 Cambridge Gardens, W10 5UB	Option 1	<p>-Have long considered earth a resource for our disposal for survival, but with technology and alternative economies this attitude is obsolete.</p> <p>-Only way to find the will to turn the tide is by caring.</p>	
248. Carolyn Davis, Gdn Flat 1, Westbrow, Belmont Road, Combe Down, bath BA2 5JR (Carolyn.davis@line.co.uk)	Support no-take policy to preserve/protect the coral reef around the Chagos.	-largest coral atoll, half the pristine reefs in the Indian Ocean, vital refuge for irreplaceable plants and animals.	
249. Julian and Veronica Morse, Walled Garden House, Binfield Heath, Henley on Thames, Oxon, RG9 4DP	Option 1	<p>-MPA's have vital role to play in protecting seas from increasingly destructive forces of dredging and fishing. 20-50% of oceans should be set aside and protected in this way.</p> <p>-Chagos archipelago ideal candidate for such reserve, providing refuge to allow species to recover.</p> <p>-Fishing activities should be prohibited for full protection.</p>	
250. Suzanne Adamson, Appletree Cottage, 9 West End Avenue, Brundall, Norwich, Norfolk NR13 5RF	Option 1	<p>-Marine life suffering from over-exploitation, bycatch and pollution</p> <p>-Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing.</p> <p>-Real and lasting benefit</p>	
251. 16 children from Sir Thomas Abney Primary School.	Save Chagos Islands	<p>-Protect beauty, fishes. Money less important.</p> <p>-Would be proud to do this.</p>	
252. [Not legible – signature only]	Option 1	<p>-Experience of diving has brought strong belief in value of fully protected zones.</p> <p>-Irreplaceable flora and fauna, protecting fish stocks.</p>	

		-Chequered history of Chagos could be put to use for a brighter future.	
253. Professor Paul Leonard, 75 Amyand Park Road, Twickenham, TW1 3HG (paul.leonard.sea@btinternet.com)	Option 1	- Financial support for MPA should be assisted by Americans on Diego Garcia. Although current arrangements not due for renewal until 2016, potential MPA provides opportune moment to involve them in providing funding and in-kind support.	Potential for using a levy to help manage the MPA.
254. Ben Moody, 94 Albion Drive, Hackney, E8 4LY (saragodrich@yahoo.co.uk)	Not before restoration of Chagossian rights.	-Understand need for protecting fragile ecosystems, but establishing an MPA without restoring Chagossians right of return will be yet another injustice to a people who have suffered enough. -No reason why limited resettlement should be incompatible with protecting marine life. -Labour was a party set up to protect the rights of the marginal and exploited. World has changed, but urge not to lose sight of this underlying ethic.	
255. Derek Donaldson (Derekcha1@btinternet.com)	Not stated (though text implies option 1)	No-take marine reserves vital role in protecting seas from dredging and fishing. Chagos MPA would provide vital refuge for ocean plants and animals. Need to exclude fishing activities.	
256. C.W Williams OBE, (c.w.w.@btinternet.com)	Option 1	-Chagos richest marine eco-system over which UK has jurisdiction. Option 1 provides greatest protection to the largest area & animals and plants therein, particularly from pelagic fishing for tuna and other species.	
257. Ann Scott (abscott@tiscali.co.uk)	Option 1	-Birds & marine creatures bring joy to all. Important part of plant's wildlife. Man has destroyed reefs & overexploited fish supplies and turtles. Gem like Chagos must be saved.	
258. Cherry Stevens, (Blossom.f10@virgin.net)	Option 1	-Duty to protect, respect and preserve this unique and irreplaceable area.	

259. Jill Jones, Lane End House, Quaker Lane, Beverley, East Yorks, HU17 8BY	Not stated	-Calls for Chagos Marine Reserve to be created	
260. Michael Hewitt, (mwajhewitt@hotmail.co.uk)	Option 1	-Spent time on DG. Essential that all human activity on and offshore is resisted.	
261. Jill Portsmouth, (jportsmouth1@googlemail.com)	Option 1	-Seas are important to health of planet. To be able to create largest protected area in the world is a true legacy.	
262. Evan Landy, (Evan_landy@hotmail.com)	Option 1	-Marine environment has to be fully protected to maintain biodiversity & boost surrounding fish stocks. Chance to make a big statement about UK marine policy & hopefully encourage others.	
263. Peter Cox, (coxymushroom@hotmail.com)	Option 1	-Need to protect biodiversity and set a precedent	
264. Kate Lloyd, (Katelloyd473@btinternet.com)	Option 1	-Amazing achievement if could happen in 2010 year of biodiversity	
265. Mark Stephens (stephens341@btinternet.com)	Option 1	-Need to protect few remaining fully functioning coral reefs -Demonstrating to the world what a difference our country wants to make.	
266. Nick Hill, GF, 19 Colenso Road, E5 0SL	Option 1	-Marine life suffering from over-exploitation, bycatch and pollution -Would bring long term benefits to coastal communities round Indian Ocean -Provide reference site for global science -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs to be considered against long term benefits -No equivalent areas where could exclude fishing on such a large scale, as there are no people directly dependent on fishing in Chagos. -Commercial groups may feel hard done by, but they are catching migratory species that can be	

		<p>caught elsewhere. Elsewhere in very poor communities (Mozambique, Philippines) poor people have opted to stop fishing particular areas due to concern over sustainability-time commercial groups did the same.</p> <p>-Real and lasting benefit</p>	
<p>267. Claudia Siva, Santiago, Chile (csivap@gmail.com) , personal view</p>	<p>Should not carry on with proposed MPA</p>	<p>--Right of Chagossians to live in their land and provide for themselves.</p> <p>-Establishment of MPA should reconstitute rights of truthful owners: Chagossians should be considered part of the administrative and managerial staff of the park – key in securing continuation after territory is ceded to Mauritius.</p> <p>-Bad signal to leave out area for USA. Issue of political power, rather than scientific or ethical basis.</p>	
<p>268. Sara Vernon, 7 Tapper's Close, Topsham, Exeter, Devon, EX3 0DG</p>	<p>Everything in power to protect Chagos</p>	<p>-Understand it is in serious danger of destruction, and in a position to prevent this from happening.</p>	
<p>269. D White, M IMarEST, 10 Heathrow, Gomshall, Surrey GU5 9QD</p>	<p>Support MPA</p>	<p>-Marine engineer and environmentalist with great concern about future, do not reject this wonderful opportunity.</p> <p>-Owe much to the area and its people.</p>	
<p>270. Philip Clarkson Webb, 15 Valley View, Southborough, Tunbridge Wells, TN4 0SY</p>	<p>Option 1</p>	<p>-Overfishing, bycatch, pollution. Loss of marine diversity threatens well-being and that of future generations.</p> <p>-Chagos rich in nesting seabirds and turtles, surrounded by clean seas and extensive coral reefs.</p> <p>-No-take would give maximum protection, and UK leadership role.</p>	
<p>271. Jose Truda Palazzo (Brazilian environmental consultant, has worked on MPA's in Brazil)</p>	<p>Option 1</p>	<p>-Creation and enforcement of large fully no-take zones the only effective tool to protect the integrity of our shared oceans.</p>	

(brazilian_wildlife@terra.com.br)		-Understand sensitive issues surrounding Chagos proposal, but hope these will not stand in the way of one of most significant ocean conservation initiatives of our time.	
272. Graham Batin, 33 Park Gardens, Kilbarchan, PA10 2LR (graham@chromesun.co.uk)	Oppose	-Unilaterally pressing ahead with an MPA in the Chagos Islands without restoring Chagossians' right of return is simply wrong. Don't do it.	
273. Kenneth Donaldson and Cathy Dean, 34 Trinity Street, Southwark SE1 4JG	Option 1	-Marine life suffering massive losses, MPA would provide opportunity for a different future. -Larger the area, more habitat types it covers, bigger population protected, smaller effect of external factors such as fishing. -Opportunity to do something of great importance and value.	
274. Pete Heine (p_heineuk@yahoo.com)	Need to consider Chagossian needs and wishes.	-Any decision to declare marine conservation reserve that does not take account of wishes of original inhabitants is invalid and unethical. -British government has shamefully removed these people from their rightful home and prevented them returning. -Why not include return of Chagossians to their homes in this proposal – would be correct and fair.	
275. Mrs Barbara Tindall (barmike36@waitrose.com)	Need to reflect Chagossian interest	-Have followed plight of Chagossians. MPA no doubt laudable, but can see no reason why Chagossians still cannot return. -Should be consultation with all stakeholders. Chagossians are biggest stakeholders – should once and for all right wrong done to them.	
276. Kevin Akin, 20212 Harvard Way, Riverside, California 92507 (kevinakin1950@hotmail.com)	Does not take account of Chagossian position	-Much of 'wild' life coexists with humans -Outlawing fishing would destroy Chagossian way of life if they did win right to return. -Continued US presence a loophole; dwarfs	

		<p>anything Chagossians could do in 100 years</p> <ul style="list-style-type: none"> -Shut Diego Garcia base; allow Chagossians who want to the right to return, with reparations and provide assistance with appropriate education and training in organising environmental work. -Help this happen, rather than obstruct. 	
277. Samuel Bouquet (sambouquet@gmail.com)	Involve Chagossians	<ul style="list-style-type: none"> -Chagossians should be included. - Uncontrolled fishing and old village practices can be devastating for a pristine marine environment, but good opportunity to get people involved. -Solve this for the whole archipelago, including Diego Garcia 	
278. Philip Jones (piphold@yahoo.co.uk)	Include fishing rights for Chagossians	<ul style="list-style-type: none"> -Should be possible to protect marine environment while allowing indigenous people to fish there. 	
279. S. Wainwright (soph.wainwright@googlemail.com)	Option 1	<ul style="list-style-type: none"> -Opportunity to create one of world's largest MPA's: double global coverage. -Commitment to global environment and helping stop biodiversity loss. 	
280. Adam Corlett (adam@adamcorlett.com)	Option 1	<ul style="list-style-type: none"> -Benefits on p11 a good list. Natural economic benefits usually undervalued. Area's protection a very small investment. -Make sure scientific research but also television documentary crews allowed access so benefits seen across the world and others encouraged -Prevent introduction of foreign organisms to BIOT – externally controlled issues. -If Chagossians return and need funding, could be trained and paid to do necessary policing of the reserve. 	
281. Bernhard Riegl, National Coral Reef Institute, Oceanographic Centre, Nova	Option 1	<ul style="list-style-type: none"> -Less than half the world's coral reefs at low threat level 	

Southeastern University, 8000N Ocean Drive, Dania Beach, FL 33004 (rieglb@nova.edu)		-Chagos has immense biological diversity and apparent resilience that an ecosystem without much human interference can exhibit. Well worth protecting.	
282. J Shergold (wine21@juno.com)	Chagossian rights and interests	-Chagossians should not have to campaign for their birthright. -Let Chagossians go back and manage the islands. -Consultation was not well advertised.	
283. Sandy Wito (sandywito@hotmail.com)	Option 1	-Associated costs for policing should be paid by government. -Other options would be a compromise and would only benefit a few. -Support views pointing towards benefits of maintaining a large area of near pristine reef and ocean as a marine reserve.	Land as well as sea should have full protection.
284. Harmony A Hancock, National Coral Reef Institute, Nova Southeastern University, FL 33004	Option 1	-Fisheries create havoc in the marine environment, in both pollution and bycatch. Protecting the reef only is open to interpretation and does not provide coverage necessary to be successful. -Opportunities for research great.	
285. Sally Peltier (sallyleonardo@btl.net)	Not at expense of Chagossians	-Would support wildlife sanctuary but not at expense of people left to live in squalor	
286. Natalia Bremner (nataliabremner@gmail.com)	Only after referendum of Chagossians; none of existing	-Only if it is the result of a referendum of forcibly deported Chagossians. -Proposal hypocritical and unsatisfactory in terms of Chagossian autonomy and involvement -List of benefits fails to mention former inhabitants. -Agree generally with measures to protect the environment, but views of Chagossians of primary importance.	
287. Marit Parker (maritparker@hotmail.com)	Has to go hand in hand	-Delighted at prospect of Chagos being protected	

	with restoration of Chagossian human rights	but crucial that it goes hand in hand with restoration of Chagossians' human rights -When they lived there, very sustainable lives. Should be included in this protected area. -Any agreement that does not allow for small-scale local fishing effectively prevents them from returning.	
288. Franz Pichler, 21 rue Edith Cavell, B-1180 Bruxelles (fra.pichler@gmail.com)	Chagossian rights to return	-MPA plan proposed invalidates right of Chagossians to return and so seems unethical. -Find a solution which allows right to return.	
289. Simon DeSmet (gy09ds@leeds.ac.uk)	Favour MPA	-Opportunity to protect sizable single unit of world's biodiversity. -Is there a risk it would lead to increased damage from eg fishermen who have previously ignored them?	
290. Mary Branscombe (mary@sandm.co.uk)	Option 1	- Only way to truly replenish the waters and biome. -Can be promoted to fishermen as a resource they need to protect. In NZ fishermen policing marine reserves – better protection at lower cost.	
291. Kevin Kohler (Kevin@nova.edu)	Option 1	-Will enable researchers an unprecedented opportunity to investigate the mechanics of coral reef ecosystems in the absence of human impacts.	
292. Ethan Machemer (ethan.machemer@gmail.com)	Option 1	-To protect this invaluable region and astounding biodiversity would be amazing benefit for science. Unique because of remoteness and virtually undisturbed nature. -Insights into coral reef health, development, resistance and species diversity. Proactive steps for protection need to be taken	
293. Richard E Dodge (dodge@nova.edu)	Option 1	-Needs full protection. Outstanding opportunity	

		to save a pristine system and learn how these systems function.	
294. Charles Allen (CharlesFSAllen@googlemail.com)	Option 1	<ul style="list-style-type: none"> -Unique opportunity for environmental protection. -Cost/benefit is massive. Seems easy and obvious decision. -Enforcement is important; given cost/benefit an additional patrol boat could be provided. 	
295. Gwilym Rowlands, Pantunos, Llanybydder, Carmarthenshire, SA40 9RE) (rowlands@nova.edu)	Option 1	<ul style="list-style-type: none"> -Currently pristine, but nothing to suggest it will remain so. Needs to be protected -Commitments under Convention on biological diversity. -Incredible value for money -Science clear; will lead to increase in biomass, greater fish stocks. Where fishing continues, puts a check on biomass, plus bycatch, which can be 25% of landings. Do not underestimate impact of a commercial fishery. -Think long term and about the world we want to see. 	
296. Mahmood S Shivji, Professor, Oceanographic Center (Mahmood@nova.edu)	Option 1	<ul style="list-style-type: none"> -Reef ecosystem a global treasure and urgently deserves protection and enhancement. -UK will be widely acknowledged as visionary to create world's largest MPA. 	
297. Lisa Labinjoh, 6 Berkeley Place, Cotswold Road, Bristol BS3 4NR	Option 1 (plus resettle Chagossians)	<ul style="list-style-type: none"> -Other options flawed. -Do not be influenced by fishing rights. -Resettle Chagossians as guardians of the MPA allowing them sole fishing rights for non-commercial use. -Conservation and climate benefits greatest -Should review treaty obligations with US immediately. Wholly inappropriate and unnecessary to have US base in environmentally 	

		sensitive archipelago.	
298. JM Lawrence (Lawrence.jamie@googlemail.com)	Option 1	-With 180,000 now registering their active support do not see how you can not establish MPA.	
299. Tracey Hemmerle@aol.com)	Option 1	-Coral reefs are unique and diverse habitat which is disappearing quickly.	
300. Richard Vann, 9 Saxon Way, Ashby, LE65 2JR	Option 1	-Maximum protection possible. Precious little space not adversely affected by man. -Should have international committee to decide what study could be done, as long as minimum effect on habitats -Need to police area against potentially profiteering poachers -Cheaper than spent on Northern Rock -Keep record, so can be replicated elsewhere.	
301. Jeremy Mead, 55 Lincroft Crescent, Coventry CV5 8GW	Create MPA	-With over-fishing of seas prevalent, MPA's vital for the protection of marine habitats and biodiversity	
302. Heidi Bradner, 59 Earls Court Square, SW5 9DG (heid@heidibradner.com)	Option 1	-Intelligent, well researched, forward thinking proposal. -Help people live in a cleaner more balanced environment and help protect oceans for our children. -Climate change and conservation benefits -If any impediment to Option 1, go for fullest possible protection. -How to enforce, and hold in trust for all.	Have future reports to the public so they can see how species and ecosystem are benefitting from this protection.
303. V Palombo (VPalombo@emmbrook.wokingham.sch.uk)	Option 1	-Unique opportunity to preserve unique habitat- Usual problem turning idealism into practical results is population pressures – not the case here. -Cost less than child benefit, bailing out banks etc -Resource for the whole planet and cannot put a	

		<p>cost on that.</p> <ul style="list-style-type: none"> -Wait on legal challenges to run their course but if possible Chagossians should be allowed to return and have traditional fishing rights -Enforcement necessary and not possible with existing limited resources. Leasing money from US should establish the park and provide resources for future. -Maritime patrols (by air) could be mounted from there as well as patrol vessels. -Can Mauritius be expected to police/patrol with their limited resources? 	
304. David Evans (daverobev@inbox.com)	Option 1	<ul style="list-style-type: none"> -Biodiversity, fish stocks -Give maximum protection -Costs small in relation to benefits -Return on investment incredible -Pity to see people displaced, but greater good should prevail. They should be offered alternative places to live. 	
305. Jennifer Tankard (misstankard@googlemail.com)	Option 1	<ul style="list-style-type: none"> -Need to do more to protect fragile marine environment. UK should take a lead 	
306. Chris Redston (chrisredston@ntlworld.com)	Option 1	<ul style="list-style-type: none"> -Imperative for health of the seas 	
307. Alex Vierod, (osuaab@bangor.ac.uk)	Option 1	<ul style="list-style-type: none"> -Protecting ocean biodiversity -Great precedent; show UK as nation with genuine concern for health of the oceans. 	
308. Jeremy Mead, 55 Lincroft Crescent, Coventry, CV5 8GW	Support an MPA	<ul style="list-style-type: none"> -With over-fishing prevalent, MPA's vital for protection of marine habitats and biodiversity 	
309. Taffeta Gray (taffetagray@googlemail.com)	Option 1	<ul style="list-style-type: none"> - Losses from over-exploitation: can create different future. - Significant long term benefits to coastal communities around Indian Ocean, and sustainability of ocean. 	

		<ul style="list-style-type: none"> - Reference site for global science. - Larger the area more habitat types covered smaller effect from external factors. - Costs – have to look at long term/legacy. - Tuna fishing should be banned: tuna stocks declining, and massive bycatch contributing to decline in other stocks: no benefit beyond small financial income. -Real and lasting benefit. 	
<p>310. Celia and Vic Whittaker, 77 Western Drive, Leyland, Lancs, PR25 1YE (vicwhittaker@blueyonder.co.uk)</p>	<p>Oppose in current form – why such haste</p>	<ul style="list-style-type: none"> -Why marginalise indigenous people – managed environment perfectly well before exile. On return could manage it. -Why the haste? Pre-empting ECtHR. Conservation and human rights can go hand in hand most effectively. -Why ‘no-take’, which would make fishing to eat an illegal activity for resettled islanders? If it could be adjusted if they get their human rights back why push for it in the first place? -Why announce before proper talks with Mauritius and other neighbouring countries? -Why omit Diego Garcia, densely populated with runways made from crushed coral and waste mountains of cans, heavy naval and air traffic etc. -Working closely with CEN, who say not against resettlement, but Sheppard used prestigious journal in favour of keeping Chagos ‘as it is’. -Not against conservation area, but should be done with consideration for other stakeholders. 	
<p>311. Bernard Picton, 19 Ballymullan Road, Crawfordsburn, Bangor, BT19 1JG, Northern Ireland (bernardpicton@onetel.net)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Sea beds in all parts of the world are being damaged by fishing activities. -Responsible stewardship required for all seas. -This will show that putting the future of the 	

		planet before vested interests of a few individuals who wish to make money from exploiting its resources.	
312. Nathalie Haymann, PO Box 247, Jurien Bay 6516, Western Australia (nhaymann@westnet.com.au)	Oppose – Chagossian rights	-Contention that return of Chagossians would be counter-productive to aim of environmental protection is obviously erroneous -Building of military base on Diego Garcia was not environmentally sound -Chagossian people were custodians of their homeland – nurtured and protected it until it was summarily stolen from them. -Should be allowed to return with appropriate compensation.	
313. Clency Lebrasse (clebrasse@hotmail.com)	Chagossian rights	-Original depopulation was a victory for ecologists protecting rare tortoises on an island off Madagascar, over rights of Chagossian people. Now another environmental argument threatens to win the day again at the expense of Chagossians. -MPA in current proposed form will effectively make it impossible for them ever to return.	
314. David Moss (david.moss@manchester.ac.uk)	Option 1	-Area of great diversity which because of location and history provides an extremely rare opportunity to create a truly protected area.	
315. Mikel Becerro, Center for Advanced Study of Blanes, Acc Cala S Francesc 14, 17300 Blanes, Girona, Spain (mikel@ceab.csic.es)	Option 1	-Incredible opportunity to preserve biological diversity and outstanding positive reference to other governments that large scale conservation goals are possible.	
316. Jose Lopez, Nova Southeastern University, Oceanographic Center, 8000 North Ocean Drive, Dania Beach, FL33004 (joslo@nova.edu)	Option 1	-truly pristine area of coral reef habitat, endangered round the world. One of most bio diverse habitats. Unique opportunity. -Source of research and education into rare habitats and resident organisms.	

317. Stephanie Jones, Principal investigator, AHRC Landscape and Environment Programme Project (S.J.Jones@soton.ac.uk)	Strong case for marine protection, but doubts about approach. Is unilaterally declared MPA the best way?	<ul style="list-style-type: none"> -Why not pre-empt ECtHR and assume right of Chagossians to return as part of environmental protection plan – defuse tensions and allow protection to continue with surer moral and legal footing. -Have a multilateral agreement. -Aim to enshrine benefits in legal framework is admirable, but doubt as to whether MPA the best way -More investment in the nations of the region would offer alternatives to poaching and piracy. Security better if did not have to depend on military might. 	
318. Glynis Jones (glynandy@btinternet.com)	MPA plus Chagossian rights	<ul style="list-style-type: none"> -MPA will help over-fished areas of the oceans -Let islanders back with restricted fishing and tourism rights and then hand over to Mauritius. 	
319. Joana Mira Veiga (j.vieiga@eucc.net)	Support MPA	<ul style="list-style-type: none"> -Agree with benefits listed, in terms of conservation of biodiversity, but also economically, to help restore the ecosystem and guarantee healthy populations of species that can be commercially exploited. -Economic activities, compatible with protection status could be developed. 	Measures to diminish CO2 emissions: can lead to acidification of the water. Corals are one of the most affected organisms. Also sea rise threatens this ecosystem.
Academic and Scientific Institutions			
1. Rachel Brown, Environment Department, University of York, Heslington, York, YO10 5DD (rlb504@york.ac.uk)	Option 1	<ul style="list-style-type: none"> --Unparalleled opportunity for UK to demonstrate world leadership -Chagos reefs least damaged and threatened and great importance for regional biodiversity. Will help maintain resilience. -Not convinced that legal tuna fishing will have 	

		greater conservation benefit than no-take. Bycatch one element. -Needs protection now, irrespective of outcome of court case.	
2. Professor Paul A Racey, Regius Professor of Natural History, Aberdeen and visiting Professor, Exeter.	Option 1	-So far marine protection has lagged behind terrestrial – opportunity to redress balance. -Wide benefits as set out in consultation documents.	
3. Prof. Mark Seaward, Environmental Biology, University of Bradford, and Heritage and Conservation, University of Lincoln (M.R.D.Seaward@Bradford.ac.uk)	'Any action to protect...'	- Support any action to protect the wildlife of the seas and of the islands themselves.	Has written substantially about the flora of Indian Ocean Islands and testify to importance and necessity of conserving it.
4. Dr Jeanne A Mortimer, Dept of Zoology, University of Florida, PO Box 445, Victoria, Mahe, Seychelles. (Mortimer@ufl.edu)	Option 1	- Have done studies of turtles. Need protection of marine and terrestrial systems. - Decline of fishing population.	Also protect terrestrial systems.
5. A Sheppard, Dept of Biological Sciences, University of Warwick, CV4 7AL (A.Sheppard@Warwick.ac.uk)	Option 1	- Other options would reduce conservation value: are other such protection areas with very little value. - Will lead the way for other countries.	Need greater control against poaching.
6. Michael J Tetley (m.j.tetley@bangor.ac.uk) Marine ecologist at Bangor and marine conservation charity ORCA	Option 1	-From initial analysis, offshore pelagic environment could be one of most important habitats globally for many rare beaked whale species, in particular Longman's beaked whale.	
7. Dr Stuart Jenkins, Reader, School of Ocean Sciences, Bangor (s.Jenkins@bangor.ac.uk)	Option 1	-Opportunity to take international lead in establishing largest full no-take MPA in world. Too good to miss, though worries about short term economic considerations. -Protection of world's biodiversity needs to be seen as highest priority and will gain more by selecting option 1 than by watering down.	

<p>8. Dr Annelise Hagan, Cambridge Coastal Research Unit (abh28@cam.ac.uk) specialism in coral reef ecology. personal view</p>	<p>Option 1</p>	<p>-Billions of people depend on coral reefs, but under increased threat from coastal development, pollutants, ocean warming and ocean acidification. Only way to protect is to establish large scale, well connected marine reserves. -Coral reef can only recover in clean natural environment, free from human influence, as on Aldabra Atoll, southern Seychelles, protected for over 25 years, with minimal human influence. -Chagos as stepping stone for coral and fish larvae. Wealth of underwater diversity. -2010 year of biodiversity – how better to mark it?</p>	
<p>9. Prof David Sims (dws@MBA.ac.uk)</p>	<p>Option 1</p>	<p>-Vital that unique marine habitats that support important and declining species such as endangered sharks receive protection from exploitative activities. -Fisheries have expanded into the high seas over the past 50 years and same period has seen large scale decline in pelagic sharks and other fish. -MPA provides opportunity for fisheries spillover to enhance adjacent areas. Win-win</p>	
<p>10. Dr Dorothea Kleine, Dept. of Geography, Royal Holloway, University of London, Egham, Surrey (Dorothea.Kleine@rhul.ac.uk)</p>	<p>4th option, allowing Chagossians to use the natural environment for their livelihood.</p>	<p>-None of the options takes adequate account of the need of the Chagossians to gain a livelihood from their home island. -Support a 4th Option which would allow them to make use of the natural environment to secure their livelihoods. -Conservation cannot be achieved without respect for human rights.</p>	
<p>11. Boris Worm/Heike K Lotze/Derek Tittensor, Biology Dept., Dalhousie University, Halifax,</p>	<p>Option 1</p>	<p>-Unspoilt, globally unique. Need to protect stocks of pelagic tuna, billfish, sharks. Population</p>	

Nova Scotia		<p>globally has declined by up to 90%, leading to significant decline in high seas diversity.</p> <ul style="list-style-type: none"> -Some significant biodiversity hotspots remain, including Chagos -No take sanctuary would be significant step towards stemming the threat of overfishing. 	
12. Andrew C Baker, Asst Professor, Division of Marine Biology and Fisheries, Rosenstiel School of Marine and Atmospheric Science, University of Miami, USA (abaker@rsmas.miami.edu)	Option 1	<ul style="list-style-type: none"> --Coral reef in precipitous decline. Chagos MPA would send a message about a groundswell of support for conservation of reefs. -Would set precedent for worldwide establishment of extraordinarily large MPA's and provide lessons on how to manage study and police them. - take advantage of protective effect of long-term military presence 	
13. David Simon, Head of Dept., Dept of Geography, Royal Holloway,(D.Simon@rhul.ac.uk)	4th option which provides effective marine protection while allowing a sustainable level of fishing and marine resource use by future resettled Chagossians, should they win the right to return.	<ul style="list-style-type: none"> -Chagossians would have a vested interest in conserving resources on which they will depend. --Subsistence and limited commercial resource harvesting should be allowed as part of a sustainable yield management regime. -Involvement in marine patrols and protection would provide employment as would ability to participate in increased scientific research and environmental monitoring. 'Fortress conservation' in which local residents are removed is outdated and counterproductive. -Inappropriate to commence option 1 Now only to have to reverse or abandon implementation if resettlement were to occur in future. -Ensure negotiations with Government of Mauritius over sovereignty mean MPA is not a bone of contention or runs risk of reverse if islands return to Mauritius. 	

<p>14. Prof John Simpson, University of Wales, School of Ocean Sciences, Menai Bridge, Anglesey LL59 5AB (j.h.simpson@Bangor.ac.uk)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Great opportunity to set a good example in marine conservation. -Will help to persuade others to pursue similar policies and establish a network of reserves. -Vital if we are to arrest decline in quality and diversity of marine environment and sustain productive fisheries. 	
<p>15. Powell Strong, Coastal Zone and Marine Environment Studies, Pembrokeshire College, Haverfordwest (p.strong@pembrokeshire.ac.uk)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Providing an unpolluted reference site, almost entirely unaffected by man's direct impact, is particularly important. -Has been demonstrated that no-take zones have benefits for surrounding areas in terms of fisheries increased yields -May be potential to generate income from ecotourism projects. 	
<p>16. Michael Schleyer, Oceanic Research Institute, PO box 10712 Marine parade, Durban 4056, SA (schleyer@absmail.co.za)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Marine life suffering from over-exploitation, bycatch and pollution -Would bring long term benefits to coastal communities round Indian Ocean -Provide reference site for global science -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs to be considered against long term benefits -Real and lasting benefit 	
<p>17. Richard Dunne, West Briscoe, Barnard Castle, Co Durham DL12 9UP (richardpdunne@aol.com) and Professor Barbara Brown, University of Newcastle upon Tyne and co-founder of the International Society for Reef Studies</p>	<p>Cannot support the proposal as it currently stands</p>	<ul style="list-style-type: none"> -BIOT formerly part of Mauritius with well over 1000 inhabitants, removed for military base and subject to long running legal challenge. -UK Gov does not wish to acknowledge any rights of Chagos islanders, including right to be consulted on or participate in drafting of any legislation imposing further wide-ranging 	<p>Nb, also signatories of Marine Education Trust petition, similarly focused on need to work with Chagos islanders and Government of</p>

		<p>conservation zones or measures which would impose restrictions on present and future freedom of Chagossians.</p> <ul style="list-style-type: none"> -Caveat that options may need to be reconsidered should circumstances change could result in is sufficient for immediate future pending ECtHR decision. - Delay any decision until after that – no overriding concern that requires implementation forthwith. -Contest validity of public consultation exercise, poorly prepared and lacking essential information. -Aarhus Convention; Law of the Sea. -Lack of consultation with Chagossians could lead to later revoking of MPA -Insufficient information on Diego Garcia and potential effect on MPA effectiveness – scale of environmental damage caused by base outweighs any damage caused by Chagossians if they were allowed to return. -Cost not nil (as a minimum, civil servants’ time), and costs of patrol. 	Mauritius.
<p>18. Professor Charles Sheppard FLS, Dept Biological Sciences, University of Warwick, Coventry CV4 7AL (BIOT Scientific Adviser) (Charles.sheppard@warwick.ac.uk)</p>	Option 1	<ul style="list-style-type: none"> -Support wholeheartedly submissions from Chagos Environment Network and Chagos Conservation Trust -Chagos provides an escape from the degradation of much of the rest of the Indian Ocean 	
<p>19. EJ Milner-Gulland, Professor of Conservation Science, Division of Biology, Imperial College London, Silwood Park Campus, Buckhurst Road, Ascot, Berks SL5 7PY (e.j.milner-gulland@imperial.ac.uk)</p>	Option 1	<ul style="list-style-type: none"> -Significant long-term benefits to biodiversity -Could be that protecting these reefs represents one of the best chances of long-term survival of reef ecosystems anywhere in the region. -If done in full consultation with stakeholders and 	

		<p>in an adaptive manner that allows Chagossians to share in benefits MPA would offer, UK has opportunity to rectify wrongs and build a sustainable future for people and biodiversity</p> <ul style="list-style-type: none"> -Current commercial tuna fisheries in Chagos EEZ unnecessary and destructive, no place in sustainable future 	
<p>20. John Veron, Australian Institute of Marine Science (j.veron@coralreefresearch.com)</p>	<p>Support MPA</p>	<ul style="list-style-type: none"> -Chagos a connecting pathway between eastern and western Indian Ocean -Reefs have suffered less damage than elsewhere; not compromised by human environmental impact as elsewhere. -Will become the place to study climate change impact over forthcoming decades. Great scientific consequences in the future. 	
<p>21. Dr Stephen Mangi, Plymouth Marine Laboratory, Prospect Place, The Hoe, Plymouth PL1 3DH (stcma@pml.ac.uk) – report of a workshop at Royal Holloway 7 January 2010, to discuss socio-economic considerations. Participants included academics, Chagossians and their legal adviser, representatives of regional states, FCO, NGOs and All Party Parliamentary Group. Mauritian officials did not attend.</p>	<p>Consider alternative options – many but not all supported a fourth option: provision for well managed and sustainable utilisation of natural resources alongside conservation, perhaps with different use zones.</p>	<ul style="list-style-type: none"> -Desirability of no-take MPA having international and regional recognition and cost-effective enforcement; -Chagos islanders and Govt of Mauritius should be closely involved in discussions and planning. -Chagossians at workshop indicated they would only support MPA if they were involved throughout discussions and their right of return was safeguarded. They would be able to monitor illegal fishing. -Concerned that unless that addressed future legal or political developments could jeopardise long-term status of park, or result in significant decline in effectiveness. -Adequate funding for management and enforcement needs to be made available -Need more evidence based studies to assess possible impact of Chagossian resettlement 	

		<ul style="list-style-type: none"> -Weaknesses in consultation document, in impact assessment and in development benefits – too UK-centric. -Scientific view that reefs need strong protection -Arguments for MPA based on reef based shallow water fisheries and distorts distinction with offshore pelagic fisheries. -Closure of entire archipelago not sufficient area to completely protect highly migratory fish stocks during their life cycle. Complex arguments with scope for differing views about value of no-take zone to fish 	
22. Callum Roberts, Professor of Marine Conservation, University of York, Heslington, York YO10 5DD (cr10@york.ac.uk)	Option 1	<ul style="list-style-type: none"> -Unparalleled opportunity for UK to demonstrate world leadership -Chagos reefs least damaged and threatened and great importance for regional biodiversity. Will help maintain resilience. -Not convinced that legal tuna fishing will have greater conservation benefit than no-take. Bycatch one element. -Will need proper surveillance and monitoring system -UK should maintain its say in IOTC even with no-take. -Needs protection now, irrespective of outcome of court case. 	
23. Hilario Murua, AZTI Marine and Food Technology Research Institute (hmurua@azti.es) – research centre funded by the Autonomous Basque Government.	Option 3, vulnerable reef system only	<ul style="list-style-type: none"> -Benefits for biodiversity and conservation of near pristine environment. -Pelagic/tuna fisheries have no interaction with bottom/reef system, and for tropical tuna in Chagos area can be considered a selective and sustainable fishing practice; target large yellowfin in free schools with extremely low by-catch and 	

		<p>discard.</p> <ul style="list-style-type: none"> -MPA not efficient tool for highly migratory species. --For tuna, pelagic MPA would have to be larger. Quotas and effort controls better management tools. -No evidence for particular spawning or nursery areas. -Would prevent collection of valuable information -Would require strong monitoring and surveillance -Will not bring great benefits for conservation of tuna, unless agreed on a regional basis with IOTC and coastal countries. 	
24. Pippa Gravestock, Environment Department, University of York (pippa.gravestock@btinternet.com)	-	-Research paper which attempts to value Chagos' ecosystem services, mostly relating to maintenance of genetic diversity	
25. Peter Hurrell, National Environment Research Council (NERC) (perr@nerc.ac.uk)	Option 1, but implementation difficulties	<ul style="list-style-type: none"> - Strong scientific case, but some cautions. Overall goals not well defined; will it be robust enough to stay in place in 10, 20, 50 years time. Best to get arrangements right first time, rather than have to change with circumstances. -If Diego Garcia can be excluded, further zonation should be considered to allow for return of Chagossians (additional independent work needed); and Mauritian fishing rights -Costs more for option 1, and probably more than £1m. -Need for all stakeholder involvement – note rules for UK MPA's, which require this and have an aim to ensure we 'continue to accommodate the wide range of activities that take place in our 	<p>Access for bona fide research should be facilitated.</p> <p>Terrestrial environment should not be neglected – need to control non-native plant species and remove shoreline litter.</p> <p>Rat eradication Buildings and remains of former Chagossian settlements should be</p>

		<p>oceans and seas'</p> <ul style="list-style-type: none"> -Scientific benefits on p11 are essentially environmental research opportunities. -UK and Mauritius could seek UNESCO World Heritage status. 	<p>declared as constituting important cultural heritage and conserved.</p>
<p>26. Dr Mark Spalding, Marine Scientist, Conservation Science Group, Department of Zoology, University of Cambridge, Cambridge CB2 3EJ (Has undertaken research in the Chagos with some comparative work in Seychelles. Wrote Chagos conservation management plan and has been committee member of Chagos Conservation Trust – different views from those of CEN, although agree on need to secure a protected future for its coral reefs)</p>	<p>Fourth option – must manage for the long term and accommodate changes in use, sovereignty or resettlement, in partnership with Chagossians and Mauritians.</p>	<ul style="list-style-type: none"> -Use current best conservation practices and science to build a comprehensive MPA with zoning for different uses. -This should incorporate waters around Diego Garcia (which should not be excluded) and current areas used by yachts for limited subsistence fishing. -Should also include provisions for modifications in the face of future changes without undermining critical elements of biodiversity conservation. -In current situation, MPA could be temporary; yet it is at point of change that it could be most needed. Present consultation has ignored special interests of Mauritius and Chagossians, and although they have expressed interest in conservation, unlikely to accept MPA established in this way. -Disingenuous to suggest they have been invited to join the consultation like any other member of the public. Key stakeholders should have been involved from outset in more substantive manner and should have helped design the array of options. -Should re-invigorate consultation, recognising special status of Chagossians and Mauritius. -High costs of policing - need a secure and sustainable funding source or MPA will fail 	<p>Consider establishment of permanent small research facility, to support not just Chagos but global conservation of coral reefs.</p> <p>Improved monitoring and research re pelagic species in deeper water.</p>

		<ul style="list-style-type: none"> -Complete closure to pelagic fishing would confer conservation benefits, but may have to allow for change in light of Chagossian or Mauritian interests. -Value of MPA will be in establishing a long-term management framework, in anticipation of future threats. 	
27. Dr John Turner, School of Ocean Sciences, Bangor University (J.Turner@bangor.ac.uk)	Option 1	<ul style="list-style-type: none"> -Includes table of benefits, analysed for each option (in terms of conservation, resilience, scientific value, fish stocks and demonstrates that Option 1 has most benefits, option 2 is compromised, option 3 has little gain on the current situation, and a 4th option which allows fishing in inshore and offshore waters is 'unacceptable'. -Would bring ocean coverage from 0.08% to 0.24%, a significant increase. Protection must remain full and permanent. -Resettlement unnecessary and unwise, and will not right the wrongs of removal. -Necessary additional funding must be found – much greater long term global value. 	Afford further protection through Ramsar Convention and World Heritage Status.
28. Dr Nick Dulvy (and Andres Domingo), IUCN Shark Specialist Group, Canada Research Chair in Marine Biodiversity and Conservation, Simon Fraser University, Burnaby, BC, V5A 1S6, Canada (nick_dulvy@sfu.ca)	Option 1	<ul style="list-style-type: none"> -Sharks are captured by licensed tuna fishery. Effective no-take marine protected zone would not harm remaining sharks within BIOT and would contribute to conserving populations by providing refuge. -Will contribute to recovery of threatened shark species. -Sharks have low intrinsic capacity to replace numbers removed by fishing. Of 23 species of shark in BIOT waters, 19 on IUCN red list as Vulnerable or Near Threatened. Substantial 	

		<p>decline in oceanic pelagic sharks elsewhere in Indian Ocean due to incidental capture.</p> <ul style="list-style-type: none"> -In BIOT, caught by long-liners and purse seiners in substantial numbers – recorded in logbooks, but underreporting remains likely and may be substantial. Catches reported in logbooks considerably less than might be expected based on catch rate of sharks and rays in preliminary survey of bycatch in BIOT waters. -Legal fishing by Mauritian fishers as well as poaching by illegal fishers appears to have caused substantial declines in the abundance of reef-associated sharks – 90% decline in numbers present on coral reef over past 30 years. -Many shark species widely distributed, beyond BIOT waters, so MPA would not offer full protection for any individual species, but more likely than current situation to lead to recovery. 	
<p>29. Dr Melissa Evanson, UCLA; Iain Caldwell and Kerrie O'Donnell, University of British Columbia – Fisheries Centre; Regina Bestbier, University of the Witwatersrand, South Africa; Danika Kleiber, U. of British Columbia – Center for Applied Conservation Research; Marjorie Sorensen; U. of Guelph, Canada – group of concerned interdisciplinary researchers.</p>	<p>Modified Option 1, to take account of the roles and rights of the Chagos islanders.</p>	<ul style="list-style-type: none"> -Should explicitly recognise roles and rights of the Chagossian community in marine reserve planning and management, and allow for resettled islanders to use marine resources sustainably for subsistence and /or income generation. -Believe Chagossians would be successful stewards of their coral reef. -Firmly oppose options 2 (wasteful bycatch) and 3 (only protects vulnerable reef systems). 	
<p>30. Paul Jones, Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, 4600 Rickenbacker Cswy, Miami FL33149 (pjones@rsmas.miami.edu)</p>	<p>Support MPA</p>	<ul style="list-style-type: none"> -Sympathize with displaced Chagossians but need to protect such a pristine area far outweighs any human argument. -However, US base has been well monitored and appears to have had very little impact on the 	

		<p>environment with regards to pollution.</p> <ul style="list-style-type: none"> -Therefore it is possible for humans to inhabit the islands with very little impact on their surroundings – any other human impact should have to pass same strict impact assessment. -Importance as indicator of how the marine environment reacts and recovers from climate change when determining if other more impacted regions can sustain themselves. 	
31. Professor Robert Goodman, King's College London (Robert.goodman@kcl.ac.uk)	Option 1	<ul style="list-style-type: none"> -This will be the best way to maintain an island of critical biomass and diversity in what is otherwise a rapidly emptying ocean environment. 	
32. Dr T Spencer, Director, Cambridge Coastal Research Unit, Dept. of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN (ts111@cam.ac.uk)	Do not support any of the three broad options proposed	<ul style="list-style-type: none"> -Too easy to take the environmental high ground and ignore complexities of this particular case. -Chagossian resettlement key issue. Cannot simply say will change if resettlement happens -History of MPA's show they fail to be sustainable if here is insufficient political will to see them enforced and too little engagement with local lives and livelihoods. -Robust MPA plan should be put in place now that works with Chagossians and the Government of Mauritius to make provision for resettlement and protects Mauritius' legitimate interests. MPA's and local populations co-exist in many of the reef seas. -Well designed and well-policed levels of zonation can allow different levels of access and activity to be maintained over a large area. -If US Base on Diego Garcia is to be excluded from MPA, assurances are required to ensure the base's footprint is truly minimal. 	<p>Would not be unreasonable to expect US administration to make significant contribution to costs of policing an MPA. Present patrol vessel surveillance hopelessly inadequate for a sea area of 0.5million square km</p>
33. Olivia Langmead for Marine Biological	Broadly support	<ul style="list-style-type: none"> - Recognises sensitive nature of discussion, but 	

<p>Association, the Laboratory, Citadel Hill, Plymouth, PL1 2PB</p>	<p>Option 1, but may be too simplistic to encompass possible future changes. Possible alternative approach through zoning for certain activities that would allow a sustainable level of living resource extraction in less ecologically sensitive areas, while ensuring most important sites are fully protected.</p>	<p>will restrict comments to conservation and scientific value. -Highlight increasing prominence of ecosystem approach to the marine environment, integrating connections between land, air, water and all living things including people, and should read scientific comments within framework of an ecosystem approach. -Benefits of no-take reserves clear from a scientific perspective. -Ability to distinguish between climate change signals and other drivers in marine ecosystems is one of major challenges facing marine scientists, so having an area that can act as a reference site or baseline will be invaluable.</p>	
<p>34. Melissa Evanson, for a group of Project Seahorse, Fisheries Centre, University of British Columbia, 2202 Main Mall, Vancouver BC V6T 1Z4 (m.evanson@fisheries.ubc.ca)</p>	<p>Option 1, but respecting and incorporating the rights of the Chagossian Community</p>	<p>-Full protection essential to conserve and guard healthy ecosystem and maximise benefits from dispersal of larval fish and coral species. -Firmly oppose option 2; continuation of the tuna fishery in Chagos threatens fish stock and results in wasteful bycatch of non-targeted fish such as sharks. Also oppose option 3 -Endorses consideration of Chagossian and Mauritian interests and understands MPA would be created without prejudice to outcome of ECtHR and could be modified in the light of any change in circumstances. -Based on extensive experience elsewhere believe Chagossians could be successful stewards of their environment.</p>	
<p>Environmental organisations and networks, including zoos and aquaria</p>			

1. M. Zubairin, Harapan Rainforest, PO Box 007, Jambi 36000, Indonesia (m.zubairin@harapanrainforest.org)	Option 1	-Would constitute conservation area almost unrivalled in scale and significance and show UK as leader in conserving world marine resource. - Need to save coral all over the world: threat to many marine species. -Halting tuna fishing would stop over exploitation and wasteful by-catch of over 100,000 non-targeted fish each year.	
2. Alan Stubbs (formerly Nature Conservancy Council) (Alan.Stubbs@buglife.org.uk)	Option 1	- Cost small in relation to benefits. - Larger scale protection area the way forward. Marine ecosystem does not function in isolation with artificial boundaries. - Compromise would show regrettable outcomes. Objective should be full protection for entire area. - Agree with benefits, but they underplay the mid to long-term benefits of a healthy ecosystem.	Should also have control of invasive species and other relevant protection and management measures on land.
3. Melanie Gomes, Ulster Wildlife Trust (melanie.gomes@ulsterwildlifetrust.org)	Option 1	- Chagos is an internationally recognised site, with such diversity and so many species, we need to allow fish stocks to recover and aid the health of marine ecosystems. - The cost may seem large to some, but is small compared to the loss if do not act	
4. Matt Shardlow (matt.Shardlow@buglife.org.uk)	Option 1	-Substantive content same as Alan Stubbs, above	
5. Jean-luc Solandt, Your Seas Your Voice Co-ordinator, Marine Conservation Society, Wolf Business Park, Alton Road, Ross on Wye, HR9 5NB	Option 1	-Current health status of Chagos Islands outstanding for region and world, with coral cover above 70%. - Recovery following 1998 bleaching has been ten times higher than other Indian Ocean reefs. - Currents flow east to west, so Chagos provides coral and fish larvae to east Africa, where there is	

		<p>over-exploitation. May play a vital role in recovery to persistent chronic impact, such as unsustainable fishing, sedimentation, climate-induced bleaching, and pollution. Economic return hard to estimate, but maybe millions of dollars of ecosystem services to East Africa.</p> <ul style="list-style-type: none"> - Well-managed MPA/no take zones known to increase biomass and diversity of previously exploited species. - Would have considerable impact on tuna and long line fisheries outside the reserve: large protected areas do benefit highly migratory finfish species. - Could provide a scientific baseline; would be free from current and anticipated increase in fishing. - UK has signed commitments to create networks of MPA's. 	
6. Peter Raines, Founder and CEO of Coral Cay Conservation, Elizabeth House, 39 York Road, SE1 7NQ (psr@coralcay.org)	Option 1	-Year of biodiversity; legacy. Time of the essence – right and commonsense to act today. Imagines CoralCay's 15,000 membership will feel the same.	
7. Dr Asad Rahman, Bombay Natural History Society, Hornbill House, Shaheed Bhagat Singh Road, Mumbai 400 001 India (director.bnhs@vsnl.com)	Support MPA	- Need more such areas to revive over-exploited fisheries and help local people.	
8. Herve Barois (UNDP/GEF, PPG Protected Areas Co-ordinator) (hbarois@yahoo.com)	-		Asks that UNDP/GEF in Seychelles be kept informed.
9. Parmeet Ramtokul, Marine Culture of Mascarene Ltd, Mauritius (info@mcm-Mauritius.com)	Option 1	- Good initiative.	They plan to do something on cultural stock. Diego Garcia a pilot? Discuss further
10. Fabian Schmidt, Vice Chair EAZA Reptile	Option 1	-2010 year of biodiversity	

<p>Tag, Leipzig zooD-04105 Leipzig (fschmidt@zoo-leipzig.de) Writing as curator of reptiles, fishes and marine invertebrates at Leipzig zoo.</p>		<ul style="list-style-type: none"> -Chagos islands a paradise, still relatively undisturbed and unpolluted, some of world's best coral reef -Do not understand why would consider protecting only part, not fully -Tuna spawn a valuable food resource for many inhabitants of coral reef, so even such a pelagic species essential for survival of the ecosystem -Many relevant factors still not known about the reef, so need to do much more research; as long as we do not know, must do everything possible to conserve not just the reefs themselves but factors that may influence their survival 	
<p>11. Samuel Purkis, Chair, Chagos Conservation Trust US + National Coral Reef Institute, Nova Southeastern University (purkis@nova.edu)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Incredible conservation value -In recent years unchecked exploitation and climate change has laid waste significant portion of world's reef. -This would set positive precedent and provide knowledge about how to manage study and police a vast area. 	
<p>12. Philip G Renaud, Living Oceans Foundation, Landover MD 20785, USA</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Rich biodiversity, historically low to moderate stress but cannot rely on that continuing in future. Anything less than option 1 does not do justice to area. 	
<p>13. Monica Grilli, WWT Arundel Wetland Centre, Arundel, Sussex BN18 9BP (Monica.Grilli@wwt.org.uk)</p>	<p>Completely in favour of MPA</p>	<ul style="list-style-type: none"> -Biodiversity essential; need to help conserve both species and their habitat. Head start to begin with what is already in good condition, rather than restore what is not functional. 	
<p>14. Matt Slater, Curator, Blue Reef Aquarium, Newquay, Towan Promenade, Cornwall TR7 1DU (MattSlater@bluereefaquarium.co.uk), for self and aquarium staff</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Pristine environment needs protection and best way would be through no take. Stocks of all species in urgent need of protection. -Easier to police full than partial. -Tuna and sharks under immense pressure and 	

		<p>this will create safe haven</p> <ul style="list-style-type: none"> -Incredible opportunity for safeguarding wealth of species and unique area. Great example to other island nations. 	
<p>15. Vaughan Southgate, President of Linnaean Society of London, Burlington House, Piccadilly, London W1J 0BF, on behalf of the society</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Outstanding importance for biodiversity conservation, home to over a thousand species of fish, 220 coral species, breeding ground for 17 species of seabird, due to relatively undisturbed nature of location and low human impact. -In coming decades likely that marine environment will face many threats including loss of fisheries, climate change, ocean acidification. -Chagos an opportunity to protect a unique marine ecosystem while the international community searches for more comprehensive solutions for recovery of the world's seas. -Reference site of international scientific importance and a benchmark for management of ecosystems. 	
<p>16. Dr JC Hillman, Five Oceans Environmental Services, Muscat, Sultanate of Oman (jchillman@btinternet.com)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Should be designed and managed within an internationally accepted system, such as UNESCO World Heritage or IUCN so that whatever happens re Chagossians, US, Mauritius, the conservation system is entirely acceptable (though accept these organisations may not be keen to take it on in present structure) -Should embrace human visitation rather than a purely protectionist attitude. On Diego Garcia some facilities could be established whereby transient service personnel can experience and learn from conservation efforts on land and water. Equally on northern atolls, if they are still to be accessible to yacht people. 	<p>Ecology research and implementation on land is another key scientific area that would provide high benefits locally and internationally – in an ecosystem approach must include consideration of terrestrial aspects.</p>

<p>17. Robert Keyse, Hummingbird Scientific, 8300 28th Ct NE, Suite 200, Lacey, WA98516, USA (Robert_Keyse@hummingbirdscientific.com)</p>	<p>Support MPA</p>	<p>-‘Support for your effort to make what President GW Bush did a few years ago a permanent trend in World Affairs’ (designation of Papahānaumokuākea Marine National Monument in Hawaii)</p>	
<p>18. Julian Hyde, General Manager, Reef Check Malaysia Bhd – writes in that capacity (julian@reefcheck.org.my)</p>	<p>Option 1</p>	<p>-Chagos islands possibly last significant expanse of coral reef not yet destroyed by human activity. -UK repeatedly affirmed support of conservation activities to protect ecosystems for future generations. Not to get behind this proposal would be morally and ethically unacceptable. -Plenty of scientific evidence that MPA’s are a useful tool in conserving marine ecosystems and protecting biodiversity. -Unique opportunity to create what would be world’s greatest MPA.</p>	
<p>19. Zoo Aquarium of Madrid (pmontoto@grpr.com)</p>	<p>Option 1</p>	<p>-Marine life suffering from over-exploitation, bycatch and pollution -Would bring long term benefits to coastal communities round Indian Ocean -Provide reference site for global science -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs to be considered against long term benefits -Real and lasting benefit</p>	
<p>20. Suzi Morris, Director, World Society for the Protection of Animals, UK, 89 Albert Embankment SE1 7TP</p>	<p>Option 1</p>	<p>-Marine over-exploitation -Protection of Chagos ecosystem will provide safe sanctuary for countless millions of marine animals -Tuna fishing has been responsible for decline of tuna and massive by-catch of other species</p>	

		<ul style="list-style-type: none"> -Larger the area protected bigger proportion receive full protection -UK can provide leadership. -Keeping some of the world's cleanest seas that way -Long term benefits to communities around the Indian Ocean 	
<p>21. Michael F Hirshfield, Senior VP and Chief Scientist, OCEANA, 1350 Connecticut Ave NW 5th Floor, Washington DC20036, USA (international organisation focused on ocean conservation)</p>	Option 1	<ul style="list-style-type: none"> -Climate Change will bring increases in water temperature and ocean acidity and will threaten the viability of ecosystems all over the globe, and science is telling us we need to protect their natural resilience. -Coral more likely to survive if there is no fishing -Will provide potential refuge for many species against the coming climate crisis. -UK opportunity to provide a legacy of healthy and diverse ocean ecosystem. 	
<p>22. Carl Safina, Blue Ocean Institute (msmith@blueocean.org)</p>	Option 1	<ul style="list-style-type: none"> -Necessary to preserve the few remaining marine ecosystems that are relatively untouched. -Could help replenish dwindling fish populations in other parts of Indian Ocean 	
<p>23. Sir Graham Wynne, Chief Executive, RSPB, The Lodge, Sandy, Bedfordshire, SG19 2DL</p>	Option 1	<ul style="list-style-type: none"> -Unique opportunity to show leadership of real and lasting benefit. -Important contribution by UK to international commitments, including halting decline of biodiversity by 2010, establishing marine protection network by 2012 and restoring depleted fish stocks by 2015. -Options 2 and 3 compromise future safety of territory's biodiversity and fail to deliver important benefits – less able to act as scientific benchmark due to continued removal of fish. -Would reduce possible development benefits, 	

		<p>reducing capacity to produce and disperse 'surplus' biomass elsewhere in the Indian Ocean.</p> <p>-All benefits listed are important. State of oceans is deteriorating – Chagos one of few still relatively pristine</p>	
<p>24. British Ecological Society, Charles Darwin House, 12 Roger Street, WC1N2JU</p>	<p>Option 1</p>	<p>-Supports the conclusions of the National Oceanography Centre workshop in Southampton in August 2009, sufficient evidence-base to support designation of whole EEZ</p> <p>-Rationale has been documented (corals, refuge, reference site etc) and BES supports</p> <p>-Scientific evidence available points to significant value of highly protected MPA's over and above MPA's which only offer partial protection from extractive activities.</p> <p>-Fishing pressures which might be sustainable for tuna and tuna-like fish or coral-reef associated fish are likely to lead to a decline in shark abundance.</p> <p>-Long line and purse seine bycatch of sharks in BIOT EEZ is significant; on average 1200 tonnes of sharks landed every year since 2002. Underwater visual census of 4 island groups has shown a 90% decline in number of sharks present on coral reefs in last 30 years.</p> <p>-Closing BIOT tuna fishing would be expected to reduce bycatch of sharks and create a refuge for sharks, overexploited in the rest of the Indian Ocean.</p> <p>-Would create one of the world's greatest conservation areas, doubling world coverage and helping UK meet its international obligations.</p> <p>-Opportunity to show leadership</p>	<p>Need to ensure properly enforced and illegal activity effectively punished. Risk of higher level of illegal fishing. Maintaining the patrol with the same resources will be a challenge. Need a comprehensive management plan.</p> <p>Need holistic approach. Action to eradicate non-native species and restore native vegetation structure would enhance reputation as a sanctuary for ground nesting seabirds</p>

		<p>-Will need extra resources. Engaging communities surrounding the Chagos Archipelago would be one way: and involving local communities in conservation, rather than excluding has been shown to enhance effectiveness.</p>	
<p>25. William Marsden, CMG, Chairman, Chagos Conservation Trust (Simonhughes@hughes-mccormack.co.uk) – Hughes is Secretary</p>	<p>Option 1</p>	<p>-Oceans play critical role in sustaining life, but over-exploitation, by-catch, pollution</p> <p>-MPA's can help avert complete catastrophe, protect whole ecosystem and re-establish healthy environments and stocks of fish.</p> <p>-Chagos relatively unspoilt</p> <p>-Seek to preserve important, healthy ecosystem and maintain as a reference site for future scientific research and study.</p> <p>-Protect deepwater habitats.</p> <p>-Indian Ocean does not have any other protected areas, a need for all oceans.</p> <p>-Chagos could enrich and replenish whole ocean with ecological goods and services. As haven for commercial fish would increase their availability to other developing countries and artisanal fishermen</p> <p>-Could not credibly be called a protected area if commercial fishing allowed – considerable size, and more than 100,000 non-targeted fish caught annually.</p> <p>-Takes current protection a further step. At Southampton conference in 2009 only MRAG argued for fishing to continue.</p> <p>-Current fisheries governance has major legal and technical weaknesses, and by-catch is significant, particularly for sharks, and almost certainly</p>	<p>Wider international support should be promoted for a comprehensive Chagos Archipelago Reserve area using existing protocols such as Ramsar and World Heritage.</p>

		<p>having detrimental effects on deepwater and reef ecosystems. No-take is scientifically proven as a means to benefit marine species and habitats. Effective for large migratory pelagic fish and implementation being encouraged globally.</p> <ul style="list-style-type: none"> -Should involve non-government sector. -Funding extraordinarily good value (and savings on fisheries consulting and management?) And could seek financial support from charitable and private sectors. -Understand legal challenges and political issues but believe need conservation now. <p>Arrangements could be modified if necessary in light of change of circumstances.</p> <ul style="list-style-type: none"> -Has discussed with Chagossians in Crawley and welcome their involvement. -Some limited, well-managed vessel-based visiting could contribute some income for management; but conservation of strict MPA should be overriding consideration. -Agree with benefits on p11, and add – safe refuge and breeding site; maximise protection for Indian Ocean’s last major area of good quality coral; assist in separating the impact of climate change from those of other activity; provide a scientific control site; facilitate dispersal of larval fish to replenish stocks depleted elsewhere -Legacy 	
26. Craig Dockrill, Falklands Conservation, 41 Ross Road, Stanley, Box 26 Falkland Islands F1QQ 1ZZ (craig.dockrill@conservation.org.fk)	Option 1	<ul style="list-style-type: none"> -Ecological value of the area -Great opportunity to show leadership in advancing marine protection. 	
27. Miranda Stevenson, Director, BIAZA –	Option 1	<ul style="list-style-type: none"> -Bring long term benefits to coastal communities 	

<p>British and Irish Association of Zoos and Aquariums, Regent's Park, NW1 4RY (director@biaza.org.uk)</p>		<p>around Indian Ocean and sustainability of ocean. -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned – decline of tuna and massive by-catch. No benefit beyond small financial income. -Costs to be considered against long term benefits. -Real and lasting benefit</p>	
<p>28. Mark Rose, Chief Executive, Fauna and Flora International, 4th Floor, Jupiter House, Station Road, Cambridge, CB1 2JD.</p>	<p>Option 1</p>	<p>-Ocean environment under threat. No-take zones a key element of solution. -Substantial areas must be so designated – opportunity with Chagos -Must not prejudice any future jurisdiction and resettlement – if that occurs may need to be reconsideration of locally appropriate mechanisms to ensure balance between marine protection and local livelihoods, and that it does not disenfranchise Chagossians.</p>	
<p>29. Suzanne Pleydell, Director, Project AWARE Foundation (International), Unit 7, St Philips Central, Albert Rd., Bristol BS2 0PD (Suzanne.pleydell@padi.co.uk)</p>	<p>Option 1</p>	<p>-Waters highest diversity and best preserved, unique opportunity to secure minimally disturbed scientific reference site -Sets an example for others to follow.</p>	
<p>30. Dr Lesley Dickie, Executive Director, EAZA (European association of zoos and aquaria) PO Box 20164, 1000 HD Amsterdam, The Netherlands</p>	<p>Option 1</p>	<p>-Marine life suffering from over-exploitation, bycatch and pollution -Would bring long term benefits to coastal communities round Indian Ocean -Provide reference site for global science -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs to be considered against long term benefits</p>	

		-Real and lasting benefit	
31. Prof. Dr. Manfred Niekisch, Director Frankfurt Zoo, Bernhard-Grzimek-Allee 1, Frankfurt (Manfred.Niekisch@stadt-frankfurt.de	Option 1	-Benefit of aiding recovery of Indian Ocean's drastically reduced fish stocks. -Would create world's largest MPA -Rare opportunity – must not be wasted in UN Year of Biodiversity	
32. Dr M Penning, Executive Director, South African Association for Marine Biological Research, 1 King Shaka Avenue, Durban 4001, PO Box 10712 Marine Parade 4056, KwaZulu-Natal, South Africa (mpenning@saambr.org.za)	Option 1	-Have seen significant benefits from proclamation of no-take zones in terms of biodiversity preservation, stock replenishment and socio-economic prosperity in surrounding areas. -Particularly important given pristine state of Chagos reefs.	
33. Beth Firchau (BFirchau@virginiaaquarium.com) for Association of zoos and aquariums	Option 1	-Indian Ocean under massive environmental stress. MPA would keep intact pristine island ecosystem and benefit many species at risk. -Long term, far reaching economic impact throughout Indian Ocean region: fish could rebound. -Research potential and could reshape how we manage ocean resources on a global scale. -Understand would not prejudice ECtHR case and that modifications could be made.	
34. Alasdair Harris, Research Director, Blue Ventures Conservation, 2D Aberdeen Studios, Aberdeen Centre, 22-24 Highbury Grove, London, N5 2EA (al@blueventures.org)	Option 1	-Endorse views of Chagos Environment Network. Ecological importance of preservation in no doubt. -Socioeconomic significance to broader Indian Ocean Region; sea and its biodiversity at the heart of western Indian Ocean cultures and way of life, but widely degraded through population growth, exploitation, habitat destruction. -Ecological interconnectivity means Chagos particularly important	

		<ul style="list-style-type: none"> -Need to have ecologically meaningful proportion of ecosystems to be protected. Chagos would complement other planned areas and networks. -Positive synergies of such a network will be invaluable in halting decline of marine resources across Indian Ocean. 	
35. Tara Hooper, Trustee, Blue Ventures Conservation (tara.hooper@btinternet.com)	Fourth Option	<ul style="list-style-type: none"> - Support option which explicitly considers the future possibilities of resettlement by Chagos islanders and a transfer of sovereignty to Mauritius. 	
36. Marine Education Trust (tara.hooper@marineeducationtrust.org)	Fourth Option	<ul style="list-style-type: none"> - Consider the future possibilities of resettlement by Chagos islanders and a transfer of sovereignty to Mauritius: MPA's should represent strong, permanent protection – acknowledging that they may need to be reconsidered if circumstances change sends the wrong message. -Full involvement of all stakeholders gives best chance of long term success; otherwise will be just a paper park -Need to take account of socio-economic aspects too. -Greater levels of enforcement required, and consequent funding requirement. -International co-operation is possible even when sovereignty issues have not been resolved. -From the start should make provision for resettlement and protect Mauritius' legitimate interests. -CEN petition fails to provide background on these issues, and so provide necessary information to make an informed decision. 	
37. Julia Marton-Lefevre, Director General, IUCN (International Union for Conservation of	Supports creation of a full marine reserve in	<ul style="list-style-type: none"> -Full protection will realise greater conservation benefits which will sustain and build over time, 	

<p>Nature), 28 Rue Mauverney, CH-1196 Gland, Switzerland</p>	<p>Chagos, and considers it essential that the outcome be reached through agreement of all stakeholders.</p>	<p>such as protection to the full range of ecosystems and habitats in the archipelago, and needed relief for tuna and other pelagic species. -Value as scientific reference site. - Ecological stepping stone and source of larvae -Significant contribution towards meeting international and national protected area targets, and a global conservation legacy for future generations. -Takes no part in disputes about sovereignty, and expects that before anything agreed all parties will have been consulted and their views considered.</p>	
<p>38. Tanya Langenhorst, Marwell Wildlife, Colden Common, Winchester, SO21 1JH (tanyaL@marwell.org.uk)</p>	<p>Option 1.</p>	<p>-Marine life suffering from over-exploitation, bycatch and pollution -Would bring long term benefits to coastal communities round Indian Ocean -Provide reference site for global science -Larger area protects more habitat types, and reduces effect from external factors such as pelagic fishing. Tuna fishing should be banned. -Costs to be considered against long term benefits -Real and lasting benefit</p>	
<p>39. Erich Hoyt, Sarah Dolman, Kate O'Connell, Michael Jasny, Taryn Kiekow, Whale and Dolphin Conservation Society and Natural Resources Defense Council (erich.hoyt@me.com)</p>	<p>Support marine protection, but concerns about this proposal.</p>	<p>-Do support large highly protected MPA or marine reserve to protect biodiversity. -Prime area which will help UK meet 2010 and 2012 targets for conservation of biodiversity and creation of MPA networks. -But concerned about unilateral FCO procedure in trying to implement without even Parliamentary debate or approval. -Participation ultimately needs to be with</p>	

		<p>Chagossians and Mauritius. MPA's created top down much less likely to function effectively. Understand Bancoult has gone on record as opposing and that GoM has sent a note verbale.</p> <ul style="list-style-type: none"> -These issues need to be sorted out to create a responsible effective MPA. Involvement of a local community and neighbouring governments with interests in the area will make the proposed MPA much stronger and more likely to succeed, especially in relation to future enforcement and monitoring. -Omission of Diego Garcia and surrounding waters of US Naval base. Potential low and mid frequency active sonar problematic to creation of highly protected area. -Diego Garcia should be included and there should be requirements for EIA's to address issue of ocean noise pollution, as well as vessel speed and traffic, dumping of waste and other potentially relevant activity. 	
<p>40. Peter Bridgewater, Joint Nature Conservation Committee, Monkstone House, City Road, Peterborough PE1 1JY (peter.bridgewater@jncc.gov.uk) (advises Government on UK and international nature conservation)</p>	<p>Fourth Option: Adopt a zoning approach as best way to manage a multiple use marine area. Identification of zones should be based on current best available science.</p>	<ul style="list-style-type: none"> -Case for protection clear – globally significant, relatively unspoilt -None of three options would provide effective management of biodiversity of territory; focus primarily on fisheries management and does not address full range of biodiversity management issues. -Supports more comprehensive view stated in Chagos Islands Management Plan which advocates a 'comprehensive approach to ensure the long-term protection and sustainable use of this region'. -Concerned that all options based on a no-take 	

		policy rather than flexible management approach, so not consistent with UK marine conservation practice or global best practice.	
41. Richard Grimmett, Head of Conservation, Birdlife International, Wellbrook Court, Girton Road, Cambridge CB3 0NA (Richard.Grimmett@birdlife.org)	Option 1	<ul style="list-style-type: none"> -Tropical seabirds under threat. In Chagos archipelago, 10 important bird areas recognised. Also of exceptional importance for marine turtles, coral reefs, other marine life. Important contribution to preservation of tropical ecosystems. -Will contribute towards Convention on Biological Diversity's Goal to establish a representative marine protected areas system by 2012 -Demonstration of the scale and ambition that will be needed. -Beyond competence of Birdlife to comment on what appropriate redress for Chagossians, but believe conservation now will be beneficial for all options. 	
42. Joe Baker, Special Adviser to the Director, The Natural History Museum, Cromwell Road, SW7 5BD (joe.baker@nhm.ac.uk)	Option 1	<ul style="list-style-type: none"> -Natural resources of BIOT are of global significance as a result of isolation and relative lack of disturbance -Great scientific interest and high biodiversity conservation value. -In terms of marine biodiversity it is a high priority for both exploration and protection. -Option 1 in the first instance, until further scientific evidence from BIOT supports sustainable exploitation for specific areas and ecosystems. -All benefits listed on p11 are important. Also would be important demonstration of UK commitment to diversity and could be significant focus for collaboration on conservation between 	Need integrated view of environmental protection in policy and management. Difficulties encountered as a result of economic development and growth in activities such as tourism should be anticipated in a long-term plan that incorporates management of the MPA.

<p>43. Vassili Papastavrou, International Fund for Animal Welfare (IFAW), The Old Chapel, Fairview Drive, Bristol, BS6 6PW (VPapastavrou@ifaw.org)</p>	<p>Need to take account of possible return of islanders. Should not exclude Diego Garcia.</p>	<p>UK and other countries of the region</p> <ul style="list-style-type: none"> -Need to take account of interests of Chagossians, and should anticipate a judgment which allows islanders to return. Conservation intentions damaged by failure to include human element. - Must include a cetacean conservation component. Surveys are needed and the threat from use of military sonar needs to be determined. -Activities of the US military base need to be monitored and regulated to ensure they do not threaten conservation. -Oppose exclusion of Diego Garcia and its 3 mile territorial waters. Illogical to exclude when they are likely to represent one of the main threats to the region. 	
<p>44. Marina Vaughan for George Duffield (Chairman) and Chris Gorell Barnes (Vice Chairman), Blue Marine Foundation, 25 Thurloe Street, SW7 2LQ (marina@scottprenn.com)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Marine biodiversity best served by option 1 – one of last remaining unspoilt tropical island, reef and deep sea ecosystems, and unparalleled reference site for broad array of scientific research, including understanding climate change. -Contribution to international commitments to the environment. -Biodiversity decline will be reduced. -Until now region's fish stocks have been exploited and fisheries poorly regulated, drastically diminishing biomass in these waters. -Shockingly high bycatch in BIOT – in official report to tuna commission, UK reported that of 4084 fish caught on hooks, 48% were bycatch. -Provide breeding grounds for migratory fish as 	

		<p>well as sedentary species. Would foster ocean productivity.</p> <ul style="list-style-type: none"> -Aware of political and financial difficulties, but believe these can be overcome. -Correct to exclude Diego Garcia to allow military to continue day to day operations as well as sport fishing -Go ahead now, without prejudice to outcome of Chagos legal process; Chagossian resources will not just be protected, but its biodiversity strengthened, ensuring a healthy future. -Chagossians can still be engaged in conservation under UK – though conservation, UK can provide education and employment opportunities -Acknowledge Mauritius traditional rights – no significant long term damage if continued under strict control. -Cost low and far outweighed by economic value of reefs. Funding could be sought from other sources if needed. 	
<p>45. Chagos Environment Network (CEN). Simon E Hughes, Secretary, Ground Floor Flat, 29 Champion Hill, SE5 8AL</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -8 benefits, though five would only be achieved by option1: -Preservation of globally important fully functional ecosystem (1) -Effective protection of global scientific reference site(1) -Opportunity to increase the effectiveness of climate monitoring -Opportunity to increase effectiveness of marine/ocean monitoring (1) -Contribution to food security and sustainable livelihoods in the Indian Ocean (1) -Significant contribution made by UK to meeting 	<p>Terrestrial work, including island restoration and removal of rats</p>

		<p>global targets (1)</p> <ul style="list-style-type: none"> -Enhancement of survival of coral reefs -Opportunity for scientific study of undisturbed coral reefs -Aware of views of Mauritius and some Chagossian groups, but not disadvantageous to have islands and their marine areas protected in their entirety now, since arrangements could be modified if circumstances changed. 	
<p>46. Ralph Almond, Director General, Zoological Society of London, enclosing paper by: Dr Heather Koldewey, Dr Matthew Gollock, Dr Simon Harding, David Curnick, Dr Alex Rogers (all Zoological Society of London), Lucy Harrison (IUCN Shark Specialist Group, Simon Fraser University, Canada.</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Western Indian Ocean has some of most exploited, poorly understood and badly enforced fisheries in the world. -Current fisheries governance for tuna in the Indian Ocean has legal and technical weaknesses. -Bycatch from tuna fisheries in BIOT significant, especially for sharks and rays, and almost certainly having detrimental effect on pelagic ecosystem. -Low level of observer coverage means independent verification of catches, including bycatch, is patchy and poor, esp. for long line fishery -Closing Chagos to all fishing will provide safe haven for tuna, billfish and sharks -No-take marine reserve scientifically proven as a means to benefit marine species and habitats -Rare potential to provide uncontaminated reference site for wide range of ecological studies -Only a full 200 mile no-take reserve would fully protect Chagos ecosystem, including open ocean components -Would represent 16% of world's fully protected coral reef and 60% of no-take areas, which would 	<p>Important that terrestrial measures – Ramsar, IBAs remain in place</p>

		<p>help increase resilience of region to detrimental effects of climate change on coral reefs.</p> <ul style="list-style-type: none"> -Can see no case where it would be disadvantageous to Chagossians or Mauritians to have full protection now – arrangements could be modified later -Will require robust enforcement. 	
<p>47. Ali Hood, Director of Conservation, The Shark Trust, Unit 4 Creykes Court, 5 Craigie Drive, The Millfields, Plymouth PL1 3JB.</p>	Option 1	<ul style="list-style-type: none"> -Sharks fulfil a key role in marine ecosystems, but are highly vulnerable -Shark finning banned, but enforcement remains an issue. Prohibition of any fishing would make enforcement easier. -Maldives also offers protection, and their proximity compounds the value of proposed BIOT MPA by 'extending' the area of protection. 	
<p>48. Joshua S. Reichert, Managing Director, Pew Environment Group, Philadelphia and Washington DC, USA</p>	Option 1	<ul style="list-style-type: none"> -Others will submit details on scientific characteristics; they will address worldwide meaning and significance of setting Chagos aside, and flag the most important challenges. -Very few sites of such size – relatively intact, not subject to intensive use - available. -Chagos would easily be the largest, increasing world's no-take reserves by 73%. Would bring total to 0.36% of world's oceans. -Tuna overfished, or close to it. Unless conservation measures increased soon, Indian Ocean population will decline as elsewhere. Few refuges exist. -Do not know whether tuna stay in Chagos for extended time, and whether it is a breeding ground, but given possibilities, would be an important contribution. Also for Sharks and rays in bycatch. 	

		<p>-Inshore fishery may be greatest single threat to health of Chagos ecosystem. And under current legislation it could legally increase. Fishery managers say well below Maximum sustainable yield, but not clear whether sufficient evidence.</p> <p>-Relatively abundant waters of Chagos will become increasingly attractive to illegal fishers. Resources currently available would be sufficient to police no-take area. Closure of the tuna fishery will relieve BIOT of some responsibilities which can be deployed in surveillance and enforcement.</p> <p>-Only a few distant water fishing fleets would be disadvantaged, while millions of people would benefit.</p>	
49. Greenpeace UK, Canonbury Villas, N1 2PN	Option 1	<p>-Must be without prejudice to rights of Chagossians or sovereignty claim of Mauritius. Important rationale for full no-take MPA is to put an immediate end to ongoing commercial exploitation of disputed waters before resolution of dispute.</p> <p>-Nothing here to be taken as in any way condoning existence of Diego Garcia military base.</p> <p>-Marine reserves single most powerful tool for ocean conservation and may also bring fisheries management benefits.</p> <p>-Provide important scientific reference areas and help build resilience in the face of climate change and ocean acidification.</p> <p>-Evidence shows increase in biomass, density of plants and animals. Body size and species density.</p>	<p>Diego Garcia base should be abolished. Establishment of MPA to be without prejudice to rights of Chagossians or sovereignty claim of Mauritius. Should make full amends for wrong to Chagossians. Unfair that waters of Chagossians are subject to present degradation by ongoing commercial exploitation. Upon return of Chagossians,</p>

		<ul style="list-style-type: none"> -Benefits for fisheries – enhanced yield in adjacent grounds, reducing probability of over-fishing, providing simple and effective management regime. -Commercial fishing degrading the marine environment. Bycatch includes species at risk. -Creation now need not be a barrier to some modifications in management in future. Zones could be created within the larger reserve for specific fishing activities. -Step towards meeting international treaty commitments. -UK should at least match French commitment to protect 20% of its territorial waters, half no-take by 2020. -Should work with other countries in the region to incorporate in a regional network of marine reserves. -Need clear management plan and enforcement measures. -Endorses benefits on p11. 	Greenpeace would be happy to engage with them to develop small-scale, low-impact, sustainable fishing, while continuing to ensure effective protection of this globally important ecosystem.
50. Melanie Salmon, Director, Global Ocean, 11 Chalcot Road, NW1 8LH (melaniesalmon@blueyonder.co.uk) – privately financed marine conservation society	Option 1	<ul style="list-style-type: none"> -Unique opportunity, worldwide attention -Ocean protection needed – over fished. Losing estimated 100 million sharks each year. Chagos could become haven, as well as for rats and mantas and other species. -Global Ocean happy to assist in making this concept a reality. 	
51. Louise Heaps, Head of Marine, WWF-UK (LHeaps@wwf.org.uk)	Option 1	<ul style="list-style-type: none"> -Waters round Chagos richest marine ecosystem under UK jurisdiction, home to enormous diversity of marine life, including threatened species. -Currently less than 1% of world’s oceans 	

		<p>protected from extractive uses. UK has made commitments to deliver networks of MPA's. This would be largest MPA in the world.</p> <ul style="list-style-type: none">-Very few places in oceans that remain unexploited. Sharks and rays and juvenile tuna caught indiscriminately in many fisheries. 2010 paper by Koldewey et al. indicates levels of bycatch in BIOT unacceptable.-Average 1200 tonnes of sharks landed each year since 2002 (Roberts, 2007).-MPA's important tools; size of this one would allow marine life to thrive, recover, replenish on a scale significant enough to assure long term benefits to region's ecosystems. Sanctuary.-Reference site for future scientific research and study, for coral science, climate monitoring of atmospheric gases and ocean acidity, as well as understanding of changes to the ocean caused by pollution and over-exploitation of fisheries.-If commercial fishing to be considered in the future will need to enforce stringent monitoring control and enforcement measures to ensure fishing levels are sustainable and to measure and minimise the level of bycatch. Future fisheries should be encouraged to seek Marine Stewardship Council certification towards internationally recognised levels of sustainability.-Aware of Chagossian challenge, but area needs conservation now and this will be beneficial under all future scenarios. WWF-UK works with local fishers worldwide to seek more sustainable solutions to catching fish.-Designate as full no-take, without prejudice to	
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		outcome of legal process. Arrangements should be modified if change in circumstances of access by Chagossian groups, with a focus on ensuring long term sustainability.	
52. William Marsden (chagostrust@hotmail.co.uk) – 2 nd comment.	Criticism of Royal Holloway Conference report	-Report lacking in integrity. Because of weather many participants could not attend, contributions unbalanced. No meaningful conclusions. -Not the case that a conclusion was reached that none of the consultation document options was appropriate. -Only 'conclusions' agreed were that there is a need to establish a marine protected area, and that the whole meeting could not agree on one of the three options in the consultation document.	
53. David Obura and Melita Samoily, CORDIO East Africa, #9 Kibaki Flats, Kenyatta Beach, PO Box 10135, Mombasa 80101, Kenya –regional research organisation, working on western Indian Ocean and South Asia.(dobura@cordioea.org)	Option 1	-Region of high diversity – key stepping stone in conveyor belt of species across the Indian Ocean. -Most coral reefs in western Indian Ocean degrading rapidly due to unsustainable and destructive fishing. Chagos contains reefs that are virtually unexploited, and so serves as a unique reference site for scientific research on those complex ecosystems and understand impacts of climate change. -Extent of connectivity to west, as far as east African coast, not yet known, but expect in next 10 years research will demonstrate and help quantify the contribution of protection now while ecosystems are in an excellent state. -For fisheries including migratory stocks the need for protected core regions now well established.	
54. Robert Conway, Chair, Blue Ventures Conservation (rob@blueventures.org)	Retract letter of Tara Hooper.	-Trustees have not been able to agree on this topic, so take the letter from Alisdair Harris as	

		the view of Blue Ventures.	
55. Michael Jasny, Natural Resources Defense Council, 4479 W.5 th Avenue, Vancouver, BC V6R1S4 (mjasny@nrdc.org)	Option 1	<ul style="list-style-type: none"> -Provides the soundest basis for conservation -Concern about exclusion of Diego Garcia. None of the Navy's activities there have undergone environmental analysis required under US statutes, even though training exercises using ordnance or active sonar have potential to harm marine mammals and other wildlife. -FCO should establish a mechanism to monitor and regulate. -Support for engagement with Chagossians; MPA should be established 'without prejudice to outcome of the present legal challenge, and should be modified in future if circumstances change. 	
56. Greg Stone, Conservation International, 2011 Crystal Drive, Suite 500, Arlington, Virginia, 22202, USA (g.stone@conservation.org)	Option 1, but (like IUCN) recognizes essential involvement of all relevant stakeholders in the consultation and considers it essential that outcome is reached through agreement with all stakeholders.	<ul style="list-style-type: none"> -Full protection preferable as it will realise greater conservation benefits which will sustain and build over time. -Proposed MPA is a unique opportunity to extend highest forms of protection to significant part of the Indian Ocean. 	Takes no view on UK/Mauritius sovereignty differences, and expects that before any decision made all concerned parties will have been properly consulted and views duly considered.
57. Nadia Ounais, President, European Union of Aquarium Curators	Option 1	<ul style="list-style-type: none"> - Losses from over-exploitation: can contribute to future of marine life. Opportunity to show leadership. - Significant long term benefits to coastal communities around Indian Ocean, and sustainability of ocean. - Reference site for global science. 	

		<ul style="list-style-type: none"> - Larger the area more habitat types covered smaller effect from external factors. - Costs – small price to pay -Tuna fishing should be banned: tuna stocks declining, and massive bycatch contributing to decline in other stocks: no benefit beyond small financial income. -Real and lasting benefit. 	
<p>58. Joanna Butler, Wildlife and Countryside Link, 89 Albert Embankment, London SE1 7TP (representing Amphibian and Reptile Conservation Trust; Buglife; The Mammal Society; Marine Conservation Society; RSPB; Shark Trust; The Wildlife Trusts; Whale and Dolphin Conservation Society; WWF-UK. (JoannaC@wcl.org.uk)</p>	Option 1	<ul style="list-style-type: none"> -Only option to provide full protection. -Would bring significant gains for global and UK targets and establish UK as world leader in marine conservation. -Would allow marine life to thrive and recover, in particular tuna and pelagic shark species -Reference site for future scientific research and study. -Stopping tuna fishing would help preserve species currently over-exploited, but also halt wasteful bycatch, which involves well over 100,000 non-targeted fish each year from Chagos waters alone. -Bigger zone would cover more habitat types and minimise effects and impact of external factors, such as fishing. -Aware of Chagossian legal actions. But Chagos needs conservation protection now, which would be beneficial to all future scenarios. Designate without prejudice; can be modified if necessary in the light of changed circumstances. 	
<p>59. Peter Richardson, for Marine Conservation Society, Unit 3, Wolf Business Park, Alton Road, Ross on Wye (peter.richardson@mcsuk.org)</p>	Option 1	<ul style="list-style-type: none"> -Member of CEN and stands by their submission -Additional point that need to ensure sufficient resources to manage, monitor and enforce, so not just a paper park with regional fishers free to 	

		<p>come and exploit.</p> <ul style="list-style-type: none"> -More investment needed than envisaged in consultation document, to ensure it is regularly and effectively patrolled and that frequent ecological monitoring is carried out. -If correctly designed such monitoring could be instrumental in providing necessary scientific data to inform some future sustainable use in the event of resettlement. -While UK retains control has direct responsibility to ensure globally significant biodiversity is adequately protected for current and future generations. 	
<p>60. Alistair Gammell, 23 The Avenue, Sandy, Bedfordshire, SG19 1ER (Pew Environment Group)</p>	<p>Option 1</p>	<ul style="list-style-type: none"> -Almost everyone supports MPA, mainly option 1. Only disagreements relate to amount of fishing that should be permitted and the question of Chagossian return. -Pippa Gravestock work on environmental economics of Chagos; this demonstrated option 1 would maximise value for tourism, shoreline protection, scientific value, support for south west Indian Ocean fisheries, reef recovery and other non-use values. 4th option worst. -No data to suggest migratory tuna would not benefit – not enough on its own, but still an important part to play. -Current reliance on IOTC policy mechanisms inadequate; quantitative data limited and low levels of compliance. Yellowfin close to or possibly entered overfished state, while pressure on bigeye stock is too high. -Need better regulation and no-take zones; declaration of Chagos would send powerful signal 	

		<p>that UK serious about sustainability.</p> <ul style="list-style-type: none"> -Incidental effect of piracy off Somali coast has increased quality and quantity of migratory and resident species off Kenya coast – not definitive, but do suggest potential beneficial effect on neighbouring sea areas. -Size of reserve matters – larger area will protect larger fraction of population. -Invaluable reference point for global science. -Aware of Chagossian campaign, primarily a social question, but if a decision made to permit their return clear that adjustments would have to be made. -But cost of that return and comparatively short period before sea level rise will require their evacuation, wonder whether they, justice and the public purse would be better served working to find them a permanent home immediately. -Look at costs as legacy for tomorrow's generations. Small price to pay. -Tuna fishing and fishing of reef fish by Mauritius should be banned – damages stocks and the reef itself. 	
Chagossian Groups			
1. Richard Gifford, Clifford Chance, 10 Upper Bath Street, E14 5JJ. Represents Chagos Refugees Group	Oppose	<ul style="list-style-type: none"> -Unilateral establishment: what powers will FCO use? -Very limited fishing anyway, so limited environmental benefit from a ban. -Could have significant consequences for Chagossians. Resettled population could be employed in surveillance. What effect on 	

		<p>Chagossian community?</p> <ul style="list-style-type: none"> -Should not be possible to use MPA as a way of entrenching no right of abode. - Inconsistent, as far as concerns fishing, with the law of the sea (UNCLOS) 	
<p>2. Janette Esparon, Chagos Social Committee (Seychelles) (lewisesparon@btinternet.com)</p>	<p>Premature; this particular MPA should be abandoned</p>	<ul style="list-style-type: none"> -No provision for preserving the livelihood of Chagossians and no proposal to protect historic right to share in the resources of homeland. No-take option would directly violate this right. -No proposal to ensure the MPA is properly enforced, done in other MPA's by resident population – this alone should cause the Policy of Exile to be abandoned. -No proposal to engage support of neighbouring states (Seychelles and Mauritius) – only MPA to be declared unilaterally -Concerns about US vessel associated with nuclear contamination in an MPA in Sardinia is to be sent to BIOT. Seriously derogate from idea of 'pristine' and needs to be resisted if MPA proposal seriously intended. -No published data on radionuclide contamination in BIOT – should be full and adequate period for monitoring. -Concern about use of sonar communication, danger to cetaceans. -No reason why respect for human rights of Chagossians to live and work in their homeland cannot go hand in hand with sensible conservation measures. -Proposal gives only limited choices and right to return has not been addressed, given pending outcome of ECtHR. Premature to come up with 	

		<p>such a plan.</p> <ul style="list-style-type: none"> -Strongly believe Chagossians would be best protector of local environment in monitoring and enforcement of marine protection as well as the ecosystem of the Chagos Archipelago. -MPA will not prevent Chagossians who return to islands from pursuing traditional way of life; local fishing will be only form of economic activity available. -This particular MPA should be abandoned. Any future plans should be made in detailed consultations with the Chagossians and all parties concerned, bearing in mind that Chagossians should be properly represented in view of legality, implications and language barrier that any such proposals will involve. 	
<p>3. Hengride Permal, Chairperson of Chagos Island Community Association, plus petition signed by 72 people.</p>	<p>Opposed to plan</p>	<ul style="list-style-type: none"> -Chagos islanders not consulted and received no notification about future of our islands -Believe saving marine life more important than lives of Chagossians, many of whom have died as a result of great sadness, appalling conditions in Mauritius, no jobs and families forcibly divided -FCO wants to make money out of our islands and turn them into an MPA. -Chagossians believe we have the right to return back to our homeland and will never give up this right. We have the right to decide its future and that it should become a protected area for Chagossian people where we can live in peace with our families. -Huge US military base on Diego Garcia that has destroyed most of its habitat and has been used to attack Iraq and other countries is certainly not 	

		<p>protecting the global environment.</p> <p>-When we farmed the land and fished the sea there was a perfect balance of nature. We have the right to return to our islands and intend to do so.</p> <p>-We do not wish to have a MPA that will stop us being able to eat and live so that some monopoly can make huge profits from rich tourists out of one of the world's largest marine reserves.</p> <p>-Enclose petition from those who oppose plan and are insisting we are consulted about the future of our islands and not ignored as you chose to do. As original inhabitants believe we must have the final say about the future of our homeland.</p>	
4. Fernand Mandarin, Chagossian Social Committee, 108 Cassis Road, Port Louis, Mauritius	Chagossian treatment	<p>-Not for or against as project- you have project for nature to please the world.</p> <p>-We are forced to destroy our culture, our tradition, even separation of our dead forefathers did not have a price. All that displeasure to please the world.</p>	
5. Peter Harris (peter@peterharris.com) enclosing letter from Roch Evenor and Marcus Booth, Chair and Vice Chair of the UK Chagos Support Association	Fourth Option	<p>-Chagossians should be fully and meaningfully involved with the design, implementation, operation and management and monitoring of an MPA.</p> <p>-Without that effectiveness, legitimacy and potentially longevity of environmental protection regime would be jeopardised.</p> <p>-Responsiveness such as seen here has rarely been mirrored in relationship between government and those advocating return of Chagossians. Hope MPA discussions will herald a new era of openness.</p>	

		<ul style="list-style-type: none">-Stipulation(p7) that 2004 legal framework will take precedence over implementation of future MPA has been unhelpful, and prevented supporters of Chagossian right of return being able to fully participate in consultation process, as we believe that environmental protection best served by resettlement.-If Chagossians do have their right restored in ECtHR, MPA regime could pose significant barriers to their return, even if not of a legal nature. Should take account of right of return from inception; much preferable to revising at a later date.-ECTHR and MPA intimately linked. Resist attempts to discuss future of Chagos in a way that excludes consideration of Chagossian rights.-Urge UK government to agree a friendly settlement that integrates environmental protection and broader political solution. Entirely within government's power to do so.-Regret that some organisations have treated this as a simple referendum rather than an open discussion about what an MPA should look like.-Where members of the public have been made aware of the full facts their enthusiasm for Chagossians' right of return has been invariable and overwhelming. Draw attention to Marine Education Trust petition, which has support of wide range.-Strongly support the principle of protecting the marine environment and recognise an MPA could help in achieving this goal, but concerns about options and how an MPA should form part of an	
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		<p>integrated plan for future of BIOT. Option 1 would be damaging to Chagossian prospects of return, removing possibility of sustainable fishing. Needs to be allowed, explicitly from the outset in the MPA itself.</p> <p>-Wrong and unrealistic to presume against Chagossians ever winning right to return. MPA's supposed to enjoy permanency, and would be undermined if it were adopted with express intention of revising.</p> <p>-Environmental protection and human rights must go hand in hand.</p>	
Fishing Interests			
<p>1. Jose Angel Angelo, Managing Director, ANABAC (association of tuna fishing companies, 18 vessels, major fleet in Indian Ocean, in Chagos/BIOT for more than 10 years) (juanpablo@anabac.org)</p>	<p>Support actions towards healthier, more productive ecosystems that might ensure sustainability and durability of resources; must be based on sound knowledge and scientific background, assessing implications and consequences. Believe proposal lacks sufficient scientific basis. Need to modify – do not oppose a marine protection area, but should not</p>	<ul style="list-style-type: none"> - Their fleet modern, transparent, highly monitored and compliant; operates under EU standards on data provision, sustainability and management. - Trouble free relationship with authorities, fully respect license conditions. - Fishing season short and time focused around end of year/January. - Their catch dominated by adult sexually mature section of population, levels of by-catch nearly non-existent. - MPA has deep potential implications, especially because of difficult situation in Indian Ocean because of piracy, happening all over, in EEZs of Seychelles, Kenya, Tanzania. Pushed their fleet further east in search of safer fishing. - Benthic and reef ecosystems and bird communities are key elements identified for 	

	<p>have restrictions in relation to pelagic fishing of highly migratory species. Support Option 2 modified.</p>	<p>protection, but level of interaction of pelagic fisheries with these is nil, at least as far as concerns purse seine fishing for tropical tuna.</p> <ul style="list-style-type: none"> - While a no take approach would benefit the rich sea bottom, reef communities and bird populations, it would not add benefit to the management of tropical tuna, managed at population level by IOTC, and highly migratory – no ‘local’ Chagos population. -Already well controlled and managed, with information collected on a systematic basis. No take policy would redirect, not reduce overall, perhaps to area where such healthy practice is not maintained. -Licensing of tuna fleet brings economic resources to reinforce and ensure proper management. -Specifically re p11 benefits, studies have shown that fixed MPA’s may not be best tool for managing migratory species; and running costs for patrolling a no-take zone would increase. -Their tuna fishing fleet provides key elements of value which should not be disregarded. 	
<p>2. Michael Goujon, Director of Orthongel, organisation of producers of frozen tuna, representing all French tropical tuna purse-seine shipowners, 11bis rue des Sardiniers, 29900 Concarneau, France (orthongel@orthongel.fr)</p>	<p>Welcome MPA for conservation of coral reef, island ecosystems and biodiversity. Option 3, or 2 modified to allow purse seining outside a no-take zone of 24nm from nearest point of land (as for the MPA</p>	<ul style="list-style-type: none"> -Responsible fishermen, concerned with health of marine ecosystems. -Want to preserve possibility to follow tuna in the Chagos area. -Closure should address conservation problems specific to pelagic ecosystems or management issues identified by relevant fisheries management authorities, here the IOTC -Purse seining quite selective, esp. in Chagos area. Only target large mature yellowfin tuna in 	

	of the French Overseas Territories)	<p>free schools. No incidental catch, very small bycatch, no discard, no impact on ocean floor, especially on coral reefs. Do not sail close to shore and follow international recommendations on waste management.</p> <ul style="list-style-type: none"> -Following conclusions of IOTC scientific committee, consider MPA not an appropriate tool for conservation of tuna, which are highly migratory. -Would not conserve tuna populations, but would prevent fleets following in December/January; one of the few remaining areas where they would not be under threat of Somali pirates. -Not a particular or exclusive area for spawning. Observer programmes show Chagos not area where bycatch or incidental catch is significant for any species. -Do not understand cost analysis. Whatever option, control of MPA will require close monitoring and surveillance of illegal activities. Presence of their vessels can help detection. -Harmonisation of marine protection measures around the Indian Ocean islands would make sense and contribute to easier compliance for fishermen. 	
<p>3. Imanol Loinaz, Fleet Director, for Interatun Ltd (Seychelles) (iloinaz@albacora.es). Purse seine vessel fishing co; response represents agreed views of their fishing experts; and similarly for Albacora, a purse seine vessel fishing and canning company, active in the Indian Ocean since mid 1980s.</p>	<p>MPA could be positive for the protection of sensitive reef ecosystems but do not believe it would have benefits on pelagic resources.</p>	<ul style="list-style-type: none"> -Reef ecosystems and bird populations key elements to be protected. -Tuna fisheries have no interaction with the bottom ecosystem and no impact on reef communities. -Including pelagic species within MPA framework would not contribute benefits to these open 	<p>Current management systems applied to control tuna fishing in Chagos archipelago is the best warranty to protect the environment.</p>

	Option 3	<p>ocean resources due to uncertainty of their time and geographic patterns and lack of area fidelity.</p> <ul style="list-style-type: none"> -Scientific information collected by observers and logbooks of this fleet are of great value and important source of information on pelagic populations migrating through the area. -No take policy would have socioeconomic impacts as activities related to tropical tuna fleet are an important source of activities. 	
<p>4. Dr CC Mees, Development Director, MRAG, 18 Queen Street, London W1J 5PN. (57 page submission) – experience of fisheries research and management, including BIOT and declares an interest)</p>	<p>Support 'zoned use MPA' (networked approach) which still allows declaration of the whole BIOT FCMZ as an MPA. Zoned use framework will be necessary to permit military use of the lagoon of Diego Garcia, and any other uses that may be considered in future, such as tourism, visiting yachts, vessels transiting the zone, scientific surveys etc. Consider <i>inshore</i> (reef) and <i>offshore</i> areas with different requirements. Contribute to IOTC quota allocation debate, which will</p>	<ul style="list-style-type: none"> -MPA useful management tool where benefits can be demonstrated: Demersal habitats to 200nm zone, resident reef fish, but not so for highly migratory pelagic tuna fisheries. -Environmental benefits of declaring a no-take zone can be demonstrated, but may be social and political costs related to Mauritius. -Differing views in the literature, but general agreement that combination of spatio-temporal closures in conjunction with other management controls (species targeted gear restrictions, catch controls) might be preferable to fixed MPA's for pelagic species. -Given early stage of research into pelagic MPA's and differing opinions in the literature, best that can be said is that conservation benefits of a BIOT MPA for pelagic species are uncertain, but social, economic and political costs can be demonstrated. -Highly migratory fish stocks cannot be managed at national level but require international co-operation – IOTC. Exploring management options to conserve tuna and moving towards quota allocation – likely to be sensitive and difficult and 	

	<p>create options (eg, take but not use any quota, or trade it with other nations)</p>	<p>may take time. As tuna management body in the region, justification for use, timing and location of any closure of the tuna fishery as an additional management measure should come from IOTC and its members.</p> <ul style="list-style-type: none"> -For vulnerable inshore reef areas and demersal habitats to 200nm, strong environmental conservation argument for no-take zone, though to address social dimension (returning Ilois, Mauritian historical fishing rights) zoned use may be appropriate. Already sustainably managed. -For pelagic tuna, given balance of costs and benefits and the potential lack of environmental benefits, recommend continuing permitted zoned use (licensed fishing activity) until such time as there is significant change in the regional management strategy (eg, quota allocation) -Environmental Factors- -Conservation benefits of MPA's for resident reef fish demonstrated in numerous situations -Currently no specific evidence for spillover benefits through larval connectivity, but if they do occur full no take protection will maintain their capacity to reseed reefs elsewhere in the Indian Ocean, though will not greatly increase benefits as BIOT reefs already in near pristine condition. -No evidence that no-take MPA will provide conservation benefits to target tuna species, and potential negative effects due to displacement to areas where weaker management is in place. Not expected to result in reduced fishing or catches. -Area too small for MPA-style measure to be 	
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		<p>effective; proportion of catch from BIOT is on average less than a quarter of all catches taken in the Indian Ocean at that time. Longline tuna also takes some bycatch (incl. blue shark) but these are also migratory. New shark legislation was introduced in BIOT in 2006.</p> <ul style="list-style-type: none">-Pelagic tuna fishery has negligible impact on other species (no interaction with demersal habitats or birds or marine mammals, and negligible with turtles).-Socio-economic factors--No take zone brings increased risk of illegal, unreported and unregulated (IUU) fishing, thus requiring additional surveillance. Remote sensing techniques only effective where imagery accessible in real time and used in combination with physical patrols.-Data reported to IOTC will be less well regulated and ability to enforce IOTC resolutions diminished-Loss of revenue from licensed fishing will not be compensated by selling other ecosystem services at least short-term-Operational efficiency of fishing fleets and processing facilities they supply will be affected due to altered fishing patterns and supply.-Combined impact of piracy in the Western Indian Ocean and closure of BIOT are likely to have significant economic impact throughout the fishing fleets and the region. Limits the potential of fishing fleets to adapt to the threat of piracy.-In the face of global food shortages sustainably managed exploitation of natural resources should	
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		<p>be permitted to continue.</p> <ul style="list-style-type: none"> -Political factors- -Mauritian historical fishing rights -Return of Ilois – most likely to fish vulnerable reef fish -EU fishing activities 	
<p>5. Juan Pedro Monteagudo for OPAGAC, C/Ayala 54, 28001 Madrid. (opagac@arrakis.es)</p> <p>- an association of purse seine vessel owners, present in Indian Ocean since 1980s</p>	<p>MPA could benefit sensitive reef ecosystems and bird populations, but would not have benefits on pelagic resources.</p> <p>Option 3</p>	<ul style="list-style-type: none"> -Purse seine pelagic fisheries highly and appropriately monitored and controlled, pose no threat to bottom ecosystems or bird populations. -Scientific information collected by BIOT observers and logbooks of this fleet are of great value and an important source of information on pelagic populations migrating through the area. -MPA applying only to vulnerable reef systems would not have socio-economic impacts as no communities depend on any sea bottom associated fisheries. -Activities related to the tropical tuna fleet are an important source of activities in the Indian Ocean region. -Current management system applied by BIOT authorities is best warranty to protect the environment. 	<p>More proactive role of BIOT authorities in identifying and reporting IUU activities will be welcomed.</p>
<p>6. Minoru Honda, Managing Director, Japan Far Seas Purse Seine Fishing Association (japan@kaimaki.or.jp)</p>	<p>Option 3</p>	<ul style="list-style-type: none"> -Tuna stocks of Indian Ocean under control of IOTC and its abundance assessed by IOTC scientific committee -Species migratory, so protecting in a limited area not really effective. -Income may not cover costs, but better than nothing. -Catching conditions vary year by year, and fishing opportunities of highly migratory species should be retained for future generations. 	

		-See benefit of MPA to protect vulnerable reef system for future expansion of tourism. -See Law of the Sea Article 62.2	
Yachts			
1. Heinz Kluge and Patricia Byland (papagenacat@yahoo.com)	Is it necessary?	<ul style="list-style-type: none"> - Do not forget natural hazards – storms etc can cause havoc. - How much more is justified or possible? Already has environmental protection and clear rules. - But should discontinue commercial fishing: have a safe zone for fish to breed and recover. - Will be of international importance. - Should remain open to visitors arriving by private boat: important stopping point in Africa-Asia route. Allow limited ship-based tourism (northern atolls). - Diego Garcia different: even if lease not extended, facilities are useful. 	<p>International community should contribute to cost.</p> <p>Need satellite imagery for supervision; and ?mobile ranger stations, to patrol against a range of dangers, including piracy.</p>
2. CD Power, RCC Pilotage Foundation, Swanmore Lodge, Swanmore, Hampshire SO32 2QN (produces guides for cruising yachts and small craft)	Option 1	<ul style="list-style-type: none"> -So much of the ocean being over-fished for pelagic fish, especially tuna. -All benefits listed are likely to be realised 	<p>-No restrictions mentioned for small group of transiting yachtsmen. They visit Salomon and Banios, and anchoring areas which are not well thought out. Some have used as long term anchorages. Generally behaved well, but Foundation would be happy to support a time limit, so no semi-</p>

			permanent yacht population becomes established, but would resist their exclusion.
3. Gus Lewis, Legal and Government Affairs Manager, RYA (gus.lewis@rya.org.uk) – national body for recreational and competitive boating.	Supports MPA to the extent of no-take zone around the islands	<ul style="list-style-type: none"> -Recreational yachtsmen increasingly taking a more southerly route across Indian Ocean to avoid known activities of pirates. BIOT a valuable safe haven. -MPA should therefore not interfere with rights of navigation and innocent passage, and should not preclude yachtsmen seeking refuge from adverse weather conditions or other perils of the sea. 	
4. Humphrey Jones, yachtsman (VK3075@sailmail.com)	Could not support if it prohibited visits from yachts or further restrictions on presently permitted activities.	<ul style="list-style-type: none"> -How will it affect visiting yachts, including their tightly defined mooring areas and non-commercial fishing with hook and line? -What are we protecting it from? Can't be various effects related to climate change. Fishing? But very few Mauritian hand line dory fishing, and tuna fishery is targeting migrating fish and you never see these vessels near the islands. Impact is from illegal (Sri Lankan) sea slug and shark fin fishery, currently stopped because of vigorous pursuit by patrol vessel. Yachts? – But very few and cannot have much impact. -Cannot see it would make much difference to declare MPA. Big issue is Diego Garcia, which would rightly be exempt. 	Time better spent de-ratting the islands
5. Harald Sammer, Am Eschenhorst 10, D-61381 Friedrichsdorf, Germany (Yacht Taniwani)	Variant of Option 3, for specific areas only, to allow yacht cruisers to continue.	<ul style="list-style-type: none"> - Not really clear what changes from existing -Hard to see practicality of complete no-take if Chagos community returns -Beyond his knowledge to say whether limited commercial use is a problem. 	Restrict anchoring areas in shallower parts and be more generous in allowing anchoring in depths

		<ul style="list-style-type: none"> -Limited amount of visitors seems OK -Archipelago large enough to allow some zones of limited protection without destroying important scientific reference parameters 	deeper than 25m to avoid accidental destruction of coral due to anchoring.
6. Richard and Kathryn Cottier, 48 York Way, Fort George, St Peter Port, Guernsey, CI GY12sY (MRCU1@sailmail.com)	Support no-take for commercial fishing only, and no seasonal zone, though this could be reviewed after some time.	<ul style="list-style-type: none"> -No mention of yachts. Their environmental impact has been minimal. Fishing limited by BIOT regulations, and their yacht presence used to monitor and report on infractions to the existing regulations. Can pick up rubbish, while disposing properly of their own. -Presence of commercial vessels fraught with problems; if not being monitored at particular time no incentive to adhere to principles of environmental protection. Could be improved by smaller, faster patrol boats. -Visiting yachts pay for permits to visit the area - £100 per month per yacht. 	
7. Bill McLaren, Commodore, Ocean Cruising Club (commodore@oceancruisingclub.org)	Option 2, with exemption for visiting yachts to fish by hand line for immediate personal consumption.	<ul style="list-style-type: none"> -Rights of long distance cruising sailors should be recognised and protected. Piracy in the Somali basin has affected their choice of routes. -If an MPA meant they were denied access to shelter offered by Chagos islands, they would have longer and riskier period at sea (having to continue to Reunion) -Sees the need for increased environmental protection, but not change to existing arrangements for cruising sailors. -Support option 1 or 2 with possible exemption for yachts to fish under license by hand line for personal consumption. Would not press for it if prejudiced the whole concept, but could be adjunct to option 2. -Support tightening of controls to ensure it is 	

		<p>transitory population</p> <p>-Not wholly convinced that significant conservation benefits will come from more restrictive regime; not convinced by climate change arguments, scientific case needs to be argued in more detail, and generally think more references are needed to support claimed benefits.</p>	
<p>8. Phil and Kay Atkinson, c/o Yacht Haven Marina, Phuket, Thailand (svtramontana@yahoo.com)</p>	<p>Not in favour, but if had to choose one would favour seasonal pelagic take zone, reviewed when time has elapsed to observe fish numbers.</p>	<p>-For yachts, regulations already in place, including for fishing licenses, are adequate in ensuring Archipelago remains pristine and ensuring fish life is not depleted</p> <p>-Visited in 2009, after 5 year absence observed more fish life than before, sea water still pristine and no signs of pollution</p> <p>-Would cause hardship to fishermen of Sri Lanka, Maldives and Mauritius and encourage more illegal fishing.</p> <p>-As long as have licenses and patrol boat feel stocks should remain plentiful. Should have scientific study to determine if stocks are being depleted before closing off fishing grounds.</p> <p>-Creating a reserve could encourage eco-tourism, which can have devastating [negative] effects</p> <p>-Complete anomaly to have very strategic and important military base situated right in the centre of a marine reserve.</p> <p>-If Diego Garcia is exempt, so should be the two atolls which yachts use. (Saloman and Peros Banhos)</p>	
<p>9. Peter Bouquet, owner of Musichana (pete.bouquet@gmail.com)</p>	<p>At least postpone until after ECtHR.</p>	<p>-Current proposals wrong as do not properly take account of exiled Chagossians or of US base on Diego Garcia.</p>	

		-No decision should be taken until have properly addressed return of Chagossians – responsibility of UK government, do not have to wait for ECtHR, but any decision should at least be postponed until they have ruled.	
10. Claire Jones, Yacht Brumbey, Salomon Atoll (VK3075@sailmail.com)	None of the options – not clear what will happen to yachts	<ul style="list-style-type: none"> -Favour full protection as regards commercial vessels. Will catch elsewhere, but infringements will stop. Yachts only catch for consumption. -Mauritian rights to fish on the reef – cannot be taken away and would open up simmering issues of ownership. -Less than 0.1% of atolls available to yachts, chosen in consultation with environment adviser in 2007 -Should not try to ban public access -Seychelles was an alternative destination but piracy now a threat. -Reef fish making a comeback since 1998 warming. And tsunami and patrol vessel have reduced illegal shark fishing. 	
British MPs, Peers and Councillors			
1. Jeff Ennis MP (Barnsley East and Mexborough) on behalf of Chagos Environment Network.	Option 1	- Islands need conservation now, regardless of outcome on resettlement.	
2. Coucillor Philip Booth, Stroud District Councillor for the Randwick, Whiteshill and Ruscombe Ward; 2 The Laurels, Bread Street, Ruscombe, Stroud, Gloucester GL6 6EL (Philip.booth2@virgin.net)	Needs to involve Chagossian resettlement	<ul style="list-style-type: none"> - Chagos islanders have been thwarted for 40 years in their hopes of returning home. - While recently dismissed on legal grounds, political possibilities remain open for a return to become possible. A recent study found that a small number of islanders want to return permanently. A study by John Howell, former 	

		<p>director of ODI suggested no physical, economic or environmental reasons to prevent resettlement on Peros Bahos and Salomon. He suggested about 150 families, fewer than 1000 people, and less than a quarter of those entitled to go back would want to return. Eco-tourism and fish exports could provide jobs and income. Total cost to the UK about £25m.</p> <ul style="list-style-type: none"> - This MPA must ensure an opportunity for those families to implement and secure the MPA. - However, serious consideration is needed regarding a complete fishing ban, as this would make resettlement very difficult. - There should be limited fishing rights for Chagossian people. 	
3. Baroness Fookes of Plymouth DBE DL, House of Lords (passed on by Alastair Gammell, Pew Environment Group, to whom this is a letter) (agammell@pewenvironment.org.uk)	Option 1	-Threat to coral reefs and need to protect as far as possible.	
4. Lord Tebbit CH (letter to Gammell, passed on by him)	Option 1	-Subject only to measures to ensure short-term economic cost not borne by islanders, but by the wider world community, which is the beneficiary	
5. Baroness Nicholson of Winterbourne, MEP (letter to Gammell, passed on by him)	Option 1	-Best way forward. Keen on UK establishing its credentials as a supporter of conservation on land and sea.	
6. Paul Rowen, MP for Rochdale, HoC	Option 1	<ul style="list-style-type: none"> -Benefit humanity and position UK as a leader in global ocean conservation -Important UK delivers on its international biodiversity obligations and demonstrates commitment to marine conservation. -Safeguard a largely undisturbed refuge for marine life 	
7. Lord Mackay of Clashfern	Option 1	-Only effective protection for this invaluable	

(MACKAYJP@parliament .uk)		asset.	
8. The Rt. Hon. Lord MacLennan of Rogart, House of Lords	Option 1	-To preserve the world's largest surviving coral atoll and some of the cleanest seawater found anywhere	
9. Ian Stewart, MP for Eccles, House of Commons	Support MPA	-Number of representations from constituents -Important contribution to UK international conservation commitments -Would provide important global reference site for issues such as climate change, sea level rise, coral deaths, fish stock decline -Food security and livelihoods throughout Indian Ocean can also be enhanced by aiding in recovery of drastically reduced food stocks	
10. Jeremy Corbin MP, Chair, APPG Chagos Islands (43 Parliamentarians)	Support MPA provided interests of Chagossians and Mauritius are safeguarded; 4 th option, which allows for limited sustainable utilisation of natural resources through zoning or other means.	-MPA must make provision for resettlement and ultimate transfer of sovereignty to Mauritius. -Option 1 not suitable because in early stages of resettlement fishing would be vital to its success -Chagossians obvious guardians – without local people unlikely British Government would have the resources properly to enforce. -No point declaring an MPA unless full international agreement, which requires co-operation with Chagossians and Mauritius. -Needs to be legitimate under international law and workable. Legitimacy if declared without agreement of neighbouring states? UNCLOS requires preservation of traditional fishing of local inhabitants. -At 7 January Royal Holloway workshop said that as number of Chagossians wishing to return is likely to be small, no conflict with marine conservation; local people can enhance preservation of environment.	Should have independent study on the number of Chagossians who would wish to resettle and practicalities of resettlement. Should be done before MPA is declared.

11. Barry Gardiner, MP for Brent North	Option 1	<ul style="list-style-type: none"> -Full no take crucial to protect marine life; would add to survival of coral reefs; lessen regional loss of biodiversity and boost protein productivity, helping replenish populations depleted elsewhere in the Indian Ocean. -Act as a control for climate change studies -Scientific benefit – we have limited time to understand how a pristine natural tropical reef system behaves. -Protection of BIOT crucial in reef protection and ecosystem-based management approaches. -Chagos sits on southern equatorial current, and plays essential role in restocking fisheries and reefs of Seychelles and Mauritius -Cost extremely small compared to benefits -Contribution to globally agreed environmental targets. 	<p>US military monitoring at Diego Garcia should focus on the location of fisheries, which would reduce number of incursions of fishing boats and cut costs of policing.</p> <p>A camera (similar to National Geographic's Wildcam of the Belize Reef) could be installed to enable wider population to experience and understand its environmental importance.</p>
12. Peter Bottomley MP	Option 1	<ul style="list-style-type: none"> -Would create area where marine life would thrive and recover, benefitting all humanity and putting UK in position as a leader in global ocean conservation. 	
13. Clive Efford MP (Eltham)	Option 1	<ul style="list-style-type: none"> -Protect pure, unpolluted water; benefit to people round the Indian Ocean -Whatever happens to Chagossians, CEN believe Chagos needs conservation now – will be beneficial to everyone, and can modify if necessary in light of circumstances -Global scientific research -Deep ocean waters hold exceptional diversity of geological features -Helps meet UK international commitments -Conservation legacy almost unrivalled 	

Representatives of other Governments			
<p>1. Rafe Boulon, US Virgin Islands National Park/Coral Reef National Monument, 1300 Cruz Bay Creek, St. John, VI00830 (Rafe_boulon@nps.gov)</p>	<p>Option 1</p>	<p>-In US Virgin Islands have established several no-take MPA's and monitoring is showing that fish stocks are improving and fishermen in surrounding areas benefitting from enhanced catches and have become supportive. -These areas also serve as important sources of larvae for corals and other reef forming ecosystems. -Best thing we can do for coral reef ecosystems is to leave them alone.</p>	
<p>2. Thomas Kelly, Virgin Islands National Park/Coral Reef NM, 1300 Cruz Bay Creek, St John, US Virgin Islands 00830 (Thomas_kelly@nps.gov)</p>	<p>Option 1</p>	<p>-Keenly aware of fragility of precious island habitats. -Must seek to protect and preserve for future generations. -Especially poignant at this time of climate change, economic crisis and paradigm shift in energy resources.</p>	
<p>3. Phillippe G Bush, Secretary, for Don Foster, Chairman, Marine Conservation Board, Administrative Office, Department of Environment, P.O. Box 486GT, Grand Cayman, Cayman Islands (phillippe.bush@gov.ky)</p>	<p>Option 1</p>	<p>-Globally there have been enough ineffective half measures implemented for environment protection.</p>	
<p>4. Jeff Laitila, US Navy (Jeffrey-Laitila@navfacfe.navy.mil)</p>	<p>-</p>	<p>-Understand that creation of MPA will have no impact on US Facility on Diego Garcia and operations associated therewith to include fleet operations and training. - Should any impacts be envisaged understand they would be fully presented and discussed utilizing historically established Exchange of Notes process between US and UK.</p>	

5. Ahmed Saheed, Minister of Foreign Affairs, Republic of Maldives	Support protection of the environment, and supports in principle the designation of marine areas for protection, but serious concern about impact on tuna in Maldives' EEZ	<ul style="list-style-type: none"> - Maldives dependent on tuna fisheries for livelihood and sustenance. In view of migratory nature of tuna have concerns about effect on Maldives EEZ and would be grateful for information. -Would express interest in further consultations on this aspect. -Willing to discuss any related issues that may arise from potential overlapping of EEZ (Maldives submitting to UN about its outer boundaries) with a view to resolving -Any designation or establishment of MPA to reflect these issues and be discussed between governments of Maldives and UK. 	
B. WRITTEN RESPONSES, without comments			
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6. Eric Worpe (e.worpe@btinternet.com)	Option 1		
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8. Kenneth Davies (kennethldavies@btinternet.com)	Option 1		
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C. OUTCOMES FROM MEETINGS			
1. MEETINGS IN THE SEYCHELLES, January 24-27			
Nirmal Shah, Nature Seychelles	Option 1 (Subject to knowing what Chagossians think)	<ul style="list-style-type: none"> - Allowing some fishing flies in face of science. Incidental capture of sharks and pelagic fish. Evidence from elsewhere shows MPA's good for fisheries - MPA could provide a refuge where tuna could be safe and reproduce. Protect stocks and help ensure fishing is sustainable. - Good area for scientific study: could study whether it would enhance stocks where fish are migratory. Working with UNDP/GEF to study whether fish are moving out of an existing MPA (Cousin island) to other areas. - Plenty of other parts of Indian Ocean without Chagos: piracy is an issue, but separate and has to be solved regardless of MPA. - MPA's can be flexible, e.g. could protect particular activities, and no take zone could be opened at some stage if, e.g., stocks had increased. - But to make such a large zone very enlightened: 	

<p>Alejandro Anganuzzi, Indian Ocean Tuna Commission</p>	<p>Option 2</p>	<p>thinking of future generations.</p> <ul style="list-style-type: none"> - MPA's can be useful for conservation in certain cases, but conservation case reduces with migratory species (such as tuna). - Little benefit for fish stocks in a Chagos MPA - Refuge idea does not work because fish spend only two to three months there and not for breeding - Closing off the area will displace efforts; currently controlled and monitored, and may not be in other areas. If fleets cannot go into Chagos they will look for tuna routes outside. - Does conserve reef, but current licensed fishing does not affect this fragile environment. Nets do not touch the bottom, and do not cause great disturbance. - By-catch estimated at 3%, and not much fragile species (4 or 5 turtles a year; no dolphins) - In the interests of fisheries to have a healthy stock of fish. - Fishermen would feel removal of Chagos. It would reduce flexibility; at this time of year (year end and January) there is not much else. Some years Chagos gives a good catch, some not, but it provides an option, especially in the current fluid situation with regard to piracy (which is not likely to disappear quickly). - In some previous years licence costs have kept some people out, but with piracy this less likely. - Would create competition between boats. Fisheries operate with small financial margins. - The more impediments put in the way, the more difficult for fishing to make money. 	
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		<ul style="list-style-type: none"> - Better way to preserve than having MPA would be to reduce fleet size. - Costs of policing will increase; satellite monitoring will be needed. Will still have illegal fishing. - This year there is a problem with stocks of yellowfin, but not generally true that tuna are being fished to extinction. - Everything related to the reef should be left untouched, and nets should not touch the bottom. 	
Didier Dogley, Principal Secretary for Environment, Government of Seychelles	Prefers an Indian Ocean-wide arrangement, but as concerns BIOT MPA does not want undue effect on tuna industry, so Option 2.	<ul style="list-style-type: none"> - Important to look at large ecosystem protection, possibly for the whole Indian Ocean, with some areas no take but others open to tuna fishing. Key would be identifying and protecting the biodiversity 'hotspots'. - Need to have sufficient resources to put in place, manage and police/enforce- will still get illegal fishing even if declare an area no take. - Whole consumption pattern needs to change to make fisheries sustainable. - Preference would be for a whole Indian Ocean wide arrangement, managed by the different regional countries in collaboration. - If MPA for BIOT only, need to avoid adverse effects on tuna fishing. - Governments would find it hard to support something with adverse economic implications - Would probably help other (non-tuna) species, but must not affect unduly the tuna industry. 	
Seychelles Fishing Authority (Dr Jan Robinson and colleague)	Case for MPA not yet clear. If went ahead, probably Option 2.	<ul style="list-style-type: none"> - IOC's scientific committee has done work on how an MPA would benefit highly migratory species like tuna: it would not, unless a very large 	

		<p>area and not necessarily in Chagos.</p> <ul style="list-style-type: none">- While there have been some bumper years (such as 2007) Chagos is not a major tuna area, with a short season. In previous years fisheries have not always taken up licenses every year, but the area is becoming more important because of piracy, and there is opportunity cost to vessels.- There are projects underway in the Indian Ocean (EU funded) to consider best location and size of protected areas.- Two schools of thought in fisheries science: one is that MPA's are beneficial, one that only for certain fish and in certain circumstances.- Important that MPA not described as being to contribute to tuna protection; not yet clear what benefits and disbenefits are for tuna.- Displacement effect for fisheries-- may go to places where they are not able to catch the adults but more juvenile, smaller fish.- Could be benefits for Seychelles in protection if larvae from fish reach it from Chagos – could help with research and coral conservation, if Seychelles and Chagos are connected. But even now fishing is low, so benefits may be provided anyway, without MPA.- MPA will not change much in relation to coral and fish – just formalise its management.- Socio-economic impact with coral and reef fish will be less, but would have some economic effects on tuna. Opportunity cost.- No very strong reason for objecting, but not enough scientific evidence that it will have benefits for the future (and it will not for tuna):	
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		<p>need more scientific evidence for each element.</p> <ul style="list-style-type: none"> - Not clear what it would add re-coral: already used as a reference site. 	
Chagos Community Association, Seychelles	<p>Reserve judgment pending legal advice on implications for Chagossian rights, but support conservation in principle.</p>	<ul style="list-style-type: none"> - Nothing that will benefit Chagossians. They cannot even see what is in their marine environment to protect. No financial benefit for them. - Diego Garcia already polluted compared to what it was, and coral destroyed. Too much activity (US military). On Salomon and Peros Bahos some sort of conservation would be useful. - Speaking from a conservation point of view, favour the coastal marine protection proposal: - Need clarification on the EEZ (200mile) off the coasts of the archipelago and think it should be included in the proposal - Given short notice, reserve the right not to endorse or support the proposal until they have had full legal advice on its implications regarding Chagossian rights now and in the future. - Concerns about by-catch in tuna fishing, and reservations about [commercial] fishing. - Would like the possibility of further expeditions to allow Chagossians to go back for a look. 	
2. MEETING WITH CHAGOSSIAN COMMUNITY IN THE UK – CRAWLEY, 6 February			
<p>The Diego Garcian Society (representing members of the Chagossian community). Discussion led by Allen Vincatassin and a number of colleagues, and bringing written responses in the form of a completed</p>	<p>4th option, a no-take marine reserve for the whole of the territorial waters and EPPZ/FCMZ with</p>	<p>-For biodiversity research, protection of species, and for the benefit of Diego Garcians, other Chagossians, and their descendants.</p>	

<p>questionnaire from 170 members of the community.</p> <p>(The community leaders had spoken to members of the community and on that basis developed a questionnaire which people could fill in in the community centre or take away with them. It was made available in English and French, as was a copy of the consultation document, readily available in the community centre. A number of members who had visited were able to describe the situation to those who had not. Ballots were placed in a sealed box, and opened in my presence. 170 people responded, some on behalf of whole families, and there was virtually 100% consistency amongst responses—only 1 person did not support an MPA, but agreed with the rest on answers to other questions. The process appears to have been professionally managed)</p> <p>A subsequent letter records an additional 38 respondents (4 from Crawley, 14 from Manchester, and 20 from the Republic of Mauritius) taking the same view as other respondents, noted here. ('Yes, C and D' in their questionnaire).</p> <p>And a further letter says final UK 5 and Mauritius 40, and asks that they be added.</p>	<p>exceptions for certain types of pelagic fishery (eg tuna) and artisanal fishing by Diego Garcians and other Chagossians fishing projects only.</p>		
<p>3. VIDEO CONFERENCE WITH CHAGOSSIAN COMMUNITY IN MAURITIUS, 4 March</p>			

<p>Members of the Chagos Refugees Group, led by Olivier Bancoult and joined by their lawyer, Richard Gifford, and a number of colleagues (elected representatives for the majority of the Chagossian community in Mauritius) participated in discussion while a large group of fellow Chagossians (numbers estimated between 80 and 140) assembled outside. Most talking done by Messrs Bancoult and Gifford, with contributions by three other Chagossians, representing the views of the assembled group.</p>	<p>Consultation premature (and flawed). Putting cart before the horse.</p>	<ul style="list-style-type: none"> - Prepared to participate in consultation exercise, but it is 2004 FCO policy which is at heart of matter and about which they are talking. -No-one against the principle of marine conservation, but cannot be forced on people or becomes unlawful. - Needs to be with consent of Chagossians. -Sovereignty of Mauritius also involved, and interest of other states (e.g. Maldives) where EEZ may overlap. Need co-operation of all states involved. -This putting cart before the horse. Do not push ahead with unilateral forced MPA ignoring Chagossians -Chagossians are real guardians of Chagos -How can British government suddenly come up with this plan when they have a US base on Diego Garcia. -Chagossians wish to return – fundamental right to do so more important than conservation; why give more weight to fish and animals than to people. -Are fishing rights which they need in their sea. -Need human rights first – wrong to come before ECtHR judgement. -Strength of feeling demonstrated by group outside. Number of other participants highlighted that they opposed the MPA and that Chagossians should get their land back first. Highlighted that they were elected by the Chagossian community to set out their views, against the MPA. -MPA would prevent access, while they want to take care of their heritage. Not right that US base 	
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		<p>and people who work there are allowed on Diego Garcia while they are not, but are living in poor conditions elsewhere.</p> <ul style="list-style-type: none">-Funds from Diego Garcia and from fishing should go to Chagossians.-Cannot accept MPA without restitution of their fundamental rights.-MPA's elsewhere depend on local populations to manage and police them.-Can't just set one up and then change it. Premature. Should not be considered until ECtHR has ruled, and there might be other changes. Should not continue process at this stage.-FCO/BIOTA failed to provide key documents to Gifford on request (feasibility reports and on policy of exile).-Do not know basis, status or objectives of MPA.-What about poaching if they are in open seas.-Current policy (and that of MPA) violates whole range of international agreements and conventions.-Concerns about use of nuclear submarines around Diego Garcia – USS Emory S. Land as mother ship for nuclear powered submarines. Pelindaba Treaty, making Africa a nuclear free zone also relevant.-Farcical to allow this in an MPA, or to exclude Diego Garcia.-Chagossians do not want anyone else taking decisions over their heads.-Would have preferred face to face, but acknowledge that at least they are being consulted.	
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		-But consultation process flawed – not enough information provided for people to make decisions.	
D. PETITIONS			
1. Marine Education Trust. 1579 names, including MPs and Peers, Marine and Natural Sciences interests, other academics, Chagossian Support Groups and Identified Chagossians (including Olivier Bancoult) and others, with international reach	To work with the Chagos islanders and the Government of Mauritius to devise an MPA solution that makes provision for resettlement and that protects' Mauritius legitimate interests.	-Do fully support UK government efforts to protect the Chagos archipelago through the declaration of an MPA within the territorial waters, but do not support any of the three broad options proposed in the consultation document, because full no-take protection of the reef areas would provide no means for resettled islanders to utilise their marine resources for subsistence or income generation. -Communities and MPA's co-exist across the world and no reason why islanders could not be successful stewards. - Could be achieved through, for example, zonation that permits the sustainable use of marine resources in specific reef, lagoon and open ocean areas. -Any failure to include adequately the Chagossians and the Government of Mauritius in the development of an MPA undermines the transparency of the process and threatens its long term effectiveness.	
2. Avaaz.org (a global, multi-issue, online advocacy network). 221,163 names from 223 countries. (Global reach, with most signatures from Argentina (2,208), Australia (11,247),	We call on you to create the world's largest Marine Protected Area around	-Scientific investigations suggest oceans in serious decline. Overfishing, pollution, rising CO2 levels. Unless serious action taken, critical loss of marine biodiversity will directly threaten the	

<p>Austria (3,880), Belgium (10,761), Canada (24,084), Chile (1,240), Colombia (1,213), Denmark (1,067), France (16,774), Germany (29,285), India (1,159), Ireland (1,630), Italy (9,771), Mexico (4,082), Netherlands (5,859), New Zealand (3,348), Portugal (1,293), South Africa (2,790), Spain (16,292), Sweden (2,272), Switzerland (8,788) UK (23,570) and USA (20,460). Signatures not provided, only the country breakdown.</p>	<p>the Chagos Islands. Ban commercial fishing in this area, and work with Chagossians to protect these important reefs and our oceans' future.</p>	<p>well-being of hundreds of millions of people world-wide, and future generations. -In establishing a no-take MPA have chance to protect some of the cleanest waters in the world and lead to a safer and brighter future for our oceans. -Should continue to work with Chagossian islanders in establishing and overseeing the MPA, honour their right to return home and become stewards of their own environment. -Any planned expansion or extension of Diego Garcia military base is a direct threat to the effectiveness of the MPA and should be rejected. -Part of a broader civil society movement with friends and partners at CEN and Greenpeace. Collective efforts demonstrate broad amount of global and national public support behind the establishment of the no-take MPA.</p>	
<p>3. Lake District Coast Aquarium Petition 82 signatures</p>	<p>No covering letter specifying position, but are participants in zoo and aquarium outreach initiatives supporting a no-take zone.</p>		
<p>4. National Marine Aquarium Plymouth Petition 97 signatures (from visitors to the aquarium)</p>	<p>Protect Chagos by making it one of the largest marine protected areas, taking care of vulnerable marine species and ecosystems. This will</p>		

	<p>help keep this rare place pristine for generations to come. This area offers an amazing opportunity to preserve an ecosystem which is under threat from climate change and over-fishing.</p>		
<p>5. Hazel Seymour petition – global reach 231 plus 77 = 308 signatures</p>	<p>No covering letter specifying position, but some individual comments focused on protecting Chagos and marine life</p>		
<p>6. Chagos Environment Network (CEN). Global reach, 27,049 signatures of which 79% UK resident. Also 5,933 Facebook fans. Complement outreach by Avaaz and Greenpeace</p>	<p>Take action to fully protect the Chagos and its 200 nautical mile zone as a no-take protected area (Option 1)</p>	<ul style="list-style-type: none"> -Overfishing, bycatch, pollution, rising CO2 levels – world’s oceans suffering massive losses. Loss of biodiversity threatens our well-being and that of future generations – all life essentially interrelated -Declaring Chagos a no-take MPA provides opportunity to reverse disastrous direction of ocean exploitation. -Islands rich with nesting seabirds and turtles and surrounded by some of cleanest seas in the world with extensive coral reefs in remarkably good condition. -Gives maximum protection possible, and would give UK a leadership role – especially in 2010, International Year of Biodiversity. 	

ANNEX 123

IOTC, Report of the 15th Session, Colombo, Sri Lanka 18–22 March 2011

Report of the Fifteenth Session of the Indian Ocean Tuna Commission

Colombo, Sri Lanka 18–22 March 2011

DISTRIBUTION:

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Members of the Commission
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EXECUTIVE SUMMARY

The Fifteenth Session of the Indian Ocean Tuna Commission (IOTC) was held in Colombo, Sri Lanka, from 18 to 22 March 2011. Representatives of 24 Members of the Commission, 3 Cooperating non-Contracting Parties, 7 Observers and invited experts attended the Session.

The Commission adopted a resolution on the development of a compendium of resolutions and recommendations which recognises the desirability of improving the coherence and accessibility of its recommendations and resolutions. Noting that the complexity of this work may have many implications, such as those of a legal, procedural or practical nature, the Resolution creates a Working Group of interested Contracting Parties and Cooperating non-Contracting Parties to consider the development of a Compendium of IOTC Resolutions and Recommendations.

The Commission also adopted a resolution on the prohibition of fishing on data buoys. This Resolution prohibits fishing vessels from setting gear on or near, or interacting with data buoys in any manner other than to untangle fishing gear that has accidentally become entangled with data buoys.

The Commission adopted a revised resolution on establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing in the IOTC area of competence. This Resolution introduced amendments to Resolution 09/03, by including an option to add vessels to the IOTC IUU Vessels List during the inter sessional period of the IOTC.

The Commission adopted a revised resolution on a regional observer scheme which introduced amendments to a previous resolution to extend the period for providing of observer trip reports to the Secretariat from 90 to 150 days.

The Commission adopted a resolution on establishing a programme for transshipment by large-scale fishing vessels. The resolution introduced amendments to a previous resolution on establishing a programme for transshipment by large-scale fishing vessels, by establishing a procedure for the consideration of cases of presumed IUU activities reported by observers participating in the IOTC at-sea Transshipment Programme.

Concerning the recording of catch by fishing vessels in the IOTC area of competence, the Commission adopted a recommendation that consolidates components of other resolutions concerning the recording of catch by longline and purse seine fishing vessels in the IOTC area of competence, as well as setting agreed minimum standards for data requirements for all pole-and-line and gillnet fleets operating in the IOTC area of competence, in order to harmonize data gathering and provide a common basis for scientific analysis for all IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs).

The Commission agreed to the replenishment of the special fund to support the participation of representatives from developing states in meetings of the Commission or its subsidiary bodies. Accumulated savings from previous years are to be used to replenish the fund, as well as to start the execution of sampling programmes in artisanal fisheries, as requested in the Regional Observer Scheme adopted in 2009.

The Commission reiterated its deep concerns and desire to see the end of the ongoing issue of piracy off the coast of Somalia.

The Commission approved the 2011–2012 Program of Work and Budget of the Secretariat, and the schedule of contributions.

The Commission renewed the status of Cooperating non-Contracting Party of Maldives, Senegal, and South Africa, and, for the first time, granted the status to Mozambique.

The following Conservation and Management Measures were adopted by the Commission:

- Resolution 11/01 *Development of a Compendium of Resolutions and Recommendations*
- Resolution 11/02 *On the Prohibition of Fishing on Data Buoys*
- Resolution 11/03 *Establishing a List of Vessels Presumed to Have Carried Out Illegal, Unreported and Unregulated Fishing in the IOTC Area of Competence*
- Resolution 11/04 *On a Regional Observer Scheme*
- Resolution 11/05 *On Establishing a Programme for Transshipment by Large-Scale Fishing Vessels*
- Recommendation 11/06 *Recording of Catch by Fishing Vessels in the IOTC Area of Competence*

1. OPENING OF THE SESSION

1. The Fifteenth Session of the Indian Ocean Tuna Commission (IOTC) was held in Colombo, Sri Lanka, from 18 to 22 March 2011, Chaired by Mr Rondolph Payet. Delegates from 24 Members of the Commission, 3 Cooperating non-Contracting Parties, 7 Observers and invited experts attended the Session. The list of participants is provided at [Appendix I](#).
2. On behalf of the Government of Sri Lanka, Dr Damitha de Zoysa, Secretary, Ministry of Fisheries and Aquatic Resources Development of the Democratic Socialist Republic of Sri Lanka welcomed the participants to Colombo and declared the meeting open ([Appendix II](#)).
3. The Executive Secretary, Mr Alejandro Anganuzzi and the Chair Mr Rondolph Payet, joined in welcoming participants to the Fifteenth Session of the Indian Ocean Tuna Commission ([Appendix III](#) and [Appendix IV](#)) and expressed, on behalf of all participants, their deepest condolences for the situation in Japan following the recent earthquake and subsequent tsunami.
4. The Inaugural address was given by the Hon. Dr Rajitha Senaratne, Minister of Fisheries and Aquatic Resources Development of the Democratic Socialist Republic of Sri Lanka ([Appendix V](#)).

2. ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION

5. The Commission adopted the Agenda provided at [Appendix VI](#). The documents presented to the Commission are listed in [Appendix VII](#).

3. ADMISSION OF OBSERVERS

6. Pursuant to Article VII of the Agreement establishing the IOTC, the Commission admitted observers from Mozambique, International Seafood Sustainability Foundation (ISSF), Marine Stewardship Council (MSC), Shark Advocates International (SAI), Southwest Indian Ocean Fisheries Commission (SWIOFC), United Arab Emirates (UAE), United States of America (USA), the Organization for the Promotion of Responsible Tuna Fisheries (OPRT), as well as invited experts from Taiwan, Province of China.

4. UPDATE ON THE KOBE PROCESS

7. The Secretariat presented an update on the Kobe process and outlined the Secretariat's proposed involvement in 2011. The Commission was informed that the Secretariat had participated in all of the workshops related to the Kobe process in 2010. The Executive Secretary participated in the Workshop on Management (Brisbane, Australia), as well as the Workshop on Monitoring Control and Surveillance and Scientific Advice (Barcelona, Spain) with the Compliance Officer. The Data Coordinator and the Stock Assessment Expert attended the Workshop on Scientific Advice, and the Chairman of the Scientific Committee and Working Party on Ecosystems and Bycatch attended the Workshop on Bycatch (Brisbane, Australia).
8. The Commission **noted** that reports of each of the workshops held in 2010 can be found at the website: www.tuna-org.org. The Secretariat informed the Commission that there were many recommendations of a technical nature that arose from the 2010 Kobe II Workshops, addressed primarily to the Kobe III meeting, which is scheduled to be held from 11 to 15 July 2011, in La Jolla, USA.
9. The Commission **noted** the Secretariat's commitment to keep CPCs informed of the Kobe process via the distribution of IOTC Circulars.
10. The Commission was informed that each tuna RFMO was expected to send two or three technical persons involved in bycatch issues to the Joint Bycatch Working Group to be held in conjunction with the Kobe III meeting in La Jolla, California from 11 to 15 July, 2011. The

Commission **agreed** that if possible, the Chairperson of the Scientific Committee and the Chairperson of the Working Party on Ecosystems and Bycatch should attend the Working Group.

11. The Commission **noted** the information provided by the USA relating to the Kobe III meeting which will be run in tandem with the Technical Working Group on Bycatch. The USA confirmed that financial assistance is available for one individual from each developing coastal state to attend the meetings and that interested countries should consult the meeting website: www.tuna-org.org.
12. The Commission **noted** information provided by Korea that a preparatory workshop for the Kobe III meeting, will be held from 19 to 21 April 2011, in Seoul, Korea. The focus of the preparatory meeting will be on catch documentation and port state measures. Further information is available at: www.tuna-org.org, and funding for developing coastal states to attend the workshop is available.

5. REPORT OF THE THIRTEENTH SESSION OF THE SCIENTIFIC COMMITTEE

13. The report of the Thirteenth Session of the Scientific Committee (IOTC–2010–SC13–R) held in Victoria, Seychelles from 6 to 10 December 2010, was presented by the Chair of the Scientific Committee, Dr Francis Marsac. Delegates from 14 Members, 1 Cooperating non-Contracting Party and 4 observers attended the session. The Commission **noted** the report and considered the following issues.

National Reports

14. The Commission **noted** the concern expressed by the Scientific Committee regarding the limited submission of national reports to the Scientific Committee, noting that less than half, *i.e.* 15 of 32 CPCs, had submitted a report for the 2010 meeting. The Commission stressed the importance of the submission of national reports by all CPCs and endorsed the new template agreed to by the Scientific Committee in 2010.

On data

15. The Commission **noted** some minor improvements in the quantity of fisheries statistics available in 2010 but reiterated its concerns about the lack of fisheries data from some gears and fleets for target and bycatch species. Specifically, the Commission **noted** that many fisheries statistics are missing or incomplete for some industrial and artisanal fisheries, and **urged** all CPCs to improve their data collection and reporting to the IOTC, especially taking into account that the Commission has started the process of developing a quota allocation system.

Status of the stocks

16. The Commission **noted** the latest advice from the Scientific Committee on the following species and species groups, and the stock status summary for IOTC species as shown in [Appendix VIII](#).
17. Albacore tuna: No new stock assessment was carried out in 2010 and the most recent assessment (2008) is considered preliminary. However, the available stock status information indicates that the condition of the stock is not likely to change markedly over the next two to three years and if the price of albacore tuna remains low compared to other tuna species, no immediate management action should be required on the part of the Commission. However, new information and estimation for the Indonesian longline fishery has increased the known total catch to levels above those considered sustainable (MSY from the 2008 assessment). A new albacore tuna stock assessment should be carried out in 2011.
18. Bigeye tuna: Revised stock assessments were carried out in 2010. The results suggest that the stock is probably not overfished, and overfishing is probably not occurring (relative to MSY reference points). However, the stock is near full exploitation, and the possibility of overfishing cannot be ruled out on the basis of the estimated uncertainty, and the continuing observed decline in catch-per-unit-effort (CPUE). The changes imposed on the operation of the purse seine fleets by the security situation (piracy) in the western Indian Ocean has increased the fishing effort

around fish aggregating devices (FADs). This has led to an increase in the catches of juveniles which could have a negative effect on the outlook for the stock. Given the uncertainty on estimated MSY values and the levels of error in the nominal catch data, catches should be kept at or below 102,000 t. This catch level should ensure catches do not exceed MSY levels.

19. Skipjack tuna: No stock assessment has been carried out for this species in the Indian Ocean in recent years. However, in 2008 and 2009, a review of a range of stock status indicators and exploitation rates suggest that the stock should be closely monitored. Although there is no scientific basis for urgent concern about the status of the population of skipjack tuna and the recent catches are considered to be sustainable, taking into account (i) the Precautionary Approach for fishery management, (ii) the rapid development of some artisanal and semi-industrial fleets and (iii) that the catches could not be increased continuously; some management options should be considered. A skipjack tuna stock assessment should be carried out in 2011.
20. Yellowfin tuna: The stock of yellowfin tuna has recently become overexploited or is very close to being overexploited. Management measures should be continued that allow an appropriate control of fishing pressure to be implemented. At this moment, the effect of time-area closures cannot be directly translated into management quantities of direct effect on the status of the stock, such as catches or fishing mortality, so their possible effect on the future evolution of the stock cannot be evaluated. Catches of yellowfin tuna in the Indian Ocean should not increase beyond 300,000 t in order to bring the stock to biomass levels that could sustain catches at the MSY level in the long term. If recruitment continues to be lower than average, catches below 300,000 t would be needed to maintain stock levels.
21. Swordfish—Indian Ocean-wide: Revised stock assessments were carried out in 2010. The results suggest that the Indian Ocean stock as a whole is probably not overfished, and overfishing is probably not occurring (relative to MSY reference points). If the recent declines in effort continue, and catch remains below the estimated MSY of 29,000 t, then there is no urgent need to introduce management actions to the Indian Ocean as a whole. However, continued monitoring is required to manage the uncertainty.
22. Swordfish—Southwest Indian Ocean: The potentially high levels of depletion in the southwest remain a special concern. The preliminary assessment for this sub-region confirms that the pessimistic indicators are consistent with a sub-population that has experienced overfishing for several recent years and remains currently overfished. Catches in the southwest Indian Ocean should be maintained at levels at or below those observed in 2008 (6,426 t), until either i) there is clear evidence that substantial rebuilding is occurring (through recruitment or immigration), or ii) further analyses indicate that the current assessment is inappropriate.
23. Sailfish and Marlin: No quantitative stock assessments are currently available for any of these species in the Indian Ocean and only preliminary stock indicators can be used. Aspects of the biology, productivity and fisheries for these species combined with the lack of data on which to base a more formal assessment is a cause for considerable concern.
24. Neritic tunas: No quantitative stock assessments have been carried out for any of the six neritic tuna species under the IOTC mandate. Thus, the stock status for each species remains uncertain. The Scientific Committee noted that neritic tuna species are relatively productive with high fecundity and rapid growth, making them more resilient to overfishing than other tuna species.
25. Sharks: No quantitative stock assessment is currently available for any shark species in the Indian Ocean. In general, the life history characteristics and biology of sharks make them vulnerable to overfishing. As there was no improvement in the available catch statistics for sharks in 2010, the stock status for all species remains highly uncertain and stock indicators need to be developed as a matter of urgency. Noting this uncertainty, the Scientific Committee agreed that Resolution 08/04 concerning the recording of the catch by longline fishing vessels in the IOTC area, be amended in order to improve data collection and statistics on sharks that would allow the development of stock status indicators.

26. Marine turtles: Six species of marine turtles inhabit the Indian Ocean and likely interact with the fisheries for tuna and tuna-like species. The International Union for Conservation of Nature (IUCN) has classified the olive ridley turtle as vulnerable, the green and loggerhead turtles as endangered and the hawksbill and leatherback turtles as critically endangered. Limited data on marine turtle bycatch in IOTC longline and purse seine fisheries have been reported to the IOTC with only 2 of the 32 CPCs (28 Members and 4 Cooperating non-Contracting Parties) fully reporting marine turtle interactions in 2009 (Australia and South Africa. The European Union partially reported marine turtle bycatch). Resolution 09/06 *on marine turtles* includes an evaluation requirement (para.9) by the Scientific Committee in time for the 2011 meeting of the Commission (para.10). However, given the lack of reporting of marine turtle interactions by CPCs to date, such an evaluation could not be undertaken.
27. Seabirds: Sixteen species of seabirds have been reported as caught in longline fisheries within the IOTC area of competence. The current IUCN threat status for each of these range from *critically endangered* to *least concern*. Limited data on seabird bycatch in IOTC longline and purse seine fisheries have been reported to the IOTC with only 2 of the 32 CPCs (28 Members and 4 Cooperating non-Contracting Parties) fully reporting seabird interactions in 2009 (Australia and South Africa. The European Union partially reported seabird bycatch). Resolution 10/06 *on reducing the incidental bycatch of seabirds in longline fisheries* includes an evaluation requirement (para.8) by the Scientific Committee in time for the 2011 meeting of the Commission. However, given the lack of reporting of seabird interactions by CPCs to date, such an evaluation could not be undertaken.

Regional observer scheme

28. The Commission **noted** that in 2010 the Scientific Committee reviewed the state of implementation of the Regional Observer Scheme, noting that most countries are still in the initial phases of implementation. Minimum data requirements were adopted as well as an observer report template that will be reviewed and revised as necessary.

Other matters

29. The Commission **noted** the lack of compliance by most CPCs in data gathering and reporting, and the Scientific Committee's recommendation that the Commission considers developing a Monitoring Scheme to verify if CPCs are taking all necessary steps to comply with IOTC Resolutions and other obligations relevant to the work of the Scientific Committee, by identifying areas in which further work is needed and recommending actions to be taken to address non-compliance.

Comments of the Commission and consideration of the recommendations made by the Scientific Committee

30. The Commission addressed the list of recommendations made by the Scientific Committee ([Appendix IX](#)) in its 2010 report that related specifically to the Commission or concerned the work of the Secretariat. The Commission **endorsed** the list of recommendations, noting the following:
 31. The Commission **requests** all CPCs to submit their national report to the Scientific Committee, following the new template, at the next Session of the Scientific Committee.
 32. The Commission **endorsed** the Scientific Committee's revised procedure and timeline for the submission of documents to its annual meeting.
 33. The Commission expressed concern that data and statistics for gillnet fisheries are still poor, while those fisheries are catching approximately 14% of the total catch in the Indian Ocean. The Commission **noted** that these fisheries are also believed to have substantial impacts on bycatch species and associated ecosystems.

34. The Commission **reminded** CPCs of the importance of timely reporting of data and **requests** that each CPC review the data reporting requirements contained in IOTC Conservation and Management Measures.
35. The Commission **requests** that all CPCs improve compliance with the various statistical reporting requirements and deadlines in order for the necessary analyses and assessments to be completed, on which the advice of the Scientific Committee will be based.
36. The Commission **noted** that stock assessments for some species rely on longline fisheries standardized CPUE series, in particular from Japan. Due to the decreasing effort of this fleet during the last few years, the Commission **requests** that alternative CPUE series for other fleets are used by the Scientific Committee and its Working Parties in stock assessments.
37. The Commission expressed its concern regarding the new information and catch estimates of albacore at levels exceeding the maximum sustainable yield and **requests** that a new assessment be undertaken in 2011.
38. The Commission **noted** the provision by the Scientific Committee of the Kobe II matrix for bigeye tuna and swordfish, and recognized that it is a useful and necessary tool for management. The Commission **requests** that such matrices be provided for all stock assessments by the species Working Parties, in particular for yellowfin tuna, and for these to be included in the report of the Scientific Committee in 2011 and all future reports.
39. The Commission recognized the added value of the Indian Ocean Tuna Tagging Programme, and expressed its satisfaction that the data were used for both the assessment of yellowfin tuna and bigeye tuna in 2010. However, the Commission expressed its concern regarding the low reporting rate of the tags by the longline and pole-and-line fleets.
40. The Commission recognized that piracy activities in the western Indian Ocean, have had substantial negative consequences on the activities of some fleets, as well as the level of observer coverage in these areas. The Commission **requests** that the Scientific Committee assess the effect of piracy on fleet operations and subsequent catch and effort trends.
41. The Commission expressed its disappointment that the Working Party on Neritic Tuna has not yet held its first meeting. The Commission **noted** that neritic tuna are an important species for many coastal countries, as a source of revenue and food. The Commission **requests** that the Working Party on Neritic Tuna hold its first meeting in 2011, if possible in conjunction with another Working Party meeting to minimise travel requirements.
42. The Commission **requests** that the Secretariat attend the Circle Hook symposium that will be held in May in Miami and report the key findings to the Scientific Committee.
43. The Commission **endorsed** the development of a Management Strategy Evaluation (MSE) in the framework of IOTC and **requests** that this process be continued in 2011.
44. The Commission **requests** that an Ecological Risk Assessment (ERA) approach be applied to the various shark species considered at risk by fishing activities in the Indian Ocean, and for the Working Party on Ecosystems and Bycatch to undertake appropriate analyses under the guidance of relevant experts.
45. The Commission **requests** the Scientific Committee in its 2011 Session, to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line 'fishing event'. The evaluation is requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate. The Scientific Committee should make appropriate recommendations to the 2012 Commission meeting.
46. The Commission **requests** that the Scientific Committee provide clear advice outlining alternative management approaches which would provide effective protection of a possible southwest Indian Ocean swordfish stock.

47. The Commission **reiterates the request** that the Scientific Committee should evaluate the time-area closure established in Resolution 10/01 *for the conservation and management of tropical tunas stocks in the IOTC area of competence*, in terms of its impacts on the stocks of tuna and tuna-like species.

6. REPORT OF THE EIGHTH SESSION OF THE COMPLIANCE COMMITTEE

48. The report of the Eighth Session of the Compliance Committee (IOTC–2011–CoC8–R), held in Colombo, Sri Lanka from 14 to 16 and 19 March 2011, was presented by the Chair of the Compliance Committee, Mr Roberto Cesari. Delegates from 24 Members, 3 Cooperating non-Contracting Parties and 7 observers attended the session. The Commission **noted** the report and considered the following issues.
49. In response to concerns about the clarity of the current Country Based Compliance Report template, the Committee agreed to propose to the Commission, a modified template for use in preparing reports for the next Committee meeting.
50. Following discussions on the implementation of IOTC Conservation and Management Measures by each CPC, the Committee recommended to the Commission that letters outlining areas of non-compliance be developed and distributed to relevant CPCs and for these letters to be based on the list of issues identified during the meeting.
51. The Committee's deliberations in relation to Resolution 09/03 *On establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing in the IOTC area*, concluded with the Committee recommending that the Commission consider delisting both the *Parsian Shila*—taking into account the oversight nature of the infringement and noting that vessels listed on the IOTC IUU Vessels List should not engage in any fishing activities while they are on the list and that flag states should ensure that this is enforced—and the *Rwad 1*—considering that Oman provided enough evidence showing the vessel is not engaged in IUU activities, from the IOTC IUU Vessels List.
52. The Committee recommended that the Commission consider delisting the *Lingsar 08* from the IOTC IUU Vessels List during the inter-sessional period, if Indonesia were to provide documentation certifying a change of ownership.
53. As no further information was provided to the Compliance Committee during its deliberations, the Committee recommended that the vessel *Hoom Xiang II* remain on the IUU list.
54. The Committee recommended that the *Suratha*, *Lakshani*, *Sulara 3*, *Chandra Kala*, *Lek Sauro*, *Madu Kumari 2*, *Anuka Putha 1*, *Sudeesa Marine 5*, *Rashmi*, *Chmale* and the *Randika Putha 1*, be retained on the provisional IOTC IUU Vessels List, which will be forwarded to the Commission for its consideration in conjunction with the additional information tabled by Sri Lanka at the Plenary of the fifteenth Session of the IOTC.
55. Similarly, the Committee recommended that the *Payam* be retained on the provisional IOTC IUU Vessels List, which will be forwarded to the Commission for its consideration, in conjunction with additional concrete evidence tabled by Iran concerning the actions and measures to be taken by Iran, at the Fifteenth Session of the IOTC, for a decision on the possible listing of this vessel on the IOTC IUU Vessels List.
56. The Committee recommended that the Commission provide guidance concerning the status of the information provided by observers participating in the IOTC at sea transshipment program, in particular, the confidentiality rules to be applied, and the procedure to be followed upon receiving information from observers regarding irregular activities by fishing vessels involved in transshipment operations.
57. The Committee received four applications for the status of Cooperating Non-Contracting Party and recommended that the Commission considers renewing the status of the Maldives, South Africa and Senegal, while for the first time, considers granting the status to Mozambique.

Comments of the Commission and consideration of the recommendations made by the Compliance Committee

58. The Commission addressed the list of recommendations made by the Compliance Committee ([Appendix X](#)) in its 2011 report that related specifically to the Commission or concerned the work of the Secretariat. The Commission **endorsed** the list of recommendations, noting the following:
59. The Commission **noted** that Reports of Implementation were provided by 21 Members (Australia, Belize, China, Comoros, European Union, France Territories, India, Indonesia, I.R. Iran, Japan, Republic of Korea, Malaysia, Mauritius, Oman, Pakistan, Philippines, Seychelles, Sri Lanka, Tanzania, Thailand and the United Kingdom (Overseas Territories)) and one Cooperating Non-Contracting Party (Maldives), which is a substantial improvement from the 13 reports provided the previous year (12 Members and one Cooperating Non-Contracting Party).
60. The Commission **adopted** the draft Compliance Report template, as presented in [Appendix XI](#). The Secretariat, in collaboration with the parties that developed the draft template, will produce intersessionally, a final Compliance Report template, which will contain all the major reporting requirements of the existing IOTC Conservation and Management Measures.
61. The Commission **noted** that IOTC Resolution 10/09 (para.4) establishes the procedure to be followed by the Compliance Committee in assessing compliance with IOTC measures by CPCs. It was recalled that the provisions in paragraph 4.2. of IOTC Resolution 10/09, call for “*The Chairman of the Compliance Committee, assisted by the Secretariat of IOTC, to identify, select and transmit the significant non compliance issues to each concerned CPC and submit them for discussion in the Compliance Committee meeting at least 30 days in advance.*”
62. The Commission **agreed** that a mechanism to assess compliance with IOTC measures by CPCs should be established, and that as a first step would involve the submission of feedback letters highlighting areas requiring further attention, to each Head of Delegation, which could serve as the basis for review of progress at the next meeting of the Compliance Committee.
63. The Commission **noted** concerns raised by some CPCs that many coastal states are not yet able to fully implement many of the conservation and management measures adopted by the Commission. As such, many of their vessels would be considered illegally fishing within their own Exclusive Economic Zones by virtue of their non-compliance. It was noted by certain Members that if a majority of members could not implement all of the legally binding requirements, then there could be valid reasons and such cases would need to be examined with an open mind and with flexibility to accommodate special circumstances. In doing so, an examination of the root causes of compliance gaps needs to be undertaken, and then to seek ways to fill gaps by implementing adequate capacity building and support programmes.

Deliberations in relation to Resolution 09/03 On establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing in the IOTC area.

Parsian Shila

64. The Commission **agreed** to the delisting of the fishing vessel *Parsian Shila* from the IOTC IUU Vessels List.

Rwad 1

65. The Commission **agreed** to the delisting of the fishing vessel *Rwad 1* from the IOTC IUU Vessels List.
66. The Commission **agreed** that Oman shall formally notify the Secretariat, before the vessel returns to its fishing activities, when the fish found onboard the fishing vessel *Rwad 1* are destroyed.

Lingsar 08

67. The Commission **noted** the additional evidence presented at the meeting by Indonesia on the fishing vessel *Lingsar 08*. The Commission expressed concern regarding the late presentation of this information, stressing the need for CPCs to strictly comply with the 30 day deadline when presenting information on IUU matters to the Commission. Notwithstanding this, the Commission agreed to make a special case and **agreed** that the fishing vessel *Lingsar 08* be delisted from the IOTC IUU Vessels List.

Hoom Xiang II

68. The Commission **agreed** to maintain the fishing vessel *Hoom Xiang II* on the IOTC IUU Vessels List.
69. The Commission **noted** Malaysia's statement that it had revoked the fishing license of the vessel *Hoom Xiang II*, and that the vessel is no longer flagged to Malaysia.
70. The Commission **noted** that Malaysia had no information concerning the fate of the *Hoom Xiang II*. In light of this information, the Commission **agreed** to list the flag of the vessel as 'Unknown' in the IOTC IUU Vessels List, and **requested** that Malaysia advise the Commission on the whereabouts of the vessel should it become known.

Suratha, Lakshani, Sulara 3, Chandra Kala, Lek Sauro, Madu Kumari 2, Anuka Putha 1, Sudeesa Marine 5, Rashmi, Chmale, and Randika Putha 1.

71. The Commission **noted** the new information presented by Sri Lanka concerning the actions undertaken by its government against vessels under its flag involved in IUU activities in the Chagos archipelago, including the fishing vessels *Suratha, Lakshani, Sulara 3, Chandra Kala, Lek Sauro, Madu Kumari 2, Anuka Putha 1, Sudeesa Marine 5, Rashmi, Chmale, and the Randika Putha 1.*
72. The United Kingdom (OT) indicated that infringements by Sri Lankan vessels within its EEZ is a recurring problem and that, since 2002, a total of 63 Sri Lankan flagged fishing vessels have been apprehended illegally fishing in the Chagos archipelago. The Commission **noted** that the ship owners of all vessels have pleaded guilty of IUU activities.
73. The unique circumstances of Sri Lanka, including the inability to implement effective fisheries management in the past was considered during the Commission's deliberations on the listing of vessels on the IOTC IUU Vessels List. It was noted that the Government of Sri Lanka is working on, and is committed to, addressing the governance issues in the intersessional period. Given this, the majority of CPCs agreed that the information provided by Sri Lanka to the Commission represented enough proof of commitment by the government of Sri Lanka towards fighting IUU activities by vessels under its flag. In light of this, most CPCs agreed that the vessels should not be added to the IOTC IUU Vessels List.
74. The Commission **agreed** on the severity of the cases under consideration. Notwithstanding the lack of consensus, the Commission **agreed** not to list the 11 vessels flagged to Sri Lanka in the IOTC IUU Vessels List. However, the Commission also **noted** that this case should not represent a precedent, and that, if any similar case is brought before the Commission in the future, there will be a strict application of the provisions of the relevant Resolutions. In addition, the Commission **requested** Sri Lanka to report every month, through the IOTC Secretariat, information on the whereabouts of each vessel; as well as communicating the final decision from the Sri Lankan Court and fate of each fishing vessel, where applicable. The Commission further **agreed** that, in the case that any of these vessels is involved in IUU activities in the future, it shall be automatically listed in the IOTC IUU Vessels List.
75. The European Union, noting the position taken by the majority of the Members, reluctantly accepted not to oppose the decision not to add these vessels to the IOTC IUU Vessels List, pointing out the risks created by this precedent to the sustainability of the stocks and the negative contribution to the image of the IOTC.

Payam

76. The Commission considered the new information provided by Iran on the vessel *Payam* and on the actions being implemented by Iran to address the issue of IUU activities by its fleet of gillnetters.
77. The majority of the CPCs agreed that the sanctions imposed on the vessel by Mozambique (USD\$40,000 fine), as well as by Iran (suspension of license), were adequate, and that Iran was taking effective actions to address the issue.
78. In that respect, the Commission **agreed** that the *Payam* should not be added to the IOTC IUU Vessels List. However, the Commission **requested** Iran to transmit its National Legislation on the use of gillnets and submit a management plan for its gillnet fishing vessels—both should be provided to the IOTC Secretariat for circulation to CPCs within three months of the end of the 2011 Session of the Commission—focusing on how to prevent the use of gillnets longer than 2.5 km on the high seas. The Commission also **noted** that this decision should not represent a precedent, and that, if any similar case is brought before the Commission in the future, there will be a strict application of the provisions of the relevant Resolutions.

IUU Vessels List for 2011

79. The Commission **adopted** the IUU Vessels List as provided in [Appendix XII](#).

Presumed IUU fishing activities reported by observers under the IOTC Transshipment Programme

80. The Commission **endorsed** the recommendation from the Compliance Committee to establish a procedure for the consideration of cases of presumed IUU activities reported by observers participating in the at-sea transshipment monitoring programme.

Applications for Cooperating non-Contracting Party status

81. Following the recommendations of the Compliance Committee, the Commission **granted** the status of Cooperating non-Contracting Party until the close of the Sixteenth Session in 2012 to the Maldives, Mozambique, Senegal and South Africa.
82. The Commission **expressed** its satisfaction in seeing Mozambique for the first time becoming a Cooperating non-Contracting Party and it noted Mozambique's wish to soon become a full Member of the Commission.

Update on progress regarding Resolution 09/01 - On the performance review follow-up

83. The Commission **noted** the update on progress regarding Resolution 09/01 *on the Performance Review follow-up* (IOTC-2011-S15-CoC64Rev1), thanking the Compliance Committee for this information.

7. REPORT OF THE EIGHTH SESSION OF THE STANDING COMMITTEE ON ADMINISTRATION AND FINANCE (SCAF)

84. The report of the Eighth Session of the Standing Committee on Administration and Finance (IOTC-2011-SCAF8-R) was presented by the Chair of the Committee, Mr Geoffrey Nanyaro. Delegates from 24 Members, 3 Cooperating non-Contracting Party and 7 observers attended the Session. The Commission **noted** the report and considered the following issues.

Comments of the Commission and consideration of the recommendations made by the Standing Committee on Administration and Finance

85. The Commission addressed the list of recommendations made by the Standing Committee on Administration and Finance ([Appendix XIII](#)) in its 2011 report that related specifically to the Commission or concerned the work of the Secretariat. The Commission **endorsed** the list of recommendations, noting the following:

86. The Commission **agreed** to replenish the Meeting Participation Fund to its initial level of USD\$200,000, through the allocation of funds from the IOTC accumulated funds.
87. The Commission **noted** that additional information was required by the Commission on matters relating to the FAO contribution to the activities of the Commission, the FAO entitlement fund and on the possibilities of external audits of FAO funds, requesting that the Chair write to FAO to seek clarification on these various issues.
88. The Commission thanked the Secretariat for the work conducted during 2010, and **approved** the IOTC Secretariat's Programme of Work for 2011 and for 2012, and adopted the budget for the year 2011 and the indicative budget for 2012, and the scheme of contributions for the Members as listed in [Appendix XIV](#) and [Appendix XV](#) respectively.

8. REPORT OF THE TECHNICAL COMMITTEE ON ALLOCATION CRITERIA

89. The report of the Technical Committee on Allocation Criteria (IOTC-2011-SS4-R), held in Nairobi from 16 to 18 February, 2011, was presented by the Chair of the Committee, Mr Rondolph Payet. Delegates from 21 Members, 1 Cooperating non-Contracting Party and 4 observers attended the session. The Commission **noted** the report and considered the following issues.
90. The Chair **recalled** that the Commission, in Resolution 10/01 adopted in March 2010 in Busan, Korea, agreed that: "*A technical committee meeting shall be held prior to the Commission Plenary session in 2011 to discuss on allocation criteria for the management of the tuna resources of the Indian Ocean and recommend an allocation quota system or any other relevant measures. CPCs are encouraged to submit proposals one month prior to the meeting.*" (para.12); and "*The Commission shall adopt an allocation quota system or any other relevant measure for the yellowfin and bigeye tunas at its plenary session in 2012.*" (para.13).
91. The Chair informed the Commission that five Members presented proposals on allocation for the consideration of the meeting, including the European Union, Indonesia, the Islamic Republic of Iran, the Republic of Korea and Seychelles.
92. The Commission **noted** that the process of establishing allocation criteria is complex and the Technical Committee was unable to complete the task in the short time available for the meeting. Nevertheless, progress was made based on the common ground in the positions expressed at the meeting, including an agreement on basic principles that could guide further developments of an approach to allocation.
93. The Commission **noted** that the overriding goal is to adopt a conservation measure that would ensure the sustainability of the resources involved, if necessary and on the basis of scientific advice, other management measures will be available to the Commission to achieve that goal, while discussions on a quota allocation system continue.
94. The Chair advised the Commission that the Technical Committee had agreed that further intersessional work is required, including convening another Technical Meeting before the IOTC Session in 2012. Parties were encouraged to conduct intersessional consultations with the goal of working towards a unique revised proposal that could be supported by all Parties. These further developments would be accompanied by examples that would facilitate the understanding of the consequences of the different formulations to all participants in the allocation process.
95. The Commission **endorsed** the request from the Technical Committee that the Secretariat prepares, for the next meeting of the Committee, a document on the availability, completeness and quality of catch data for all fleets in IOTC database.
96. The Commission **noted** the information supplied by the Secretariat on alternative conservation and management measures implemented in other tuna RFMOs, as requested by the Technical Committee.

97. The Commission **accepted** the generous offer by the Maldives to host the next meeting of the Technical Committee in January 2012.

Comments of the Commission and consideration of the recommendations made by the Technical Committee on Allocation Criteria

98. The Commission addressed the guiding principles for a possible allocation process agreed to by the Technical Committee on Allocation Criteria ([Appendix XVI](#)) in its 2011 report. The Commission **endorsed** the guiding principles, noting the following.
99. The Commission **noted** that the implementation of a quota system will rely on the capacity of each CPC to estimate catches, close to real-time and as accurately as possible, for the species and fisheries concerned.
100. In this regard, the Commission **encouraged** CPCs to work towards streamlining their statistical systems to make sure that estimates of catches as per the required resolution and time frame can be produced in the near future.
101. The Commission **invited** CPCs to work with the Secretariat to achieve these objectives, where required.
102. The Commission **noted** that the implementation of a quota system may take several years, and the Commission may need to consider alternative management measures until such a time that a quota system is in place. In this regard, the Commission **recalled** that paragraph 13 of IOTC Resolution 10/01 states that “*The Commission shall adopt an allocation quota system or any other relevant measure for the yellowfin and bigeye tunas at its plenary session in 2012*”.
103. The Commission **agreed** that the Technical Committee on Allocation Criteria while devoting most of its efforts to develop a mechanism for quota allocation shall also consider appropriate alternative management measures. In this regard the Commission stressed the need for all IOTC CPCs to work intersessionally towards achieving this objective as soon as possible.
104. The Commission **noted** paper IOTC–2011–S15–05 outlining the recommendations of the Indian Ocean Marine Affairs Cooperation (IOMAC).
105. The Commission **requests** that the Scientific Committee provide advice to the Commission that adds to the information currently available or already requested of the Scientific Committee regarding the take of juvenile yellowfin tuna, bigeye tuna and other species, and on alternative management measures, including an assessment of the impact of current purse seine activities, including the size/fishing capacity (and gear types i.e. mesh size etc.) of vessels, and the potential implications that may arise for tuna and tuna-like species. Such advice should include options for capping purse seine effort and use in conjunction with drifting FADs in the Indian Ocean.

9. CONSERVATION AND MANAGEMENT MEASURES

106. The Commission **noted** a point of order concerning the late presentation of most of the proposals submitted to the Commission for the present Session. It was recalled that Rule IV para.3 of the IOTC Rules of Procedure states that “*The Secretary shall send a provisional agenda with comments, including any proposal by members, not less than thirty days before the session*”. In addition, it was recalled that the Commission in 2008 reiterated the need for Members to submit all management proposals at least 30 days prior to the Commission meeting (IOTC–2008–S12–R; para.60). The Commission **noted** that 10 out of the 14 management proposals before the Commission were not submitted on time, while noting that a proposal to amend the Resolution *on establishing a program for transshipment by large-scale fishing vessels* was based on the discussion held during the Eighth Session of the Compliance Committee.
107. The Commission acknowledged the exceptional circumstances as outlined by the concerned CPCs and **agreed** to consider all management proposals before it for the current Session.
108. The Commission **agreed** that Members shall make every possible effort to present management proposals according to the agreed timeline, in order to allow all CPCs sufficient time for internal

consultations with the institutions that would be responsible for implementing the proposed measures.

109. The Commission **agreed** that the 30 day rule shall be strictly applied for all future Sessions. Specifically, no proposals shall be accepted by the Secretariat for the Commissions consideration, if received after the 30 day deadline.

Proposals for Conservation and Management Measures adopted by the Commission

110. The Commission considered and **adopted** six proposals as conservation and management measures:

Development of a Compendium of Resolutions and Recommendations

111. The Commission **adopted** Resolution 11/01 on the *Development of a Compendium of Resolutions and Recommendations* ([Appendix XVII](#)). This Resolution recognises the desirability of improving the coherence and accessibility of its recommendations and resolutions. Noting that the complexity of this work may have many implications, such as those of a legal, procedural or practical nature, the Resolution creates a Working Group that would guide the development of a Compendium of IOTC Resolutions and Recommendations.

On the Prohibition of Fishing on Data Buoys

112. The Commission **adopted** Resolution 11/02 *On the Prohibition of Fishing on Data Buoys* ([Appendix XVII](#)). This Resolution prohibits fishing vessels from setting gear on or near, or interacting with data buoys in any manner other than to untangle fishing gear that has accidentally become entangled with data buoys. In adopting this resolution, Japan clarified its position that it would not block the adoption of the resolution, but a question remained as to whether IOTC could adopt such a resolution in a legally binding manner.

On Establishing a List of Vessels Presumed to Have Carried Out Illegal, Unreported and Unregulated Fishing in the IOTC Area of Competence

113. The Commission **adopted** Resolution 11/03 *On Establishing a List of Vessels Presumed to Have Carried Out Illegal, Unreported and Unregulated Fishing in the IOTC Area of Competence* ([Appendix XVII](#)). This Resolution introduced amendments to Resolution 09/03 *On Establishing a List of Vessels Presumed to Have Carried Out Illegal, Unreported and Unreported Fishing in the IOTC Area*, by including an option to add vessels to the IOTC IUU Vessels List during the intersessional period of the IOTC.

On a Regional Observer Scheme

114. The Commission **adopted** Resolution 11/04 *On a Regional Observer Scheme* ([Appendix XVII](#)). This Resolution introduced amendments to Resolution 10/04 *On a Regional Observer Scheme* to extend the period for providing observer trip reports to the Secretariat from 90 to 150 days.

On Establishing a Programme for Transshipment by Large-Scale Fishing Vessels

115. The Commission **adopted** Resolution 11/05 *On Establishing a Programme for Transshipment by Large-Scale Fishing Vessels* ([Appendix XVII](#)). This Resolution introduced amendments to Resolution 08/02 *On Establishing a Programme for Transshipment by Large-scale Fishing Vessels*, by establishing a procedure for the consideration of cases of presumed IUU activities reported by observers participating in the IOTC at-sea Transshipment Programme.

Proposals for Conservation and Management Measures endorsed as a Recommendation by the Commission

Concerning the Recording of Catch by Fishing Vessels in the IOTC area of Competence

116. The Commission **adopted** Recommendation 11/06 *Concerning the Recording of Catch by Fishing Vessels in the IOTC Area of Competence* ([Appendix XVII](#)). This Recommendation consolidates Resolution 08/04 *Concerning the Recording of Catch by Longline Fishing Vessels in the IOTC Area* and Resolution 10/03 *Concerning the Record of Catch by Fishing Vessels in*

the IOTC Area, but does not supersede them, as well as setting agreed minimum standards for data requirements for all pole-and-line and gillnet fleets operating in the IOTC area of competence, in order to harmonize data gathering and provide a common basis for scientific analysis for all IOTC CPCs. Some CPCs indicated that they would not be in a position to implement the proposal.

Proposals for Conservation and Management Measures not endorsed by the Commission

117. The Commission considered the following proposals as conservation and management measures, but consensus could not be reached:

On a Catch Documentation Scheme

118. The Commission considered a proposal *on a catch documentation scheme* (IOTC–2011–S15–PropA add1), but no consensus could be reached. The proposal aimed to support the implementation of the IOTC Conservation and Management Measures by providing a scheme to identify the origin of tunas and tuna-like species and other species of fish taken by vessels fishing for tunas and tuna-like species within the IOTC area of competence.

On a Catch Documentation Programme

119. The Commission considered a proposal *on a catch documentation programme* for tropical tuna (IOTC–2011–S15–PropF add1), but no consensus could be reached. Several Members noted that this proposed programme was different from the programme that they have recently implemented to comply with the EU–IUU regulations (notably Council Regulation (EC) No. 1005/2008), and applying only to the three tropical tuna species, therefore creating difficulties and confusion in the CPCs currently exporting fish to the EU market. Some Members expressed their interest in discussing an IOTC Catch Documentation Scheme draft Resolution modelled in the EU IUU regulation and certification, considering their familiarity with this system. The EU will likely propose in 2012 a draft Resolution along these lines, including a section addressing the concerns expressed for artisanal fisheries.

For the Conservation and Management of Swordfish in the IOTC Area of Competence

120. The Commission considered a proposal *for the conservation and management of swordfish in the IOTC area of competence* (IOTC–2011–S15–PropH rev1), but no consensus could be reached. This proposal aimed to establish for all vessels over 24 meters length, and under 24 meters if they fish outside their EEZ, either a closure of a defined area, from 1st August to 1st September, or a reduction in fishing effort by 30% in relation to active capacity expressed in vessel numbers deployed in 2009 from 1st July to 30 September each year in the whole of the IOTC area of competence. The proposed closure area was defined by the following coordinates: 25°–35° South and 30°–55° East. CPCs agreed that greater representation at the Working Party on Billfish, especially by the main fleets targeting swordfish such as the Spanish longline fleet, should attend the next meeting to ensure the most complete data sets are available for analysis.

On the Conservation of Oceanic Whitetip Shark Caught in Association with Fisheries in the IOTC Area of Competence

121. The Commission considered a proposal *on the conservation of Oceanic Whitetip shark caught in association with fisheries in the IOTC area of competence* (IOTC–2011–S15–PropI), but no consensus could be reached. The proposal aimed to prohibit the retention onboard, transshipment, landing, storing, selling or offering for sale any part or whole carcass of oceanic whitetip sharks in any fishery. The proposal also called for CPCs to record through their observer programs the number of discards and releases of oceanic whitetip sharks with indication of status (dead or alive) and report it to the IOTC.

On the Conservation of Hammerhead Sharks (Family Sphyrnidae) Caught in Association with Fisheries in the IOTC Area of Competence

122. The Commission considered a proposal *on the conservation of Hammerhead Sharks caught in association with fisheries in the IOTC area of competence* (IOTC–2011–S15–PropJ rev1), but no

consensus could be reached. This proposal aimed to prohibit the retention onboard, transshipment, landing, storing, selling or offering for sale any part or whole carcass of hammerhead sharks, taken in the IOTC area of competence. The proposal also called for CPCs to release, to the extent possible, any hammerhead sharks when brought alongside the vessel. Some coastal states could not agree to the proposal given the high artisanal catches of these shark species.

Concerning the Conservation of Sharks Caught in Association with Fisheries Managed by IOTC

123. The Commission considered a proposal *on the conservation of shark caught in association with fisheries managed by IOTC* (IOTC–2011–S15–PropL), but no consensus could be reached. The proposal included a ban on the use of wire trace. Several Members noted that this proposal which called for fins to be landed attached, either naturally or by other means, was not operationally feasible at this point in time and that no scientific justification for the ban on wire trace was provided to the Fifteenth Session of the Commission.

10. PROGRESS IN IMPLEMENTATION OF THE RECOMMENDATIONS OF THE PERFORMANCE REVIEW PANEL

124. The Secretariat presented document IOTC–2011–S15–06 which outlined the current status of implementation for each of the recommendations arising from the report of the Performance Review Panel, provided at [Appendix XVIII](#).
125. The Commission made several changes to the document before **agreeing** that the Secretariat and Chair of each of the three Committee's should further develop the status table by including a work plan with proposed timelines and priorities. The Secretariat was tasked with ensuring the revised table is provided to the respective Committee's in advance of their next Sessions, in accordance with the rules of procedure.
126. The Commission **agreed** that each of the Committee's should carry out a comprehensive evaluation of the status and priority of each of the recommendations from the Performance Review, and for a revised document to be provided to the Commission at its next Session.

11. ELECTION OF THE CHAIRPERSON AND VICE-CHAIRPERSON OF THE COMMISSION FOR THE NEXT BIENNIUM

127. The Commission thanked the Chair, Mr Rondolph Payet for his Chairmanship over the two past biennia.
128. The Commission considered candidates for the positions of Chair and Vice-Chair of the Commission. Mr Daroomalingum Mauree, from Mauritius, was nominated and **elected** as Chair, and Ms Anna Willock from Australia and Mr Shingo Ota, from Japan, were nominated and **elected** as Vice-Chairs of the Commission.

12. ANY OTHER MATTERS

Process for the appointment of the Executive Secretary

129. The Commission **noted** that the term of the current Executive Secretary is due to end in March 2013. The Secretariat presented paper IOTC–2011–S15–09, outlining the process for the appointment of the Executive Secretary to the Commission as outlined in both the IOTC Rules of Procedure, and the revised procedure and terms of reference agreed to by the Commission at its Seventh Session, held in Victoria, Seychelles, 2–6 December 2002.
130. The Commission **adopted** the Terms of Reference and rules of procedure for selecting and appointing a new Executive Secretary at the Commission meeting in 2012, for commencement in 2013, provided at [Appendix XIX](#).

Piracy at sea

131. The Commission **recognized** the severe impact of piracy acts on humanitarian, commercial and fishing vessels off the coast of Somalia and noted that the range of the attacks extended towards almost all of the western Indian Ocean, notably toward Kenya and Seychelles, with attacks being reported in their respective EEZ.
132. The Commission therefore **agreed** to issue a new Statement on the issue of piracy ([Appendix XX](#)), calling once again on the international community to give all its support to ensure the safety of all fishing vessels and their crew in the region from acts of piracy.

13. DATE AND PLACE OF THE FOURTEENTH SESSION OF THE SCIENTIFIC COMMITTEE AND THE SIXTEENTH SESSION OF THE COMMISSION

133. The Commission was unanimous in its thanks to Sri Lanka for hosting the Fifteenth Session of the Commission and commended Sri Lanka on the warm welcome, the excellent facilities and assistance provided to the Secretariat in the organization and running of the Session.
134. The Commission **agreed** that the Fourteenth Session of the Scientific Committee will take place in early December 2011 in the Seychelles.
135. Following an invitation from Australia to host the Sixteenth Session of the Commission, it was **agreed** to organize the next Session in Fremantle, Western Australia, in 2012. The exact dates and meeting location will be confirmed and communicated by the Secretariat at a later date.

14. ADOPTION OF THE REPORT

136. The report of the Fifteenth Session of the Indian Ocean Tuna Commission was **adopted** on the 21 April 2011.

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Honoured Guests, Ladies and Gentlemen

I am extremely happy to associate myself with this meeting and wish to thank my cabinet colleague, Dr Rajitha Senaratne, Minister of Fisheries and Aquatic Resources Development, for inviting me to officiate this 15th Session of the IOTC, hosted by Sri Lanka for the first time. In fact, we would not have been able to have a meeting of this magnitude, if not for the excellent leadership given by His Excellency the President, who himself was once Minister of Fisheries.

As an island nation we are blessed with vast expanse of sea around our country rich in fish stocks. Our people have sailed the oceans for trade for centuries, and have fished the oceanic waters around us for thousands of years. Our sister maritime nations too possess similar history, background and experience in this field as Sri Lanka does. In this context, I think this is a very important, crucial meeting for Sri Lanka, and for all maritime nations in the region, as it is focused towards sustaining a valuable marine resource, namely tuna, which accounts for nearly US\$ 9 billion annual global trade, for posterity and for our future generations.

Under the leadership of our President and his vision “Mahinda Chintana”, the entire country is making steady progress. You can witness it yourself if you travel to remote areas of the country, especially the North and the East. In fact, North and East which accounts for more than half of the country’s coast line were key areas of fish production till the 70s, producing about half of country’s fish output. We witnessed a drastic drop in production from these areas as a result of the unsettled conditions over the last three decades with much loss of income and livelihood to the people in these areas. Our government is now doing all what it could to redevelop these areas through improved infrastructure and restoring the agriculture and fishery sectors to former glory that they enjoyed and beyond.

Tuna industry has developed globally since the 70s. Fleets have expanded at a rapid rate and have become very efficient due to technological developments. In contrast, even today, our fleets are of humble nature. Our catching sector largely consists of small ‘clusters’ of artisanal fleets, totaling around 3,150 ‘Multi day’ boats generally based in rural locations with often inadequate infrastructure and processing facilities. We have a bounden duty towards our people to ensure that they benefit from the seas around us. At present, per capita intake of seafood in Sri Lanka is only around 31gms per day and we hope to see that figure doubling to 60gms by 2013. Therefore, there is a great need for increased catching capacity mainly to make available greater volume of seafood to our population. To achieve this we have to increase our fish production to 686,000 metric tonnes by 2013 from the present level of approximately 485,000 tonnes per annum, an ambitious plan indeed. While pursuing this target we have to be mindful of issues such as sustainability, traceability and regulations. They all must be addressed first.

The very high level of participation at this 15th session of the Commission meeting, with almost 250 delegates and observers from over 35 countries, shows the importance the Member countries and associates attached to the meeting. I have no doubt that, during the five days of meeting sessions all the current issues related to tuna resource management in the Indian Ocean will be addressed in an efficient and fair manner primarily with the a view to enriching the food security, or rather “fish security” of our populations and safeguarding our tuna resources for the posterity. I wish the meeting all success and our friends from overseas a pleasant and enjoyable stay in Sri Lanka and in this historic capital city of the country. Thank you.

APPENDIX III

OPENING ADDRESS OF MR ANGANUZZI, EXECUTIVE SECRETARY OF THE INDIAN OCEAN TUNA COMMISSION

Hon. Prime Minister of the Democratic Socialist Republic of Sri Lanka, Mr D M Jayaratne
Hon. Minister for Fisheries and Aquatic Resources Development, Rajitha Senaratne
Hon. Minister of External Affairs, (Prof) G L Peiris
Hon. Minister of Economic Development, Basil Rajapakse
Hon. Deputy Minister of Fisheries and Aquatic Resources Development, Susantha Punchinilame
Deputy Minister of Fisheries Comoros
Secretary, Ministry of Fisheries and Aquatic Resources Development, Dr Damitha de Zoysa
Mr Rondolph Payet, Chairman of IOTC
Distinguished Guests, Ladies and gentlemen

This a special occasion for me, that marks my return to the place where, fifteen years ago, I had the privilege to work towards bringing into existence the Indian Ocean Tuna Commission. The almost two years that I spent in Sri Lanka, were marked by difficult moments, but also very special memories that will remain forever with my family. Today, I have the pleasure to see a Sri Lanka, that is leaving behind the dark hours of the war, and looks at the future with hope.

Tuna fisheries will play an important role in securing a better future not only for Sri Lanka, but also for other countries in the region. For this reason, as observers of this process from its beginning, it is with satisfaction that we see the increasing engagement from the countries of the region in the IOTC process. This has been clear as during the recent Technical Workshop on Allocation Criteria where there was a lively and constructive debate on the most difficult issue facing an RFMO.

The Indian Ocean Tuna Commission is unique amongst tuna RFMOs, for its diversity of cultures, economic situations and development aspirations. It has the highest proportion of catches for the main species coming from artisanal fisheries, and, on the other hand, a large proportion of the catches come from areas beyond national jurisdiction. This diversity of experiences creates challenges that require a clear understanding and a constructive debate between all stakeholders. If that does not happen, a way forward will be difficult to find, and the IOTC process itself will be at risk with negative consequences for all.

From the point of view of the Secretariat, this has been yet another year of intense work, in its customary role of facilitator of the work of the IOTC Members. More so than ever as the previous Session of the Commission resulted in a number of new initiatives that have re-energized the Commission's activities. The work of the Secretariat has extended beyond the traditional scientific support, as we continue to work with Member states and other regional initiatives to promote better compliance. The Secretariat has provided services to Member States, especially developing coastal States, to assist in improving the level of compliance of all parties, and to promote a better understanding of the requirements for an effective participation in the IOTC process. In what we hope will constitute a model for future assistance, we have worked closely with officials from coastal Member States providing constant feedback on a range of issues from technical support on implementation issues to advice on legal and institutional frameworks. But, maintaining sustainability of the tuna fisheries requires more than sound scientific advice and effective compliance.

Numerous challenges are ahead for Members and the Secretariat, from the renewed threat of piracy to the dangers of misinformation in the markets about the condition of the stocks. As usual, we will be at the service of the Members, with the hope of bringing a modest contribution to a process that we believe in, a process that aims at achieving a sustainable utilization of resources and the protection of the ecosystems.

In closing, I would like to express my gratitude to the staff of the local organizing committee who has worked long hours to ensure the success of this meeting. This has been already a long week, and their efforts have been much appreciated. Let us hope that we can enjoy another week of constructive work.

Thank you very much.

APPENDIX IV

OPENING ADDRESS OF MR PAYET, CHAIRPERSON OF THE INDIAN OCEAN TUNA COMMISSION

Hon. D M Jayaratne, Prime Minister of the Democratic Socialist Republic of Sri Lanka
Hon. Minister for Fisheries, Rajitha Senaratne
Hon. (Prof) G L Peiris, Honorable Minister of External Affairs
Hon. Basil Rajapakse, Minister of Economic Development
Hon. Susantha Punchinilame, Deputy Minister of Fisheries and Aquatic Resources Development
Dr Damitha de Zoysa, Secretary, Ministry of Fisheries and Aquatic Resources Development
Deputy Minister of Fisheries Comoros
Mr Alejandro Anganuzzi, Executive Secretary of IOTC
All Protocols observed
Distinguished Guests
Distinguished Representatives of Members
Invited observers
Ladies and gentlemen

Let me wish you all a very good morning and welcome to Colombo, Republic of Sri Lanka for the 15th Session of the Indian Tuna Ocean Commission, despite of most of you have been here since the last few days for the Compliance Committee, which I understand was very momentous.

On your behalf, I would like to express our deepest thanks to the Government of the Republic of Sri Lanka for the kind hosting of this Commission meeting. The Government of Sri Lanka has provided us, in this exquisite location and by the sea, excellent facilities for us to do our work. I'm happy to note the presence of almost all of our members that have gathered here to take stock of progress and discuss the future management of this common and shared resource.

It is therefore a great honour for me to be addressing you today on the occasion of the opening of the 15th Session of the IOTC. It is in fact my last session as your Chair and I would like to take this opportunity to extend to all of you my deepest appreciation and hopefully for the past sessions I have served you in an even-handed manner. I shall endeavour to offer same during this session.

This 15th Session of the Indian Ocean Tuna Commission is again taking place against the backdrop of a series of international and regional fisheries concerns. This is reflected in the need for us to seriously look at compliance, stock management issues and improving the efficiency of the organisation.

In this regard, we should not in the game of finger pointing but to work as a team to address the issues facing the stocks of the Indian Ocean. Moreover members of this Commission must take their responsibility seriously – this Commission is as good as its members. We may not be able to change what others have done, but we can certainly change ourselves, focus on the future so that we bring change. Each one of these sectors be it industrial or artisanal have huge role to play in management of the tuna stocks and should be given equal attention, and neither of them should be overlooked or given a carte blanche. In fact both sectors approximately harvest 50 % of the tuna resources. There is Chinese's saying that goes follows: The best time to plant a tree was 20 years ago. The next best time is now. Let us not lose this opportunity to make a difference in future of our children in working together as one team despite our differences.

On the aspirations of coastal states we have to be careful that we are not over zealous on how far we expand these fisheries despite being legitimate. What I would like to see is that as the coastal countries fisheries grow, the distant water fishing nations should provide the development space through a fleet reduction programme. Even then, this is not carte blanche for coastal states to exponentially increase fishing capacity beyond the limits of the stocks as laid down by the Scientific Committee.

This commission should look at ways to facilitate this development due to the transboundary nature of these stocks as now there are clearly more players at the table, and I would call on the distant water fishing nations to be considerate towards these aspirations.

On other matters, as some of you may recall, the Performance Review of the IOTC looked at number of areas where improvements may be required. It notes the IOTC Agreement is out-dated, as it does not take account of modern principles for fisheries management. The absence of concepts such as the precautionary approach and an ecosystem based approach to fisheries management are considered to be major weaknesses. The limitation on participation to this RFMO, deriving from IOTC's legal status as an Article XIV of the FAO body, conflicts with provisions of United Nations Fish Stocks Agreement (UNFSA) and prevents major fishing players in the Indian Ocean from discharging their obligations to cooperate in the work of the Commission. It has been more than two years since this was discussed and I believe it should be revisited to discuss a way forward.

The Performance Review also considered the poor participation of coastal states in IOTC meetings and this was addressed through a special fund to assist countries to participate and contribute to the IOTC process. Equally we have reinforced the compliance committee so that it has more time to deliberate on the issues. My view of compliance is that countries should be taken to task and they should indicate clearly improvements rather than business as usual. This commission should not entertain mediocrity. If there are areas that assistance are required, this Commission, through its secretariat, should facilitate assistance to the countries in meeting these goals. Business as usual should no longer be our target.

Ladies and Gentlemen we have a very difficult task ahead of us. We need to take decisions consistent with the advice of the Scientific Committee. Furthermore, as a Commission we need to make a difference and ensure we take decisions in support of sustainable use, conservation and management of the Indian Ocean tuna resources. We have started the process to establish a quota system. I would urge this Commission not abandon this process. It will certainly take longer than anticipated and a painful journey but the rewards are high.

I would like to welcome the NGO's, which have a keen interest in this organisation, also need to play a greater role in ensuring the effectiveness of this organisation. I would also like to call upon all partners to join hands with us in assisting the coastal states in the Indian Ocean to meet their obligations under this organisation. It is no longer good enough to sit on the wall and criticise. That said, I would however like to thank those who are already contributing significantly to the process of the IOTC.

Finally let me thank Mr. Alejandro Anganuzzi and all his staff for past year's work, which is commendable. I would also like to take this opportunity to officially welcome on board our new Deputy Executive Secretary, Dr. David Wilson.

I look forward to working with all of you in an evenhanded and fair manner to achieve the desired results. I hope you can count on me to guide you to achieve these results.

Last but not least I would like on your behalf to extend our deepest sympathy to people of Japan following the devastating earthquake that hit the North – East of Japan the triggered a massive tsunami with waves over 3 meters which resulted in loss of lives and material damage.

Our hearts go out to the entire Japanese community especially to the families of those who have lost their lives. You are in our prayers and we stand by you as you go through this difficult period. I propose we keep a minute of silence in recognition of tragedy in Japan.

Thank you and enjoy yourself in enchanting Colombo. We cannot be in any better location to do our work.

APPENDIX V
OPENING ADDRESS BY THE HONOURABLE DR RAJITHA SENARATNE,
MINISTER OF FISHERIES AND AQUATIC RESOURCES DEVELOPMENT OF THE
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

Hon. D M Jaratne, Prime Minister of the Democratic Socialist Republic of Sri Lanka
Hon. (Prof) G L Peiris, Honorable Minister of External Affairs
Hon. Basil Rajapakse, Minister of Economic Development
Hon. Susantha Punchinilame, Deputy Minister of Fisheries and Aquatic Resources Development
Dr Damitha de Zoysa, Secretary, Ministry of Fisheries and Aquatic Resources Development
Mr Alejandro Anganuzzi, Secretary General IOTC
Excellencies (IOTC Member countries)
Invited Guests
Ladies and Gentlemen

It gives me great pleasure to associate myself with this 15th Session of the Indian Ocean Tuna Commission or the IOTC. I am very happy to note the presence of nearly 250 delegates and observers from nearly 35 countries with us this morning. This shows the importance the countries attach to this meeting and their tuna resources.

From time immemorial, nations sitting in or bordering the Indian Ocean region have treated our marine resources with respect, taking what we need and not more from the vast sea areas we are endowed with. Most in the region were sea faring nations and they had the ability to fish to cater for their needs.

However, things changed with population growth, industrialization, technological developments and the growth of market economies. Technological developments in fishing in the 60s and 70s gave rise to “killing machines” which were able to hunt fish with much speed and efficiency in any ocean, taking thousands of tons in one run and doing many such runs in a month. I have been told that even now much improved so called Super Seinners are being designed and built in many parts of the world to hunt the already depleted fish stocks in our oceans. When we consider the fact that more than 75% of the marine stocks are over fished and another 12% are fully utilized as per the Food and Agriculture Organization, it is difficult to fathom the gluttonous behavior of some of our friends in the fishing industry.

In contrast, even today, our fleets are of more humble in nature. Our catching sector largely consisting of small ‘clusters’ of artisanal fleets, totaling around 3,150 ‘Multi day’ boats, generally based in rural locations with often unsuitable infrastructure and processing facilities. We have a bounden duty towards our people to ensure that they benefit from the seas around us. At present, per capita intake of seafood in Sri Lanka is only around 31gms per day and we hope to see that figure double to 60gms by 2013. Therefore, the need for increased catching capacity is mainly to make available greater volume of seafood to our population. To achieve this we have to increase our fish production to 686,000 metric tonnes by 2013 from the present level of close to 400,000 tonnes, an ambitious plan indeed, while mindful of issues such as sustainability, traceability and regulation must all first be addressed.

We are a nation in a hurry. The country has lost years of development and billions of dollars as a result of decades of terrorism. Our population is trying to rise as one nation putting aside pet differences. Under the leadership of our President and his vision “Mahinda Chintana”, the entire country is making steady progress. You can witness it yourself if you travel to remote areas of the country, especially the North East. In fact, North and East which accounts for more than half of the country’s coast line were key areas of fish production in the 70s, producing about half of country’s fish production. We witnessed a drastic drop in production from these areas as a result of the unsettled conditions in these areas over the last three decades with much loss of income and livelihood to the people in these areas. Our government is now doing all what it can redevelop these areas through improved infrastructure and reestablishing the agricultural and fisheries sectors to former glory or even a higher pedestal.

However, we have problems and hurdles to overcome. The recession in the developed world has affected very much. We have lost tens of thousands of jobs as a result of losing EU GSP status. However, we have no qualms about these and we have adjusted our marketing strategies to absorb these unexpected shocks and to minimize the negative effects on our people. Many of our exporting companies have gone bankrupt. In spite of all these odds, if we were to develop our nation, we need catch up growth in all sectors of the economy, very much so in the fisheries sector, country's third most important contributor to economic growth, second only to agriculture and tourism.

WE are living in an era of uncertainties. In spite of technological developments in food production, gone are the days of unchallenged food security. A few decades ago when some scientists predicted future "food wars" nobody took their statements seriously. There were also predictions of "water Wars" in times to come. I read somewhere that a Canadian scientists has predicted that there will be no room for commercial marine fisheries by 2050!

Looking at the rapid rate of degradation and destruction in the environment around us and the apparent depletion of marine fish resources the urgency of some solid plan of action cannot be overestimated. In this context this meeting is much relevance to us in the Indian Ocean zone, which holds a much cherished tuna resource, only second to the Western and Central Pacific by volume, but qualitatively I believe, even richer. I have no doubt five days of meeting sessions will address all the current issues related to tuna resource management in the Indian Ocean in an efficient, fair manner primarily with the a view to enriching the food security, or rather "fish security" of our populations and safeguarding our tuna resources for posterity. I wish the meeting all the success and our friends from overseas a pleasant, enjoyable stay in Sri Lanka and in this historic capital city of the country.

Thank you.

APPENDIX VI

AGENDA OF THE FIFTEENTH SESSION OF THE INDIAN OCEAN TUNA COMMISSION

- 1. Opening of the Session**
- 2. Adoption of the agenda and arrangements for the Session** (IOTC–2011–S15–01rev2)
- 3. Admission of observers**
- 4. Update on the Kobe process**
- 5. Report of the 13th Session of the Scientific Committee** (IOTC–2010–SC–R)
- 6. Report of the Compliance Committee** (IOTC–2011–CoC8–R)
- 7. Report of the Standing Committee on Administration and Finance** (IOTC–2011–SCAF8–R)
- 8. Report of the Technical Committee on Allocation Criteria** (IOTC–2011–SS4–R)
 - IOMAC Recommendations (IOTC–2011–S15–05)
 - Information on management options for tuna and tuna-like species adopted in other tropical tuna RFMOS (IOTC–2011–S15–Inf01)
- 9. Conservation and Management Measures**
 - PropA On a Catch Documentation Scheme (Submitted by Japan)
 - PropB On a Regional Observer Scheme (Submitted by Japan)
 - PropC On the Prohibition of Fishing on Data Buoys (Submitted by Belize)
 - PropD concerning the Recording of Catch and Effort Data by Pole-and-Line fishing vessels in the IOTC Area of competence. (Submitted by the EU)
 - PropE concerning the Recording of Catch and Effort Data by Gillnet fishing vessels in the IOTC Area of competence. (Submitted by the EU)
 - PropF On an IOTC tropical tunas – yellowfin, bigeye and skipjack -catch Documentation Programme. (Submitted by the EU)
 - PropG On the Recording of Catch by Longline Fishing Vessels in the IOTC Area of Competence. (Submitted by the EU)
 - PropH For the Conservation and Management of Swordfish in the IOTC Area of competence. (Submitted by the EU)
 - PropI On the Conservation of Oceanic Whitetip Shark caught in Association with fisheries in the IOTC Area of competence. (Submitted by the EU)
 - PropJ On the Conservation of Hammerhead Sharks (family Sphyrnidae) caught in Association with fisheries in the IOTC Area of Competence. (Submitted by the EU)
 - PropK On establishing a List of Vessels presumed to have carried out Illegal, Unregulated and Unreported fishing in the IOTC area of competence. (Submitted by the EU)
 - PropL Concerning the conservation of sharks caught in association with fisheries managed by IOTC. (Submitted by Australia)
 - PropM On the recording of catch by fishing vessels in the IOTC Area of competence. (Submitted by Australia)
 - PropN On establishing a programme for transshipment by large-scale fishing vessels. (Submitted by Japan)
- 10. Progress in implementation of the recommendations of the Performance Review Panel** (IOTC–2011–S15–06)
- 11. Election of the Chairperson and vice-Chairperson of the Commission for the next biennium**
- 12. Any other matters**
 - Proposal for a Statement of IOTC on piracy in the western part of the IOTC area of competence (IOTC–2011–S15–04)
 - Process for the election of the Executive Secretary

13. Date and Place of the 14th Session of the Scientific Committee and the 16th Session of the Commission

14. Adoption of the report

APPENDIX VII

LIST OF DOCUMENTS / LISTE DES DOCUMENTS

Reference / Référence	Title / Titre
<i>Session</i>	
IOTC-2011-S15-01rev2	[E] Draft agenda of the Commission – 15 th Session [F] Ordre du jour provisoire de la Commission – 15e Session
IOTC-2011-S15-02	[E + F] List of documents / Liste des documents
IOTC-2011-S15-03	[E + F] List of participants / Liste des participants
IOTC-2011-S15-04	[E] Proposal for a Statement of IOTC on piracy in the western part of the IOTC area of competence [F] Proposition de déclaration de la CTOI sur la piraterie dans la zone de compétence de la CTOI.
IOTC-2010-SC13-R	[E] Report of the Thirteenth Session of the Scientific Committee [F] Rapport de la Treizième Session du Comité Scientifique
IOTC-2011-CoC8-R	[E] Report of the Eighth Session of the Compliance Committee [F] Rapport de la huitième Session du Comité d'Application
IOTC-2011-SCAF8-R	[E] Report of the Eighth Session of the Standing Committee on Administration and Finance [F] Rapport de la huitième Session du Comité Permanent d'Administration et des Finances
IOTC-2011-SS4-R	[E] Report of the Technical Committee on Allocation Criteria [F] Rapport du Comité Technique sur les Critères d'Allocation
IOTC-2011-S15-05	[E] IOMAC recommendations [F] Recommandations IOMAC
IOTC-2011-S15-06	[E] Update on progress regarding Resolution 2009/01 <i>on the performance review follow-up</i> [F] Informations sur les progrès concernant la résolution 09/01 - <i>sur les suites à donner à l'évaluation des performances</i>
IOTC-2011-S15-07	[E] Additional information from Sri Lanka on the IOTC IUU provisional list [F] Informations complémentaires du Sri Lanka concernant la Proposition de Liste INN de la CTOI
IOTC-2011-S15-08	[E] Additional information from IR of Iran on the IOTC IUU provisional list [F] Informations complémentaires de la R.I. d'Iran concernant la Proposition de Liste INN de la CTOI
IOTC-2011-S15-09	[E] Extracts of the IOTC rules of procedure regarding the appointment of the Executive Secretary. [F] Extraits du règlement intérieur de la CTOI concernant la nomination du Secrétaire Exécutif.
IOTC-2011-S15-10	[E] Review compendium resolutions [F] Élaboration d'un recueil des résolutions et recommandations de la CTOI
IOTC-2011-S15-11	[E] Certificate of sale Lingsar 08 (Indonesia) [F] Certificat de vente du Lingsar 08 (indonésie)
IOTC-2011-S15-Inf01	[E] Information on management options for tuna and tuna-like species adopted in other tropical tuna RFMOS [F] Informations sur les options de gestion des thons et des espèces apparentées adoptées par d'autres ORGP-thons
IOTC-2011-S15-Inf02	[E] Fleet Development Plan Maldives
IOTC-2011-S15-Inf03	[E] Fleet Development Plan Iran

Reference / Référence	Title / Titre
Conservation and Management Measure Proposals / Propositions de mesures de conservation et de gestion	
IOTC-2011-S15-PropA & Add1	[E] On a Catch Documentation Scheme (Submitted by Japan) [F] Sur un Programme de Documentation des Captures (Soumis par le Japon)
IOTC-2011-S15-PropB, rev1	[E] On a Regional Observer Scheme (Submitted by Japan) [F] Sur un Programme Régional d'Observateurs (Soumis par le Japon)
IOTC-2011-S15-PropC	[E] On the Prohibition of Fishing on Data Buoys (Submitted by Belize) [F] Sur l'interdiction de la pêche sur les bouées océanographiques (Soumis par Belize)
IOTC-2011-S15-PropD	[E] concerning the Recording of Catch and Effort Data by Pole-and-Line fishing vessels in the IOTC Area of competence. (Submitted by the EU) [F] Concernant l'enregistrement des données des prises et effort par les canneurs dans la zone de compétence de la CTOI. (Soumis par l'UE)
IOTC-2011-S15-PropE	[E] concerning the Recording of Catch and Effort Data by Gillnet fishing vessels in the IOTC Area of competence. (Submitted by the EU) [F] Concernant l'enregistrement des données des prises et effort par les fileyeurs dans la zone de compétence de la CTOI. (Soumis par l'UE)
IOTC-2011-S15-PropF	[E] On an IOTC tropical tunas – yellowfin, bigeye and skipjack –catch Documentation Programme. (Submitted by the EU) [F] Concernant un programme CTOI de documentation des captures de thons tropicaux –albacore, patudo et listao. (Soumis par l'UE)
IOTC-2011-S15-PropG	[E] On the Recording of Catch by Longline Fishing Vessels in the IOTC Area of Competence. (Submitted by the EU) [F] Concernant l'enregistrement des données des prises et effort par les palangriers dans la zone de compétence de la CTOI. (Soumis par l'UE)
IOTC-2011-S15-PropH, rev1	[E] For the Conservation and Management of Swordfish in the IOTC Area of competence. (Submitted by the EU) [F] Pour la conservation et la gestion des stocks d'espadon dans la zone de compétence de la CTOI. (Soumis par l'UE)
IOTC-2011-S15-PropI	[E] On the Conservation of Oceanic Whitetip Shark caught in Association with fisheries in the IOTC Area of competence. (Submitted by the EU) [F] Sur la conservation des requins océaniques capturés de façon accessoire dans les pêcheries de la zone de compétence de la CTOI. (Soumis par l'UE)
IOTC-2011-S15-PropJ, rev1	[E] On the Conservation of Hammerhead Sharks (family Sphyrnidae) caught in Association with fisheries in the IOTC Area of Competence. (Submitted by the EU) [F] Sur la conservation des requins marteaux (famille des <i>Sphyrnidae</i>) capturés de façon accessoire dans les pêcheries de la zone de compétence de la CTOI. (Soumis par l'UE)
IOTC-2011-S15-PropK, rev1	[E] On establishing a List of Vessels presumed to have carried out Illegal, Unregulated and Unreported fishing in the IOTC area of competence. (Submitted by the EU) [F] Visant à l'établissement d'une liste de navires présumés avoir exercé des activités de pêche illégales, non réglementées et non déclarées dans la zone de compétence de la CTOI (Soumis par l'UE)
IOTC-2011-S15-PropL	[E] Concerning the conservation of sharks caught in association with fisheries managed by IOTC. (Submitted by Australia) [F] Concernant la conservation des requins capturés en relation avec les pêcheries gérées par la CTOI (Soumis par l'Australie)

Reference / Référence	Title / Titre
IOTC-2011-S15-PropM	<p>E] On the recording of catch by fishing vessels in the IOTC Area of competence. (Submitted by Australia)</p> <p>[F] Concernant l'enregistrement des données des prises et effort par les navires de pêche dans la zone de compétence de la CTOI. (Soumis par l'Australie)</p>
IOTC-2011-S15-PropMrev1, rev2	<p>E] On the recording of catch by fishing vessels in the IOTC Area of competence. (Submitted by Australia and EU)</p> <p>[F] Concernant l'enregistrement des données des prises et effort par les navires de pêche dans la zone de compétence de la CTOI. (Soumis par l'Australie et l'UE)</p>
IOTC-2011-S15-PropN	<p>[E] On Establishing A Programme For Transshipment By Large-Scale Fishing Vessels</p> <p>[F] Établissant un programme pour les transbordements des grands navires de pêche</p>

APPENDIX VIII

STOCK STATUS SUMMARY FOR THE IOTC SPECIES

Stock	Indicators	Prev. Asm ¹	2010 Asm ²	Stock status comments	Advice to Commission
<i>Major stocks: These are the main stocks under exploitation by industrial and artisanal fisheries throughout the Indian Ocean, both in the high seas and in the EEZ of coastal countries. These stocks are the ones that have received, in general, the highest fishing pressure in the region.</i>					
Albacore <i>Thunnus alalunga</i>	Average catch 2005–2009: 39,100 t Catch 2009: 40,700 t MSY: 28,260 t – 34,415 t F ₂₀₀₇ /F _{MSY} : 0.48–0.91 B ₂₀₀₇ /B ₀ : > 1	2007		Stock size and fishing pressure were considered to be within acceptable limits in 2008. Since then, a revision of the catch data for recent years has resulted in much higher catch estimates over the past five years compared with the historical average. Mean weight and catch rates of albacore have been stable for over 20 years.	Stock status is uncertain and should be closely monitored to assess the impact of recent changes in catch levels.
Bigeye tuna <i>Thunnus obesus</i>	Average catch 2005–2009: 114,600 t Catch 2009: 102,200 t MSY: 114,000 t (95,000 t – 183,000 t) F ₂₀₀₉ /F _{MSY} : 0.79 (0.50 – 1.22) SB ₂₀₀₉ /SB _{MSY} : 1.20 (0.88 – 1.68)	2008	2009	The stock is probably not overfished, and overfishing is probably not occurring. However, the stock is probably near full utilization, and the possibility of overfishing cannot be ruled out given the existing uncertainty, and the continuing observed decline in catch rates.	Bigeye catches in the Indian Ocean should be kept at or lower than the 2009 level of 102,000 t.
Skipjack tuna <i>Katsuwonus pelamis</i>	Average catch 2005–2009: 502,200 t Catch 2009: 440,600 t MSY: – F ₂₀₀₉ /F _{MSY} : – SB ₂₀₀₉ /SB _{MSY} : –			Skipjack is a highly productive species and robust to overfishing. However, this does not exclude completely the possibility for skipjack to become overfished. Recent trends in certain fisheries suggest that the situation of the stock should be closely monitored.	Stock status is uncertain and should be closely monitored.
Yellowfin tuna <i>Thunnus albacares</i>	Average catch 2005–2009: 371,200 t Catch 2009: 288,100 t MSY: 320,000 ³ (258–347,000 t) ⁴ F ₂₀₀₉ /F _{MSY} : 0.99 ³ (0.85 – 1.39) ⁴ SB ₂₀₀₉ /SB _{MSY} : 1.11 ³ (0.93 – 1.25) ⁴	2008	2009	Stock is likely to be currently in, or approaching, an overfished state and overfishing has probably been occurring in recent years. If fishing effort displaced because of the piracy problem returns to traditional fishing areas an increase in catches could be expected.	Yellowfin catches in the Indian Ocean should not increase beyond 300,000 t in order to bring the stock to biomass levels that could sustain catches at the MSY level in the long term. If recruitment continues to be lower than average, catches below 300,000 t would be needed to maintain stock levels.
Swordfish <i>Xiphias gladius</i>	Average catch 2005–2009: 27,100 t Catch 2009: 22,100 t MSY: 29,000 t (19,000 t–46,000 t) F ₂₀₀₈ /F _{MSY} : 0.79 (0.58–0.84) SB ₂₀₀₈ /SB _{MSY} : 1.31 (1.13–1.46)	2007	2008	The overall stock size and fishing pressure are estimated to be within acceptable limits and the overall level of reduction in stock size probably does not represent a conservation risk. If the southwestern region is analysed as containing a separate stock, results indicate that a substantive decline took place in that area, although recent declines in catch and effort might have brought fishing pressure to sustainable levels.	If the recent declines in effort continue, and catch remains below MSY, then there is no need to introduce restrictive management actions in the Indian Ocean as a whole. Catches in the southwest region should not exceed 2008 levels of 6,400t

¹ This indicates the last year taken into account for assessments carried out before 2010

² This indicates the last year taken into account for assessments carried out in 2010

³ Results obtained with a steepness of the stock-recruitment relationship of 0.8

⁴ Range for steepness values of 0.6, 0.7, 0.8 and 0.9

Stock	Indicators	Prev. Asm ¹	2010 Asm ²	Stock status comments	Advice to Commission
Billfish (other than swordfish) : This category includes species that are not directly targeted by most fleets, but are caught as by-catch of the main industrial fisheries. They could be important, however, for localised small-scale and artisanal fisheries (e.g. sailfish in the northern Arabian Sea and the Persian Gulf) or as targets in recreational fisheries (e.g. marlins)					
Blue marlin <i>Makaira nigricans</i>	Average catch 2005–2009: 9,350 t Catch 2009: 8,583 t			No quantitative stock assessment is currently available for any of these species in the Indian Ocean and only preliminary stock indicators can be used. Aspects of the biology, productivity and fisheries for these species combined with the lack of data on which to base a more formal assessment is a cause for considerable concern.	Stock status is uncertain
Black marlin <i>Makaira indica</i>	Average catch 2005–2009: 5,069 t Catch 2009: 5,410 t				Stock status is uncertain
Striped marlin <i>Tetrapturus audax</i>	Average catch 2005–2009: 2,780 t Catch 2009: 2,500 t				Stock status is uncertain
Indo-Pacific Sailfish <i>Istiophorus platypterus</i>	Average catch 2005–2009: 24,768 t Catch 2009: 23,220 t				Stock status is uncertain
Neritic tunas : These are important species for small-scale and artisanal fisheries in the region, almost always caught in the EEZs of IO coastal states. They are caught only occasionally by industrial fisheries, almost never in the high seas. Catches are often reported as aggregates of various species, therefore making it difficult to obtain for stock assessment analyses.					
Bullet tuna <i>Auxis rochei</i>	Average catch 2005–2009: 4,302 t Catch 2009: 4,317 t			No quantitative stock assessment is currently available for bullet tuna in the Indian Ocean, therefore the stock status is uncertain. Catches of bullet tuna are variable but relatively low compared to the other neritic species. The reasons for this are not clear: it may be problem related to reporting, or it may be a normal fluctuation in the fishery. Bullet tuna is a relatively productive species with high fecundity and rapid growth and this makes it relatively resilient and less prone to overfishing. Nevertheless, bullet tuna appears to be an important prey species for other pelagic species including the commercial tunas.	Stock status is uncertain
Frigate tuna <i>Auxis thazard</i>	Average catch 2005–2009: 33,240 t Catch 2009: 33,550 t			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Narrow-barred Spanish mackerel <i>Scomberomorus commerson</i>	Average catch 2005–2009: 110,800 t Catch 2009: 108,600 t			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Kawakawa <i>Euthymus affinis</i>	Average catch 2005–2009: 119,900 t Catch 2009: 129,850 t			No quantitative assessment is available. Catches have been relatively stable for the past 10 years.	Stock status is uncertain
Longtail tuna <i>Thunnus tonggol</i>	Average catch 2005–2009: 103,800 t Catch 2009: 122,400 t			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Indo-Pacific king mackerel <i>Scomberomorus guttatus</i>	Average catch 2005–2009: 38,000 t Catch 2009: 42,330 t			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Sharks : Although they are not part of the original list of species under the IOTC mandate, sharks are frequently caught in association with other species as by-catch, and often they are as much a target as tuna for some fleets. As such, IOTC Members and Cooperating non-Contracting Parties are expected to report information at the same level of detail as for regular IOTC species, although there is still insufficient information for formal assessments, The following are the main species caught in tuna fisheries, but the list is not exhaustive.					
Blue shark <i>Prionace glauca</i>	Average catch 2005–2009: Uncertain Catch 2009: Uncertain			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Silky shark <i>Carcharhinus falciformis</i>	Average catch 2005–2009: Uncertain Catch 2009: Uncertain			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Oceanic whitetip	Average catch 2005–2009: Uncertain			No quantitative assessment is available. No reliable indicators	Stock status is uncertain

Stock	Indicators	Prev. Asm ¹	2010 Asm ²	Stock status comments	Advice to Commission
shark <i>Carcharhinus longimanus</i>	Catch 2009: Uncertain				
Shortfin mako <i>Isurus oxyrinchus</i>	Average catch 2005–2009: Uncertain Catch 2009: Uncertain			No quantitative assessment is available. No reliable indicators	Stock status is uncertain
Scalloped hammerhead shark <i>Sphyrna lewini</i>	Average catch 2005–2009: Uncertain Catch 2009: Uncertain			No quantitative assessment is available. No reliable indicators	Stock status is uncertain

Key to the colour coding		
	Stock overfished (SB_{year}/SB_{MSY} less than 1)	Stock not overfished (SB_{year}/SB_{MSY} larger or equal to 1)
Stock being overfished (F_{year}/F_{MSY} larger or equal to 1)		
Stock not being overfished (F_{year}/F_{MSY} less than 1)		

APPENDIX IX

RECOMMENDATIONS OF THE THIRTEENTH SESSION OF THE SCIENTIFIC COMMITTEE

(Note: paragraphs allusions refer to paragraphs in the Report of the 13th Session of the Scientific Committee)

16.2. RECOMMENDATIONS TO THE COMMISSION – GENERAL

1. The SC congratulated the Secretariat on the work conducted during 2010 and continues to strongly support the reinforcement of the Secretariat as indicated in previous years and as recommended by the IOTC Performance Review Panel in 2009.

ON BILLFISH

2. The SC recommended that the Commission consider appropriate Conservation and Management Measures to control and/or reduce effort on the swordfish stock in the south–west Indian Ocean. (paragraph 39)

ON BYCATCH DATA

3. The SC urged all CPCs to comply with data collection and reporting requirements as outlined in the relevant Resolutions relating to ecosystems and bycatch. The SC stressed that this recommendation is made by the WPEB and endorsed the SC every year since 2006 and, therefore, asked the Commission to consider appropriate mechanisms to encourage members to comply with reporting requirements, and to provide historical data. (paragraph 48)
4. The SC recommended that the actions described in Table 1, Table 2, Table 3 and Table 4 on sharks, seabirds, marine turtles and marine mammals respectively, be taken by CPCs to improve the standing of the data on non–tuna species held by the Secretariat. (paragraph 49)

ON SHARKS

5. The SC recalled its previous advice that the fins to body ratio requirement has no clear scientific basis as a conservation measure for sharks in the Indian Ocean, rather it appears to be aimed at slowing down the rate of fishing or to deter finning. (paragraph 55)
6. Consensus was not reached as to replace the current 5% fin to body ratio rule by the landing of sharks with fins naturally attached. The majority of the SC members agreed that the best way to reduce or avoid the practice of shark finning, ensure accurate catch statistics, and facilitate the collection of biological information is to ensure that all sharks are landed with fins naturally attached to the trunk. (paragraph 57)
7. The SC encouraged IOTC to take the lead in introducing innovative measures for discussion at this joint TRFMO technical working group. (paragraph 59)
8. Although the SC could not reach consensus on a single approach, the SC proposed three options to be envisaged by the Commission to progress on this issue (paragraph 65).
 - **Option 1:** The list of shark species contained in Resolution 08/04, requiring mandatory reporting in longline logbooks, be revised to include eight additional species and species groups as follows:

Under Resolution 08/04	Under new proposal	
	Common name	Scientific name
Blue shark	Blue shark	<i>Prionace glauca</i>
Mako shark	Mako sharks	<i>Isurus</i> spp.
Porbeagle	Porbeagle	<i>Lamna nasus</i>
	Great white shark	<i>Carcharodon carcharias</i>
	Crocodile shark	<i>Pseudocarcharias kamoharai</i>
	Thresher sharks ⁵	<i>Alopias</i> spp.
	Tiger shark	<i>Galeocerdo cuvier</i>

⁵ As per IOTC Resolution 2010/12, catch of Thresher sharks have to be reported but not kept (*i.e.* released if alive or discarded if dead)

	Oceanic whitetip shark	<i>Carcharhinus longimanus</i>
	Other Requiem sharks	<i>Carcharhinus</i> spp.
	Hammerhead Sharks	<i>Sphyrna</i> spp.
Other sharks	Other sharks	
	Pelagic stingray	<i>Pteroplatytrygon violacea</i>

- **Option 2:** A second list of shark species to be included in Resolution 08/04 as a separate section requesting CPCs to report on these additional species/groups on a voluntary basis until CPCs have the capacity to better train crew to identify these shark species/groups. This option would not require changing the current logbook:

Under Resolution 08/04	Under new proposal	
<i>No list to be recorded on a voluntary basis in the current Resolution</i>	Common name	Scientific name
	Great white shark	<i>Carcharodon carcharias</i>
	Crocodile shark	<i>Pseudocarcharias kamoharai</i>
	Thresher sharks ⁶	<i>Alopias</i> spp.
	Tiger shark	<i>Galeocerdo cuvier</i>
	Oceanic whitetip shark	<i>Carcharhinus longimanus</i>
	Other Requiem sharks	<i>Carcharhinus</i> spp.
	Hammerhead Sharks	<i>Sphyrna</i> spp.
	Pelagic stingray	<i>Pteroplatytrygon violacea</i>

- **Option 3:** The list of shark species contained in Resolution 08/04, requiring mandatory reporting in longline logbooks, to be revised to include eight additional species and species groups, as in option 1, EXCEPT for CPCs having a sufficient observer coverage that would be absolve of reporting on this new extended list.
9. The SC noted requests made by several coastal states for technical support in obtaining training materials to improve shark identification, and recommended that the identification cards under current development by the Secretariat are finalized and circulated in 2011. (paragraph 67)
 10. The SC recommended that shark assessment experts be identified by the Secretariat for participation at the next WPEB and for consideration to be given to funding their attendance. (paragraph 69)
 11. The SC recommended that the remaining CPCs provide updates on the progress of developing or implementing NPOA–sharks at the WPEB in 2011. (paragraph 72).
 12. The SC recommended that the IOTC should continue to collaborate with the CMS MoU on sharks (paragraph 75).

ON SEABIRDS

13. The SC, with the exception of Japan, China and Korea, agreed that in the absence of any scientific information on the effectiveness of line shooters in reducing incidental mortality of seabirds, line shooters should be removed from the list of accepted seabird bycatch mitigation measures in Table 1 of Resolution 10/06 on reducing the incidental bycatch of seabirds in longline fisheries. (paragraph 84)
14. The SC agreed that a revisited line weighting regime should be pushed forward as an efficient mitigation measure but recommended that more experiments are conducted in order to assess the impact on target species. (paragraph 89)
15. The SC, with the exception of Japan, Korea and China, recommended that in the absence of any scientific observation on the effectiveness of offal discharge management in reducing the incidental mortality of seabirds, that it could be removed from the list of mitigation measures in Table 1 of the Resolution 10/06. (paragraph 91)
16. From the above (paragr.84, 87 and 91), the SC will recommend a major revision of the current Resolution 10/06 on reducing the incidental bycatch of seabirds in longline fisheries once line weighting options are assessed. (paragraph 92).
17. The SC urged the Secretariat to complete the seabird identification card project for the consideration of the WPEB in 2011 (paragraph 95).

⁶ As per IOTC Resolution 2010/12, catch of Thresher sharks have to be reported but not kept (*i.e.* released if alive or discarded if dead)

18. The SC encouraged the CPCs to develop systems, such as retention of carcasses for later identification, or establish photo identification processes, to improve identification of seabirds to species level, and recommended for this to be reflected in paragraph 7 of Resolution 10/06. (paragraph 97).
19. The SC noted that 4 CPCs have developed and implemented NPOA–seabirds and that 1 is in the process of finalizing its NPOA–seabird (Appendix VIII). (paragraph 100).

ON MARINE TURTLES

20. The SC recommended that the IOTC Secretariat, its CPCs and IOSEA, increase cooperation, in particular with regard to reviewing and exchanging available information on tuna fisheries–marine turtle interactions and mitigation, and that the Secretariat should attend the International Symposium on ‘Circle Hooks in Research, Management and Conservation’ to be held in Miami, USA from 4–6 May 2011, and to report to be to the WPEB in 2011 (paragraph 103).
21. The SC recommended that distant water fishing nations should join the IOSEA MoU, which had initially been directed toward Indian Ocean coastal countries. (paragraph 104).
22. The SC recommended that the marine turtle identification sheets be finalized by the Secretariat before the next Session of the WPEB, in cooperation with other relevant organizations. (paragraph 105).
23. The SC recommended that more marine turtle experts should participate at the next Session of the WPEB (paragraph 106).
24. The SC recommended that marine mammal experts, for example from NGOs and IGOs with an interest in the Indian Ocean such as International Whaling Commission, to be encouraged to participate in future meetings of the WPEB (paragraph 109).

ON DATA COLLECTION AND STATISTICS

25. The SC endorsed the recommendations from the WPDCS, as presented in Appendix IV of the WPDCS Report. In particular, the SC expressed some concerns about the timeliness of reporting of statistics from some CPCs and the quality of datasets for some fisheries. The SC reiterated its concerns that late reporting compromises the use of catches from recent years for stock assessment and provision of advice to the Commission based on the most recent information. The SC expressed further concern that some parties have failed to address recommendations for a number of years, recommending that these issues are brought to the attention of the Compliance Committee. (paragraph 137).
26. The SC agreed on the usefulness of implementing a scoring system to assess the quality of the statistics available at the IOTC, as proposed by the WPDCS, encouraging the IOTC Secretariat to continue with this work (...).The SC requested the Secretariat to present a first attempt to the next meeting of the WPDCS or, if time allows, to the next meeting of the WPTT. (paragraph 139).
27. The SC endorsed the minimum data requirements for gillnet and pole–and–line fisheries. In order to complete this work, the SC recommended that this minimum requirement are translated into proposal of Resolutions for the recording of catch by gillnet and pole–and line fisheries in the IOTC area for presentation at the next meeting of the Commission. (paragraph 141).

ON PROGRESS IN ADDRESSING RECOMMENDATIONS OF THE KOBE II WORKSHOPS AND OF THE PERFORMANCE REVIEW PANEL

28. Regarding bycatch, the SC strongly endorsed the proposed concept of a Bycatch Joint Working Group, and recommended the Secretariat and WPEB make all efforts to expedite its formation. The SC fully supported participation that would facilitate better coordination and avoidance of duplication between t–RFMOs. However, the SC reminded that such a Bycatch Joint Working Group will not replace or undermine the work of the WPEB of the IOTC..The SC strongly endorsed the proposal made that a Bycatch officer should be hired as a permanent staff member of the Secretariat of each of the 5 tuna RFMOs, and developed ToR for such an officer to be recruited at the IOTC Secretariat (Appendix IX). This specialist should attend, with the Chairman of the WPEB, future Kobe Bycatch meetings, and meetings of the Bycatch Joint Working Group. (paragraph 149).
29. The SC strongly supported the recommendation to increase the IOTC staff resource and the proposal of the Secretariat for a budget for the 2011–2012 biennium that would include additional professional staff

(paragraph 151).

ON THE REGIONAL OBSERVER SCHEME

30. The SC endorsed the recommendation of the technical workshop that a list of accredited scientific observers should be submitted to the Secretariat and recommended that CPCs do so within the best delays (paragraph 244).
31. The SC examined the Observer Trip Report Template produced by the technical workshop, however, recognizing the difficulties for some CPCs to fill all the data fields as required, the SC recommended that this template report should be used until it is revised at the next Session of the WPDCS in 2011 (paragraph 245).

ON THE SCHEDULE OF MEETINGS FOR 2011

32. The SC agreed to the following schedule of working party meetings for 2011 and recommended that it be put before the Commission for endorsement at its 15th Session (paragraph 253).
33. The SC recommended that, together with the Working Party on methods, the tripartite meeting on the MSE process with scientists, managers and representatives from the industry is organized. (paragraph 255).
34. For 2012, the SC recommended that the WPB, WPEB, WPTT, WPDCS and WPTe meet. (paragraph 256).
35. The SC recommended that its Fourteenth Session be held from 12th to 17th December 2011 (6 days) in Seychelles and asked the Commission to consider holding its annual session not more than three months after this time in order to be able to receive the most up-to-date advice and implement management measures in a timely fashion (paragraph 257).

ON OTHER MATTERS

36. The SC recommended that the Commission considers developing a Monitoring Scheme to verify if CPCs are taking all necessary steps to comply with IOTC Resolutions and other obligations relevant to the work of the Scientific Committee, by identifying areas in which further work is needed and recommending actions to be taken to address non-compliance. (paragraph 275).

16.3. RECOMMENDATIONS TO THE COMMISSION – ON THE STATUS OF THE STOCKS

TUNAS

ALBACORE TUNA (*Thunnus alalunga*)

The SC acknowledged the preliminary nature of the albacore tuna assessment in 2008, but noting the available stock status information considers that the status of the stock of albacore is not likely to change markedly over the next 2–3 years and if the price of albacore remains low compared to other tuna species, no immediate action should be required on the part of the Commission. However, new information and estimation for the Indonesian longline fishery has increase the total catch at levels above the estimated MSY.

The SC recommended that a new albacore tuna assessment be presented to the Scientific Committee at the latest in 2011.

BIGEYE TUNA (*Thunnus obesus*)

Given the uncertainty on estimated MSY values and the levels of error in the nominal catch data for bigeye, the SC recommended that catches are kept at a level not above the catch estimated at the moment of the assessment for 2009, *i.e.* 102,000 t. This value should give low probability of catches exceeding MSY.

SKIPJACK TUNA (*Katsuwonus pelamis*)

Given the limited nature of the work carried out on the skipjack in 2010, no management advice is provided for the stock.

YELLOWFIN TUNA (*Thunnus albacares*)

The SC considers that the stock of yellowfin has recently become overexploited or is very close to be so. Management measures should be continued that allow an appropriate control of fishing pressure to be implemented.

At this moment, the effect of time–area closures cannot be directly translated into management quantities of direct effect on the status of the stock, such as catches or fishing mortality, so their possible effect on the future evolution of the stock cannot be evaluated.

The SC recommends that catches of yellowfin tuna in the Indian Ocean should not increase beyond 300,000 t in order to bring the stock to biomass levels that could sustain catches at the MSY level in the long term. If recruitment continues to be lower than average, catches below 300,000 t would be needed to maintain stock levels.

The SC recommends that the situation of this stock is closely monitored.

SOUTHERN BLUEFIN TUNA (*Thunnus maccoyii*)

Manage by the CCSBT.

BILLFISH

SWORDFISH (*Xiphias gladius*)

If the recent declines in effort continue, and catch remains substantially below the estimated MSY of 29,000 t, then there is probably no urgent need to introduce restrictive management actions to the Indian Ocean as a whole. However, continued monitoring is required to manage the uncertainty.

It is recommended that catches in the south west should be maintained at levels at or below those observed in 2008 (6,426 t), until either *i*) there is clear evidence that substantial rebuilding is occurring (through recruitment or immigration) or *ii*) further analyses indicate that the current assessment is inappropriate.

BLACK MARLIN (*Makaira indica*)

No quantitative stock assessment is currently available for black marlin in the Indian Ocean, and due to a lack of fishery data for several gears, only preliminary stock indicators can be used. Therefore the stock status is uncertain. However, aspects of the biology, productivity and fisheries for this species combined with the lack of data on which to base a more formal assessment is a cause for considerable concern. Research emphasis on improving indicators and exploration of stock assessment approaches for data poor fisheries are warranted.

BLUE MARLIN (*Makaira nigricans*)

No quantitative stock assessment is currently available for blue marlin in the Indian Ocean, and due to a lack of data for several gears, only preliminary stock indicators can be used. . Therefore the stock status is uncertain. However, aspects of the biology, productivity and fisheries for this species combined with the lack of data on which to base a more formal assessment is a cause for considerable concern. Research emphasis on improving indicators and exploration of stock assessment approaches for data poor fisheries are warranted.

STRIPED MARLIN (*Tetrapturus audax*)

No quantitative stock assessment is currently available for striped marlin in the Indian Ocean, and due to a lack of fishery data for several gears, only preliminary stock indicators can be used. Therefore the stock status is uncertain. However, aspects of the biology, productivity and fisheries for this species combined with the lack of data on which to base a more formal assessment is a cause for considerable concern. Research emphasis on improving indicators and exploration of stock assessment approaches for data poor fisheries are warranted.

INDO–PACIFIC SAILFISH (*Istiophorus platypterus*)

No quantitative stock assessment is currently available for Indo–Pacific sailfish in the Indian Ocean, and due to a paucity of data there a no stock indicators that are considered to be reliable, therefore the stock status is uncertain. However, aspects of the biology, productivity and fisheries for this species combined with the lack of data on which to base a more formal assessment is a cause for considerable concern. Research emphasis on improving indicators and exploration of stock assessment approaches for data poor fisheries are warranted.

NERITIC TUNAS

BULLET TUNA (*Auxis rochei*)

No quantitative stock assessment is currently available for bullet tuna in the Indian Ocean, therefore the stock status is uncertain. The SC notes the catches of bullet tuna are typically variable but relatively low compared to the other neritic species. The reasons for this are not clear: it may be problem related to reporting, or it may be a normal fluctuation in the fishery. Bullet tuna is a relatively productive species with high fecundity and rapid growth and this makes it relatively resilient and less prone to overfishing. Nevertheless, bullet tuna appears to be an important prey species for other pelagic species including the commercial tunas.

The SC recommended that bullet tuna be reviewed at the first meeting of the IOTC Working Party on Neritic Tunas.

FRIGATE TUNA (*Auxis thazard*)

No quantitative stock assessment is currently available for the frigate tuna in the Indian Ocean, therefore the stock status is uncertain. This species is a relatively productive species with high fecundity and rapid growth and this makes it relatively resilient and not prone to overfishing. Nevertheless, frigate tuna appears to be an important prey species for other pelagic species including the commercial tunas.

The SC recommended that frigate tuna be reviewed at the first meeting of the IOTC Working Party on Neritic Tunas.

INDO-PACIFIC KING MACKEREL (*Scomberomorus guttatus*)

No quantitative stock assessment is currently available for the Indo-Pacific king mackerel in the Indian Ocean, therefore the stock status is uncertain. This species is a relatively productive species with high fecundity and rapid growth and this makes it relatively resilient and not prone to overfishing.

The SC recommended that indo-pacific king mackerel be reviewed at the first meeting of the IOTC Working Party on Neritic Tunas.

KAWAKAWA (*Euthynnus affinis*)

No quantitative stock assessment is currently available for kawakawa in the Indian Ocean, therefore the stock status is uncertain. The SC notes that catches have been relatively stable for the past 10 years.

The SC recommended that kawakawa be reviewed at the first meeting of the IOTC Working Party on Neritic Tunas.

LONGTAIL TUNA (*Thunnus tonggol*)

No quantitative stock assessment is currently available for longtail tuna in the Indian Ocean, therefore the stock status is uncertain. The SC notes the catches of longtail tuna are increasing.

The SC recommended that longtail tuna be reviewed at the first meeting of the IOTC Working Party on Neritic Tunas.

NARROW-BARRED SPANISH MACKEREL (*Scomberomorus commerson*)

No quantitative stock assessment is currently available for narrow-barred Spanish mackerel tuna in the Indian Ocean, therefore the stock status is uncertain. The SC notes that Spanish mackerel is a relatively productive species with high fecundity and this makes it relatively resilient and less prone to overfishing.

The SC recommended that narrow-barred Spanish mackerel be reviewed at the first meeting of the IOTC Working Party on Neritic Tunas.

SHARKS

The SC recommended that mechanisms are developed by the Commission to encourage CPCs to comply with their reporting requirement on sharks.

The SC agreed that three options should be considered for amendment of Resolution 08/04 *concerning the recording of the catch by longline fishing vessels in the IOTC area* in order to improve data collection and statistics on sharks that would allow the development of stock status indicators.

MARINE TURTLES

The SC recommended that mechanisms are developed by the Commission to encourage CPCs to comply with their reporting requirement on marine turtles. The SC also recalled its recommendation from 2009 that Resolution 09/06 does apply to leatherback turtles in its entirety, and that the term 'hard-shelled' should be removed from Resolution 09/06 when the resolution is revised.

SEABIRDS

The SC recommended that mechanisms are developed by the Commission to encourage CPCs to comply with their reporting requirement on seabirds.

The SC recommended that a major revision of the Resolution 10/06 *on reducing the incidental bycatch of seabirds in longline fisheries* should be considered, in the near future, once its impact is examined. Such revision may include the removal of the use of line shooters and offal management from the list of seabird mitigation measures.

APPENDIX X

RECOMMENDATIONS OF THE EIGHTH SESSION OF THE COMPLIANCE COMMITTEE

Note: Appendix reference refer to the Report of the Eighth Session of the Compliance Committee (IOTC-2011-CoC8-R)

Overview of the implementation of IOTC Conservation and Management Measures

CoC8.01 (para 8): The Committee **recommended** that a revised Compliance Reporting template (Appendix IV) be adopted for use in preparing reports for the next Compliance Committee meeting.

Country based compliance reports

CoC8.02 (para 19): The Committee **recommended** that the Commission agree to the development and distribution of letters of concern, highlighting areas of non-compliance to relevant CPCs.

CoC8.03 (para 20): The Committee **recommended** that to maintain transparency in the process, each letter of concern should also be circulated via an IOTC circular.

CoC8.04 (para 21): The Committee **recommended** that the Commission note the list of issues identified by the Chair of the Committee during the Compliance Committee meeting.

CoC8.05 (para 22): The Committee **recommended** that the Commission consider endorsing the template, provided at Appendix VI, for use in developing letters of concern.

Deliberations in relation to Resolution 09/03 On establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing in the IOTC area.

CoC8.06 (para 25): The Committee **recommended** that the Commission consider delisting the *Parsian Shila* from the IOTC IUU list, taking into account the administrative oversight nature of the infringement, noting that vessels listed on the IOTC IUU list should not engage in any fishing activities while they are on the list and that flag states should ensure that this is enforced.

CoC8.07 (para 27): The Committee **recommended** that the Commission consider delisting the *Rwad 1* from the IOTC IUU list, considering that Oman provided enough evidence showing that the vessel is not engaged in IUU activities.

CoC8.08 (para 28): The Committee **recommended** that Oman send an official letter to the Malaysian authority responsible, requesting clarification on the origin of the fish found onboard the *Rwad 1*. In addition, the Committee request notification of when the fish are destroyed.

CoC8.09 (para 31): The Committee **recommended** that the Commission consider delisting the *Lingsar 08* from the IOTC IUU list during the inter-sessional period, if Indonesia were to provide documentation certifying a change of ownership.

CoC8.10 (para 33): As no further information was provided to the Compliance Committee during its deliberations, the Committee **recommended** that the vessel [*Hoom Xiang II*] remain on the IUU list.

CoC8.11 (para 34): The Committee **recommended** that the Chair of the Committee write a letter to the Malaysian authority reminding them that it is the prime responsibility of the flag state to take actions against IUU activities.

CoC8.12 (para 41): The Committee **recommended** that the Suratha, Lakshani, Sulara 3, Chandra Kala, Lek Sauro, Madu Kumari 2, Anuka Putha 1, Sudeesa Marine 5, Rashmi, Chmale, and the Randika Putha 1, be retained on the provisional IOTC IUU list, which will be forwarded to the Commission for its consideration, in conjunction with the additional information tabled by Sri Lanka should constitute a basis for a decision on the possible listing of the vessels on the IOTC IUU list.

CoC8.13 (para 48): The Committee **recommended** that the *Payam* be retained on the provisional IOTC IUU list, which will be forwarded to the Commission for its consideration, in conjunction with concrete evidence of the actions and measures to be taken by Iran, at the 15th Session of the IOTC, for a decision on the possible listing of the *Payam*, on the IOTC IUU list.

Presumed IUU fishing activities reported by observers under the IOTC Transshipment Programme

CoC8.14 (para 59): The Committee **recommended** that the Commission provide guidance concerning the status of the information provided by observers participating in the IOTC at sea transshipment program, in particular, the confidentiality rules to be applied, and the procedure to be followed upon receiving information from observers regarding irregular activities by fishing vessels involved in transshipment operations.

Review of Requests for Access to the Status of Cooperating Non-Contracting Party

CoC8.15 (para 62): The Committee **recommended** that the Commission considers renewing the status of Maldives as a Cooperating non-Contracting Party.

CoC8.16 (para 66): The Committee **recommended** that the Commission considers granting Mozambique the status of Cooperating non-Contracting Party.

CoC8.17 (para 69): The Committee **recommended** that the Commission considers renewing the status of Senegal as a Cooperating non-Contracting Party.

CoC8.18 (para 72): The Committee **recommended** that the Commission considers renewing the status of South Africa as a Cooperating non-Contracting Party.

Update on progress regarding Resolution 09/01 – On the performance review follow-up

CoC8.19 (para 75): The Committee noted the status of implementation and **recommended** that the document, provided at Appendix VII, be forwarded to the Commission for its information.

APPENDIX XI
DRAFT – COUNTRY BASED COMPLIANCE REPORT – TEMPLATE

IOTC COMPLIANCE REPORT TEMPLATE
PREPARED BY THE IOTC SECRETARIAT

Indian Ocean Tuna Commission

IOTC Compliance Report for XXXX

Date:

CoC XX

N°	Res.	Information required	Deadline/ Remark	Observation from IOTC Secretariat	Status ⁷	Observation from CPCs	Items of concern (current year)
Implementation obligations							
1	Art. 10	Implementation report (for current meeting)			C		
2	10/09	Compliance questionnaire			N/C		
3	09/02	Fleet Development Plan (FDP)	31.12.2009 [10 years]		N/A		
	07/01	Nationals			L		
	09/05	Driftnets			PC		
	10/01	Closure	> 45 days				
	10/06	Seabirds on LL					
	09/06	Marine turtles					
	09/04	Sampling programme	As soon as possible				
	10/12	Thresher sharks					
Management Standards							
	01/02	Management Standards (MS)					
		• Documents on					

⁷ C = Compliant; N//C= Non-compliant; N/A = Not Applicable; L = Late; PC = Partially compliant

		board				
		• Marking of vessels and gears				
		• Logbook on board	> 24			
	05/07	Annual reporting				
Reporting on Vessels						
	10/08	Active vessels (year)	15.02	List (year)		
	09/02	Reference Capacity				
		• Tuna (2006)	31.12.2009	Number		
		• SWO/ALB (2007)	[24]	Number		
	07/02	Authorized vessels (year)	[24]	Number (year)		
	10/07	Foreign vessels licensed in EEZ	15.02	List (year)		
VMS						
	06/03	VMS on board	> 15 m			
	10/01	Summary of VMS record	Previous year			
Reporting on Catch						
	10/02	Nominal catch /species/gear	30.06			
		Catch/effort /species				
		• PS	30.06			
		• LL	30.12			
		• Coastal fisheries	30.06			
		Size frequency	30.06			
		FAD	30.06			
	05/05	By-catch of sharks				
	09/06	By-catch of sea turtles				
	10/06	By-catch of seabirds				
	10/03	PS – aggregated	30.06			

		logbook data				
	08/04	LL – aggregated logbook data	30.06			
IUU Vessels						
	09/03	IUU listing				
	10/01	Area closure PS				
		Area closure LL				
Observers						
	08/02	ROP – Transhipments				
	10/04	Regional Observer Scheme				
		• 5% Mandatory, at sea	[24]			
		• 5% Phasing in, at sea	2013 [< 24]			
		• 5 % Artisanal landings				
Statistical document						
	01/06	Bigeye tuna				
		1 st Semester report				
		2 nd Semester report				
		Annual report				
Port inspection						
	05/03	Port inspection programme	01.07			
	10/11	PSM – designated ports	31.12.10			
		PSM implementation	01.03.11			

**APPENDIX XII
IOTC IUU VESSELS LIST**

Current name of vessel (previous names)	Current flag (previous flags)	Date first included on IOTC IUU Vessels List	Lloyds/IMO number	Photo	Call sign (previous call signs)	Owner / beneficial owners (previous owners)	Operator (previous operators)	Summary of IUU activities
Ocean Lion	Unknown (Equatorial Guinea)	June 2005	7826233	–				Contravention of IOTC Resolution 02/04, 02/05, 03/05.
Yu Maan Won	Unknown (Georgia)	May 2007						
Gunuar Melyan 21	Unknown	June 2008						
Hoom Xiang 11	Unknown (Malaysia)	March 2010		Yes. Refer to the report of the European Union		Hoom Xiang Industries Sdn. Bhd.		Contravention of IOTC Resolution 09/03

APPENDIX XIII

RECOMMENDATIONS OF THE EIGHTH SESSION OF THE STANDING COMMITTEE ON ADMINISTRATION AND FINANCE

Note: Appendix reference refer to the Report of the Eighth Session of the Standing Committee on Administration and Finance (IOTC-2011-SCAF8-R)

Progress report of the Secretariat

SCAF8.01 (para 13): The Committee noted the progress report of the Secretariat for 2010 and **recommended** that every effort be made to expedite the recruitment of new staff to the Secretariat, taking into account current delays in the FAO recruitment procedures.

SCAF8.02 (para 14): The Committee **recommended** that the Secretariat expedite the development of a new website for the IOTC, noting that the current website is cumbersome, difficult to navigate, and in some cases, provides out-dated information.

Financial statement

SCAF8.03 (para 22): The Committee **recommended** that the Commission consider developing and transmitting a letter of concern to FAO, outlining the IOTC's dissatisfaction with the fact that FAO did not send an official representative to the 15th Session of the IOTC.

Programme of Work and Budget for 2011 and 2012

SCAF8.04 (para 31): Noting the absence of a representative from FAO, the Committee **recommended** that the Commission consider requesting FAO provide a report at the next Session detailing its contribution to the Commission, and that the progress report of the Secretariat should also reflect the contributions received from FAO.

SCAF8.05 (para 32): Noting the increased workload of the Secretariat in relation to compliance activities, which is a direct function of the work assigned by the Commission in recent Conservation and Management Measures, the Committee **recommended** that a new professional post (Compliance Officer) be approved by the Commission, noting the terms of reference provided at Appendix III.

SCAF8.06 (para 33): The Committee **recommended** that the Commission determine if an audit of CPC contributions, both direct and indirect, would be possible, for presentation to the Committee at its next session.

SCAF8.07 (para 34): The Committee **recommended** that the Commission adopt the budget for and the scheme of contributions for 2011 as outlined in Appendix V and Appendix VI respectively.

APPENDIX XIV
BUDGET FOR 2011 AND INDICATIVE BUDGET FOR 2012 (IN USD)

Budget item description	2011	2012
<u>Administrative Expenditures</u>		
Gross salary costs (before deductions)		
Professional		
Executive Secretary	160,836	168,878
Deputy Secretary	144,000	151,200
Data Coordinator	130,296	136,811
Fisheries Statistician	60,000	78,000
Compliance Coordinator	88,764	93,202
Compliance Officer	60,000	78,000
Stock Assessment Expert	95,376	100,145
Fisheries Expert	75,708	79,493
General Service		
Administrative Assistant	7,788	8,177
Compliance Assistant	6,432	6,754
Programme Assistant	6,696	7,031
Database Assistant	8,280	8,694
Bilingual Secretary	5,400	5,670
Driver	4,980	5,229
Overtime	5,000	5,250
Total Salary costs	919,556	965,534
Employer contributions to Pension Fund and health insurance	241,000	253,050
Employer contribution to FAO entitlement fund	237,612	249,493
Total staff costs	1,338,168	1,390,076
<u>Expenditure for Activities</u>		
Operating Expenditures		
Support Capacity Building	60,000	78,000
Consultants	48,825	51,266
Duty travel	230,000	241,500
Meetings	70,000	73,500
Interpretation	120,000	126,000
Translation	90,000	94,500
Equipment	25,000	26,250
General Operating Expenses	48,000	50,400
Printing	30,000	31,500
Contingencies	5,250	5,513
Total Operating Expenditures	727,075	778,429
SUB-TOTAL	2,065,243	2,168,505
Additional Contributions Seychelles	(12,500)	(12,500)
FAO Servicing Costs	92,936	97,583
GRAND TOTAL	2,145,679	2,253,588

APPENDIX XV
SCHEME OF CONTRIBUTIONS FOR 2011

Country	World Bank Classification in 2008⁸	OECD Membership	Average catch for 2006–2008 (in metric tons)	Contribution (in USD)
Australia	High	Yes	6,185	\$108,552
Belize	Middle	No	926	\$37,344
China	Middle	No	93,821	\$68,009
Comoros	Low	No	12,380	\$20,690
Eritrea	Low	No	751	\$16,851
European Union	High	Yes	242,371	\$498,375
France(Terr)	High	Yes	8,192	\$111,864
Guinea	Low	No	676	\$16,827
India	Middle	No	149,950	\$86,537
Indonesia	Middle	No	272,755	\$127,075
Iran, Islamic Republic of	Middle	No	167,929	\$92,472
Japan	High	Yes	48,744	\$178,794
Kenya	Low	No	2,010	\$17,267
Korea, Republic of	High	Yes	5,326	\$107,135
Madagascar	Low	No	12,108	\$20,600
Malaysia	Middle	No	23,244	\$44,711
Mauritius	Middle	No	1,833	\$37,644
Oman	High	No	34,224	\$109,641
Pakistan	Middle	No	29,026	\$46,620
Philippines	Middle	No	3,537	\$38,206
Seychelles	Middle	No	70,151	\$60,195
Sierra Leone	Low	No	Below 400 t	\$7,663
Sri Lanka	Middle	No	130,325	\$80,059
Sudan	Middle	No	Below 400 t	\$28,098
Tanzania	Low	No	3,576	\$17,784
Thailand	Middle	No	36,740	\$49,166
United Kingdom(Terr)	High	Yes	Below 400 t	\$89,403
Vanuatu	Middle	No	Below 400 t	\$28,098
			Total	2,145,680

⁸ In 2008, the World Bank classified countries as low income if the per capita GNI was less than US\$975; as high income if it was higher than US\$11,906, and as middle income those countries with per capita GNI between US\$936 and US\$11,906.

APPENDIX XVI
RECOMMENDATIONS OF THE FOURTH SPECIAL SESSION ON ALLOCATION
CRITERIA

- SS4.1 (para 26): A quota allocation system should be structured around guiding principles (*e.g.* sustainable fisheries, equitable distribution of the benefits, *etc.*); the allocation criteria (*e.g.* catch history, socio-economic status, geographical location, *etc.*); and indicators that quantify each of the allocation criteria (*e.g.* catch by area or catch by flag, population size, human development indicators, size of the EEZ in the Indian Ocean, *etc.*). A formula that combines all these elements would be used to derive a baseline allocation.
- SS4.1 (para 27): This baseline would be adjusted according to defined correction factors (*e.g.* membership status, compliance status, *etc.*) in order to obtain a final allocation for each eligible CPC.
- SS4.1 (para 28): Rules of implementation could be defined to regulate the manner in which the allocation is placed into effect by each CPC (*e.g.* transfer (lease of quota), submission of a utilization plan, any additional monitoring requirements to ensure correct reporting of compliance with the allocation system).
- SS4.1 (para 29): The following is a non-exhaustive list of the elements of a quota allocation system that were discussed and received support. The allocation system should include principle such as:
- a. contribute to the sustainable utilization of the resource,
 - b. allocate fair and equitable fishing opportunities to all participants,
 - c. recognize the rights of both coastal states and distant water fishing nations,
 - d. take into account the aspirations of coastal states, including to develop further their fishing opportunities,
- and criteria such as:
- e. socio-economic factors, such as dependency of coastal state economies on tuna and tuna-like fisheries, and investments made in tuna sector,
 - f. the compliance record/status,
 - g. provide incentives for compliance with IOTC conservation and management measures

APPENDIX XVII
CONSERVATION AND MANAGEMENT MEASURES ADOPTED DURING THE
SESSION

RESOLUTION 11/01
REGARDING CONSOLIDATION OF IOTC RESOLUTIONS AND RECOMMENDATIONS

The Indian Ocean Tuna Commission (IOTC),

RECOGNIZING the desirability of improving the coherence and accessibility of its recommendations and resolutions;

ALSO RECOGNIZING that the complexity of this work may have many implications, such as those of a legal, procedural or practical nature;

RESOLVES THAT:

1. A Working Group meeting of interested Contracting Parties and Cooperating non-Contracting Parties should be held [date to be decided] in [location to be decided] to consider the development of a Compendium of IOTC Resolutions and Recommendations.
2. The Working Group should consider the structure for such a Compendium as well as any overall issues entailed in reflecting the resolutions and recommendations in a Compendium, including how best to preserve their respective non-binding and binding nature.
3. The Working Group should determine if the draft Compendium is an appropriate structure for a future Compendium and whether it accurately reflects the IOTC recommendations and resolutions currently in force. The Working Group should recommend to the Commission alterations of an editorial nature to improve the structure and/or drafting of the text and remove inconsistencies and redundancies.
4. The Working Group should also identify issues raised by its review where further guidance is required from the Commission and make recommendations to the Commission on how these issues may be addressed.

The Working Group should also recommend to the Commission a process for the incorporation of new decisions taken by the Commission into the compiled text.

RESOLUTION 11/02
ON THE PROHIBITION OF FISHING ON DATA BUOYS

The Indian Ocean Tuna Commission (IOTC),

AWARE that many nations, including CPCs of the Indian Ocean Tuna Commission (IOTC), operate and deploy data buoys throughout the IOTC area of competence and oceans worldwide to gather information used to make improved weather and marine forecasts, provide assistance to fisheries by generating data on sea surface and subsurface measurements, provide assistance to search and rescue efforts at sea, and collect critical data used to conduct research on meteorological and oceanographic topics and climate prediction;

KNOWING that highly migratory species, in particular tuna species, aggregate in the vicinity of data buoys;

RECOGNIZING that the World Meteorological Organization and the Intergovernmental Oceanographic Commission have determined that damage caused to data buoys by fishing vessels are significant problems in the Indian Ocean and worldwide;

CONCERNED that damage to data buoys results in significant loss of data critical to weather forecasting, to the study of marine conditions, to tsunami warnings, to support for search and rescue efforts at sea, and that Commission Members and non-members expend considerable time and resources to locate, replace and repair damaged or lost data buoys;

ALARMED that the loss of data critical to the study of marine conditions because of damage to data buoys undermines analyses by IOTC scientists seeking better understanding of tuna habitat use and the relationships between climate and tuna recruitment, as well as research by environmental scientists in general;

RECALLING UNGA resolution A/Res/64/72, paragraph 109, which "Calls upon States and regional fisheries management organizations or arrangements, working in cooperation with other relevant organizations, including the Food and Agriculture Organization of the United Nations, the Intergovernmental Oceanographic Commission and the World Meteorological Organization, to adopt, as appropriate, measures to protect ocean data buoy systems moored in areas beyond national jurisdiction from actions that impair their operation;"

ALSO RECALLING UNGA resolution A/Res/64/71, paragraph 172, which "Expresses its concern at the intentional or unintentional damage to platforms used for ocean observation and marine scientific research, such as moored buoys and tsunameters, and urges States to take necessary action and to cooperate in relevant organizations, including the Food and Agriculture Organization of the United Nations, the Intergovernmental Oceanographic Commission and the World Meteorological Organization, to address such damage;"

MINDFUL that several data buoy programs publish information on the internet describing the type and location of such buoys;

FURTHER NOTING the mandate given to the Commission to adopt generally recommended international minimum standards for the responsible conduct of fishing operations;

ADOPTS the following:

1. For the purposes of this measure, data buoys are defined as floating devices, either drifting or anchored, that are deployed by governmental or recognized scientific organizations or entities for the purpose of electronically collecting and measuring environmental data, and not for the purpose of fishing activities.
2. Contracting Parties and Cooperating Non-Contracting Parties (CPCs) shall prohibit their fishing vessels from intentionally fishing within one nautical mile of or interacting with a data buoy in the IOTC area of competence, which includes, but is not limited to, encircling the buoy with fishing gear; tying up to or attaching the vessel, or any fishing gear, part or portion of the vessel, to a data buoy or its mooring; or cutting a data buoy anchor line.

3. CPCs shall prohibit their fishing vessels from taking on board a data buoy while engaged in fishing for tuna and tuna-like species in the IOTC area of competence, unless specifically authorized or requested to do so by the Member or owner responsible for that buoy.
4. CPCs shall encourage their fishing vessels operating in the IOTC area of competence to keep watch for moored data buoys at sea and to take all reasonable measures to avoid fishing gear entanglement or directly interacting in any way with those data buoys.
5. CPCs shall require their fishing vessels that become entangled with a data buoy to remove the entangled fishing gear with as little damage to the data buoy as possible.
6. CPCs shall encourage their fishing vessels to report to them regarding any data buoys observed to be damaged or otherwise inoperable along with the date of observation, buoy location, and any discernable identifying information contained on the data buoy. CPCs shall notify the Secretariat of all such reports.
7. Notwithstanding paragraph 2, scientific research programs notified to the Commission may operate fishing vessels within one nautical mile of a data buoy so long as they do not interact with those data buoys as described in paragraph 2.

CPCs are encouraged to communicate to the Commission, through the Secretariat, the location of data buoy assets that they have deployed throughout the IOTC area.

RESOLUTION 11/03
ON ESTABLISHING A LIST OF VESSELS PRESUMED TO HAVE CARRIED OUT
ILLEGAL, UNREGULATED AND UNREPORTED FISHING IN THE IOTC AREA

The Indian Ocean Tuna Commission (IOTC),

RECALLING that the FAO Council adopted on 23 June 2001 an International Plan of Action to prevent, to deter and eliminate illegal, unregulated and unreported fishing (IPOA–IUU). This plan stipulates that the identification of the vessels carrying out IUU activities should follow agreed procedures and be applied in an equitable, transparent and non discriminatory way;

RECALLING that the IOTC adopted Resolution 01/07 concerning its support of the IPOA–IUU;

RECALLING that IOTC has already adopted measures against IUU fishing activities and, in particular, against large–scale tuna longline vessels engaged in IUU fishing;

RECALLING that the IOTC adopted Resolution 07/01 to promote compliance by nationals of Contracting Parties and Cooperating Non–contracting Parties with IOTC conservation and management measures;

RECALLING ALSO that the IOTC adopted Resolution 07/02 to enhance the implementation of IOTC conservation and management measures through establishing a Record of fishing vessels authorised to operate in the IOTC Area of competence;

CONCERNED by the fact that IUU fishing activities in the IOTC area of competence continue, and these activities diminish the effectiveness of IOTC conservation and management measures;

FURTHER CONCERNED that there is evidence of a large number of vessel owners engaged in such fishing activities who have re–flagged their vessels to avoid compliance with IOTC management and conservation measures;

DETERMINED to address the challenge of an increase in IUU fishing activities by way of countermeasures to be applied in respect of the vessels engaged in IUU fishing, without prejudice to further measures adopted in respect of flag States under the relevant IOTC instruments;

CONSCIOUS of the need to address, as a matter of priority, the issue of large–scale fishing vessels conducting IUU fishing activities,

NOTING that the situation must be addressed in the light of all relevant international fisheries instruments and in accordance with the relevant rights and obligations established in the World Trade Organisation (WTO) Agreement;

ADOPTS in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

Definition of IUU Fishing Activities

1. For the purposes of this resolution, fishing vessels are presumed to have carried out illegal, unreported and unregulated fishing activities in the IOTC Area of competence, inter alia, when a Contracting Party or Cooperating non–Contracting Party (hereinafter referred to as “CPCs”) presents evidence that such vessels:
 - (a) Harvest tuna or tuna–like species in the IOTC Area of competence and are neither registered on the IOTC Record of Vessels authorised to fish for tuna and tuna–like species in the IOTC area of competence, in accordance with Resolution 07/02, nor recorded in the Active list of Vessels of IOTC, or
 - (b) Harvest tuna or tuna–like species in the IOTC Area of competence, when their flag state is without sufficient quotas, catch limit or effort allocation under IOTC conservation and management measures where applicable, or

- (c) Do not record or report their catches made in the IOTC Area of competence in accordance with IOTC reporting requirements, or make false reports, or
- (d) Take or land undersized fish in contravention of IOTC conservation measures, or
- (e) Fish during closed fishing periods or in closed areas in contravention of IOTC conservation measures, or
- (f) Use prohibited fishing gear in contravention of IOTC conservation measures, or
- (g) Tranship with, or participate in joint operations such as re-supplying or re-fuelling, vessels included in the IUU Vessels List, or
- (h) Harvest tuna or tuna-like species in the waters under the national jurisdiction of a coastal State in the IOTC Area of competence without authorisation and/or infringe the coastal state's laws and regulations, (this is without prejudice to the sovereign rights of coastal States to take measures against such vessels), or
- (i) Are without nationality and harvest tuna or tuna-like species in the IOTC Area of competence, or
- (j) Engage in fishing, including transshipping, re-supplying or re-fuelling, contrary to any other IOTC conservation and management measures.

Information on Alleged IUU Fishing Activities

2. CPCs shall transmit every year to the Secretary at least 70 days before the Annual Meeting, a list of the vessels presumed to have been carrying out IUU fishing activities in the IOTC Area of competence during the current and previous year, accompanied by evidence supporting the presumption of IUU fishing activity. The IOTC Reporting Form for Illegal Activity (Annex I) shall be used.
3. This list and evidence shall be based on information collected by CPCs from all relevant sources including but not limited to:
 - (a) Relevant resolutions of the IOTC, as adopted and amended from time to time;
 - (b) Reports from CPCs Parties relating to IOTC conservation and management measures in force;
 - (c) Trade information obtained on the basis of relevant trade statistics such as Food and Agriculture Organization of the United Nations (FAO) data, statistical documents and other national or international verifiable statistics; and
 - (d) Any other information obtained from port States and/or gathered from the fishing grounds that is suitably documented.

Draft IUU Vessels List

4. On the basis of the information received pursuant to paragraph 2, the Secretary shall draw up a Draft IUU Vessels List. This list shall be drawn up in conformity with Annex II. The Secretary shall transmit it together with the current IUU Vessels List as well as all the evidence provided to CPCs and to non-Contracting Parties whose vessels are included on these lists at least 55 days before the Annual Meeting. CPCs and non-Contracting Parties will transmit any comments to the Secretary at least 15 days before the Annual Meeting of the IOTC, including evidence showing that the listed vessels have neither fished in contravention to IOTC conservation and management measures nor had the possibility of fishing tuna and tuna-like species in the IOTC Area of competence.
5. The Flag State shall notify the owner of the vessels of their inclusion in the Draft IUU Vessels List and of the consequences that may result from their inclusion being confirmed in the IUU Vessels List adopted by the Commission.

6. Upon receipt of the Draft IUU Vessels list, CPCs shall closely monitor the vessels included in the Draft IUU Vessels List in order to determine their activities and possible changes of name, flag and or registered owner.

Provisional IUU Vessels List

7. On the basis of the information received pursuant to paragraph 2, the Secretary shall draw up a Provisional IUU Vessels List and transmit it two weeks in advance of the Commission Meeting to the CPCs and to the non-Contracting Parties concerned together with all the evidence and any comments provided. This list shall be drawn up in conformity with Annex II.
8. CPCs and non-Contracting Parties may at any time submit to the Secretary any additional information, which might be relevant to the establishment of the IUU Vessels List. The Secretariat shall circulate the information before the annual meeting to CPCs concerned, together with all the evidence provided.
9. The Compliance Committee shall examine each year the Provisional IUU Vessels List, as well as the information referred to in paragraphs 2, 3, 4, 7 and 8.
10. The Compliance Committee shall remove a vessel from the Provisional IUU Vessels List if the Flag State demonstrates that:
 - (a) The vessel did not take part in any IUU fishing activities described in paragraph 1, or
 - (b) It has taken effective action in response to the IUU fishing activities in question, including, inter alia, prosecution and imposition of sanctions of adequate severity. CPCs will report any actions and measures they have taken in accordance with Resolution 07/01, in order to promote compliance by vessels of CPCs with IOTC conservation and management measures.
11. Where Flag State evidence provided to support the details referred to in paragraphs 10a or 10b is submitted after the 15 day deadline referred to in paragraph 4 (including any submission of evidence made during the Compliance Committee's annual meeting) the vessel shall remain on the Provisional IUU List to allow consideration to occur by the relevant authorities inter-sessionally as described in paragraph 14. In cases where no evidence has been provided by the Flag State, the Compliance Committee shall recommend to the Commission that the vessel be included on the IOTC IUU Vessel list.
12. Following the examination referred to in paragraph 9, at each IOTC Annual meeting, the IOTC Compliance Committee shall:
 - a) Adopt a Provisional IUU Vessels List following consideration of the Draft IUU Vessels List and information and evidence circulated under paragraphs 4, 7 and 8.
 - b) Recommend to the Commission which, if any, vessels should be removed from the IUU Vessels List adopted at the previous IOTC Annual meeting, following consideration of that List, of the information and evidence circulated under paragraph 8 and the information supplied by Flag States in accordance with paragraph 19.

IUU Vessels List

13. Taking into account the recommendations and the Provisional IUU Vessels List adopted by the Compliance Committee, and the information provided under paragraph 2, 3, 4, 7 and 8, the Commission shall adopt the IOTC IUU Vessels List.
14. If the Commission is unable to decide, on the basis of the information provided under paragraphs 2, 3, 4, 7 and 8, whether or not a vessel should be included on the IOTC IUU Vessels List, the Commission may suspend its decision and request that supplementary information or evidence be submitted both by the relevant States, including the CPC that transmitted evidence on presumed IUU fishing activities by that vessel and the Flag State. The consideration of that vessel's inclusion on the IOTC IUU Vessels List shall continue inter-sessionally by electronic means as follows:

- a) Relevant CPC and the Flag State are invited to submit supplementary information or evidence to the IOTC Secretary within 90 days;
- b) Immediately following this period of 90 days, the Secretary will transmit the proposal to put the vessel on the IOTC IUU Vessels list to all CPCs, along with all the supplementary information or evidence received under paragraph 14(a);
- c) The CPCs will examine the proposal and supplementary information or evidence to put the vessel on the IOTC IUU Vessels List and notify the Secretary, within 30 days following this transmission, whether or not they support the vessel being included on the IOTC IUU Vessels List;
- d) At the end of the 30 days period, the Chairperson shall ascertain the outcome of the CPC's decision on the proposal in accordance with the following:
 - i) A majority of the Members of the Commission shall constitute the quorum.
 - ii) if A two-thirds majority of the Members of those which have expressed their position and cast affirmative or negative votes are in favour of putting the vessel on the IOTC IUU Vessels List, the vessel shall be included on this list.
 - iii) If the two-thirds majority of the Members of those which have expressed their position and cast affirmative or negative votes is not met, the vessel should remain in the Provisional IUU Vessels List.
- e) The Secretary shall communicate the result of the decision, along with a copy of the amended IOTC IUU Vessels List or the confirmed Provisional IOTC Vessel List, to all CPCs, the Flag State of the vessels (if is not a CPC), and any non-Contracting Party that may have an interest. The amended IOTC IUU Vessels List will have effect immediately after the Secretary communicates the result of the decision.

15. On adoption of the IOTC IUU Vessels List, the Secretary shall request CPCs, whose vessels appear on the list:

- a) To notify the owner of the vessel identified on the IUU Vessels List of its inclusion on the list and the consequences which result from being included on the list, as referred to in paragraph 16;
- b) To take all the necessary measures to eliminate these IUU fishing activities, including if necessary, the withdrawal of the registration or of the fishing licences of these vessels, and to inform the Commission of the measures taken in this respect.

16. CPCs shall take all necessary measures, under their applicable legislation:

- a) So that the fishing vessels, the mother-ships and the cargo vessels flying their flag do not participate in any transshipment with vessels on the IUU Vessels list;
- b) So that IUU vessels that enter ports voluntarily are not authorized to land, tranship, refuel, re-supply, or engage in other commercial transactions;
- c) to prohibit the chartering of a vessel included on the IUU Vessels List;
- d) To refuse to grant their flag to vessels included in the IUU Vessels List, except if the vessel has changed owner and the new owner has provided sufficient evidence demonstrating the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel; or having taken into account all relevant facts, the Flag State determines that granting the vessel its flag will not result in IUU fishing;
- e) To prohibit the imports, landing or transshipment, of tuna and tuna-like species from vessels included in the IUU Vessels List;
- f) To encourage the importers, transporters and other sectors concerned, to refrain from transaction and transshipment of tuna and tuna-like species caught by vessels included in the IUU Vessels List;

g) To collect and exchange with other Contracting Parties or Co-operating non-Contracting Parties any appropriate information with the aim of detecting, controlling and preventing false import/export certificates for tunas and tuna-like species from vessels included in the IUU Vessels List.

17. The Secretary will take any necessary measure to ensure publicity of the IUU Vessels List adopted by IOTC pursuant to paragraph 12, in a manner consistent with any applicable confidentiality requirements, and through electronic means, including placing it on the IOTC website. Furthermore, the Secretary will transmit the IUU Vessels List to other regional fisheries management organisations for the purposes of enhanced co-operation between IOTC and these organisations in order to prevent, deter and eliminate illegal, unreported and unregulated fishing.
18. Without prejudice to the rights of Flag States and coastal states to take proper action consistent with international law, the CPCs should not take any unilateral trade measures or other sanctions against vessels provisionally included in the Draft IUU Vessels List, pursuant to paragraph 4, or which have been already removed from the IUU Vessels List, pursuant to paragraph 10, on the grounds that such vessels are involved in IUU fishing activities.

Deletion from the IUU Vessels List

19. A CPC whose vessel appears on the IUU Vessels List may request the removal of this vessel from the list during the inter-sessional period by providing the following information and supporting evidence:
 - a) It has adopted measures such that the vessel conforms with all IOTC conservation measures;
 - b) It is and will continue to assume effectively its responsibilities with respect to this vessel in particular as regards the monitoring and control of the fishing activities executed by this vessel in the IOTC Area of competence;
 - c) It has taken effective action in response to the IUU fishing activities in question including prosecution and imposition of sanctions of adequate severity;
 - d) The vessel has changed ownership and that the new owner can establish the previous owner no longer has any legal, financial or real interests in the vessel or exercises control over it and that the new owner has not participated in IUU fishing.

Inter Sessional removal of vessels from the IUU Vessels List

20. The CPC shall send its request for the removal of a vessel from the IUU Vessels List to the IOTC Secretary accompanied by the supporting information referred to in paragraph 19.
21. On the basis of the information received in accordance with paragraph 19, the Secretary will transmit the removal request, with all the supporting information to all CPCs within 15 days following the notification of the removal request.
22. The CPCs will examine the request to remove the vessel and notify the Executive Secretary of their conclusion to either remove the vessel from, or keep the vessel on, the IUU Vessels List, by mail within 30 days following the notification by the Secretary. At the end of the 30 day period, the Chairperson shall ascertain the outcome of the CPCs' decision on the proposal in accordance with the following:
 - i) A majority of the Members of the Commission shall constitute the quorum.
 - ii) if a two-thirds majority of the Members of those which have expressed their position and cast affirmative or negative votes are in favour of removing a vessel from the IOTC IUU Vessels List, the vessel shall be removed from this list.
 - iii) if the two-thirds majority of the Members of those which have expressed their position and cast affirmative or negative votes is not met, the vessel remains in the IOTC IUU Vessels List.

23. The Secretary shall communicate the result of the decision, along with a copy of the amended IOTC IUU Vessels List, to all CPCs, the Flag State of the vessels (if is not a CPC), and any non-Contracting Party that may have an interest. The amended IOTC IUU Vessels List will have effect immediately after the Secretary communicates the result of the decision.
24. Where the Commission decides to remove a vessel from the IUU Vessels list pursuant to paragraph 23, the Secretary will take the necessary measures to remove the vessel concerned from the IOTC IUU Vessels List, as published on the IOTC website. Moreover, the Secretary will forward the decision of removal of the vessel to other regional fishery management organisations.
25. Resolution 09/03 *On Establishing A List Of Vessels Presumed To Have Carried Out Illegal, Unregulated And Unreported Fishing In The IOTC Area* is superseded by this Resolution.

ANNEX I
IOTC REPORTING FORM FOR ILLEGAL ACTIVITY

Recalling IOTC Resolution 11/03 *On establishing a list of vessels presumed to have carried out illegal, unregulated and unreported fishing in the IOTC area*, attached are details of illegal activity recorded in

A. Details of Vessel

(Please detail the incidents(s) in the format below)

Item	Definition	Indicate
a	Current Name of Vessel (Previous name/s, if any)	
b	Current Flag (previous flag/s, if any)	
c	Date first included on IOTC IUU Vessel List (if applicable)	
d	Lloyds IMO Number, if available	
e	Photo	
f	Call Sign (previous call sign, if any)	
g	Owner / Beneficial Owner/s (previous owner/s, if any)	
h	Operator (previous operator/s, if any) and Master/Fishing Master	
i	Date of alleged IUU fishing Activities	
j	Position of alleged IUU fishing Activities	
k	Summary of alleged IUU Activities (see section B for more detail)	
l	Summary of any Actions known to have been Taken in respect of the alleged IUU fishing activities	
m	Outcome of Actions Taken	

B. Details of IOTC Resolution Elements Contravened

(Indicate with a “X” the individual elements of IOTC Resolution 11/03 contravened, and provide relevant details including date, location, source of information. Extra information can be provided in an attachment if necessary.)

Item	Definition	Indicate
a	Harvest tuna or tuna-like species in the IOTC Area of competence and are not registered on the IOTC Record of Vessels authorised to fish for tuna and tuna-like species in the IOTC Area of competence	
b	Harvest tuna or tuna-like species in the IOTC Area of competence, when their flag state is without sufficient quotas, catch limit or effort allocation under IOTC conservation and management measures where applicable	
c	Do not record or report their catches made in the IOTC Area of competence in accordance with IOTC reporting requirements, or make false reports	
d	Take or land undersized fish in contravention of IOTC conservation measures	
e	Fish during closed fishing periods or in closed areas in contravention of IOTC conservation measures	
f	Use prohibited fishing gear in contravention of IOTC conservation measures	
g	Tranship with, or participate in joint operations such as re-supplying or re-fuelling, vessels included in the IUU Vessels List	
h	Harvest tuna or tuna-like species in the waters under the national jurisdiction of a coastal State in the IOTC Area of competence without authorisation and/or infringes the coastal state’s laws and regulations	
i	Are without nationality and harvest tuna or tuna-like species in the IOTC Area of competence	
j	Engage in fishing or fishing related activities contrary to any other IOTC conservation and management measures	

C. Associated Documents

(List here the associated documents that are appended e.g. boarding reports, court proceedings, photographs)

D. Recommended Actions

Recommended Actions	Indicate
a Notification to IOTC Secretariat only. No further action is recommended.	
b Notification of illegal activity to IOTC Secretariat. Recommend notification of activity to flag state.	
c Recommended for inclusion on IOTC IUU list	

ANNEX II
INFORMATION TO BE INCLUDED IN ALL IOTC IUU VESSELS LISTS

The Draft, Provisional and Final IUU Vessels Lists shall contain the following details:

1. name of the vessel and previous name/s, if any;
2. Flag of the vessel and previous flag/s, if any;
3. owner of the vessel and previous owner/s, including beneficial owners, if any;
4. operator of the vessel and previous operator/s, if any;
5. call sign of the vessel and previous call sign/s, if any;
6. Lloyds/IMO number, if available;
7. photographs of the vessel, where available;
8. date the vessel was first included on the IOTC IUU Vessels List;
9. summary of the activities which justify inclusion of the vessel on the List, together with references to all relevant supporting documents and evidences.

RESOLUTION 11/04

ON A REGIONAL OBSERVER SCHEME

The Indian Ocean Tuna Commission (IOTC),

TAKING INTO ACCOUNT the need to increase the scientific information, in particular to provide the IOTC Scientific Committee working material in order to improve the management of the tuna and tuna-like species fished in the Indian Ocean;

REITERATING the responsibilities of flag States to ensure that their vessels conduct their fishing activities in a responsible manner, fully respecting IOTC conservation and management measures;

CONSIDERING the need for action to ensure the effectiveness of the IOTC objectives;

CONSIDERING the obligation of all IOTC Members and Co-operating Non-contracting Parties (hereinafter CPCs) to fully comply with the IOTC conservation and management measures;

AWARE of the necessity for sustained efforts by CPCs to ensure the enforcement of IOTC's conservation and management measures, and the need to encourage non-Contracting Parties (NCPs) to abide by these measures;

UNDERLINING that the adoption of this measure is intended to help support the implementation of conservation and management measures as well as scientific research for tuna and tuna-like species;

CONSIDERING the provisions set forth in Resolution 10/04 *on a Regional Observer Scheme*, adopted by the Commission;

CONSIDERING the deliberations of the 12th Session of the IOTC Scientific Committee held in Victoria, Seychelles from 30 November to 4 December 2009

ADOPTS, in accordance with the provisions of Article IX, paragraph 1 of the IOTC Agreement, the following:

Objective

1. The objective of the IOTC observer scheme shall be to collect verified catch data and other scientific data related to the fisheries for tuna and tuna-like species in the IOTC area.

Observer Scheme

2. In order to improve the collection of scientific data, at least 5 % of the number of operations/sets for each gear type by the fleet of each CPC while fishing in the IOTC Area of 24 meters overall length and over, and under 24 meters if they fish outside their EEZs shall be covered by this observer scheme. For vessels under 24 meters if they fish outside their EEZ, the above mentioned coverage should be achieved progressively by January 2013.
3. When purse seiners are carrying an observer⁹ as stated in paragraph 1, this observer shall also monitor the catches at unloading to identify the composition of bigeye catches. The requirement for the observer to monitor catches at unloading is not applicable to CPCs already having a sampling scheme, with at least the coverage set out in paragraph 2.
4. The number of the artisanal fishing vessels landings shall also be monitored at the landing place by field samplers¹⁰. The indicative level of the coverage of the artisanal fishing vessels should progressively increase towards 5% of the total levels of vessel activity (i.e. total number of vessel trips or total number of vessels active).

⁹ Observer: a person that collects information on board fishing vessels. Observer programmes can be used for quantifying species composition of target species, bycatch, by-products and dead discards, collecting tag returns, etc.

¹⁰ Field sampler: a person that collects information on land during the unloading of fishing vessels. Field sampling programmes can be used for quantifying catch, retained bycatch, collecting tag returns, etc.

5. CPCs shall:
 - a) Have the primary responsibility to obtain qualified observers. Each CPC may choose to use either deployed national or non-national of the flag State of the vessel on which they are deployed;
 - b) Endeavour that the minimum level of coverage is met and that the observed vessels are a representative sample of the gear types active in their fleet;
 - c) Take all necessary measures to ensure that observers are able to carry out their duties in a competent and safe manner;
 - d) Endeavour to ensure that the observers alternate vessels between their assignments. Observers are not to perform duties, other than those described in paragraphs 10 and 11 below;
 - e) Ensure that the vessel on which an observer is placed shall provide suitable food and lodging during the observer's deployment at the same level as the officers, where possible. Vessel masters shall ensure that all necessary co-operation is extended to observers in order for them to carry out their duties safely including providing access, as required, to the retained catch, and catch which is intended to be discarded.
6. The cost of the observer scheme in paragraph 2 and 3 shall be met by each CPC.
7. The sampling scheme referred in paragraph 4 will be covered by the Commission's accumulated funds and voluntary contribution on a provisional basis. The Commission will consider an alternative for the financing of this scheme.
8. If the coverage referred in paragraphs 2 and 3 is not met by a CPC, any other CPC may, subject to the consent of the CPC who has not met its coverage, place an observer to fulfill the tasks defined in the paragraphs 1 and 2 until that CPC provides a replacement or the target coverage level is met.
9. CPCs shall provide to the Executive Secretary and the Scientific Committee annually a report of the number of vessels monitored and the coverage achieved by gear type in accordance with the provisions of this Resolution.
10. Observers shall:
 - a) Record and report fishing activities, verify positions of the vessel;
 - b) Observe and estimate catches as far as possible with a view to identifying catch composition and monitoring discards, by-catches and size frequency;
 - c) Record the gear type, mesh size and attachments employed by the master;
 - d) Collect information to enable the cross-checking entries made to the logbooks (species composition and quantities, live and processed weight and location, where available); and
 - e) Carry out such scientific work (for example, collecting samples), as requested by the IOTC Scientific Committee.
11. The observer shall, within 30 days of completion of each trip, provide a report to the CPCs of the vessel. The CPCs shall send within 150 days at the latest each report, as far as continuous flow of report from observer placed on the longline fleet is ensured, which is recommended to be provided with 1°x1° format to the Executive Secretary, who shall make the report available to the Scientific Committee upon request. In a case where the vessel is fishing in the EEZ of a coastal state, the report shall equally be submitted to that Coastal State.
12. The confidentiality rules set out in the resolution 98/02 Data confidentiality policy and procedures for fine-scale data shall apply.
13. Field samplers shall monitor catches at the landing place with a view to estimating catch-at-size by type of boat, gear and species, or carry out such scientific work as requested by the IOTC Scientific Committee.
14. The funds available from the IOTC balance of funds may be used to support the implementation of this programme in developing States, notably the training of observers and field samplers.
15. The elements of the Observer Scheme, notably those regarding its coverage, are subject to review and revision, as appropriate, for application in 2012 and subsequent years. Basing on the experience of other Tuna RFMOs, the Scientific Committee will elaborate an observer working manual, a template to be used for reporting (including minimum data fields) and a training program.
16. This Resolution supersedes Resolution 10/04 *on a Regional Observer Scheme*.

RESOLUTION 11/05
ON ESTABLISHING A PROGRAMME FOR TRANSHIPMENT BY LARGE-SCALE FISHING
VESSELS

The Indian Ocean Tuna Commission,

TAKING ACCOUNT of the need to combat illegal, unregulated and unreported (IUU) fishing activities because they undermine the effectiveness of the conservation and management measures already adopted by IOTC;

EXPRESSING GRAVE CONCERN that organized tuna laundering operations have been conducted and a significant amount of catches by IUU fishing vessels have been transhipped under the names of duly licensed fishing vessels;

IN VIEW THEREFORE OF THE NEED to ensure the monitoring of the transhipment activities by large-scale longline vessels in the Convention area, including the control of their landings;

TAKING ACCOUNT of the need to collect catch data of such large scale long-line tuna to improve the scientific assessments of those stocks;

ADOPTS, in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

SECTION 1. GENERAL RULE

1. Except under the special conditions outlined below in Section 2 for transhipment operations at sea, all transhipment operations of tuna and tuna like species in the IOTC Area must take place in port.
2. The Flag Contracting Party, Cooperating non Contracting Party (CPCs) shall take the necessary measures to ensure that large scale tuna vessels (hereafter referred as the "LSTVs") flying their flag comply with the obligations set out in Annex 1 when transhipping in port.

SECTION 2. PROGRAMME TO MONITOR TRANSHIPMENTS AT SEA

3. The Commission hereby establishes a programme to monitor transhipment at sea which applies initially to large-scale tuna longline fishing vessels (hereafter referred to as the "LSTLVs") and to carrier vessels authorised to receive transhipments from these vessels at sea. The Commission shall at its 2010 Annual Meeting, review and, as appropriate, revise this Resolution.
4. The CPCs that flag LSTLVs shall determine whether or not to authorize their LSTLVs to tranship at sea. However, if the flag CPC authorizes the at-sea transhipment by its flag LSTLVs, such transhipment should be conducted in accordance with the procedures defined in Sections 3, 4 and 5, and annexes 2 and 3 below.

SECTION 3. RECORD OF VESSELS AUTHORISED TO RECEIVE TRANSHIPMENTS-AT-SEA IN THE IOTC AREA

5. The Commission shall establish and maintain an IOTC Record of Carrier Vessels authorized to receive tuna and tuna-like species at sea in the IOTC Area from LSTLVs. For the purposes of this Resolution, carrier vessels not entered on the record are deemed not to be authorized to receive tuna and tuna-like species in at-sea transhipment operations.
6. Each CPC shall submit, electronically where possible, to the IOTC Secretary by 1 July 2008 the list of the carrier vessels that are authorized to receive at-sea transhipments from its LSTLVs in the IOTC Area. This list shall include the following information:
 - i) The flag of the vessel
 - ii) Name of vessel, register number
 - iii) Previous name (if any)
 - iv) Previous flag (if any)
 - v) Previous details of deletion from other registries (if any)
 - vi) International radio call sign
 - vii) Type of vessels, length, gross tonnage (GT) and carrying capacity
 - viii) Name and address of owner(s) and operator(s)
 - ix) Time period authorised for transhipping

7. Each CPC shall promptly notify the IOTC Secretary, after the establishment of the initial IOTC Record, of any addition to, any deletion from and/or any modification of the IOTC Record, at any time such changes occur.
8. The IOTC Secretary shall maintain the IOTC Record and take measures to ensure publicity of the record and through electronic means, including placing it on the IOTC website, in a manner consistent with confidentiality requirements notified by CPCs for their vessels.
9. Carrier vessels authorized for at-sea transshipment shall be required to install and operate a Vessel Monitoring System (VMS).

SECTION 4. AT-SEA TRANSHIPMENT

10. Transshipments by LSTLVs in waters under the jurisdiction of the CPCs are subject to prior authorization from the Coastal State concerned. CPCs shall take the necessary measures to ensure that LSTLVs flying their flag comply with the following conditions:

Flag State Authorization

11. LSTLVs are not authorized to tranship at sea, unless they have obtained prior authorization from their Flag State.

Notification obligations

Fishing vessel:

12. To receive the prior authorization mentioned in paragraph 11 above, the master and/or owner of the LSTLV must notify the following information to its Flag State authorities at least 24 hours in advance of an intended transshipment:
 - a) The name of the LSTLV and its number in the IOTC Record of Vessels,
 - b) The name of the carrier vessel and its number in the IOTC Record of Carrier Vessels authorized to receive transshipments in the IOTC area, and the product to be transhipped,
 - c) The tonnage by product to be transhipped,
 - d) The date and location of transshipment,
 - e) The geographic location of the tuna catches

13. The LSTLV concerned shall complete and transmit to its flag State, not later than 15 days after the transshipment, the IOTC transshipment declaration, along with its number in the IOTC record of fishing vessels, in accordance with the format set out in Annex 2.

Receiving carrier vessel:

14. The master of the receiving carrier vessel shall complete and transmit the IOTC transshipment declaration to the IOTC Secretariat and the flag CPC of the LSTLV, along with its number in the IOTC Record of Carrier Vessels authorized to receive transshipment in the IOTC area, within 24 hours of the completion of the transshipment.
15. The master of the receiving carrier vessel shall, 48 hours before landing, transmit an IOTC transshipment declaration, along with its number in the IOTC Record of Carrier Vessels authorized to receive transshipment in the IOTC area, to the competent authorities of the State where the landing takes place.

Regional Observer Programme

16. Each CPC shall ensure that all carrier vessels transshipping at sea have on board an IOTC observer, not later than 1 January 2009, in accordance with the IOTC Regional Observer Programme in Annex 3. The IOTC observer shall observe the compliance with this Resolution, and notably that the transhipped quantities are consistent with the reported catch in the IOTC transshipment declaration.
17. Vessels shall be prohibited from commencing or continuing at-sea transshipping in the IOTC area without an IOTC regional observer on board, except in cases of „force majeure“ duly notified to the IOTC Secretariat.

SECTION 5 GENERAL PROVISIONS

18. To ensure the effectiveness of the IOTC conservation and management measures pertaining to species covered by Statistical Document Programs:
 - a) In validating the Statistical Document, Flag CPCs of LSTLVs shall ensure that transshipments are consistent with the reported catch amount by each LSTLV.
 - b) The Flag CPC of LSTLVs shall validate the Statistical Documents for the transhipped fish, after confirming that the transshipment was conducted in accordance with this Resolution. This confirmation shall be based on the information obtained through the IOTC Observer Programme.

- c) CPCs shall require that the species covered by the Statistical Document Programs caught by LSTLVs in the Convention area, when imported into the territory of a Contracting Party, be accompanied by statistical documents validated for the vessels on the IOTC record and a copy of the IOTC transshipment declaration.
19. The CPCs shall report annually before 15 September to the Secretary:
 - a) The quantities by species transhipped during the previous year.
 - b) The list of the LSTLVs registered in the IOTC Record of Fishing Vessels which have transhipped during the previous year.
 - c) A comprehensive report assessing the content and conclusions of the reports of the observers assigned to carrier vessels which have received transshipment from their LSTLVs.
 20. All tuna and tuna-like species landed or imported into the CPCs either unprocessed or after having been processed on board and which are transhipped, shall be accompanied by the IOTC transshipment declaration until the first sale has taken place.
 21. Each year, the Secretary shall present a report on the implementation of this Resolution to the annual meeting of the Commission which shall review compliance with this Resolution.
 22. The Secretariat shall, when providing CPCs with copies of all raw data, summaries and reports in accordance with paragraph 10 of Annex 3 to this Resolution, also indicate evidence indicating possible infraction of IOTC regulations by LSTLVs/carrier vessels flagged to that CPC. Upon receiving such evidence, each CPC shall investigate the cases and report the results of the investigation back to the Secretariat one month prior to the Compliance Committee meeting. The Secretariat shall circulate among CPCs the list of names and flags of the LSTLVs/Carrier vessels that were involved in such possible infraction as well as the response of the flag CPCs two weeks prior to the Compliance Committee meeting. The Compliance Committee shall examine the cases and decide whether there was any infraction.
 23. *Resolution 08/02 On establishing a programme for transshipment by large-scale fishing vessels* is superseded by this Resolution.

ANNEX 1
CONDITIONS RELATING TO IN-PORT TRANSHIPMENT BY LSTVS

General

1 Transhipment operations in port may only be undertaken in accordance with the procedures detailed below:

Notification obligations

2 Fishing vessel:

2.1 Prior to transhipping, the Captain of the LSTV must notify the following information to the Port State authorities, at least 48 hours in advance:

- a) the name of the LSTV and its number in the IOTC record of fishing vessels,
- b) the name of the carrier vessel, and the product to be transhipped,
- c) the tonnage by product to be transhipped,
- d) the date and location of transhipment,
- e) the major fishing grounds of the tuna and tuna like species catches

2.2 The Captain of a LSTV shall, at the time of the transhipment, inform its Flag State of the following;

- a) The products and quantities involved
- b) the date and place of the transhipment
- c) the name, registration number and flag of the receiving carrier vessel
- d) the geographic location of the tuna and tuna like species catches.

2.3 The captain of the LSTV concerned shall complete and transmit to its Flag State the IOTC transhipment declaration, along with its number in the IOTC Record of Fishing Vessels, in accordance with the format set out in Annex 2 not later than 15 days after the transhipment.

Receiving vessel:

3 Not later than 24 hours before the beginning and at the end of the transhipment, the master of the receiving carrier vessel shall inform the Port State authorities of the quantities of tuna and tuna-like species transhipped to his vessel, and complete and transmit the IOTC transhipment declaration, to the competent authorities within 24 hours.

Landing State:

4 The master of the receiving carrier vessel shall, 48 hours before landing, complete and transmit an IOTC transhipment declaration, to the competent authorities of the Landing State where the landing takes place.

5 The Port State and the Landing State referred to in the above paragraphs shall take the appropriate measures to verify the accuracy of the information received and shall cooperate with the flag CPC of the LSTV to ensure that landings are consistent with the reported catches amount of each vessel. This verification shall be carried out so that the vessel suffers the minimum interference and inconvenience and that degradation of the fish is avoided.

6 Each flag CPC of the LSTV shall include in its annual report each year to IOTC the details on the transhipments by its vessels.

**ANNEX 2
IOTC TRANSHIPMENT DECLARATION**

Carrier Vessel	Fishing Vessel
Name of the Vessel and Radio Call Sign:	Name of the Vessel and Radio Call Sign:
Flag:	Flag:
Flag state license number:	Flag state license number:
National Register Number, if available:	National Register Number, if available:
IOTC Register Number, if available:	IOTC Register Number, if available:

	Day	Month	Hour	Year	2_ 0_ _ _	Agent's name:	Master's name of LSTV:	Master's name of Carrier:
Departure	_ _	_ _	_ _	from	_ _ _			
Return	_ _	_ _	_ _	to	_ _ _	Signature:	Signature:	Signature :
Transhipment	_ _	_ _	_ _		_ _ _			

Indicate the weight in kilograms or the unit used (e.g. box, basket) and the landed weight in kilograms of this unit: |_____| kilograms

LOCATION OF TRANSHIPMENT

Species	Port	Sea	Type of product											
			Whole	Gutted	Headed	Filleted								

If transhipment effected at sea, IOTC Observer Name and Signature:

ANNEX 3
IOTC REGIONAL OBSERVER PROGRAMME

1. Each CPC shall require carrier vessels included in the IOTC Record of Carrier Vessels authorised to receive transshipments in the IOTC Area and which tranship at sea, to carry an IOTC observer during each transhipment operation in the Convention area.
2. The Secretary shall appoint the observers and shall place them on board the carrier vessels authorized to receive transshipments in the IOTC Area from LSTLVs flying the flag of Contracting Parties and of Cooperating non-Contracting Parties that implement the IOTC observer program.

Designation of the observers

3. The designated observers shall have the following qualifications to accomplish their tasks:
 - a) sufficient experience to identify species and fishing gear;
 - b) satisfactory knowledge of the IOTC conservation and management measures;
 - c) the ability to observe and record information accurately;
 - d) a satisfactory knowledge of the language of the flag of the vessel observed.

Obligations of the observer

4. Observers shall:
 - a) have completed the technical training required by the guidelines established by IOTC;
 - b) not be, to the extent possible, nationals of the flag State of the receiving carrier vessel;
 - c) be capable of performing the duties set forth in point 5 below;
 - d) be included in the list of observers maintained by the Secretariat of the Commission;
 - e) not be a crew member of an LSTLV or an employee of an LSTLV company.
5. The observer tasks shall be in particular to:
 - a) On the Fishing Vessel intending to tranship to the carrier vessel and before the transhipment takes place, the observer shall:
 - i. check the validity of the fishing vessel's authorisation or licence to fish tuna and tuna like species in the IOTC area;
 - ii. check and note the total quantity of catch on board, and the quantity to be transferred to the carrier vessel;
 - iii. check that the VMS is functioning and examine the logbook;
 - iv. verify whether any of the catch on board resulted from transfers from other vessels, and check documentation on such transfers;
 - v. in the case of an indication that there are any violations involving the fishing vessel, immediately report the violations to the carrier vessel master.
 - vi. report the results of these duties on the fishing vessel in the observer's report.
 - b) On the Carrier Vessel:

Monitor the carrier vessel's compliance with the relevant conservation and management measures adopted by the Commission. In particular the observers shall:

 - i. record and report upon the transhipment activities carried out;
 - ii. verify the position of the vessel when engaged in transshipping;
 - iii. observe and estimate products transhipped;
 - iv. verify and record the name of the LSTLV concerned and its IOTC number;
 - v. verify the data contained in the transhipment declaration;
 - vi. certify the data contained in the transhipment declaration;
 - vii. countersign the transhipment declaration;
 - viii. issue a daily report of the carrier vessel's transshipping activities;
 - ix. establish general reports compiling the information collected in accordance with this paragraph and provide the captain the opportunity to include therein any relevant information.
 - x. submit to the Secretariat the aforementioned general report within 20 days from the end of the period of observation.
 - xi. exercise any other functions as defined by the Commission.

6. Observers shall treat as confidential all information with respect to the fishing operations of the LSTLVs and of the LSTLVs owners and accept this requirement in writing as a condition of appointment as an observer;
7. Observers shall comply with requirements established in the laws and regulations of the flag State which exercises jurisdiction over the vessel to which the observer is assigned.
8. Observers shall respect the hierarchy and general rules of behavior which apply to all vessel personnel, provided such rules do not interfere with the duties of the observer under this program, and with the obligations of vessel personnel set forth in paragraph 9 of this program.

Obligations of the Flag States of carrier vessels

9. The responsibilities regarding observers of the flag States of the carrier vessels and their captains shall include the following, notably:
 - a) Observers shall be allowed access to the vessel personnel and to the gear and equipment;
 - b) Upon request, observers shall also be allowed access to the following equipment, if present on the vessels to which they are assigned, in order to facilitate the carrying out of their duties set forth in paragraph 5:
 - i. Satellite navigation equipment;
 - ii. Radar display viewing screens when in use;
 - iii. Electronic means of communication;
 - c) Observers shall be provided accommodation, including lodging, food and adequate sanitary facilities, equal to those of officers;
 - d) Observers shall be provided with adequate space on the bridge or pilot house for clerical work, as well as space on deck adequate for carrying out observer duties; and
 - e) The flag States shall ensure that captains, crew and vessel owners do not obstruct, intimidate, interfere with, influence, bribe or attempt to bribe an observer in the performance of his/her duties.
10. The Secretary, in a manner consistent with any applicable confidentiality requirements, shall provide to the flag State of the carrier vessel under whose jurisdiction the vessel transhipped and to the Flag CPC of the LSTLV, copies of all raw data, summaries, and reports pertaining to the trip two months prior to the Compliance Committee meeting.

Obligations of LSTLV during transhipment

11. Observers shall be allowed to visit the fishing vessel, if weather conditions permit it, and access shall be granted to personnel and areas of the vessel necessary to carry out their duties set forth in paragraph 5.
12. The Secretary shall submit the observer reports to the Compliance Committee and to the Scientific Committee.

Observer fees

- 13 The costs of implementing this program shall be financed by the flag CPCs of LSTLVs wishing to engage in transhipment operations. The fee shall be calculated on the basis of the total costs of the program. This fee shall be paid into a special account of the IOTC Secretariat and the IOTC Secretary shall manage the account for implementing the program;
- 14 No observer shall be assigned to a vessel for which the fees, as required under paragraph 13, have not been paid.

RECOMMENDATION 11/06
CONCERNING THE RECORDING OF CATCH AND EFFORT BY FISHING VESSELS IN
THE IOTC AREA OF COMPETENCE

The Indian Ocean Tuna Commission (IOTC),

RECALLING the commitment made by members under Article V of the IOTC Agreement to keep under review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics and other data relevant to the conservation and management of the stocks and to fisheries based on the stocks covered by the Agreement;

CONSIDERING the provisions set forth in Resolution 10/02 Mandatory Statistical Requirements for IOTC Members and Co-operating Non-Contracting Parties (CPCs), and in particular paragraph 3, which sets out the catch and effort reporting requirements for surface fisheries, longline and coastal fisheries;

ACKNOWLEDGING that the IOTC Science Committee has repeatedly stressed the importance of the timeliness and accuracy of data submissions for members;

ALSO RECALLING the outcomes of the 9th Session of the IOTC Scientific Committee held in Victoria, Seychelles from 6 to 10 November 2006 where it was agreed that a standardised logbook would be advantageous and agreed on the minimum requirements for all purse seine and bait boat fleets operating in the IOTC Area of competence in order to harmonize data gathering and provide a common basis for scientific analysis for all IOTC Contracting Parties and Cooperating non-Contracting Parties (CPCs);

FURTHER RECALLING the recommendations adopted by the KOBE II Workshop on Bycatch, held in Brisbane, Australia, 23–25 June 2010; in particular that RFMOs should consider adopting standards for bycatch data collection which, at a minimum, allows the data to contribute to the assessment of bycatch species population status and evaluation of the effectiveness of bycatch measures, and that the data should allow the RFMOs to assess the level of interaction of the fisheries with bycatch species;

ALSO CONSIDERING the deliberations of the 12th Session of the IOTC Scientific Committee held in Victoria, Seychelles from 30 November to 4 December 2009;

FURTHER CONSIDERING the deliberations of the 13th Session of the IOTC Scientific Committee held in Victoria, Seychelles from 6 to 10 December 2010, that recommended three options, one of which is mandatory reporting of a revised list of shark species in logbooks to improve the data collection and statistics on sharks in the IOTC Area of competence;

FURTHER CONSIDERING the works of the small task force created by the IOTC Scientific Committee during its 10th Session held in Seychelles in November 2007, to harmonise the various forms currently used by the fleets and the IOTC Scientific Committee agreement on the minimum standard requirements for all purse seine, longline and gillnet fleets as well as the produced logbook template;

RECOMMENDS in accordance with the provisions of the Agreement Establishing the IOTC, that:

- 1 Each flag CPC should ensure that all purse seine, longline, gillnet and pole and line fishing vessels flying its flag and authorized to fish species managed by IOTC be subject to a data recording system.
- 2 Within the IOTC Area of competence, all purse seine, longline, gillnet and pole and line fishing vessels over 24 metres length and those under 24 metres if they fish outside the EEZs of their flag States should keep a bound or electronic logbook to provide data for use by Working Parties and the Scientific Committee that includes, as a minimum requirement, the information and data in the logbook set forth in Annex I and II.
- 3 The logbooks format consists of two parts, Annex I and Annex II, and logbook templates are provided for illustrative purposes only for all gears (Annex III, IV, V and VI):

Annex I includes information on vessel, trip and gear configuration, and need only be completed once for each trip, unless the gear configuration changes during the trip.

Annex II contains information of purse seine, longline, gillnet and pole and line operations and catch, which must be completed for each set of the fishing gear.

- 4 The logbook data should be provided by the fishing masters to the flag State administration, as well as to the coastal State administration where the vessel has fished in that coastal State's EEZ. The flag State and the States which receive this information should provide all the data for any given year to the IOTC Secretariat and the Scientific Committee by June 30th of the following year on an aggregated basis. The confidentiality rules set out in Resolution 98/02 *Data Confidentiality Policy and Procedures* for fine-scale data shall apply.
- 5 The Commission will review this recommendation at its 2012 annual meeting, taking into account the recommendations of the Scientific Committee, with the view of adopting a resolution to implement reporting requirements across all gear types.

ANNEX I

Record once per trip (unless gear configuration changes)

1.1 REPORT INFORMATION

- 1) Date of the submission of logbook
- 2) Name of reporting person

1.2 VESSEL INFORMATION

- 1) Vessel name and/or registration number
- 2) IOTC number, where available
- 3) Call sign: if call sign is not available, other unique identifying code such as registration or fishing licence number should be used
- 4) Vessel size: gross tonnage and/or overall length (meters)

1.3 CRUISE INFORMATION

For multiday fishing operations record the

- 1) Departure date and port
- 2) Arrival date and port

1.4 OTHER REQUIRED INFORMATION

Longline (Gear Configuration):

- 1) Average branch line length (meters): straight length in meters between snap and hook (Figure 1)
- 2) Average float line length (meters): straight length in meters from the float to the snap
- 3) Average length between branch (meters): straight length of main line in meters between successive branch lines
- 4) Main line material classified into four categories:
 - a. Thick rope (Cremona rope)
 - b. Thin rope (PE or other materials)
 - c. Nylon braided
 - d. Nylon monofilament

Purse Seine (Search Information):

- 1) Days searched
- 2) Spotter plane used (Yes/No)

Gillnet (Gear Configuration):

- 1) Minimum and maximum fishing depth of assembled net (meters): record the maximum and minimum of the depth range fished
- 2) Mesh size of net (millimetres): record the size of the mesh size used during the trip
- 3) Height of assembled net (meters): height on assembled net in meters
- 4) Netting material: e.g. nylon braid, nylon monofilament, etc
- 5) Total length of net lost and not recovered (meters): record the total length lost during the trip

Pole and line

- 1) Activity: reported each day from the start of the trip to the end of the trip. Activities should include “a day fishing or search with bait onboard”, “no fishing – collecting bait”; “no fishing – in transit”; no fishing – gear breakdown”; no fishing – bad weather” and no fishing – in port

ANNEX II

Record once per set/shot/operation

2.1 OPERATION

For longline:

- 1) Date of set (YYYY/MM/DD)
- 2) Position in latitude and longitude: either at noon (local time) position or position of start of gear, area code of operation (e.g. Seychelles EEZ, High seas, etc) may be optionally used
- 3) Local Time (24 hr) of starting setting the gear
- 4) Sea surface temperature at noon with one decimal point, if available (XX.X°C)
- 5) Number of hooks between floats: if there are different hooks counts between floats in a single set then record the most representative (average) number
- 6) Total number of hooks used in the set
- 7) Number of light-sticks used in the set
- 8) Type of bait used in the set

For purse seine:

- 1) Date of fishing activity (YYYY/MM/DD)
- 2) Position in latitude and longitude: for each set or at noon (local time) position
- 3) Details of the set or deployment of FAD: specify if the set was successful, nil, time, well
- 4) Type of school: FAD association (specify the type e.g. object, beacon, whale shark, whale, etc) and/or free swimming school
- 5) Sea surface temperature at noon with one decimal point, if available (XX.X°C)
- 6) Current speed (knots) and direction (degrees)

For gillnet:

- 1) Date of set (YYYY/MM/DD): record the date for each set of day at sea (for days without sets)
- 2) Total length of net (meters): length floatline used for each set in meters
- 3) Start fishing time: record the UCT time (24 hr) when starting each set
- 4) Start and end position in latitude and longitude: record start and end latitude and longitude that represent the area that your gear is set between. Record the latitude and longitude at noon for days with no set.
- 5) Depth at which net is set (meters): approximate depth at which the gillnet is set
- 6) Start Haul Time: record the UCT time (24 hr) when hauling starts
- 7) Finish Haul Time: record the UCT time (24 hr) when hauling ends

For Pole and Line

- 1) Date of fishing: record the day of fishing. Each fishing day should be recorded separately.
- 2) Number of fishermen: record the number of fishermen on the boat by fishing day (fishing event)
- 3) Number of fishing gears used: Record the number of fishing gears used during the day (fishing event)
- 4) Start fishing time: record the UCT time (24 hr) immediately after bait fishing is complete and the vessel heads to the ocean for fishing. For multiple days, the time at which search starts should be recorded
- 5) End fishing time: record the UCT time (24 hr) immediately after fishing is complete from the last school. This is the time that the captain decides to head home. On multiple days this is the time fishing stopped from the last school.
- 6) Position of the catch: record the latitude and longitude at the start of the fishing event, record

the latitude and longitude at noon for non-fishing days. Where information is recorded by day, record the average 1° x 1° area(s) where fishing took place.

7) Type of school: FAD associated and/or free school

2.2 CATCH

- 1) Catch weight (kg) or number by species per set/shot/fishing event for each of the species and form of processing in section 2.3:
 - a. For longline by number and weight;
 - b. For purse seine by weight;
 - c. For gillnet by weight;
 - d. For pole and line by weight or number

2.3 SPECIES

For Longline:

Fish Species	Other Species
Southern Bluefin Tuna (<i>Thunnus maccoyii</i>)	Blue Shark (<i>Prionace glauca</i>)
Albacore Tuna (<i>Thunnus alalunga</i>)	Mako Sharks (<i>Isurus</i> spp.)
Bigeye Tuna (<i>Thunnus obesus</i>)	Porbeagle Shark (<i>Lamna nasus</i>)
Yellowfin Tuna (<i>Thunnus albacores</i>)	Oceanic Whitetip Shark (<i>Carcharhinus longimanus</i>)
Skipjack Tuna (<i>Katsuwonus pelamis</i>)	Hammerhead Sharks (<i>Sphyrna</i> spp.)
Swordfish (<i>Xiphius gladius</i>)	Other sharks
Striped marlin & blue marlin (<i>Tetrapturus audax</i> & <i>Makaira indica</i>)Swordfish (<i>Xiphius gladius</i>)	Optional species to be recorded
Black Marlin (<i>Makaira mazara</i>)Striped marlin & blue marlin (<i>Tetrapturus audax</i> & <i>Makaira indica</i>)	Thresher Sharks (<i>Alopias</i> spp.)
Shortbilled spearfish (<i>Tetrapturus angustirostris</i>)Black Marlin (<i>Makaira mazara</i>)	Tiger Shark (<i>Galeocerdo cuvier</i>)
Indo–Pacific Sailfish (<i>Istiophorus platypterus</i>)Shortbilled spearfish (<i>Tetrapturus angustirostris</i>)	Crocodile Shark (<i>Pseudocarcharias kamoharai</i>)
Other bony fishesIndo–Pacific Sailfish (<i>Istiophorus platypterus</i>)	Other Requiem sharks (<i>Carcharhinus</i> spp.)
Other bony fishes	Great White shark (<i>Carcharodon carcharias</i>)
	Pelagic stingray (<i>Pteroplatytrygon violacea</i>)

For Purse Seine:

Fish Species	Others Optional
Albacore Tuna (<i>Thunnus alalunga</i>)	Whale Shark (<i>Rhincodon typus</i>)
Yellowfin Tuna (<i>Thunnus albacores</i>)	Oceanic Whitetip Shark (<i>Carcharhinus longimanus</i>)
Skipjack Tuna (<i>Katsuwonus pelamis</i>)	Silky sharks (<i>Carcharhinus falciformis</i>)
Bigeye Tuna (<i>Thunnus obesus</i>)	Other sharks
Other fishes	

For Gillnet:

Fish Species	Other Species
Albacore Tuna (<i>Thunnus alalunga</i>)	Blue Shark (<i>Prionace glauca</i>)
Bigeye Tuna (<i>Thunnus obesus</i>)	Mako Sharks (<i>Isurus</i> spp.)
Longtail Tuna (<i>Thunnus tonggol</i>)	Porbeagle Shark (<i>Lamna nasus</i>)
Yellowfin Tuna (<i>Thunnus albacores</i>)	Oceanic Whitetip Shark (<i>Carcharhinus longimanus</i>)
Skipjack Tuna (<i>Katsuwonus pelamis</i>)	Hammerhead Sharks (<i>Sphyrna</i> spp.)
Frigate Tuna (<i>Auxis thazard</i>)	Other sharks
Kawakawa (<i>Euthynnus affinis</i>)	Optional species to be recorded
Narrow banded Spanish Mackerel (<i>Scomberomorus comerson</i>)	Thresher Sharks (<i>Alopias</i> spp.)
Indo–Pacific King Mackerel (<i>Scomberomorus guttatus</i>)	Tiger Shark (<i>Galeocerdo cuvier</i>)
Marlins (<i>Tetrapturus</i> spp, <i>Makaira</i> spp)	Crocodile Shark (<i>Pseudocarcharias kamoharai</i>)
Indo–Pacific Sailfish (<i>Istiophorus platypterus</i>)	Other Requiem sharks (<i>Carcharhinus</i> spp.)
Shortbilled spearfish (<i>Tetrapturus angustirostris</i>)	Great White shark (<i>Carcharodon carcharias</i>)
Swordfish (<i>Xiphius gladius</i>)	
Other fishes	

For Pole and Line:

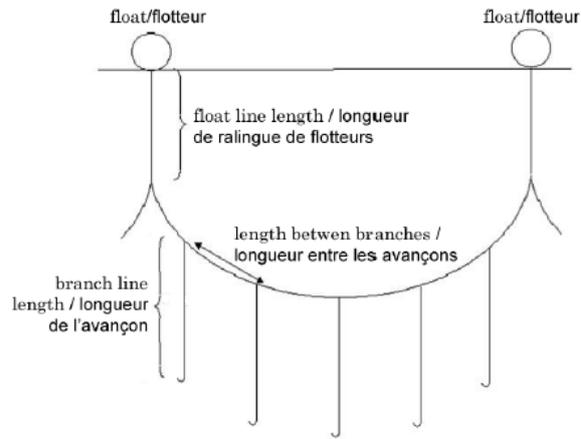
Fish Species
Skipjack Tuna (<i>Katsuwonus pelamis</i>)
Yellowfin Tuna (<i>Thunnus albacores</i>)
Bigeye Tuna (<i>Thunnus obesus</i>)
Albacore Tuna (<i>Thunnus alalunga</i>)
Frigate Tuna (<i>Auxis thazard</i>)
Kawakawa (<i>Euthynnus affinis</i>)
Longtail Tuna (<i>Thunnus tonggol</i>)
Narrow banded Spanish Mackerel (<i>Scomberomorus comerson</i>)
Other fishes

2.4 REMARKS

- 1) Discard Weight (kg) or number
 - a. For longline by number and weight
 - b. For purse seine estimate weight for each species
 - c. For gillnet by weight
 - d. For pole and line by weight or number
- 2) Any interactions with whale sharks (*Rhincodon typus*) and marine mammals are encouraged to be recorded
- 3) Discard of tuna, tuna–like fish and sharks, turtles and seabirds should be recorded in the remarks
- 4) Other information is also written in the remarks
- 5) Recall the Recommendation 10/13 *On the Implementation of a Ban on Discards of Skipjack Tuna, Yellow Fin Tuna, Bigeye Tuna and Non Targeted Species Caught by Purse Seiners*

Note: The species included in the logbooks are regarded as minimum requirement. Optionally other frequently caught shark and/or fish species should be added as required across different areas and fisheries.

Figure 1. Schematic diagram of longline gear / Diagramme schématique d'une palangre.



ANNEX III – LOGBOOK TEMPLATE FOR TUNA LONGLINERS (FOR ILLUSTRATIVE PURPOSES ONLY)

CPCs NEED TO ENSURE THAT THE MINIMUM REQUIREMENTS SET OUT ABOVE ARE ADDED TO THE LOGBOOKS

Flag country / Pavillon			
Date reported / Date de déclaration †		Name of captain / Nom du capitaine	
Reporting person / Personne déclarante	Name / Nom		Phone / Téléphone
Departure date / Date de départ †		Departure port / Port de départ	
Arrival date / Date d'arrivée †		Arrival port / Port d'arrivée	

Name of boat / nom du navire			
Vessel size / Taille du navire	GT (tons)/TB (tonnes)	LOA (m) / LHT (m)	
License number / Numéro de licence			
Call sign / Indicateur radio			
Number of crew / Effectif équipage			

† use YYYY/MM/DD for dates / utilisez AAAA/MM/JJ pour les dates

Gear configuration / configuration de l'engin	
Branch line length / Longueur des avancons (m)	
Float line length / longueur des ralingues de flotteurs (m)	
Length between branch lines / longueur entre les avancons (m)	
Target / cibles	1. Tuna/thons () 2. Swordfish/espadon () 3. Other/ autres ()

Type of weight / type de poids
<input type="checkbox"/> whole / entier
<input type="checkbox"/> processed / transformé

In each set, catch should be given both in number and weight (in kg) in upper and lower row, respectively

Date †	Position				Time of setting setting gear (24hr) / heure de début de cadre	SST °*	Number of hooks between floats / nombre d'hameçons entre flotteurs	Total number of hooks / nombre total d'hameçons	Tunas / thons					Billfishes / Poites-épée					Sharks / requins				Other / autres poissons	Remarks (discard or other information) / remarques (rejets ou autres informations)	
	Latitude		Longitude						southern bluefin / thon rouge	albacore / germon	bigeye / paludo	yellowfin / albacore	skipjack / listao	Swordfish / espadon	Striped marlin / marlin rayé	blue marlin / marlin bleu	black marlin / marlin noir	Sailfish / volier	Shorbill spearfish / marlin à resbre court	Blue shark / Peau bleue	Porbeagle / requin lape	Mako / petite lape			Other / autres
	Degree / Degrés ‡	NS	Degree / Degrés ‡	EW																					
		N S		E W																					
		N S		E W																					
		N S		E W																					
		N S		E W																					

† for dates, use the YYYY/MM/DD format / pour les dates, utiliser le format AAAA/MM/JJ
‡ for positions, use the format: / pour les positions, utiliser le format: XX°XX'
** for SST, use a value with one decimal point / pour la SST, utiliser une valeur à une décimale

**ANNEX IV – LOGBOOK TEMPLATE FOR PURSE–SEINE VESSELS
(FOR ILLUSTRATIVE PURPOSES ONLY)**

CPCs NEED TO ENSURE THAT THE MINIMUM REQUIREMENTS SET OUT ABOVE ARE ADDED TO THE LOGBOOKS

DEPART / SALIDA / DEPARTURE				ARRIVEE / LLEGADA / ARRIVAL								NAVIRE / BARCO / VESSEL				PATRON / PATRON / MASTER				FEUILLE HOJA / SHEET N°	
PORT / PUERTO / PORT DATE / FECHA / DATE HEURE / HORA / HOUR LOCH / CORREDERA / LOCH				PORT / PUERTO / PORT DATE / FECHA / DATE HEURE / HORA / HOUR LOCH / CORREDERA / LOCH																	
DATE FECHA DATE	POSITION (chaque calée ou midi) POSICION (cada lance o mediada) POSITION (each set or midday)	CALEE LANCE SET		CAPTURE ESTIMEE ESTIMACION DE LA CAPTURA ESTIMATED CATCH										ASSOCIATION ASOCIACION ASSOCIATION				COMMENTAIRES OBSERVACIONES COMMENTS		COURANT CORRIENTE CURRENT	
		Portant / Positivo / Successful Nul / Nulo / Nil	Heure / Hora / Time préciser/spécifier/specify TU+ N° Cuve / Cuba / Well	1		2		3		AUTRE ESPECE préciser le/les nom(s) OTRA ESPECIE dar el/los nombre(s) OTHER SPECIES give name(s)		REJETS préciser le/les nom(s) DESCARTES dar el/los nombre(s) DISCARDS give name(s)		Banc libre/Banco libre/Free school Epave / Objeto / Log N (naturelle/natural), A (artificielle/artificial)	Bateau d'assistance Barco de apoyo / Supply	Balise / Baliza / Beacon Requin Baleine Tiburon Ballena / Shark Whale Baleine / Ballena / Whale	Route/Recherche, problèmes divers, type d'épave (naturelle/artificielle, balisée, bateau), prise accessoire, taille du banc, autres associations, ...		T° Mer / Mar / Sea	Direction / Dirección / Dirección Degrés / Grados / Degree	Vitesse / Velocidad / Speed Nœuds / Nudos / Knots
				Taille Talla Size	Capture Captura Catch	Taille Talla Size	Capture Captura Catch	Taille Talla Size	Capture Captura Catch	Nom Nombre Name	Taille Talla Size	Capture Captura Catch	Nom Nombre Name				Taille Talla Size	Capture Captura Catch			
Une calée par ligne / Uno lance cada línea / One set by line																					

APPENDIX XVIII

UPDATE ON PROGRESS REGARDING RESOLUTION 09/01 – ON THE PERFORMANCE REVIEW FOLLOW-UP

(NOTE: NUMBERING AND RECOMMENDATIONS AS PER APPENDIX I OF RESOLUTION 09/01)

ON THE IOTC AGREEMENT – A LEGAL ANALYSIS	RESPONSIBILITY	UPDATE/STATUS
<p>1. The final conclusion of the Panel is that the Agreement is outdated and there are many areas for improvement. The weaknesses and gaps identified are, or have a potential to be, major impediments to the effective and efficient functioning of the Commission and its ability to adopt and implement measures aimed at long-term conservation and sustainable exploitation of stocks, according to model fisheries management instruments. More fundamentally, these deficiencies are likely to prevent the Commission from achieving its basic objectives.</p>	<p><i>Commission and Members</i></p>	<p>Pending: No new developments have taken place in this area.</p>
<p>2. Consequently, the Panel recommends that the IOTC Agreement either be amended or replaced by a new instrument. The decision on whether to amend the Agreement or replace it should be made taking into account the full suite of the deficiencies identified.</p>	<p><i>Commission and Members</i></p>	<p>Pending: No new developments have taken place in this area.</p>
ON CONSERVATION AND MANAGEMENT	RESPONSIBILITY	UPDATE/STATUS
<p>Data collection and sharing</p>		
<p><i>The Panel identified a poor level of compliance by many IOTC Members. with their obligations, notably those related to the statistical requirements on artisanal fisheries and sharks, and recommends that:</i></p>		
<p>3. The timing of data reporting be modified to ensure that the most recent data are available to the working parties and the Scientific Committee.</p>	<p><i>Scientific Committee</i></p>	<p>Completed: Currently CPCs are required to submit information on their flag vessels by 30th June every year. The same timeline is applicable for coastal CPCs who license foreign vessels. The timing of the Working Party on Tropical Tunas and the Working Party on Billfish are considered optimal so that assessments on the most recently available data can be completed and results reported to the Scientific Committee each year.</p>

<p>4. The deadline to provide data on active vessels be modified to a reasonable time in advance of the meeting of the Compliance Committee. This deadline is to be defined by the Compliance Committee.</p>	<p><i>Compliance Committee</i></p>	<p>Completed: Resolutions 10/07 and 10/08 have modified the reporting date for active vessels, which is now in the month preceding the meeting of the Compliance Committee. Resolution 10/08 establishes February 15th as the new deadline for submission of the list of active vessels for the previous year.</p>
<p>5. The scheduling of meetings of the working parties and Scientific Committee be investigated based on the experience of other RFMOs. This should bear in mind the optimal delivery of scientific advice to the Commission.</p>	<p><i>Scientific Committee</i></p>	<p>Completed: Given the large number of meetings of other RFMOs, it is becoming increasingly difficult to find a schedule of meetings that would be better than the one currently in practice. The Scientific Committee will continue to periodically review the timing of the Working Parties.</p>
<p>6. The Commission task the Scientific Committee with exploring alternative means of communicating data to improve timeliness of data provision.</p>	<p><i>Scientific Committee</i></p>	<p>Partially completed: The Secretariat encourages members to utilise electronic means to expedite reporting. A study has been commissioned for 2011 to determine the feasibility of reporting near real-time for various fleets.</p>
<p>7. Non-compliance be adequately monitored and identified at individual Member level, including data reporting.</p>	<p><i>Compliance Committee</i></p>	<p>Ongoing: Reports on compliance with data reporting requirements have been regularly reviewed by the Compliance Committee, as well as discussed at the species Working Parties, the Working Party on Data Collection and Statistics and the Scientific Committee. For the Compliance Committee meeting of 2011, country-based reports have been prepared for this purpose.</p>
<p>8. The causes of non-compliance be identified in cooperation with the Member concerned.</p>	<p><i>Compliance Committee</i></p>	<p>Ongoing: The Terms of Reference of the Compliance Committee was revised in 2010 (Resolution 10/09) and provides for the assessment of compliance by CPCs. The Secretariat, via the Compliance Section, maintains contact with national officers to determine the reasons for non-compliance, in particular, concerning data reporting.</p>
<p>9. When the causes of non-compliance are identified and all reasonable efforts to improve the situation are exhausted, any Member or non-Member continuing to not-comply be adequately sanctioned (such as market related measures).</p>	<p><i>Compliance Committee</i></p>	<p>Ongoing: Resolution 10/10 provides the necessary framework in which to apply market related measures, following an appropriate process. Reductions in future quota allocation have been proposed as deterrents for non-compliance.</p>
<p>10. There is a need to improve the quality and quantity of the data collected and reported by the Members, including the information necessary for implementing the ecosystem approach. The most immediate emphasis should be placed on catch, effort and size frequency. The Panel also recommends that:</p>	<p><i>Scientific Committee</i></p>	<p>Ongoing: See below.</p>

<p>11. Support for capacity building be provided to developing States – the Commission should enhance funding mechanisms to build developing country CPCs’ capacity for data collection, processing and reporting infrastructures, in accordance with the Commission requirements.</p>	<p><i>Standing Committee on Administration and Finance and Finance</i></p>	<p>Ongoing: Currently, the only funding available continues to be through the externally–funded IOTC–OFCF programme. Other sources and cooperative arrangements might be available in the future (e.g. SWIOFP, COI, etc.). The Secretariat continues to collaborate with these initiatives.</p>
<p>12. A regional scientific observer programme to enhance data collection (also for non–target species) and ensure a unified approach be established, building on the experience of other RFMOs, Regional standards on data collection, data exchanged and training should be developed.</p>	<p><i>Scientific Committee</i></p>	<p>Completed: Resolution 10/04 provides CPCs with the necessary framework for putting in place a scientific observer programme. The Regional Observers Scheme commenced July 1st 2010, and is based on national implementation. The Secretariat coordinated the preparation of standards for data requirements, training and forms.</p>
<p>13. Actions be taken so that fishing fleets, especially Maldives, Taiwan, Province of China and Yemen participate in data collection and reporting.</p>	<p><i>Commission</i></p>	<p>Partially completed: Maldives became a Cooperating non–Contracting Party to the IOTC at its 14th annual meeting and will be considered for CPC status at the 2011 meeting. Taiwan, Province of China, submits data from its fishing fleet on a regular basis. The fleets of Maldives and Taiwan,China comply with most of the IOTC mandatory data requirements. The security situation in Yemen continues to prevent a more direct joint working arrangement with national scientists on data collection issues.</p>
<p>14. A relationship with Taiwan, Province of China be developed in order to have data access when needed, to all its fleet data as well as historical series, and address the problems deriving from the current legal framework.</p>	<p><i>Commission and Members</i></p>	<p>Ongoing: Taiwan, Province of China, submits data from its fishing fleet on a regular basis and routinely allows access to historical data. It also continues to participate in the Regional Observer Programme to monitor transshipment at sea.</p>
<p>15. The Secretariat’s capacity for data dissemination and quality assurance be enhanced, including through the employment of a fisheries statistician.</p>	<p><i>Standing Committee on Administration and Finance via Scientific Committee</i> <i>Commission</i></p>	<p>Ongoing: The existing post of Data Analyst was converted to a Fisheries Statistician to join the Data Section of the Secretariat.</p>
<p>16. A statistical working party be established to provide a more efficient way to identify and solve the technical statistical questions.</p>	<p><i>Scientific Committee</i></p>	<p>Completed: The Working Party on Data Collection and Statistics resumed its annual meeting in 2009.</p>
<p>17. The obligation incumbent to a flag State to report data for its vessels be included in a separate Resolution from the obligation incumbent on Members to report data on the vessels of third countries they licence to fish in their exclusive economic zones (EEZs).</p>	<p><i>Compliance Committee</i></p>	<p>Completed: Resolutions 10/07 and 10/08 address the reporting requirements of flag and coastal States responsibilities, with regards to vessels that are active in the IOTC Area.</p>

<p><i>In relation to non–target species, the panel recommends that:</i></p> <p>18. The list of shark species for which data collection is required in Recommendation 08/04 be expanded to include the five species identified by the Scientific Committee (blue shark, shortfin mako, silky shark, scalloped hammerhead, oceanic whitetip), and apply to all gear types.</p>	<p><i>Commission</i></p>	<p>Partially completed: In 2010, the majority of the Working Party on Ecosystems and Bycatch recommended a list of eleven species or species–groups for inclusion in Resolution 08/04. All of these species or groups are considered easily identifiable by fishers. It is noted here that although silky shark is perhaps the most important shark bycatch species in tropical tuna fisheries, it is not easily identified by fishers, since it is readily confused with similar species. The Commission meeting in 2011 will be considering several proposals in this regard.</p>
<p>19. The Secretariat’s capacity to provide support to developing States’ Members should be enhanced.</p>	<p><i>Commission and Standing Committee on Administration and Finance</i></p>	<p>Ongoing: Resolution 10/05 provides a mechanism for financial support to facilitate scientists and representatives from IOTC Members and Cooperating non–Contracting Parties who are developing States to attend and/or contribute to the work of the Commission, the Scientific Committee and its Working Parties. The Secretariat has also collaborated directly and indirectly with other regional initiatives including but not limited to the OFCF, SWIOFP, ACP II and COI.</p>
<p>20. Cooperative capacity building efforts amongst Members and, as appropriate external organisations, should be encouraged.</p>	<p><i>Members and Secretariat</i></p>	<p>Ongoing: See Recommendations 13 and 21.</p>
<p>21. Innovative or alternative means of data collection (e.g. port sampling) should be explored and, as appropriate, implemented.</p>	<p><i>Scientific Committee</i></p>	<p>Ongoing: The Secretariat has been implementing sampling programmes since 1999. The IOTC–OFCF Programme has supported sampling programmes and other means of data collection since 2002.</p>
<p>22. Avenues to collect data from non–Members should be explored.</p>	<p><i>Secretariat</i></p>	<p>Ongoing: The activities of the IOTC–OFCF Project have not been limited to IOTC members, and, in the past, have extended to important non–member fishing countries such as Yemen and Maldives.</p>

Quality and provision of scientific advice		
23. For species with little data available, the Scientific Committee should be tasked with making use of more qualitative scientific methods that are less data intensive.	<i>Scientific Committee</i>	In progress: The species Working Parties have been using informal analyses of stock status indicators when data are considered insufficient to conduct full assessments for some time. However, a formal system that reviews those qualitative indicators and provides a recommendation on the current status, based on the weight-of-evidence has yet to be developed.
24. More emphasis should be given to adherence to data collection requirements.	<i>Compliance Committee</i>	In progress: The Working Party on Data Collection and Statistics and the species Working Parties evaluate the availability and quality of data, and makes recommendations to the Scientific Committee on how to improve data quality. The Compliance Committee receives a report on the timeliness and completeness of the reporting of the data required by the various Resolutions of the Commission for each country.
25. Confidentiality provisions and issues of accessibility to data by the scientists concerned needs to be clearly delineated, and/or amended, so that analysis can be replicated.	<i>Scientific Committee</i>	Ongoing: Input, output and executable files for the assessment of major stocks are archived with the Secretariat to allow replication of analyses. Access to operational data under cooperative arrangements, and those subject to confidentiality rules is still limited. In some cases the Secretariat is bound by the domestic data confidentiality rules of Members and Cooperating non-Contracting Parties.
26. The resources of the IOTC Secretariat should be increased. Even though some progress will be made with recruitment of the stock analysis expert, some additional professional staffing is required.	<i>Standing Committee on Administration and Finance on advice from Committees and the Commission</i>	Pending: The Commission declined the request for additional staff in 2010. The Secretariat will propose a budget for the 2011 and 2012 that includes additional professional staff, as recommended by the Scientific Committee.
27. To enhance the quality of scientific advice and the technical soundness of the papers being considered by the Scientific Committee and its working parties, and to encourage publication of IOTC scientific papers in relevant journals, future consideration should be given to the establishment of a scientific editorial board within the Scientific Committee	<i>Scientific Committee</i>	Partially completed: Not yet discussed by the Scientific Committee. However, guidelines for the presentation of stock assessment papers were revised and agreed to by the Scientific Committee in 2010.
28. An online IOTC Data Summary should be established	<i>Secretariat</i>	Pending: Budgetary provisions to be renewed for 2011.

<p>29. Ongoing peer review by external experts should be incorporated as standard business practice of working parties and the Scientific Committee.</p>	<p><i>Scientific Committee</i></p>	<p>Pending: External experts are regularly invited to provide additional expertise, although this does not constitute a formal process of peer review. The Scientific Committee in 2010, agreed that once stock assessment models were considered robust, that peer review would be advantageous and funds will be requested to undertake peer reviews of stock assessments.</p>
<p>30. New guidelines for the presentation of more user friendly scientific reports in terms of stock assessments should be developed. In this respect, Kobe plots are considered to be the most desirable method of graphical presentation, especially to non-technical audience.</p>	<p><i>Scientific Committee</i></p>	<p>Partially completed: All recent stock assessment results have been presented using the Kobe plot, and the species Working Parties are progressing in presenting the Kobe matrix. The 2010 Scientific Committee report includes Kobe Matrices for both bigeye tuna and swordfish. The stock status table at the front of the Scientific Committee report was also revised in 2010 to reflect the Kobe plot format.</p>
<p>31. A special fund to support the participation of scientists from developing States should be established.</p>	<p><i>Standing Committee on Administration and Finance</i></p>	<p>Completed: A Meeting Participation Fund was established via Resolution 10/05. The Resolution provides a funding mechanism to facilitate scientists and other representatives from IOTC Members and Cooperating non-Contracting Parties (CPCs) who are developing States to attend and/or contribute to the work of the Commission, the Scientific Committee and its Working Parties. The fund is financed, initially, by accumulated funds, with no provisions for long-term support yet agreed.</p>
<p>32. The Commission should renew efforts to convene meetings of the Working Party on Neritic Tunas</p>	<p><i>Commission</i></p>	<p>Pending: Programmed for 2011/2012. Depended on resources of the Secretariat and availability of data.</p>
<p>Adoption of conservation and management measures</p>		
<p>33. As the IOTC has faced the management of the main targeted stock under its purview only through a regulation of the fishing effort; other approaches should be explored, such as those envisioned in Resolution 05/01, including catch limits, total allowable catch (TAC) or total allowable effort (TAE).</p>	<p><i>Commission</i></p>	<p>In progress: Resolution 10/01 provides the starting point in the process of moving towards a total allowable catch limit. The first meeting of the Technical Meeting on Allocation Criteria was held in Nairobi, Kenya from 16–18 February 2011. A further meeting in early 2012 was proposed and will be considered by the Commission in 2011.</p>
<p>34. Within the system of the freezing of fishing effort in terms of number of vessels and correspondent capacity in gross tonnage, a deadline should be agreed for the implementation of fleet development plans.</p>	<p><i>Commission</i></p>	<p>Completed: Some CPCs have cited the global financial crisis as the reason for their inability to implement their fleet development plan and have therefore signalled to the Commission that their plan will be revised. A deadline of 31st December, 2010, was set for submission of all revised or new fleet development plans.</p>

35. IOTC should consider developing a framework to take action in the face of uncertainty in scientific advice.	<i>Scientific Committee and Commission</i>	In progress: The Scientific Committee has agreed that the development of a Management Strategy Evaluation process be initiated to provide better advice that would incorporate explicit consideration of uncertainty.
36. IOTC should use the full range of decision making processes available to it under the Agreement.	<i>Commission</i>	Ongoing: For the first time in its history of adopting conservation and management measures, the Commission took a vote on a proposed resolution during its 14 th Annual Session.
37. The IOTC Agreement needs to be amended or replaced in order to incorporate modern fisheries management principles, such as the precautionary approach.	<i>Commission and Members</i>	Pending.
38. Pending the amendment or replacement of the Agreement, the Commission should implement the precautionary approach as set forth in the UNFSA.	<i>Commission</i>	Pending: see also Recommendation 35.
39. Measures to regulate shark fisheries should be considered by the Commission.	<i>Commission</i>	In progress: Resolution 05/05 provides the framework for combating the practice of shark finning and Resolution 10/12 is aimed at the conservation of sharks of the family Alopiidae. A number of proposals will be considered by the Commission at its 2011 meeting.
40. There is a need to develop and take into account modern principles for fisheries management, including ecosystem based approach, protection of marine biodiversity and reducing the harmful impacts of fishing on marine environment.	<i>Commission and Members</i>	Ongoing: Resolutions 09/05, 09/06 and 10/06 are all aimed at encouraging fishing practices that protect marine biodiversity and reducing the harmful impacts of fishing on the marine environment or on species that are incidentally caught in association with IOTC species.
41. These concepts should be integrated in the IOTC Agreement.	<i>Commission and Members</i>	Pending.
Capacity management		
42. IOTC should establish a stronger policy on fishing capacity to prevent or eliminate excess fishing capacity.	<i>Working Party on Fishing Capacity Scientific Committee Commission</i>	Ongoing: The Commission has since 2003 adopted a series of Resolutions (03/01, 06/05, 07/05 and 09/02) with the objective of addressing the issue of fishing capacity. However, to date these resolutions have not resulted in a strong control on fishing capacity, and the concern remains that overcapacity might result from this lack of control. The Secretariat is actively involved in developing the global vessels record for vessels fishing for tuna and tuna-like species that would contribute to the assessment of existing fishing capacity.

43. Loopholes in the current systems of fishing capacity limitation, such as the establishment of fleet development plans and exemptions for vessels less than 24 meters, should be closed.	<i>Working Party on Fishing Capacity Commission</i>	Partially completed: Resolution 09/02, and the decisions made at IOTC 14, establishing a new deadline to file fleet developments plans, aim at establishing firm capacity targets.
44. IOTC should endorse the recommendation of the Scientific Committee to create a Working Group on Fishing Capacity.	<i>Commission</i>	Completed: The first Working Party on Fishing Capacity was convened in 2009. In 2010 as no new documents were presented, it was amalgamated into the Working Party on Tropical Tunas as a theme session.
Compatibility of management measures		
45. IOTC Members should be invited to promptly implement IOTC conservation and management measures through their national legislation.	<i>Secretariat and Commission</i>	Ongoing: CPCs are reminded annually about the responsibility of integrating IOTC conservation and management measures in their national legislation. The Secretariat is cooperating with CPCs by assisting in the assessment of the legal needs to effectively implement IOTC measures.
Fishing allocations and opportunities.		
46. IOTC should explore the advantages and disadvantages of implementing an allocation system of fishing quota, expressed as TAC or TAE system. Such an investigation should include consideration of how significant catches by current non-Members would be accounted for.	<i>Commission</i>	In progress: Resolution 10/01 has begun the process of moving towards the implementation of a total allowable catch limit for IOTC species. A Technical Meeting on Allocation Criteria has discussed proposed guidelines and methods to allocate future quota.
ON COMPLIANCE AND ENFORCEMENT	RESPONSIBILITY	UPDATE/STATUS
Flag State duties		
47. Any amendment to or replacement of the IOTC Agreement should include specific provisions on Member's duties as flag States, drawing on the relevant provisions of the UNFSA.	<i>Commission and Members</i>	Pending.
Port State measures		
48. Any amendment to or replacement of the IOTC Agreement should include specific provisions on Member's duties as port States.	<i>Commission and Members</i>	Pending.
49. IOTC should explore the possible implementation of the FAO Model Scheme on Port State Measures.	<i>Commission</i>	Completed: see Recommendation 50.

50. The IOTC should duly note the outcome of the current process for establishment of a globally binding agreement on port State measures.	<i>Commission</i>	Completed: Resolution 10/11 is inspired by the FAO Port State Measures Agreement. By adopting this resolution, IOTC CPCs have agreed to implement the conditions of this agreement even before it becomes globally binding, and it became the first RFMO to do so.
Monitoring, Control and Surveillance		
51. IOTC should develop a comprehensive monitoring, control and surveillance (MCS) system through the implementation of the measures already in force, and through the adoption of new measures and tools such a possible on-board regional observers' scheme, a possible catch documentation scheme as well as a possible system on boarding and inspection.	<i>Compliance Committee</i>	In progress: IOTC already has an extensive number of MCS related measures. However, the implementation of these measures are the duty and responsibility of the CPCs. Proposals to introduce a catch documentation scheme, especially for the major IOTC species, have until now been rejected by CPCs. Resolution 10/04 – observers and field samplers are required monitor the unloading of catches.
Follow-up on infringements		
52. The current IUU resolution should be amended to allow the inclusion of vessels flagged to Members.	<i>Commission</i>	Completed: Resolution 09/03, which supersedes Resolution 06/03, was adopted for this purpose.
53. IOTC should explore options concerning the possible lack of follow-up on infringements by CPCs.	<i>Compliance Committee</i>	Ongoing: The Compliance Committee, under its revised terms of reference, will be in a better position to assess such cases.
54. IOTC should establish a sanction mechanism for non-compliance, and task the Compliance Committee to develop a structured approach for cases of infringement.	<i>Compliance Committee</i>	In progress: The Compliance Committee, under its revised terms of reference, shall develop a scheme of incentives and sanctions and a mechanism for their application to encourage compliance by all CPCs.
55. Provisions for follow-up on infringement should be included in any amended/replaced Agreement.	<i>Commission and Members</i>	Completed: The Compliance Committee, under its revised terms of reference, will be in a position to follow up on matters concerning each individual CPC.
Cooperative mechanisms to detect and deter non-compliance		
56. A structured, integrated approach to evaluate the compliance of each of the Members against the IOTC Resolutions in force should be developed by the Compliance Committee.	<i>Compliance Committee</i>	In progress: For the Compliance Committee meeting of 2011, country-based reports have been prepared for this purpose.
57. CPCs should be reminded of their duty to implement in their national legislations the conservation and management measures adopted by IOTC.	<i>Compliance Committee</i>	Ongoing: CPCs are reminded annually about the responsibility of integrating IOTC conservation and management measures in their national legislation. The Reports of Implementation, mandated in the IOTC Agreement, provide a mechanism to monitor progress of implementation at the national level.

58. The requirement to present national reports on the implementation of IOTC measures should be reinforced.	<i>Compliance Committee</i>	Ongoing: Reminders are sent to CPCs prior to the Commission meeting and a template has been developed by the Secretariat to facilitate the preparation of national reports on implementation of IOTC measures. Compliance with this requirement will be assessed in the country-based compliance reports.
59. The sense of accountability within IOTC seems to be very low; therefore more accountability is required. There is probably a need for an assessment of the performance of CPCs.	<i>Compliance Committee</i>	Ongoing: The revised terms of reference of the Compliance Committee will facilitate this assessment in the form of the country reports prepared for the 2011 session.
60. Establishment of formal mechanisms of MCS (e.g. observers programmes) should be considered	<i>Compliance Committee</i>	Ongoing: Resolution 08/02 provides for an observer programme to monitor at sea transshipments, but by placing observers only on carrier vessels. Resolution 10/04 establishes a Regional Observer Scheme that includes observers on board vessels, and port sampling for artisanal fisheries.
Market related measures		
61. As IOTC action in terms of measures relating to the exercise of rights and duties of its Members as market States are very weak, the non-binding market related measure should be transformed into a binding measure.	<i>Commission</i>	Completed: Resolution 10/10 meets this requirement.
62. The bigeye statistical document programme should be applied to all bigeye products (fresh and frozen). Catch documentation schemes for target species of high commercial value should be considered. Alternatively, expanding the scope of the current statistical document programme to address current loopholes should be considered.	<i>Commission</i>	In progress: A proposal for a resolution to introduce a catch documentation scheme, especially for the major IOTC species, was not endorsed by CPCs at its 14 th Annual Session. A revised proposal will be considered during the 15 th session in 2011.
ON DECISION MAKING AND DISPUTE SETTLEMENT	RESPONSIBILITY	UPDATE/STATUS
Decision making		
63. In order to improve the IOTC practices of decision making and adoption of measures, when every effort to achieve consensus has been exhausted, invoking the procedure of voting should be explored	<i>Commission</i>	Ongoing: Resolution 10/12 was voted upon by CPCs at the IOTC's 14 th Annual Session. It was the first time that the voting procedure was used in IOTC for the adoption of a resolution.
64. Amending the objection procedure so that it is more rigorous, and in line with other RFMO Conventions, featuring restricted grounds for the bases to object is recommended.	<i>Commission and Members</i>	Pending.

Dispute settlement		
65. A provision on dispute settlement should be amended in line with the requirements of UNFSA.	<i>Commission and Members</i>	Pending.
ON INTERNATIONAL COOPERATION	RESPONSIBILITY	UPDATE/STATUS
Transparency		
66. The active vessels list should be made available on the IOTC website.	<i>Commission Secretariat</i>	Completed: Resolutions 07/02, 10/07 and 10/08. The lists of authorised and active vessels are hosted on the IOTC website.
67. The Commission, in consultation with the Scientific Committee, should review the availability of critical data sets used in development of scientific advice and take steps to assure that these data are held at the Secretariat and available for validation of analyses, subject to the appropriate confidentiality requirements.	<i>Commission</i>	Ongoing: See Recommendations on Data collection and sharing above.
Relationship to cooperating non Members		
68. The legal framework of the IOTC Agreement should be amended or replaced in order to enable fishing players active in the area to discharge their obligations in line with the UNFSA.	<i>Commission and Members</i>	Pending: In the meantime, alternative ways of participation of active fishing fleets in the activities of the Commission are being pursued.
Relationship to non cooperating non Members		
69. Although the IOTC has strengthened its action towards non-Members in order to have all important fishing players included under its remit, diplomatic approaches should be made by IOTC Members to non-Members with active vessels in the area.	<i>Commission</i>	Ongoing: The Secretariat has been active in contacting relevant non-Members to encourage their participation. Recent examples include the Maldives and Mozambique. The Secretariat has also responded to queries, briefed representatives about membership from the DPR of Korea, United Arab Emirates, Republic of Yemen and Somalia.
70. When non-cooperation is identified and all reasonable efforts to improve the situation are exhausted, any non-Members continuing not to cooperate should be adequately sanctioned by, for example, market related measures.	<i>Compliance Committee</i>	Ongoing: Resolution 10/10 provides the necessary framework in which to apply market related measures. Actions are to be taken by the Compliance Committee, under its revised terms of reference.

Cooperation with other RFMOs		
71. IOTC should establish mechanisms for a mutual recognition of IUU lists with other RFMOs.	<i>Commission</i>	Partially completed: This issue is addressed in the Resolutions dealing with capacity transfers insofar as to vessels found on IUU lists of other tuna RFMOs should not be flagged by CPCs.
72. IOTC should develop cooperative mechanisms, such as MoUs, to work in a coordinated manner on issues of common interest, in particular non–target species and an ecosystem approach with other RFMOs especially with SIOFA.	<i>Commission</i>	Ongoing: The Secretariat is active in identifying opportunities for collaboration, for the consideration of the Commission.
73. IOTC should annually agree on a Member attending other tuna RFMO meetings as an observer on its behalf and reporting back to the Commission on matters of interest	<i>Commission</i>	Ongoing: Pending annual financial approval by the Commission.
Special requirements of developing States		
74. A specific fund to assist capacity building should be put in place.	<i>Standing Committee on Administration and Finance</i>	Complete. A Meeting Participation Fund was established via Resolution 10/05.
75. Members, that are Parties of UNFSA, should make use of the part VII Fund, established under UNFSA.	<i>Members</i>	Ongoing: Regular reminders are sent to CPCs.
Participation		
76. Financial support, in particular for attendance in the scientific activities to developing States, is needed.	<i>Standing Committee on Administration and Finance</i>	Partially completed: A Meeting Participation Fund was established via Resolution 10/05. The Resolution provides a funding mechanism to facilitate scientists and other representatives from IOTC Members and Cooperating non–Contracting Parties (CPCs) who are developing States to attend and/or contribute to the work of the Commission, the Scientific Committee and its Working Parties. The fund is financed, initially, by accumulated funds, with no provisions for long–term support yet agreed.
77. The legal framework of the IOTC should be amended or replaced in order to enable fishing players active in the area to discharge their obligations in line with the UNFSA.	<i>Commission and Members</i>	Pending.

ON FINANCIAL AND ADMINISTRATIVE ISSUES		UPDATE/STATUS
Availability of resources for RFMO activities –efficiency and cost–effectiveness		
<p>78. The IOTC Agreement as well as financial management rules should be amended or replaced in order to increase Members’ as well as Secretariat’s control of all the budget elements, including staff costs of the budget. This would also improve transparency.</p>	<p><i>Standing Committee on Administration and Finance</i></p> <p><i>Commission and Members</i></p>	<p>Pending.</p>
<p>79. Prior to the Commission assuming full control of the budget, the Commission meeting at which the budget is considered should be held as close as possible to the commencement of the financial year to which this budget relates and if possible in advance of that year.</p>	<p><i>Commission</i></p>	<p>Completed: The meeting of the Commission has moved back towards the beginning of the financial year, thus reducing the difficulties of operating without a budget.</p>
<p>80. A fee system should be considered as a possible funding mechanism for possible new activities.</p>	<p><i>Commission</i></p>	<p>Pending: The IOTC Regional Observer Program (monitoring transshipment at sea) is fully funded by the participants through such a fee system.</p>
<p>81. The agreed external financial audit should be implemented as soon as possible, and should include a focus on whether IOTC is efficiently and effectively managing its human and financial resources, including those of the Secretariat.</p>	<p><i>Standing Committee on Administration and Finance</i></p> <p><i>Commission</i></p>	<p>Pending.</p>

APPENDIX XIX

SELECTION PROCESS FOR THE EXECUTIVE SECRETARY OF THE COMMISSION

Issues on the selection of a new Executive Secretary

1. The Commission noted that the current Executive Secretary, Mr Alejandro Anganuzzi, is scheduled to reach the limit of three terms in the post by March 2013. Therefore, the Commission decided that, in order to ensure the continuity in the activities of the Secretariat and to allow for a proper planning of the transfer of the responsibilities to the new Secretary, the process for the selection of the new Secretary be started during the inter-sessional period following the Fifteenth Session of the Commission.
2. The Commission further agreed to follow the procedure described below for the selection process of the new Executive Secretary:
 - a) The vacancy announcement (including required qualifications) to be advertised through international means, including FAO website and the Commission's website by April 29th 2011;
 - b) Applications to be received by the Secretariat with a deadline of June 15th and distributed to Members by June 30th 2011;
 - c) Five candidates are to be classed in order of preference by Members on a point score of five to one by September 15th. This ranking transmitted by each Member to the Secretariat, collated, and the ranking of all qualified candidates conveyed to all other Members as soon as possible;
 - d) The three candidates with the greatest number of points are to be invited to the Sixteenth Session of the Commission in 2012 for interview by Heads of Delegation;
 - e) The new Secretary to be elected by the Commission;
 - f) The Director General of FAO to be informed of the decision of the Commission in order to proceed to the appointment of the new Executive Secretary.
3. Annex I contains a description of required and desired qualifications for candidates to the post of Executive Secretary.

ANNEX I

Qualifications and benefits

- (a) The incumbent should have university level qualifications, preferably at post-graduate level, in fisheries biology, fisheries science, fisheries economics or related field. He/she should have at least ten years of experience in fisheries management, policy formulation, preferably including bilateral and international relations. He/she should have the ability to exercise a high degree of professional initiative. The incumbent should also be conversant with the preparation of budgets, documents and the organization of international meetings. He/she should have working knowledge, level C, of either English or French. Preference will be given to candidates who have working knowledge in both languages.
- (b) Other essential requirements include competence in the selection of staff; demonstrated ability to supervise professional matters in subject field; and familiarity with the use of word processing, spread sheets and database management systems.
- (c) Desirable requirements include: a high degree of adaptability and ability to cooperate effectively with people of different nationalities and of various social and cultural backgrounds and education levels, as well as experience on fisheries related issues in the region.
- (d) The Executive Secretary will be graded at the D-1 level based on the United Nations salary scheme for professional and high categories. He/she will in addition, be entitled to a variable element for post adjustment, pension, insurance, etc. The Executive Secretary is appointed under the same terms and conditions as staff members of FAO.

Terms of reference

Pursuant to Article VIII.2 of the Agreement, the Executive Secretary shall be responsible for implementing the policies and activities of the Commission and shall report thereon to the

Commission. He/she shall also act as Executive Secretary to the subsidiary bodies established by the Commission, as required.

The incumbent will have overall responsibility for planning, coordination and administration of the Commission in accordance with the Agreement and the decisions of the Commission.

He/she shall, for administrative purposes, be responsible to the Director-General of FAO.

He/she will in particular:

- a) receive and transmit the Commission's official communications;
- b) maintain high level contacts with appropriate government officials, fishery institutions and international organizations concerned with tuna fisheries to facilitate consultation and cooperation between them on information collection and analysis;
- c) maintain an active and effective network of national focal points for routine communication of progress and results of the activities of the Commission;
- d) prepare and implement work programmes, prepare budgets and ensure timely reporting to the Commission;
- e) authorize disbursement of funds in accordance with the Commission's budget;
- f) account for the funds of the Commission;
- g) stimulate interest among Members of the Commission and potential donors in the activities of the Commission and in possible financing or in implementing of pilot projects and complementary activities;
- h) promote, facilitate and monitor the development of databases for resource assessment and biological and socio-economic research to provide a sound basis for conservation management;
- i) coordinate the Members' programmes of research when required;
- j) organize sessions of the Commission and its subsidiary bodies and other related *ad hoc* meetings;
- k) prepare background papers and a report on the Commission's activities and the programme of work for submission to the Commission at the regular sessions, and arrange the subsequent publication of the report and the proceedings of the Commission as well as its subsidiary bodies and related *ad hoc* meetings;
- l) perform other related duties as required.

APPENDIX XX

STATEMENT ON PIRACY IN THE WESTERN PART OF THE IOTC AREA OF COMPETENCE

The Indian Ocean Tuna Commission "IOTC" recalls both its statements on piracy in the western Indian Ocean issued in May 2008, March 2009 and March 2010. Regrettably, cases of piracy against humanitarian, commercial and fishing vessels off the coast of Somalia have not declined. The Commission continues to be deeply concerned by this upsurge of acts of piracy which put at risk the delivery of humanitarian assistance to the population of Somalia. Piracy continues to have a serious impact on merchant shipping and legitimate fishing activities in the western part of the IOTC area of competence subject to international laws and regulations and where their activities are monitored by IOTC members in accordance with its management measures.

The IOTC welcomes the adoption of United Nations Security Council Resolutions (UNSCR) 1814, 1816, 1838, 1846, 1851, 1897, 1918 and 1950 on piracy off the coast of Somalia and urges all States to continue contributing to their rapid and effective implementation. The implementation of these resolutions helps to ensure the protection of fishermen (of various nationalities) from piracy, and enables them to carry out their fishing activities. Fishing is their livelihood that also generates a significant amount of economic activities in Coastal countries of the Indian Ocean. The IOTC expresses its satisfaction with the ongoing efforts of organisations and states contributing to fight piracy off the coast of Somalia. It calls for the international community to devote sufficient means to fully implement the UNSC resolutions, and commends the flagship role that EU is playing with its Operation EUNAVFOR Atalanta.

In addition, the IOTC recalls the relevant provisions included in the United Nations Convention on the Law of the Sea (UNCLOS), notably those included in its article 105, for fighting acts of piracy and calls on State parties to that Convention to take the necessary action in their national legislations to make full use of those provisions.

The IOTC also reiterates the efforts made by the International Maritime Organisation (IMO), with its robust code of conduct on maritime security, piracy and armed robbery against ships for States from the Western Indian Ocean and Gulf of Aden areas of 2009 – the Djibouti Code of Conduct. It calls all eligible states to sign. The IOTC stresses the need to promptly report incidents of piracy and armed robbery, including attempts, thus providing timely and accurate information on the scope of the problem. Sharing relevant information with coastal States and other States potentially affected by such incidents is crucial to addressing the issue. A regional approach is part of the solution and in this context, the IOTC commends the important role of the IMO in implementing the Djibouti Code of Conduct. The IOTC also welcomes the 2011 theme for the World Maritime Day: "Piracy: orchestrating the response".

The IOTC calls on the International Community to give all its support to ensure the safety of all fishing vessels and their crew in the region from acts of piracy. It calls for full implementation by all crew members and fishermen of the Best Management Practices as agreed by the international maritime community – vessels are encouraged to fully adopt these to help repel piracy attacks.

The IOTC calls for strong and concerted action on the international and political scene. The Regional Strategy on Piracy and Maritime Security adopted in Mauritius in 2010 is a major step towards a regional response to piracy. Although measures are in place to prosecute suspected pirates and to install a proper rule of law in Somalia, some grey zones remain. The recent UN report by J. Lang¹¹ puts forward 25 proposals, highlighting in particular the areas such as prosecution and how to overcome legal and political obstacles. It also looks at capacity constraints. The UN Security Council resolution 1918/2010 calls on all States, including States in the region, to criminalize piracy under their domestic law and favourably consider the prosecution of suspected, and imprisonment of convicted, pirates apprehended in the western Indian Ocean, consistent with the application of international law on human rights.

¹¹ Report of the Special Adviser to the Secretary-General on Legal issues related to piracy off the coast of Somalia. January 2011

ANNEX 124

IOTC, A preliminary investigation into the effects of Indian Ocean MPAs on yellowfin tuna, Thunnus albacares, with particular emphasis on the IOTC closed area, IOTC 14th Scientific Committee Report, IOTC–2011–SC14–40[E], November 2011

A preliminary investigation into the effects of Indian Ocean MPAs on yellowfin tuna, *Thunnus albacares*, with particular emphasis on the IOTC closed area.

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1. Introduction

The Indian Ocean Tuna Commission (IOTC) is responsible for managing Indian Ocean tuna, including yellowfin tuna (*Thunnus albacares*) throughout the IOTC area of competence. The report of the IOTC performance review panel highlighted that it is necessary for IOTC to adopt the FAO Precautionary Principle which requires that management advice is based on the best scientific evidence, taking account of uncertainty (Anon, 2009). IOTC Resolution 10/01 established closed area management off Somalia (which we will refer to as the IOTC closed area) and requires that the Scientific Committee provide an evaluation of the closure and its impacts on yellowfin and bigeye stocks looking at catching of juveniles and spawners taken by all fisheries at its 2011 plenary session. Critically, the same Resolution also requires that the Commission adopts a quota allocation system or other relevant measure at its plenary session in 2012. Current management measures also include capacity (effort) controls (Resolution 09/02) and a ban on large scale drift nets on the high seas (Resolution 09/05). In the context of IOTC management of yellowfin tuna stocks, this paper will examine the effect of Indian Ocean closures on stock status, focussing on the potential impacts of the IOTC closed area.

Yellowfin tuna is a schooling species, located in tropical and subtropical oceanic waters. The tag recoveries of the RTTP-IO provide evidence of large movements of yellowfin tuna, supporting the assumption of a single stock for the Indian Ocean for management purposes (IOTC, 2009). Yellowfin tuna are exploited by a number of fleets in the Indian Ocean utilizing different gear. Purse seiners currently take the bulk (33%²) of the catch, followed closely by longliners (31%) (IOTC, 2011a). The most recent stock assessment of yellowfin tuna suggests that the stock is not currently overfished ($B_{2009} > B_{MSY}$, and spawning stock biomass was estimated to be between 31 and 38% of unfished levels), and that overfishing is not occurring ($F_{2009} < F_{MSY}$). Nevertheless, estimates of total biomass and spawning stock biomass have shown a marked decrease over the last decade, accelerated in recent years due to the high catches of 2003–2006. Recent reductions in effort have halted the decline, however there is still considerable uncertainty associated with the assessment (WPTT, 2011).

There is growing concern over the governance and conservation of pelagic resources globally. The use of Marine Protected Area (MPAs) to slow or reverse the decline in fish stocks and biodiversity in the oceans has been advocated in international policy documents, including the Plan of

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² gill net, 19.15%; line, 12.06%; baitboat, 4.27%; other, 0.56%. Source: IOTC Nominal Catch Database (averages 2005-2009).

Implementation of the World Summit on Sustainable Development (UN, 2002). Subsequently, there has been an increase in the number of marine areas protected globally. During 2010 three substantial closed areas were introduced in the Indian Ocean providing an opportunity to investigate the effects of large scale closures on yellowfin tuna. The closures were introduced with a range of objectives, not all related to fisheries management.

- The IOTC implemented seasonal closures in an area extending from the Somali Exclusive Economic Zone (EEZ) 0° - 10° North and 40° - 60° East (Figure 1). This area is closed to the longline fishery during February and the purse seine fishery during November (IOTC, 2010a). The IOTC closed area was the only one of the three established explicitly for fisheries management.
- In April 2010, the British government declared the Chagos EEZ a MPA, an area over 544,000 km² (Mangi et al., 2010). This MPA was created with aims related to biodiversity conservation and creating a scientific reference site within the region. The MPA, encompassing both coastal and pelagic areas, has doubled the area of ocean covered by MPAs worldwide and protects approximately half of the coral reefs in the Indian Ocean that are still classed as 'high quality'. There are about 10 Important Bird Areas, with some of the Indian Ocean's most dense populations of several seabird species. The area also includes undisturbed and recovering populations of Hawksbill and Green Turtles. Commercial fishing within 200 nautical miles of the islands ceased in November 2010, although recreational fishing is still permitted around the island of Diego Garcia (IOTC, 2009).
- The Maldivian government suspended all longline fishing licences in the outer EEZ (>75 miles) in March 2010, so this area is also protected from the longline fleet (IOTC, 2010b). This was implemented in order to limit the longline fishing effort for yellowfin and bigeye tuna, however, the government intends to introduce longline fishing by local fishermen in the outer EEZ of the Maldives (IOTC, 2011b).

It has been suggested that area closures might contribute to the replenishment of yellowfin stocks throughout the Indian Ocean (Koldewey *et al.*, 2010). However, there has been little research regarding the expected impacts of these closures on the highly mobile tuna species. This was highlighted in the 2011 Working Party on Tropical Tunas (WPTT, 2011), and the effectiveness of pelagic MPAs in protecting highly mobile species remains unclear (Game et al 2009; Kaplan et al, 2010). The majority of existing MPAs throughout the world have been primarily advocated to address specific, local-scale issues, whereas traditional fishery management has generally been employed to address regional-scale population issues (Greenstreet et al., 2009). Whether or not MPAs can deliver regional-scale management objectives, such as the fishery management objectives of IOTC, is much less certain (Greenstreet et al., 2009). While quota controls and alternative management measures are currently under consideration by the IOTC, it is crucial therefore that the impacts of the spatial closures on pelagic species are investigated in order to determine whether they can provide sufficient protection for the stocks, or whether additional measures are also required in combination with the MPAs.

It has been suggested that pelagic MPAs can be used to help protect highly mobile pelagic species as well as more sedentary, nearshore species as even for fish stocks which are only within the MPA for small proportions of their range, the overall fishing pressure may be reduced slightly which could allow for an increase of density and individual biomass which can lead to improved fitness and

reproductive potential and so better recruitment to the stock (Murawski *et al.*, 2000; Game *et al.*, 2009; Grüss *et al.*, 2011). However MPAs are decreasingly effective with the increasing mobility of the adult or larval form of the species being protected (Apostolaki *et al.*, 2002, Martell *et al.*, 2005; West *et al.*, 2009). This is mainly due to the limited time a highly mobile species spends within the MPA and the lack of protection against the impacts outside the MPA (Hyrenbach *et al.*, 2000). It has been argued that for an MPA to be effective for migratory species, it has to be of a very large size to cover a large proportion of the range of the species being targeted for protection (Martell *et al.*, 2005). Stefansson and Rosenberg (2005) found that to reduce the probability of the spawning stock biomass (SSB) falling below the biomass threshold (the lower limit for the stock biomass, below which collapse is likely to occur), over 60% of the initial biomass needed to be protected and that to rebuild the stock without any other management strategies in place requires the protection of a very large percentage of the biomass. Dee Boersma and Parrish (1999) further suggested that on a global scale, MPAs may only be effective if they are substantively representative of all biogeographic zones (20% protection per zone). Another issue regarding MPA impacts is the concern that fishing may be displaced into other areas, resulting in an MPA potentially having no effect or causing wider ecological damage, depending on the effect of the redistribution (Roberts *et al.*, 2005).

A successful example of use of a pelagic MPA to conserve a migratory species was the closure of a section of the striped marlin fishery within the Mexican EEZ for three years, which provided benefits to the stock and a 240% increase in CPUE (Jensen *et al.*, 2010). Particular sites may affect the effectiveness of an MPA, such as targeting the protection of juveniles or spawning biomass, however, little work has been done to investigate the impacts of each.

This paper evaluates the effects of the network of protected areas in the Indian Ocean on yellowfin tuna. An age structured model is used to evaluate the effects of a number of scenarios principally related to the impact of the current IOTC and other closures, and extending the IOTC area closure year round. The model only considers the effects of the purse seine and longline (LL) fleets, which make up the majority of the Indian Ocean yellowfin tuna catch. Purse seine fleets were further separated into free school (FS) and FAD (LS) fleet categories to assess the effect of changes in the distribution of fishing mortality among age classes. The effect of the network of closures on fisher behaviour is uncertain, so for simplicity the scenarios tested here evaluated the two extremes that might occur: complete elimination of effort and total displacement of effort based on historic catches and effort in each area.

Scenarios tested:

Simulating the situation prior to the 2010 closures

1. *All areas open*

Simulating closure of the network with the current IOTC spatio-temporal closure

2. *Current network closure – catches eliminated.* IOTC area February for LL and November for LS and FS. Chagos catches eliminated all year (LL, FS and FS). Maldives EEZ catches (LL) eliminated all year.
3. *Current network closure - catches redistributed.* IOTC area catches redistributed in November for LS and FS. Chagos catches (FS and LS) redistributed (LL continue fishing in all areas).

Simulating closure of the network with year-round IOTC closure

4. *Network with IOTC closure all year - catches eliminated.* IOTC and Chagos areas catches eliminated all year (LL, FS and FS). Maldives EEZ catches (LL) eliminated all year.
5. *Network with IOTC closure all year – catches redistributed.* IOTC and Chagos area catches redistributed for LS and FS (LL continue fishing in all areas).

Longline catches could not be redistributed in scenarios 3 and 5 with the current model structure. However within the network area purse seine catches constitute 94% of the catch taken by the longline and purse seine fleets.

2. Methods

An age-structured simulation model of yellowfin tuna was developed based on data from the 2010 Indian Ocean yellowfin tuna stock assessment (Langley pers comm. 2011). Recruitment and fishing mortality were based on random sampling of previous years. The model was set up in quarterly time steps with 28 age classes and 24 fleet categories fishing 5 regions as defined in the stock assessment (Figure 2).

Population dynamics were represented by the standard equations for an age-structured fisheries population model (Equation 1 & Equation 2) where $N_{a,t}$ is numbers age a in time period t (both in quarters), $N_{a-1,t-1}$ is numbers in the previous age class and time step, M_{a-1} is natural mortality in the previous age class, $F_{a-1,t-1}$ is the fishing mortality in the previous age class (calculated in Equation 5) in the previous time step and $N_{a=28,t}$ is the plus group.

$$\text{Equation 1} \quad N_{a,t} = N_{a-1,t-1} e^{(-M_{a-1} - F_{a-1,t-1})}$$

$$\text{Equation 2} \quad N_{a=28,t} = N_{a-1,t-1} e^{(-M_{a-1} - F_{a-1,t-1})} + N_{a,t-1} e^{(-M_a - F_{a,t-1})}$$

Due to the weak relationship between SSB and recruitment, recruits were randomly sampled over all previous years. Fifty iterations were run to account for the variability inherent in historic sampling. Therefore the sensitivity of the stock biomass and other outputs to the sampled recruitment values is shown in the box plots displaying the outputs of these multiple model runs.

Spawning takes place between December and March (Langley *et al.*, 2010), so $\frac{3}{4}$ of annual recruitment was added in the first quarter of the year and $\frac{1}{4}$ in the last quarter of the year. The parameters maturity, natural mortality weight at age and selectivity were obtained from the 2010 stock assessment (Langley pers comm. 2011). Growth parameters were fixed at weight at age values that replicated the growth curve derived by Fonteneau (2008).

Total fishing mortality was randomly sampled based on historic data (1999-2009) but as the aim was to investigate changes in fishing mortality by fleet, these had to be calculated separately within the model. For each projected quarter, catches by fleet f at time t ($C_{f,t}$), total fishing mortality at age in each region at time t ($F_{t,a,r}$) and number of fish at age in each region ($N_{t,a,r}$) were randomly sampled from the corresponding quarter of the historic data. These data were used in Equation 3 to calculate

the fishing mortality for each of the 24 fleets ($F_{f,t}$) multiplied by the selectivity at age for each fleet ($S_{a,f}$), estimated using a numerical root-finding algorithm. Age-specific mortalities were calculated based on time-invariant selectivities.

$$\text{Equation 3} \quad C_{f,t} = \sum_a \left(\frac{F_{f,t} S_{a,f}}{F_{t,a,r} + M_a} \right) N_{a,r,t} w_a \left(1 - e^{(-F_{t,a,r} - M_a)} \right)$$

where M_a is the natural mortality at age a and w_a is the weight at age a .

This method was followed for all fleets except for the long-line fleets. The catches for the long-line fleets were recorded in numbers so the fishing mortality of longline fleets ($F_{f,a}$) was calculated in terms of numbers using Equation 4.

$$\text{Equation 4} \quad C_{f,t} = \sum_a \left(\frac{F_{f,t} S_{a,f}}{F_{t,a,r} + M_a} \right) N_{a,r,t} \left(1 - e^{(-F_{t,a,r} - M_a)} \right)$$

Individual fleet fishing mortalities were summed and weighted by the number of fish in each region (Equation 5) to calculate the total fishing mortality.

$$\text{Equation 5} \quad F_{a,t} = \frac{\sum_r [N_{a,t,r} \sum_{f \in f,r} F_{f,t} S_{a,f}]}{\sum_r N_{a,t,r}}$$

where $F_{a,t}$ is the total fishing mortality at age a and at time t , $N_{a,t,r}$ is the numbers at age in region r and at time t , $\sum_{f \in f,r} F_{a,t,f}$ is the sum of the fishing mortalities of fleets for each region at age a and time t and $\sum_r N_{a,t,r}$ is the numbers at age a and time t and region r summed across all regions (Kleiber *et al.*, 2006).

To simulate a closure in which fishing effort was assumed to be eliminated, sampled purse seine and longline catches were reduced by the mean historic (1999-2010) proportion of catches that were taken by the corresponding fleets in that area in the corresponding quarter (IOTC 2011). Estimated fleet fishing mortalities (\tilde{F}_f) and reduced fleet fishing mortalities (\tilde{F}_f^*) were generated based on the original (C_f) and reduced catches (C_f^*) of each fleet from the approximations given in Equation 6, where B_f is the exploitable biomass for the fleet.

$$\text{Equation 6} \quad \tilde{F}_f = -Ln \left(1 - \left(\frac{C_f}{B_f} \right) \right) \quad \tilde{F}_f^* = -Ln \left(1 - \left(\frac{C_f^*}{B_f} \right) \right)$$

The ratio of these estimated fleet fishing mortalities was used to scale the original fishing mortality by fleet calculated in the catch equation (F_f) to determine the reduced fishing mortality by fleet based on the area closure (F_f^*) (Equation 7).

$$\text{Equation 7} \quad F^*_f = F_f \left(\frac{\tilde{F}^*_f}{\tilde{F}_{f_e}} \right)$$

Mean total fishing mortality, \bar{F} values reported in the results refer to the mean F_t from 2010 to 2030 (Equation 8).

$$\text{Equation 8} \quad F_t = \sum_a F_{a,t}$$

To simulate the redistribution of effort from inside to outside the closure, the predicted catches (\hat{C}_f) that would be taken with the same level of effort were estimated using the ratio of mean purse seine³ CPUE inside ($CPUE_i$) and outside ($CPUE_o$) the closed area over the previous 10 years multiplied by the mean catches taken within the closed area during that quarter (Equation 9). Effort units were standardised based on 13hr fishing days. As the units of effort for the longline fleet could not be standardised, only purse seine fleets were considered in the redistribution scenarios.

$$\text{Equation 9} \quad \hat{C}_f = \frac{CPUE_o}{CPUE_i} C_{f,closedarea}$$

The CPUE could only be estimated for the purse seine fleet as a whole as effort was not reported separately for FAD and free school fishing. Therefore, the predicted catch (\hat{C}_f) that would be taken outside the closure for the same level of effort was then separated into free school and FAD catches based on the proportion of purse seine catches that were based on FADs and free schools outside the closed area.

The proportion of actual catches taken by each fleet within the closed area as a proportion of the total Indian Ocean catch by that fleet was then subtracted from the predicted catches that would be taken by each fleet as a proportion of the total Indian Ocean catch by that fleet to calculate the overall proportion by which each purse seine fleet catches should be adjusted, α_f (Equation 10). These values are reported in (Table 4). Coordinate references selected to represent the approximate catches of each fleet within the networks of MPAs are given in Table 2.

$$\text{Equation 10} \quad \alpha_f = \left(\frac{\hat{C}_f}{C_{f,Indianocean}} \right) - \left(\frac{C_{f,closedarea}}{C_{f,Indianocean}} \right)$$

3. Analysis of results

For all scenarios, the stock biomass initially increased to a higher equilibrium. This is due to the fact that the fishing mortality is randomly sampled from historic values from 1999 and the mean of these values is lower than it was in 2010 (Figure 3a) therefore causing an apparent increase in biomass. Therefore the stock biomass remained above B_{MSY} (2.15×10^6 tonnes) in all simulations. For this reason, relative rather than absolute values form the focus of this paper. Thus, the effects of the extant

³ Catches were only redistributed for purse seine fleets as the longline effort data could not be standardised

network (scenarios 2 and 3) and the network with extended IOTC closure (scenarios 4 and 5) are all described relative to the baseline of no closure (scenario 1). This fishing mortality was distributed over the age classes resulting in a combined selectivity across fleets peaking at age 5, highlighting the high fishing pressure on young age classes (Figure 3b).

Scenario 2: Closure of network with current IOTC temporal closure (effort eliminated)

The longline catches of yellowfin tuna in the Maldives EEZ have historically been low (since 1999) relative to catches elsewhere in the Indian Ocean, so this closure had little impact on results. The highest reductions in fishing mortality relative to the scenario with no closures resulted from the removal of the purse seine fleet catches taken in the IOTC and Chagos areas. Total fishing mortality was marginally lower with the closures (0.868) than with no closures, resulting in a 54% probability of an increase in spawning stock biomass and the adult: juvenile ratio and a 56% probability of an increase in total biomass. Mean total catches across all fleets were reduced in 2030, associated with a 76% probability, but there was little change in the catches taken by free school and FAD associated purse seine fleets.

Scenario 3: Closure of network with current IOTC temporal closure (effort redistributed)

The redistribution of effort resulted in reduced fishing mortality on FADs compared with no closures due to the redistribution of effort outside the IOTC closed area, but a higher fishing mortality imposed by FAD fleets due to the redistribution of effort outside Chagos, so the overall impact on the distribution of fishing mortality across age classes was roughly stable (Figure 4). The mean ratio of adults to juveniles increased with a 56% probability, but stock biomass had a 64% probability of declining.

Scenario 4: Closure of network with year-round IOTC closure (effort eliminated)

Implementing the IOTC area closure throughout the year caused the biggest reduction in total fishing mortality (0.764) compared with no closures, with the main reduction in juvenile mortality (Figure 5). This resulted in an increase in the mean adult: juvenile ratio of 20.8% (± 11.5) in 2030, with a 66% probability of increase. The mean spawning stock biomass in 2030 also increased 13.9% (± 5), with a 76% probability of there being an improvement (Figure 6). This was associated with a 7.9% (± 4.90) decline in total catch biomass. This decline was predominantly in the FAD fleet, whereas the free school catches showed a slight increase (Figure 7).

Scenario 5: Closure of network with year-round IOTC closure (effort redistributed)

Redistributing effort outside the IOTC closed area resulted in increased catches from purse seine fleets fishing on free schools outside the area in every quarter with a corresponding reduction in catches on FADs. However the increase on free schools reached a maximum of 106% increase in one quarter (Figure 7), whereas the maximum reduction in fishing on FADs only reached 38%, so the overall fishing mortality was slightly higher than the scenario with no closures (0.893) with relatively less of this targeted at juveniles (Figure 4). The ratio of adults to juveniles was 74% likely to decline, based on the redistribution, and there was little change in stock biomass, which was 54% likely to decrease with the redistributed effort.

4. Discussion

Considering first the extant situation in the Indian Ocean (network with seasonal IOTC closure), model results suggested that the current MPA network will have little impact on the status of

stocks of yellowfin tuna whether effort is eliminated or redistributed. However, extending the IOTC area to a year-round closure within the network, and under the assumption that fishing effort was removed entirely resulted in the most beneficial conservation outcomes. This scenario resulted in the greatest reduction in total fishing mortality as well as a relative reduction in fishing mortality on lower age classes resulting in a significantly higher mean stock biomass in 2030 and recovery of older age classes. This is because the greatest reduction in fishing mortality occurred for purse seine fleets fishing with FADs in the IOTC closed area (Table 1). It has been suggested that MPAs placed in areas where juveniles are often caught could be beneficial in increasing juvenile survival and so recruitment into the spawning stock (Mees *et al.*, 2010, Grüss *et al.*, 2011a), and has been supported by a modelling study of bigeye tuna in the Pacific (Sibert *et al.*, 2011).

Nevertheless, improvements were only recorded in scenarios based on the assumption of complete elimination of effort from all closed areas (i.e. no redistribution of effort to other locations). It is possible that overall effort may be somewhat reduced; a number of long-line vessels have already left the ocean due to the high threat of piracy and it has been suggested that a reduction in the area of ocean available for fishing may result in a decrease in fishing effort through vessel decommissioning (Koldewey *et al.*, 2010). However, a more probable situation is that fishing would instead take place elsewhere in the ocean, and consideration of the impacts of this possibility is necessary for a precautionary approach to management of yellowfin tuna. Neither of the redistribution scenarios modelled here indicated any significant improvement in stock status relative to all areas remaining open, indicating the extent to which effort displacement can counteract the benefits (Baum *et al.*, 2003). This may also be partly because the network was only closed to purse seine fleets in the redistribution scenario. Therefore, the impact of the IOTC closed area may be greater than the results indicate. However, although artisanal gear types take a substantial proportion of total Indian Ocean yellowfin catch (~40%), there are zero historic catches reported in the IOTC database for the closed areas and therefore zero modelled protection afforded by the closed areas from fishing by these gear types. Artisanal catches would only be relevant to the IOTC area, as only purse seine and longline fleets were licensed to fish in Chagos prior to 2010, and the Maldives only licensed foreign longline vessels in addition to the domestic fleet. Furthermore, whilst the redistribution scenario only closed the network to purse seine gear, longline catches represent only 6% of total catch from within the network, and thus the greatest impact of the network is on purse seine catches (Table 5).

The catch removed from each area is also only accurate to the level of the data recorded, i.e., 1° x 1° for purse seine fleets and 5° x 5° for longline fleets. Therefore, coordinate references selected to represent the MPAs were necessarily approximations of the closed area boundaries due to the scale of reporting. The model assumes a single stock structure, so there are no explicit assumptions about residency, rather the change in fishing mortality is based on previous catches within the closed areas. This method is simple enough to avoid the problems of the lack of information regarding exact movement patterns of the tuna. Furthermore, at the present time there are no fishery independent data or evidence from the Indian Ocean to verify an assumption that residency occurs. The tag recoveries of the RTTP-IO provide evidence of large movements of yellowfin tuna, supporting the assumption of a single stock for the Indian Ocean for management purposes (IOTC, 2009). If low or no residency is assumed this presents a more precautionary approach than the case where high residency is assumed.

The model was based on the outputs from the stock assessment conducted in 2010, which has a high degree of uncertainty associated with it, and therefore are translated into the model presented here. Nonetheless, this presents the best information currently available. There was also a high degree of uncertainty related to the modelled recruitment, which was based on historic estimates. Because of this, 50 iterations were run, resulting in the wide error bars. The assumptions regarding fleet dynamics here were highly simplistic, and incorporation of fleet dynamics to model the redistribution of fishing effort would provide a more realistic distribution of fishing effort, and the results presented here do not taken into account enforcement issues. For example, considering the case of the closure in the Gulf of Guinea introduced by ICCAT, due to lack of enforcement illegal fishing inside the area occurred and the MPA effectively broke down (Kaplan et al., 2009).

Nevertheless, despite the caveats, the results presented in this paper for yellowfin tuna are supported by similar results obtained through investigation into the effects of closures on bigeye tuna populations in the Pacific (Sibert et al., 2011). This modelling study used similar assumptions regarding the fleet dynamics and redistribution based on the average historic CPUE data and found that the beneficial effects of the closure on stock biomass were not detectable when effort was redistributed. With elimination of effort, benefits were apparent, but small which increased with the addition of another fleet to the closure (<4% and 7% respectively).

Game et al (2009) argued that MPAs represent a more precautionary approach to pelagic conservation than relying on other fishery management controls over a few species, however, based on these results, a precautionary approach to the conservation of yellowfin tuna would involve implementing additional management measures such as quotas or gear restrictions to be used alongside any closures. There is a danger that MPAs can generate a false sense of security if it assumed that they provide fisheries benefits as this may reduce the pressure for additional management measures (Kaplan et al., 2009), so it is prudent to not overestimate the impacts of the closures, particularly when they have been established to achieve a diverse range of objectives, not necessarily related to fisheries. The preliminary findings presented here suggest that the current network of closures alone is unlikely to achieve significant recovery of yellowfin tuna and a combination of management arrangements will still be required to be consistent with the precautionary principle.

5. Summary and Conclusions

A network of large scale closures with a range of objectives, not all related to fisheries, were introduced in the Indian Ocean during 2010, encompassing the region occupied by IOTC managed tuna fisheries. This paper examines the impact of the network of closures on the status of yellowfin tuna stocks compared to a baseline of no closures and discusses management options related to the precautionary principle. We examine the extant situation with the IOTC area closed for one month of the year each to the longline (February) and purse seine (November) gear, and a scenario where the IOTC area is closed all year for both the longline and purse seine fisheries. In both of these scenarios the Chagos and Maldivian closures also applied year round. We considered only the extremes of potential changes in fishing behaviour: complete elimination of effort that may have occurred inside the closed areas, and total displacement and redistribution of effort, based on historic catch and effort in each area. As redistribution of effort was only simulated for the purse seine fleet, modelling this with longline redistributed effort is an area for further work. There is also scope to refine this to account for a better understanding of fleet dynamics including potential infringements of the closed

areas. Further research would also be useful to examine the ecological basis of the network; the IOTC area largely protects juveniles whilst the Chagos and Maldives areas protect a greater proportion of adults. Would additional areas be useful for fisheries management purposes?

We applied an age structured simulation model of yellowfin tuna populated with the best currently available information which, despite uncertainties, enables the provision of precautionary management advice in the absence of other data. Model results suggest that the extant network with only a two month IOTC closure has little impact on yellowfin tuna stocks either with the effort eliminated or redistributed. However, with a year-round closure of the IOTC area, the network could deliver conservation benefits improving the status of yellowfin tuna stocks under the assumption of total elimination of effort from the network area. Under the assumption that fishing effort was removed entirely, stock biomass increased, particularly in the larger age classes. However, in the scenario of a year round IOTC closure with effort reallocated evenly outside the area (for the purse seine fleet only) there was little impact on yellowfin stock status; with no change in biomass although a change in the age distribution of the population occurred due to the protection of juveniles in the IOTC area. Our findings are supported by a complementary study on the impact of Pacific closures on bigeye tuna (Sibert *et. al.* 2011).

Adoption of a precautionary approach to management requires us to consider that effort would be redistributed. This analysis suggests that neither the extant network of closures, nor a scenario where the IOTC closure is extended year round will provide sufficient management benefits for the protection of yellowfin tuna stocks. It would therefore be precautionary to supplement closures with additional management measures, either to reduce fishing effort, which as we have seen has the potential to provide conservation benefits, or to apply catch controls such as the quota allocation system required in Resolution 10/01.

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Table 1. Mean percentage changes in catch biomass of purse seine (FAD and free school, FS) and mean percentage change in catch numbers for longline (LL) fleets with each area closure. Estimated from the IOTC database from 1999 (IOTC, 2011a).

Scenario	Quarter	Chagos closure (% change in catches)			IOTC closure (% change in catches)			Maldives
		FAD	FS	LL	FAD	FS	LL	LL
4 IOTC (month), Chagos, Maldives eliminated	1	-4.51	-10.40	-0.58	-	-	-5.48	-0.13
	2	-	-	-1.38	-	-	-4.77	-0.35
	3	-	-	-3.59	-	-	-0.71	-0.44
	4	-0.78	-15.48	-4.14	-21.57	-8.97	-5.84	-0.53
5 IOTC (month), Chagos, Maldives redistributed	1	+10.37	+3.55	-	-	-	-	-
	2	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-
	4	+8.38	-7.67	-	-9.53	+1.90	-	-
6 IOTC (all yr), Chagos, Maldives eliminated	1	-4.51	-10.40	-0.58	-30.01	-4.54	-5.48	-0.13
	2	-	-	-1.38	-21.46	-2.97	-4.77	-0.35
	3	-	-	-3.59	-62.45	-4.66	-0.71	-0.44
	4	-0.78	-15.48	-4.14	-60.22	-12.99	-5.84	-0.53
7 IOTC (all yr), Chagos, Maldives redistributed	1	+10.37	+3.55	-	-24.12	+3.49	-	-
	2	-	-	-	-8.99	+12.44	-	-
	3	-	-	-	-18.92	+105.83	-	-
	4	+8.38	-7.67	-	-38.29	+34.99	-	-

Table 2. Coordinates used for selected areas. Of the 7 figure coordinates, the table below outlines the selected grid references used for each closed area

	Purse seine data		Longline		Other					
	Chagos	IOTC area	Chagos	IOTC area	Maldives	Maldives	Chagos	IOTC area	Chagos	IOTC area
Size	5	5	6	6	6	6	3	3	1	1
Quadrant	2	1	2	1	1	2	2	1	2	1
Latitude	2-9	0-9	0-5	0-5	0-5	0	0	0	0-5	0-5
Longitude	67-75	40-59	65-70	40-55	70	70	70	40-50	70	40-50

Table 3. Mean outputs in 2030 with 95% CIs.

	Scenario	Fishing mortality ⁴	Stock numbers (millions)	Adults: juvenile ratio	Stock biomass (1000 tonnes)	Spawning stock biomass (1000 tonnes)	Total catch biomass (tonnes)
1	All areas open	0.899	275 (±16)	0.433 (±0.04)	3,885 (±122)	3,521 (±129)	98,998 (±6,670)
4	IOTC (month), Chagos, Maldives closed - eliminated	0.868	267 (±13)	0.474 (±0.05)	3,989 (±202)	3,658 (±205)	92,326 (±5,246)
5	IOTC (month), Chagos, Maldives closed -redistributed	0.903	250 (±19)	0.46 (±0.04)	3,631 (±173)	3,308 (±166)	91,872 (±6,209)
6	IOTC (all yr), Chagos, Maldives closed - eliminated	0.764	279 (±18)	0.52 (±0.05)	4,378 (±181)	4,009 (±176)	91,227 (±4,849)
7	IOTC (all yr), Chagos, Maldives closed -redistributed	0.893	286 (±16)	0.397 (±0.04)	3,809 (±131)	3,433 (±137)	95,483 (±5,776)

⁴ Mean total fishing mortality over projected years

Table 4. Differences (%) between mean values in 2030 for each closure scenario and the open scenario. 95% CIs are provided in the first set of brackets and the probability of the difference being positive is provided in the second set of brackets.

Scenario	Fishing mortality ⁵	Stock numbers (% difference)	Adults: juveniles (% difference)	Stock biomass(% difference)	Spawning stock biomass (% difference)	Total catch biomass (% difference)
2 IOTC (month), Chagos, Maldives eliminated	0.868	-3.23 (±4.64) (44%)	9.50 (±10.52) (54%)	2.66 (±5.21) (56%)	3.88 (±5.82) (54%)	-6.74 (±5.30) (24%)
3 IOTC (month), Chagos, Maldives redistributed	0.903	-9.13 (±6.75) (28%)	6.33 (±10.12) (56%)	-6.55 (±4.46) (36%)	-6.05 (±4.72) (40%)	-7.20 (±6.27) (36%)
4 IOTC (all yr), Chagos, Maldives eliminated	0.764	1.36 (±6.38) (38%)	20.81 (±11.46) (66%)	12.67 (±4.65) (76%)	13.86 (±5.00) (76%)	-7.85 (±4.90) (36%)
5 IOTC (all yr), Chagos, Maldives redistributed	0.893	3.997 (±5.91) (54%)	-8.28 (±9.65) (26%)	-1.96 (±3.36) (46%)	-2.50 (±3.88) (44%)	-3.55 (±5.83) (38%)

⁵ Mean total fishing mortality over projected years

Table 5. Mean monthly catches by gear type in metric tonnes from 1999-2009 (IOTC database, 2011). No catches by other gear types in these areas were recorded. Longline catches recorded in numbers were multiplied by the mean weight of an individual fish over the same time period (0.034t) to generate the biomass estimate

2	Longline					Free school purse seine*				FAD purse seine*			
	month	Chagos	IOTC	Maldives	Total	protected	Chagos	IOTC	Total IO	protected	Chagos	IOTC	Total IO
1	40	243	9	3549	8%	3086	963	15990	25%	242	92	845	39%
2	18	124	4	2894	5%	68	122	10515	2%	57	737	2386	33%
3	29	142	12	2696	7%	0	292	3812	8%	0	1163	3408	34%
4	24	243	11	2934	9%	0	17	2650	1%	0	456	2950	15%
5	50	163	18	2759	8%	0	79	2688	3%	0	277	1610	17%
6	29	31	8	1688	4%	0	249	6269	4%	0	713	2178	33%
7	48	32	4	1147	7%	0	185	7190	3%	0	1739	3487	50%
8	48	11	14	1226	6%	0	38	1234	3%	0	3884	5565	70%
9	55	17	9	1031	8%	0	227	1238	18%	0	4326	6880	63%
10	59	14	7	1066	7%	0	506	2738	18%	3	4548	7032	65%
11	76	54	10	1333	10%	116	1323	3372	43%	37	3043	5216	59%
12	70	227	8	2242	14%	2166	86	8633	26%	70	904	1858	52%

* mean catches from 1999-2006 (the most recent year available at the time of download: August, 2011).



Figure 1. Location of the EEZs of Chagos and the Maldives and the IOTC closed area

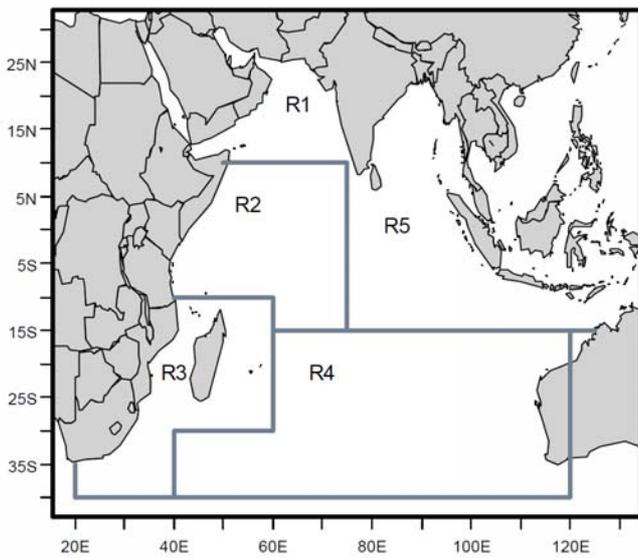
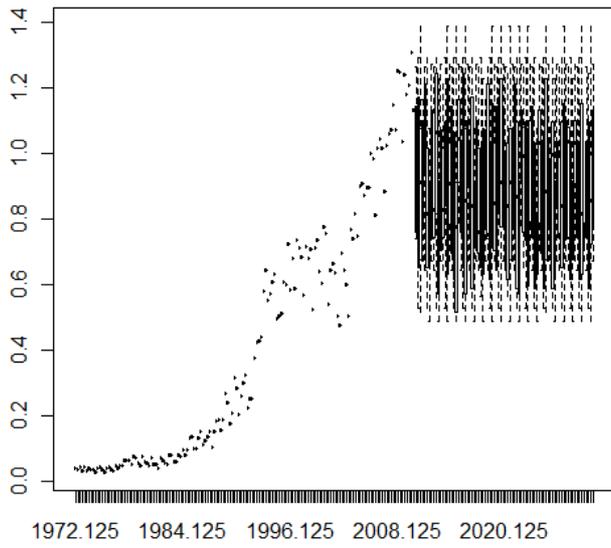
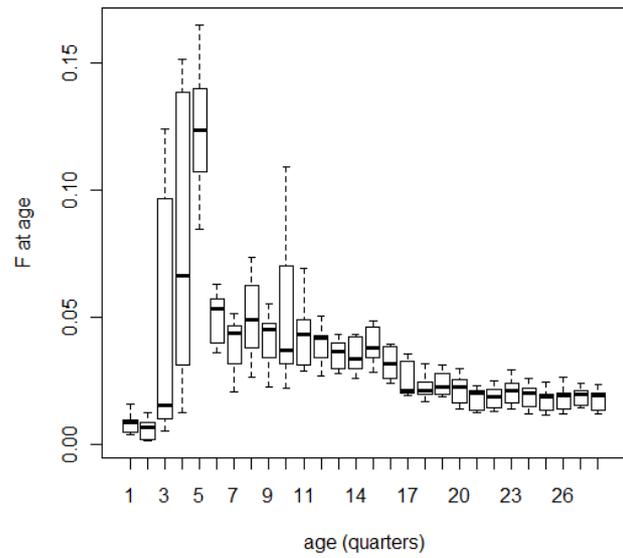


Figure 2. Spatial stratification of the Indian Ocean for the MULTIFAN-CL assessment (Langley *et al.*, 2010).

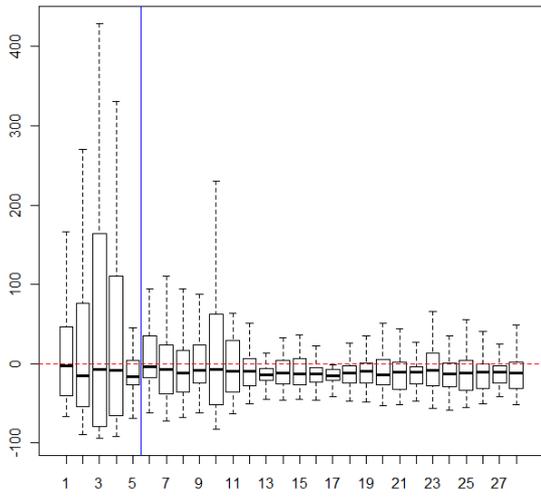


a)

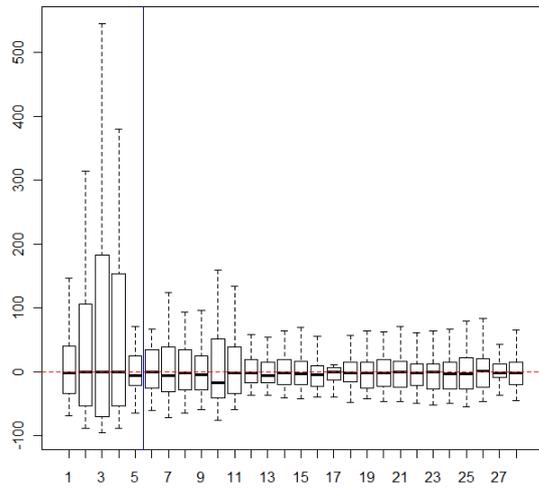


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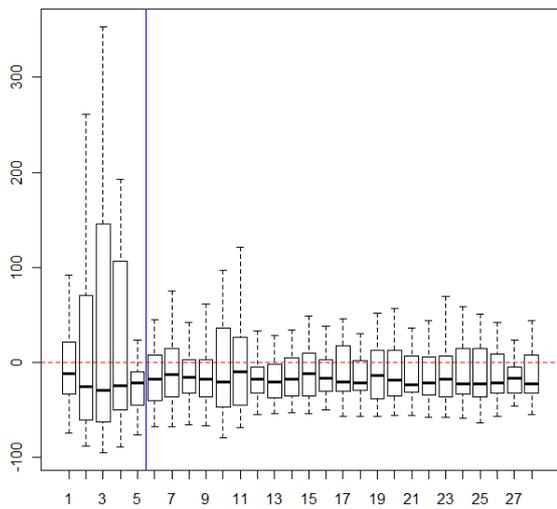
Figure 3: a) Total fishing mortality summed across all age classes over time (F_t) with all areas open; b) distribution of F over age classes when no area closures are in place.



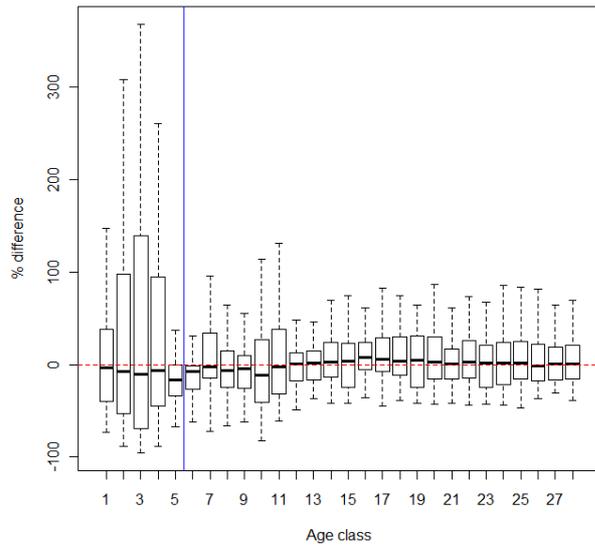
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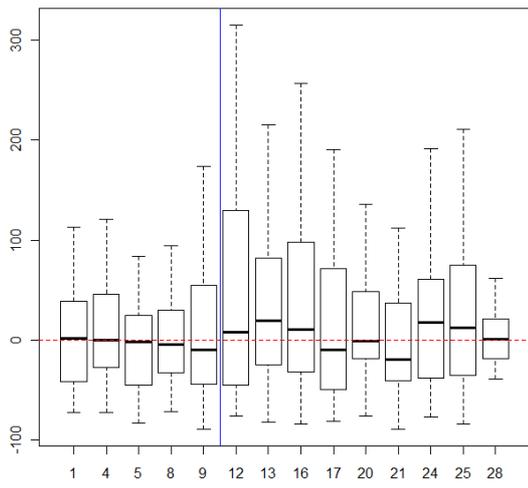


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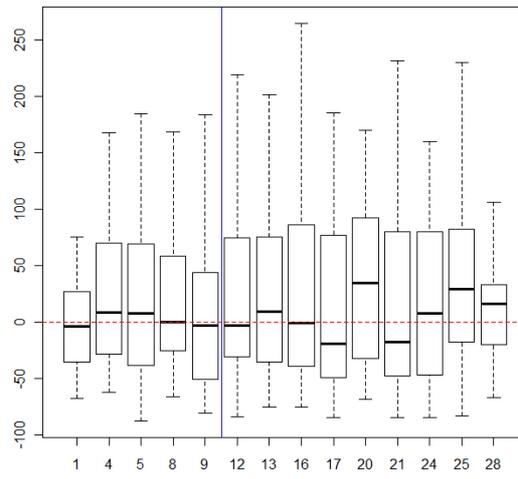


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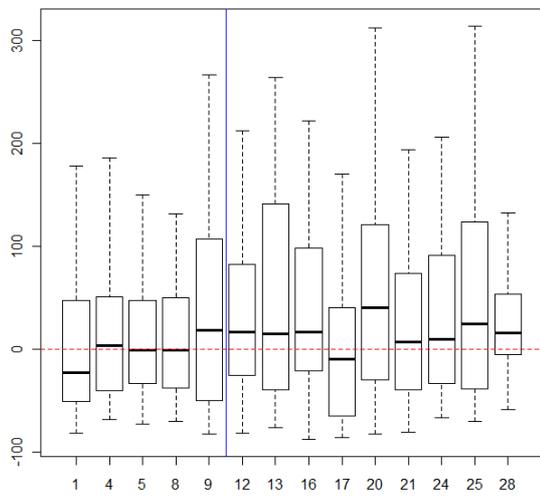
Figure 4. Difference (%) in fishing mortality-at-age for scenarios 2-5 (a-d). Age-at-maturity indicated by the solid blue line.



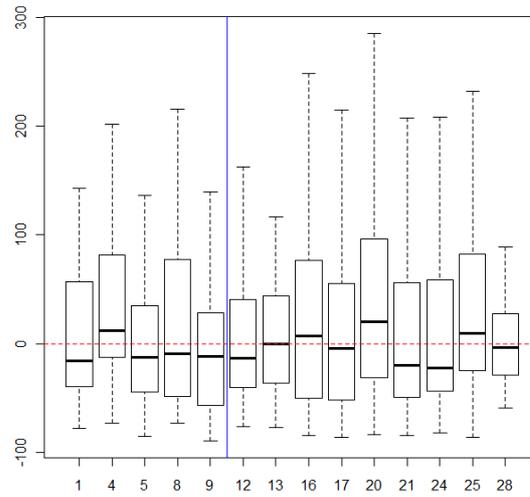
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Figure 5. Difference (%) in the proportion of numbers at age, scenarios 2-5 (a-d)

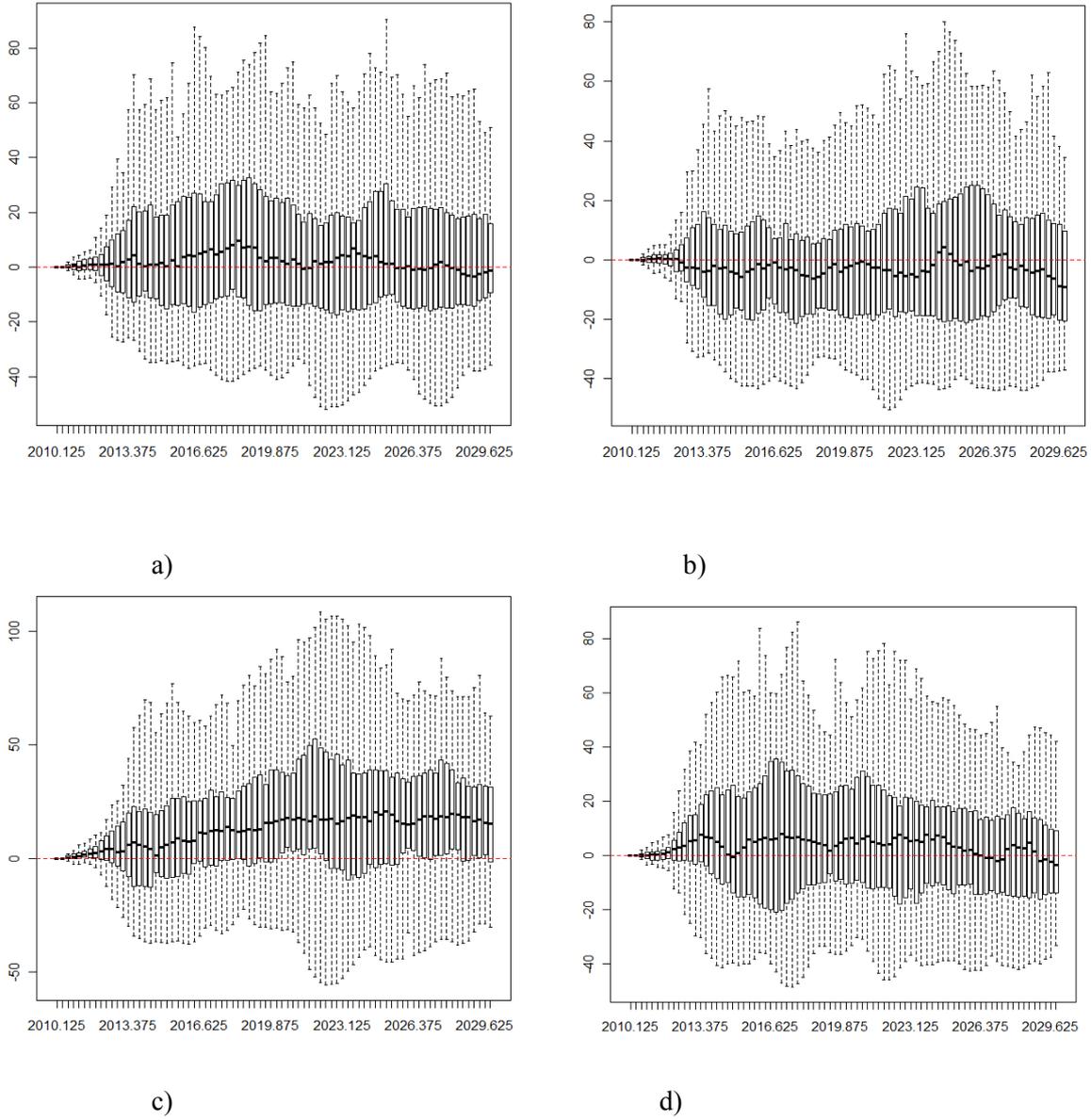
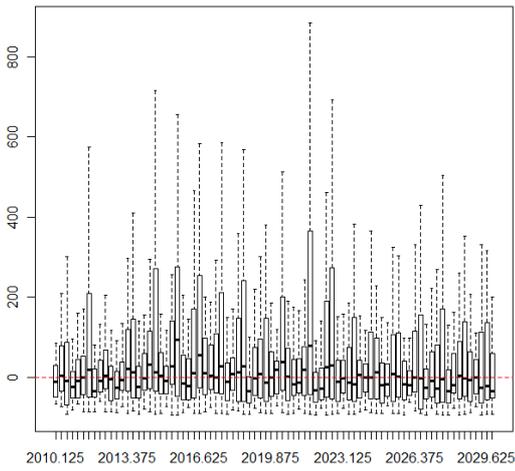
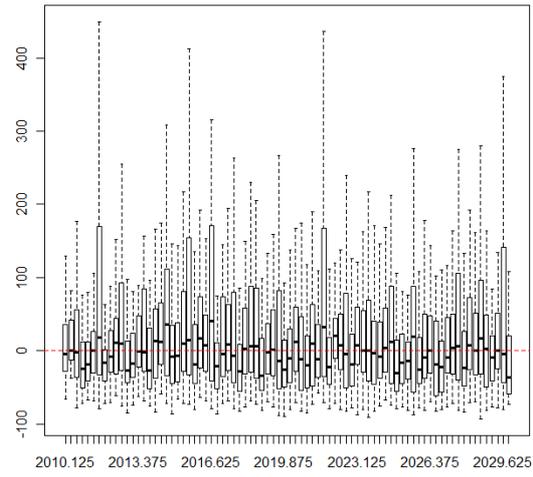


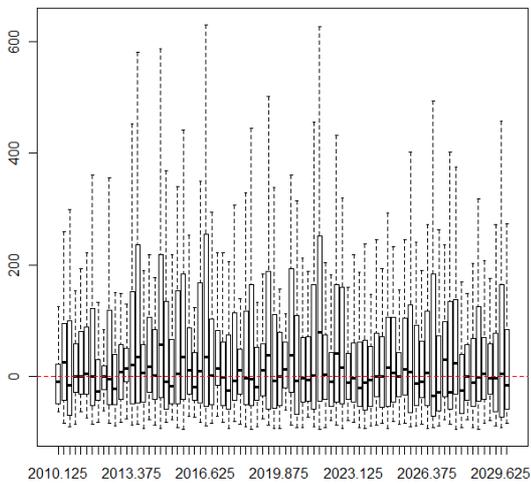
Figure 6. Difference (%) in spawning stock biomass for scenarios 2-5 (a-d)



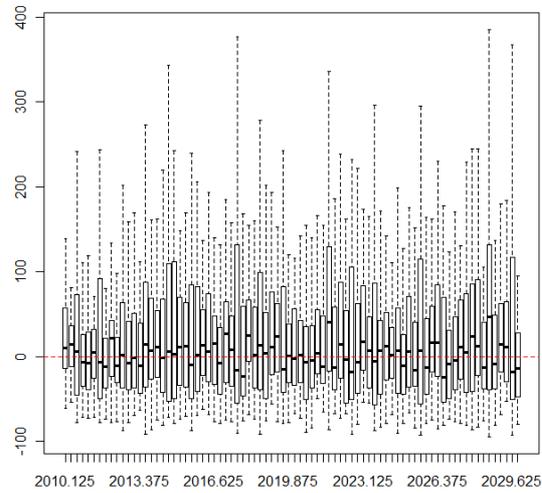
a)



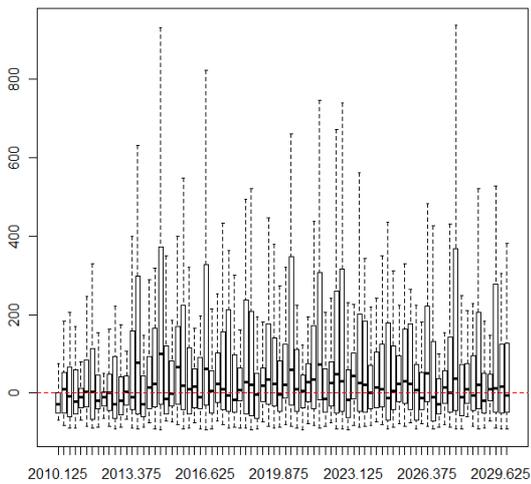
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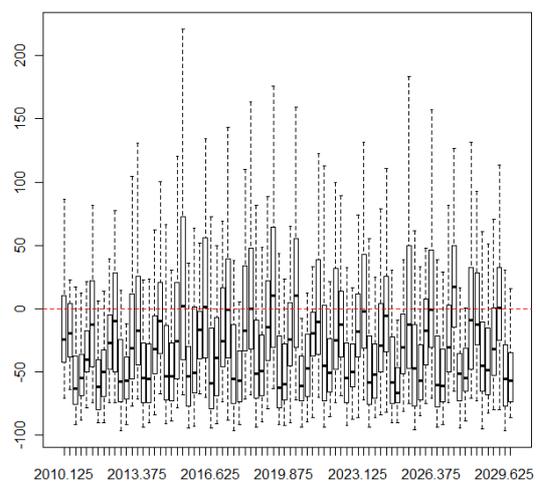
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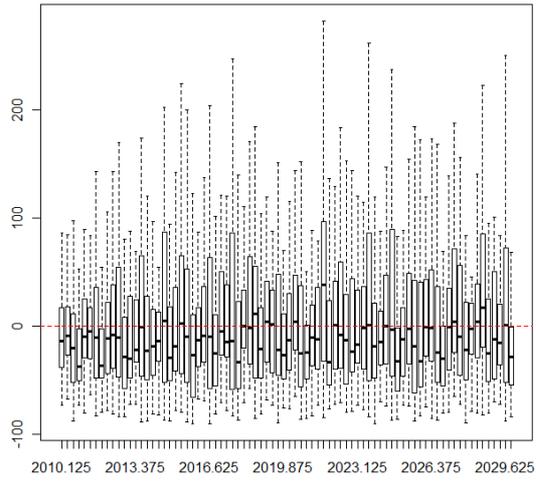
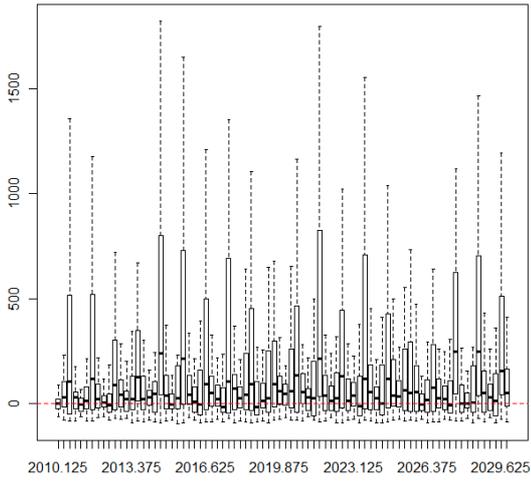
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e)



f)



g)

h)

Figure 7. Differences (%) in FS catches for scenarios 2-5 (a,c,e,g) and LS for scenarios 2-5 (b,d,f,h).