

REPORT OF THE SCIENTIFIC COMMITTEE

1. The Committee met at 10.00 am on 14 June 1974 and following days in the Ministry of Agriculture, Fisheries and Food, London, under the Chairmanship of D G Chapman. The Agenda adopted is shown in Annex A.

2. There were present

K R Allen)	
J L Bannister	)	Australia
A W Mansfield)	
E D Mitchell	)	Canada
F O Kapel	)	Denmark
C Roux	)	France
J Jonsson	)	Iceland
K Yonezawa)	
Y Fukuda	)	Japan
S Ohsumi)	
H Omura)	
I Christensen	)	Norway
A Jonsgaard)	
P B Best		South Africa
R G Borodin)	
M V Ivashin	)	USSR
Y B Riazantsev)	
S G Brown)	
R Gambell	)	UK
Mrs C Lockyer)	
W Aron)	
D G Chapman	)	USA
L Talbot)	
M F Tillman)	
L K Boerema)	
S J Holt	)	F A O

RESEARCH AND INFORMATION

3. Progress reports and numerous other papers were available to the Committee. These are listed in Annex B with their identifying numbers.

4. Annex C shows a list of special permits issued during the year. Results of such special permit research are included in progress reports and other documents listed in Annex B.

5. Brown provided a summary table (Annex D) showing the number of whales marked by species and by area as well as the recaptures of marked animals during the past year.

6. Jonsgaard provided members with statistical material prepared at the Bureau of International Whaling Statistics under the direction of E Vangstein.

7. The Committee expresses its appreciation of the cooperation of whaling operators who have reported sightings of prohibited species. It particularly acknowledged the efforts of the Japanese scouting boats and of Japanese scientists for analysing the data from their scouting boats; also of the South African company for their data on all species.

8. The Committee accepted the report of the special meeting on smaller cetaceans convened at Montreal, 1-11 April 1974 by Mitchell. His efforts in arranging the meeting and preparing the report are acknowledged with appreciation. This report which was used in some discussions during the meeting is hereafter referred to as the Report on Smaller Cetaceans.

9. The Committee received from Boerema a report entitled "Activities of the FAO/ACMRR Working Party on Marine Mammals". This report notes some problems and biases of the past analyses by the Committee.

The report urges that all countries should contribute the necessary data for more complete analyses. It was suggested that this is an important document for the Committee and it was agreed that it should be included as a working document of this meeting as SC/26/42. The Committee established a sub-committee (Bannister (Chairman) Borodin, Masaki and Tillman) to consider the questions raised in this report and to make suggestions on studies that appear to be needed as a result of it. The sub-committee is asked to report at the next regular meeting of the Committee.

General considerations on stock management and recommendations to the Commission.

10. The Committee discussed several papers (SC/26/17, SC/26/20, SC/26/35, SC/26/42) relating to broad scientific questions dealing with all stocks. In particular attention is called to the following considerations.

a. Scientific advice for management of whale stocks should be based not only on concept of sustainable yield in numbers by species but should also include other considerations such as total whale weight rather than numbers, interactions within the marine ecosystem and the health of the ecosystem as this concept is quantified. As an example of such interactions between species there is evidence in SC/26/17 that changes in recruitment expected in sei whales in response to exploitation occurred before substantial exploitation of sei whales possibly as a result of the overall reduction of baleen whale biomass in the southern ocean. More extensive studies to obtain information on interaction between species of whales and also with other living marine resources need to be initiated.

b. In the interim the Committee's advice should continue to be based on the MSY concept, according to the following principles -

(i) When a population is above MSY level, quota should be set at or not much above MSY level.

(ii) When a population is near MSY level, in the absence of adequate information, quota should be set somewhat below the MSY.

Some members of the Committee believe that

(iii) When a population is substantially below MSY level the quota should be set at zero: for other stocks below MSY level the quota should be set sufficiently below the replacement yield to ensure continuing recovery.

Others believe that the guiding principles for a population below MSY level require further study. In any case the Committee recognizes that this is a matter of some urgency and will review it during the coming year and at its next meeting.

WORLD WIDE MORATORIUM

11. The Committee reviewed its statement of last year and agreed that this statement is still appropriate.

In addition the Committee draws attention to the possible competition between species as discussed above and in SC/26/17, SC/26/35 whereby rebuilding of severely depleted stocks may not necessarily be maximized by a moratorium.

SOUTHERN HEMISPHERE BALEEN WHALES

Fin Whales

12. The Committee reviewed the data in SC/26/8 and SC/26/22. It also had a new estimate of population and recruitment in SC/26/25. The latter is in substantial agreement with estimates from previous models. During the course of the meeting a summary of recent behaviour of stock indices by Areas was prepared (SC/26/29). This called attention to the erratic but sharp decline in stock indices in Areas III and IV. There was also a sharp decline in total CPUE in Area V but the data are inadequate to make inferences regarding changes in stock size. The declines in Area IV and to a lesser extent in Area III are not consistent with the model and suggest the need to revise some estimates.

The Committee does not have a new estimate of the replacement yield for the Antarctic. Last year the estimate was 3200.

13. The Committee recalls the point that it has emphasized frequently that at present fin whale stocks are about one third to one half of the level which would provide maximum sustainable yield. The lower the catch from this stock, the faster it is to be expected that any rebuilding will occur.

Additional reasons for considering a zero quota are presented in SC/25/33 (IWC/24/ Annex V pl90) and in SC/26/20. Some members of the Committee believe these are substantial reasons for the Commission to set a zero quota for the pelagic operations and a ban on fin whale catching at land stations in the Southern hemisphere.

14. Estimated recovery time for the Antarctic fin whale stock under different management alternatives are shown in Annex E. If the assumptions underlying the model are correct and if catches are properly distributed then for the generally agreed best estimate of net recruitment rate (0.04), a catch of 250 per year delays recovering to MSY level by 1 one year, of 500 per year by 3 years, of 1000 per year by 6 years and of 1500 per year by 11 years. However the uncertainties noted in Paragraph 12 are recalled.

15. In any case the Committee believes that the Commission should manage the stocks individually. Particular care should be taken in setting a quota in Areas III and IV. A basis for the quota allocation to Areas by percentages is as follows:-

Area	I	II	III	IV	V	VI
Percentage	8	30	23	15	3	21

Further details are given in Annex F; if the Commission does accept this recommendation further consideration can be given to the allocation by the Committee when the actual quota is known.

Sei Whales

16. The Committee reviewed SC/26/6, SC/26/8 and SC/26/26 as well as the information on sei whales given in SC/26/22, SC/26/28, SC/26/37 and SC/26/47. The estimate of replacement yield given in SC/26/6 is 5.2 thousand. This is based on the overall CPUE over the past three seasons which has been essentially constant. However some members pointed to the downward trend of CPUE and sighting indices in Areas IV and V and the low level of stock indices in Area III, which suggests that the Commission should set quotas conservatively. The Committee repeats its recommendation of last year that the Commission should set quotas by Areas (IWC/24 Annex F p71). In any case consideration should be given to restrictions in Areas II and III, since according to one model (IWC/24/Annex K p82), stocks in these Areas are below that which would provide MSY. A basis for the quota allocated to Areas by percentages is as follows:-

Area	I	II	III	IV	V	VI
Percentage	12	18	11	23	25	11

Further details are given in Annex F; if the Commission does accept the recommendation further consideration can be given to the allocation by the Committee when the actual quota is known.

The Committee notes that if further biological data become available and analyses are made incorporating the concepts of competition between species, as noted in SC/26/17 and SC/26/35, the 1975 estimates of replacement yield may be different from that given in this report.

Blue, humpback and right whales

17. The Committee reviewed the sighting data provided in SC/26/8 and SC/26/22 which are consistent with little change in the protected stocks, though there are suggestions of local recovery of right and humpback whales off South Africa and possibly of right whales in Areas IVD. There are also suggestions of declines of some of these species in some areas. The Committee recommends continuation of the ban on these species.

Minke Whales

18. There are no new stock analyses for this population though SC/26/8 provides sighting data of minke whales. This population as a whole is almost unexploited but there is little information about the status of possible subpopulations. The Committee was unable to reach any conclusion on stock size or MSY estimates and therefore is unable to advise the Commission on a scientific basis. The Committee recalls the principles of paragraph 10 but advises caution in setting any quota. It further suggests that an interim safe harvest of such a population would be no more than 5% of the exploitable population. This can be calculated as 46% of the 300,000 figure for the total population used last year (IWC/24 p42). This would give a maximum safe quota of about 7,000.

Only the Japanese scientists have provided extensive sighting data for the last several seasons, and biological summary information and they have stated that they could not agree with a rule of thumb as above, and insisted that their last year's MSY estimate of around 12,000 (IWC/24/Annex M p112) is more reasonable for the Antarctic as a whole than any other estimate.

The Committee also emphasizes that due to the probable localization of effort by some fleets for this species, it is important that any quota should be sub-divided by Areas so that any single stock is not reduced too rapidly. A basis for the quota allocation to Areas by percentages is as follows:-

Area	I	II	III	IV	V	VI
Percentage	25	15	39	13	5	3

Further details are given in Annex F.

Baleen whales in the southern hemisphere outside the Antarctic

19. The Committee expresses its appreciation of the cooperation received from the operators of the Somali registered whaler Sierra for their provision of statistics to the Bureau. The Committee has received indirect information on small catches of right whales off Brazil and suggests that the Commission explore this situation.

The Committee believes that the Commission's agenda item "Antarctic Baleen stocks" should be reworded "Southern hemisphere - Baleen stocks" since baleen whales (except Bryde's whales) caught outside the Antarctic in the southern hemisphere belong to the same stocks as those caught in the Antarctic. The Committee has based its recommendations above on analyses using data from Antarctic catches but plans to develop analyses during the next year using data from both Antarctic and land station catches.

SOUTHERN HEMISPHERE SPERM WHALES

20. The Committee reports that the catches in the past three seasons have been as follows:

1. Catches in the past 3 seasons:

1971/72	M	F	Unknown	Total
Pelagic South of 40°S	3195	160	11	3366
North of 40°S	3098	841	30	3969
Land stations*	1807	1124	1567	4498
Total	8100	2125	1608	11833
1972/73				
Pelagic South of 40°S	3900	301		4201
North of 40°S	1544	2996		4540
Land stations**	1835	758		2593
Total	7279	4055		11334
1973/74				
Pelagic South of 40°S	3693	1234		4937
North of 40°S	1472	1916		3388
Land stations***	1544	1033		2577
Total	6709	4183		10892

* Catches in 1971

** Catches in 1972 excl South America

*** Catches in 1973 excl South America

21. The Committee reviewed the analyses included in SC/26/2 and in SC/26/22 relative to sperm whale stocks adjacent to West Australia and the east coast of South Africa. The Committee again strongly recommends that catch limits be established by divisions for each sex; if this is not possible then there should be catch limits in each of three major regions or the three oceans.

In this case the total catch limit should not exceed 8000 males and 5000 females. The figures are based on the principles enumerated in Para 10. A basis to allocate these is obtained by accumulating percentages of the appropriate divisions; such percentages are shown in Table 1B.

The Committee also notes the possible usefulness of a division of the catch limit by the traditional statistical Areas extended northwards to the equator. Such a division is shown in Table 1C.

Table 1A shows the catch limits recommended last year and the catches taken in 1973/74 or expected to be taken at land stations in 1974. Also shown in Table 1A are the recommended catch limits, by divisions, for 1974/75 and 1975 at land stations. These were calculated according to methods developed at the Parksville Sperm Whale Meeting (IWC/23/p68). The results depart slightly from the principles formulated at this meeting (para 10) in that the catch limits for stocks above MSY level are greater than the MSY. The Committee will study the alternative approaches during the next year.

The Committee notes that while it does not approve setting a catch limit for the whole of the southern hemisphere without qualification an alternative approach may be considered. A catch limit might be set for the whole southern hemisphere provided catch limits were also imposed in divisions or combinations of divisions where the stock is below, or in danger of being reduced below, MSY level.

TABLE 1A
RECOMMENDED CATCH LEVELS 1974/75

The recommended catch level is obtained by adding 10% of the surplus to the replacement yield (RY = present SY in Parkville report, IWC 23 p68). The surplus is calculated as the difference between the previous year's catch and the RY, subtracted from the previous year's surplus.

Division	MALES							
	1972		72/73 & 73	1973	Catch levels recommended for 1973/74 and 1974	73/74 & 74	1974	74/75 & 75 Rec. Catch Limit
	RY Surplus							
	'000s	'000s		'000s			'000s	
W Atlantic	0.5	1.3	1139	0.7	600	915	0.4	500
E Atlantic	1.1	- 3.4	349	-2.6	800	112	-1.6	900
W Indian	1.2	- 3.5	2094	-4.4	800	1144	-4.3	800
C Indian	1.1	7.6	513	8.2	1900	219	9.1	2000
E Indian	1.0	0.7	1018	0.7	1000	1124	0.6	1100
E Australian	0.3	- 1.5	575	-1.8	100	361	-1.9	100
New Zealand	0.5	0.3	772	0	500	1571	-1.1	400
C Pacific	1.1	17.2	338	18.0	2900	663	18.5	3000
E Pacific	1.4	-2.2	149	-0.9	1300	660	-0.2	1400
								10200
	FEMALES							
	1972		72/73 & 73	1973	Catch levels recommended for 1973/74 and 1974	73/74 & 74	1974	74/75 & 75 Rec. Catch Limit
	RY Surplus							
	'000s	'000s		'000s			'000s	
W Atlantic	0.	5.7	846	4.9	500	802	4.1	400
E Atlantic	0.1	11.2	848	10.5	1100	0	10.6	1100
W Indian	0.5	7.0	885	6.6	1200	768	6.3	1100
C Indian	0.1	12.2	62	12.2	1300	11	12.3	1300
E Indian	0.1	10.4	287	10.2	1100	330	10.0	1100
E Australian	0	3.9	249	3.7	400	502	3.2	300
New Zealand	0.2	3.7	1172	2.7	500	1598	1.3	300
C Pacific	0	13.5	25	13.5	1400	172	13.3	1300
E Pacific	0.8	- 3.6	0	-2.8	400	0	-2.0	600
								7500

'1974 land station catches assumed to be same as 1973, South American catches are excluded.

For calculating catch levels by major region or ocean, the percentages for each Division are given below.

TABLE 1B

Division	%	
	Males	Females
W Atlantic	5	5
E Atlantic	9	15
W Indian	8	15
C Indian	19	17
E Indian	11	15
E Australian	1	4
New Zealand	4	4
C Pacific	29	17
E Pacific	14	8
	<u>100%</u>	<u>100%</u>

TABLE 1C

Recommended allocation by "Statistical Areas"

Area	Male %	Female %
120° - 60°W	22	13
60°W - 0°	10	14
0° - 70°E	18	27
70°E - 130°E	25	27
130°E - 170°W	5	8
170°W - 120°W	20	11
	<u>100%</u>	<u>100%</u>

NORTH PACIFIC SPERM WHALES

22. The catches in the last two seasons have been -

	M	F	Total
1972	4032	2291	6323
1973	4606	3962	8568

23. The Committee reviewed the indices of stock size given in SC/26/9 and noted the problems of evaluating these. However there is no evidence of changes in stock size so that the Committee repeats its recommendation of the past two years that "the catch of male sperm whales should be held to not more than 6000" and "a safe catch limit for females would be 4000".

24. The Committee's attention was drawn to the recent changes in location of sperm whale catches in the North Pacific. It was agreed that more detailed analysis is necessary as well as additional information to define stock divisions. Much of this is expected to become available in the next year. In the meantime the Committee reaffirms the principle that stocks should be managed separately.

NORTH PACIFIC BALEEN WHALES

25. Catches of baleen whales in the North Pacific in the past two seasons have been -

	Fin	Sei	Bryde's
1972	758	2327	201
1973	446	1856	693

In addition 14 fin whales and 31 Bryde's whales were caught in the East China Sea in 1973.

FIN WHALES

26. The Committee reviewed the status of the stock as indicated in SC/26/9. While CPUE of fin whales fell again in 1973 this is complicated by the changing area of operation. Other indices show that the fin whale stock is no longer decreasing but has levelled off. This is consistent with the model which has been the basis of recommendation. According to this model the replacement yield is about the same as last year - 750 to 900.

27. However the Committee notes again that this stock is well below the MSY level and that the lower the catch is reduced below the replacement yield, the faster it is to be expected any rebuilding will occur. Additional reasons for considering a zero quota are presented in IWC/24/Annex V p 190 and in SC/26/20. Some members of the Committee consider these are substantial reasons to set a zero quota on fin whales.

SEI WHALES

28. In addition to the indices given in SC/26/9 a new model for the size and yield of the North Pacific sei whale stocks was available in SC/26/5. This provides an estimate of the replacement yield as 2500. The Committee noted that all estimates and indices indicate that the sei whale stock may be less than half its unexploited level. In these circumstances the Committee urges the Commission to exercise caution in setting a catch limit; it is better to set the quota too low than too high in view of the uncertainties still evident in our knowledge of sei whale biology and the status of the stocks.

OTHER SPECIES INCLUDING BLUE, HUMPBACK AND GRAY WHALES

29. Sighting indices of blue, humpback and right whales available in SC/26/9 show continuing fluctuation with no marked evidence of rebuilding of these stocks.

30. The gray whale sightings off the coast of California (SC/26/18) were higher than in recent seasons but in general this stock appears to be at a stable level. The Committee noted the USSR aboriginal catch of 178 gray whales in 1973.

31. Sighting data on minke whales in pelagic whaling areas of the North Pacific were also contained in SC/26/9. A report on the coastal minke whaling off Japan was submitted by Ohsumi to the special meeting on Small Cetaceans. (Document M15 of the Report on Smaller Cetaceans).

The Committee noted that the pelagic catch of Bryde's whales increased again, mostly by the USSR. Ivashin indicated that biological and other data on this species would be analysed and made available to the Committee as soon as possible.

NORTH ATLANTIC

32. The Committee reviewed the information on these stocks in SC/26/3, SC/26/11, SC/26/12, SC/26/13, SC/26/14, SC/26/31, SC/26/32, SC/26/34, SC/26/40. The only commercial catching of large whales by countries signatory to the Commission is off Iceland though the Committee notes the catch of sperm whales by Spain and Portugal. There is also a very small aboriginal catch of large whales off Greenland.

33. The fin whales analysis suggests that the Iceland stock is not in any danger though the possible downward trend in CPUE needs to be studied further. The Committee was informed that Iceland does not plan to permit any extension of its catching operations. SC/26/13 gives estimates of the fin whale stock size and MSY off the west coast of Norway and the Faroes.

34. Little new information is available on sei and sperm whales in the North Atlantic. Catches of sei whales off Iceland vary due to weather and migration patterns. They have mostly been insignificant but have increased over the past three seasons.

35. The Committee had available some sighting data from Newfoundland, Spitzbergen (SC/26/12) and from Iceland (SC/26/46) on the protected species that suggest that blue and humpback stocks may have begun to increase. The sighting data are difficult to interpret completely because of possible repeated sightings of the same animals.

36. The preliminary analysis of the minke whale stocks in the North Atlantic SC/26/14 suggests the stock has been fairly stable under relatively constant exploitation. This suggests that the sustainable yield may be about 2500, the average of recent catches. Mitchell expressed concern over the problems of interpretation of the data caused by the expansion of the operations westward.

The Committee noted that the Norwegian government has placed limitations on the number of licences issued; and also restricted the small whaling operations by area and time restrictions (SC/26/14). The Committee believes that such restrictions are appropriate pending more definitive information on the status of the stock and on the sustainable yield.

ARCTIC

37. The Committee noted that the 1973 catch of bowhead whales by US aboriginals was 37. Aron informed the Committee that the information it requested last year is now being collected and would be made available before the next meeting. The Committee expresses its continuing concern on lack of information on the status of this stock, on the reported high loss rate and on the increase in catch in the last two seasons.

38. The bowhead whale stocks in the Canadian Eastern Arctic appear to be smaller than off Alaska; however the catch by Canadian aboriginals is very small. There is no positive evidence for any rebuilding of this stock (SC/26/35).

SMALLER CETACEANS

39. The Committee notes that the status of the Commission's responsibilities with respect to the smaller cetacea is unclear. However if the Commission plans to take any action with regard to these species it will need to authorize collection of data along the lines given in the report on Smaller Cetaceans p 128, 129. Presumably such data should go to the Bureau of International Whaling Statistics which is already receiving some data on smaller cetaceans. It was also noted that FAO and some regional fisheries bodies also collect some of the needed data. Some coordination is desirable. A list of priorities for population assessment of smaller cetaceans is found in SC/26/41 (revised).

DATA COLLECTION RESEARCH NEEDS AND OTHER MATTERS

40. The Committee expresses its thanks to Mr Vangstein for the continuing preparation of tables by the Bureau of International Whaling Statistics in response to requests. This information has played an important role in the analysis of whaling data and assessment of stocks; the tables also include useful data on small cetaceans.

41. The Committee urges members to resume or continue sending biological information to FAO where it can be kept on file and made available on request. This does not preclude exchange of data between members on request.

42. The Committee again urges the Commission to require the collection of additional effort data along the lines outlined in IWC/24/ APPENDIX IV, ANNEX 1.

Members are also asked where possible to analyse such data for presentation to the Scientific Committee.

43. The Committee repeats its request to the Commission to ask the Bureau to extend its collection of whale data to include effort and catch of small cetaceans and other biological data if available. This does not change the recommendation of last year that members of the Scientific Committee include such data in progress reports as well as information on the management of small cetacean fisheries.

44. The Committee recommends the continuation of the coordination of the international whale marking programme by I O S (Institute of Oceanographic Sciences, formerly N I O). For the present the Commission should consider doubling its support of the international marking scheme in view of the recent increases in costs (Annex G), and further consideration needs to be given to the level of support next year.

45. The Committee received further information from Roux on possible impact on marine mammals of pollution off Corsica. The request of last year, that the Commission express its concern to member governments and urges their adherence to the International Convention on Ocean Dumping is repeated.

46. International Decade of Cetacean Research. The Committee reminds the Commission that it endorsed in principle the recommendation for such a programme at the 24th meeting in 1972. It now urges the Commission to explore means of obtaining funds from the member countries or through other sources to initiate the programme. A useful proposal for the initial phase of the programme is to be found in SC/26/27, which gives some guidance to the level of expenditure that is suggested.

While some parts of such a programme may best be international other parts could be carried out by national governments.

47. The Committee urges its members to take greater responsibility for the careful editing of their reports that are included in the Commission's annual report.

48. The Committee will review the question of length limits for sperm whales which should be given serious consideration taking into account yields in weight, disturbance of the harems, catches of females and other aspects.

49. The Committee noted Mitchell's offer to supply limited numbers of a newly developed visual tag (SC/26/33) to scientists of any nation willing to test its efficiency, such as in a fishery on a small stock or on small populations of seasonally or locally restricted whales (eg right whales, gray whales etc).

50. Response to the question of feasibility of the Australian Amendment to the Moratorium proposal (referred by the Technical Committee). The advice requested, as specified by the Australian amendment, does come within the terms of reference of the Scientific Committee and is similar to advice now being given. The Committee understands that it would be asked to provide advice on criteria, and advice on stock levels relative to criteria, but the Commission would make the actual classifications and allocations to management regimes. Further the Committee understands that the Australian amendment would in no way limit its advice to the Commission, within its terms of reference.

51. The Committee reviewed the proposed Australian amendment to paragraph 21 of the schedule relative to measurement of whales and has recommended some changes in it for clarification. With these clarifications it believes it is quite satisfactory from the Committee's point of view.

52. The Committee understands that metric measurements are rounded to the nearest tenth of a metre and believes that the schedule should be amended to accommodate this procedure. The criteria for measurement should apply to all species in the schedule.

53. The Committee requests that the Bureau of International Whaling Statistics be asked for data on length composition of sperm whales by series and by Areas by month and season for the pelagic catches in the southern hemisphere prior to 1961/62.

54. The Committee recommends that the Commission be asked to seek funds to have the Report on Smaller Cetaceans and its supporting papers published by the Fisheries Research Board of Canada as a special number of its regular journal as soon as possible.

55. The Committee established two subcommittees to work on research proposals to be submitted through the chairman of the Commission to UNEP, FAO or other agencies. Such proposals would be reviewed before submission at the next special meeting of the Committee. The two committees are -

North Atlantic: Brown, Jonsson, Jonsgard, Mitchell (Convenor), Schevill

Southern Oceans: Bannister (Convenor), Borodin, Best, Gambell, Ivashin, Ohsumi

56. The Committee agreed with the Commission's request to meet within the next six months and tentatively set a meeting time during the first two weeks of December.

The Committee elected Allen as Chairman for 1974-75.

SUMMARY AND RECOMMENDATIONS TO THE COMMISSION

GENERAL

1. The Committee proposed some principles for management of whale stocks. These are given in para 10. Scientific advice for management of whale stocks should not only be based on the concept of sustainable yield in numbers but should also include other considerations. Further the Committee agreed to some specific principles for the management of stocks near or above MSY level. The question of stocks below this level will be given further study.
2. The Committee agreed its statement of last year on the proposed worldwide moratorium on commercial whaling is still appropriate. It further noted that because of possible competition between species, rebuilding of severely depleted stocks may not necessarily be maximised by a moratorium.

SOUTHERN HEMISPHERE BALEEN WHALES

3. The Committee does not have a new estimate of the replacement yield for the Antarctic fin whale stock. Last year the estimate was 3200.
4. The Committee recalls the point that it has emphasized frequently that at present fin whale stocks are about one third to one half of the level which would provide maximum sustainable yield and the lower the catch, the faster any rebuilding will occur.
5. Particular care should be taken in setting the fin whale quota in Areas III and IV.
6. The estimate of replacement yield of the Antarctic sei whale stock is 5200. Concern was expressed over recent trends in Areas IV and V and the low level of indices in Area III which suggest that the Commission should set quotas conservatively.
7. The Committee believes that the Commission should manage all whale stocks individually. To this end a subcommittee proposed allocations to Areas by percentages. These are given in paragraphs 15 and 16.
8. In regard to the opening date the Committee would prefer to see no earlier opening date than the one now in force and sees no reason for any change in the closing date.
9. The Committee recommends continuation of the ban on killing blue, humpback and right whales in the waters south of the Equator.
10. The Committee was unable to reach any conclusion on stock size or MSY estimates and is therefore unable to advise the Committee on a scientific basis with respect to minke whales. Any quota that is set should be allocated by Areas as indicated in para 18.
11. The Committee believes that the Commission's agenda item "Antarctic - Baleen stocks" should be reworded "Southern Hemisphere - Baleen stocks".

SOUTHERN HEMISPHERE: SPERM WHALES

12. The Committee recommends catch limits for the 9 Divisions as follows -

		Male	Female
W Atlantic	60°W - 30°W	500	400
E Atlantic	30°W - 20°E	900	1100
W Indian	20°E - 60°E	800	1100
C Indian	60°E - 90°E	2000	1300
E Indian	90°E - 130°E	1100	1100
E Australian	130°E - 160°E	100	300
New Zealand	160°E - 170°W	400	300
C Pacific	170°W - 100°W	3000	1300
E Pacific	100°W - 60°W	1400	600

If this is not possible the Committee suggests catch limits by major regions, oceans or the traditional statistical Areas. A basis to allocate these by accumulating percentages is given in the report. In this case the total quota should not exceed 8000 males and 5000 females.

NORTH PACIFIC: SPERM WHALES

13. The Committee sees no reason for changing its statement of the last two years "that the catch of male sperm whales should be held to not more than 6000" and "a safe catch limit for females would be 4000".

NORTH PACIFIC BALEEN WHALES

14. The estimated replacement yield of fin whales is about the same as last year - 750 to 900. The stock is well below the MSY level and the lower the catch is reduced below the replacement yield, the faster any rebuilding will occur.

15. The estimated replacement yield of sei whales is 2500. The sei whale stock may be less than half its unexploited level and the Committee urges the Commission to exercise caution in setting a catch limit.

NORTH ATLANTIC BALEEN WHALES

16. The Committee states that the fin whale stock off Iceland does not appear to be in any danger though the possible downward trend in CPUE needs to be studied further.

17. The Committee believes that the restrictions imposed by the Norwegian government on its operation for small whales are appropriate though preliminary analysis suggests that the stock of minke whales has been fairly stable under relatively constant exploitation.

ARCTIC WHALES

18. The Committee expresses its continuing concern on lack of information on the status of the bowhead whale stock off Alaska, on the reported high loss rate and on the increase in catch in the last two seasons.

SMALLER CETACEANS

19. If the Commission plans to take any action with respect to smaller cetaceans, it will need to authorise data collection along the lines of pl28, 127 of the Report on Smaller Cetaceans. A list of priorities for smaller cetaceans is found in SC/26/41 (revised).

DATA COLLECTION: RESEARCH NEEDS AND OTHER MATTERS

20. The Committee again urges the Commission to require collection of additional effort data along the lines outlined in IWC/24/ Annex I.

21. The Committee repeats its request to the Commission to ask the Bureau to extend its collection of whale data to include data on effort and catch of small cetaceans and other biological data if available.

22. The Committee recommends the continuation of the co-ordination of the international whale marking programme by the Institute of Oceanographic Sciences and support for the international marking scheme at double the level of recent years.

23. The Committee believes that the effect of pollution on whale stocks may be important and requests the Commission to express its concern to member governments and urge their adherence to the International Convention on Ocean Dumping.

24. The Committee urges the Commission to seek funds for the International Decade of Cetacean Research and refers to a proposal for the initial phase in SC/26/27 also of IWC/24/Annex H.