INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

RESTRICTED

Serial No. 2723
(B.e.71)

ICNAF Comm.Doc. 72/6

ANNUAL MEETING - JUNE 1972

Report of a Mid-Term Meeting of Panel A Member Countries

Ministry of Greenland, Copenhagen, 7 October 1971

1. Welcome. Mr E. Hesselbjerg (Denmark) welcomed the meeting participants on behalf of the Greenland Ministry.

2. Attendance. The following attended the meeting:

Canada	- Dr A.W.H. Needler
	- Mr K. Henriksen
	- Dr A. W. Mansfield
	- Dr G.F.M. Smith
Denmark	- Mr E. Hesselbjerg
	- Mr H. Lassen
	- Mr Sv. Aa. Horsted
	- Mr F. Kapel
	- Mr E. Lemche
Norway	- Mr O. Lund
	- Mr G. Saetersdal
	- Mr T. Øritsland
	- Mr T. Storli
	- Mr E. Aas
ICNAF	- Mr L.R. Day

3. Rapporteur. The Chairman of the meeting, Mr O. Lund, requested the appointment of Mr Day as rapporteur. Agreed.

4. Agenda. The following agenda was agreed:

1) Opening by the Chairman, Mr Lund.

2) Selection of Rapporteur

3) Report from the Special Meeting of Panel A Experts, Charlottenlund, 23-24 September 1971.

4) Quantity regulation.

5) The opening and closing dates.

6) Other business.

5. Seal Experts Report. Mr Horsted, Chairman of the Panel A Experts, presented the report (Appendix I) and answered questions relating to its content.

6. Quantity Regulation for Harp Seal Harvest. The panel members explored the need for and the implications of additional quota reduction as outlined in the report of the seal experts. It was unanimously agreed that reduction of the quota below the 1971 level was necessary. Economic effects of various strategies were also considered.

After considerable discussion of various strategies, the Panel members agreed to submit to their governments the following recommendations for the 1972 harp sealing season on the "Front" and in the "Gulf":

that a catch of 150,000 harp seals be allowed, allocated as follows:

Canadian landsmen	30,000
Canadian vessels	60,000
Norwegian vessels	60,000

It was agreed that it is desirable to keep the proportion of animals-of-the-year as high as possible with these allocations.

7. Opening and Closing Dates. It was agreed that the 1972 Gulf and Front sealing season start not earlier than 12 March and close not later than 24 April.

8. Other Business.

a) Hood Seals. Canada drew attention to the need for a review of the status of the hood seal population. It was agreed that this would be discussed with any pertinent data available from Member Countries at the 1972 Annual Meeting.

b) Unused Quotas. The question was raised as to whether an unused quota from one year should be added to the next year's regular quota. It was agreed that this question should receive further attention at the 1972 Annual Meeting.

c) Disposal of Reports. It was agreed that this report with its appendix should be submitted to the Commission at its 1972 Annual Meeting.

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Appendix I

ANNUAL MEETING - JUNE 1972

Report of the Special Meeting of Panel A Experts

Charlottenlund, Denmark, 23-24 September 1971

1. Participants.

Canada	- A.W. Mansfield (Rapporteur - W.E. Ricker - G.F.M. Smith
Denmark	- Sv. Aa. Horsted (Convenor) - F. Kapel
Norway	- Ø. Ulltang - T. Øritsland - O.J. Østvedt
FAO	- J.A. Gulland
ICNAF	- L.R. Day

2. This meeting was requested by Panel A at the 1971 Annual Meeting of ICNAF (1971 ICNAF Meeting Proceedings No. 16, para. 5) to examine the long-term effect on the seal population of reducing the catch to the level of the sustainable yield in more than one step.

3. The Agenda (Annex I) was adopted.

4. The Group reviewed documentation (Annex III) and considered the latest assessment of the state of the stocks of harp seals as reported by STACRES (Redbook 1971, Part I, pp. 30-33) at the 1971 Annual Meeting of ICNAF.

5. After discussion, the Group agreed that they were not able to change the estimate of production of 300,000 pups in 1970 (Redbook 1971 Part I, p. 31) though it could be smaller.

6. Further discussion suggested that the survival of pups to maturity was nearer 40% than any other figure in the table presented in Redbook 1971, Part I, p. 27. the 40% applies to hunting strategy as in the years before 1971. Of the deaths that occurred before maturity approximately half are due to hunting. If no harvesting of animals other than pups occurred at Newfoundland the survival of pups to maturity would increase to about 63%.

7. There was considerable uncertainty concerning the mortality rate among adults. Data on age-composition of recent years suggested that the total mortality during the 1960's was around 15% per year. Of this mortality about one-third was due to hunting, and the present estimate of natural mortality is, therefore, about 10% per year, but it should be stressed that the true value may well be 2 or 3% on either side of this.

8. The adult mortality in the future will depend on the number of adults included in the harvest. During the 1971 season the nature of the quota system encouraged the harvesting of pups rather than older animals. Provided future quotas are small enough to be filled by pups alone it is likely that the adult mortality will decrease towards the natural mortality estimated in paragraph 7.

9. In the STACRES Report (Redbook 1971, Part I, p. 32) estimates of sustainable harvest of pups were given for an equilibrium stock of 300,000 adult females (corresponding to about 270,000 breeding females).

The Group wishes to point out, however, that the stock size will decline until 1978 even if no catch occurs, due to catches of pups in recent years in excess of the sustainable yield. Assuming that there will be some reduction in the catch rate of juveniles so that 50% will survive to maturity, the stock size of 1978 is estimated to be about 240,000 breeding females.

10. Despite the uncertainties concerning the mortality rates and the current magnitude of the stock (see paragraph 5 above) it is quite clear that recent catches have been greatly in excess of the sustainable yield of the present stock and still more in excess of the sustainable yield from the reduced stock population that will exist by 1978.

Catches will, therefore, have to be reduced until the annual catch is no more than the current sustainable yield. The quicker this reduction is achieved, the larger will be the stock, and the sustainable yield from it.

11. In the time available it was not possible for the Group to examine strategies for more than one combination of parameters. The strategies in the following paragraphs are based on assumptions set out in Annex II.

12. Strategies examined (all strategies can permit a kill of about 2% of the age 1-6 animals per year):

I. The total catch in 1972 and later years is set at 200,000 pups plus 10,000 adult females (*i.e.* 240,000 animals in all per year).

Result: The total production of pups will be taken by 1977 (Fig. 1).

II. All pups caught. No adults caught.

Result: Stock declines to give 70,000 breeding females by 1990 (Fig. 1).

III. In 1972 and all subsequent years the pup catch is held at the level which provides a pup escapement sufficient to maintain a stock of 239,000 and sustainable yield of 143,000 pups.

Result: The actual catches are 194,000 in 1972, 182,000 in 1973, 164,000 in 1974, 170,000 in 1975, 158,000 in 1976, 150,000 in 1977, and 143,000 in all subsequent years (Fig. 2).

IV. An initial catch of 200,000 pups in 1972 reduced to 180,000 in 1973, 160,000 in 1974 and 145,000 each year thereafter.

Result: A sustained level of 145,000 is achieved in 1975 (Fig. 2).

V. An immediate reduction in catch to 150,000 pups plus 2% of age 1-6 animals (10,000).

Result: The 150,000 pup catch can be maintained indefinitely (Fig. 2).

VI. The total catch is limited to 200,000 pups in 1972 and reduced to 20,000 pups per year down to 100,000 pups in 1977, and kept at that level in later years.

Result: The stock of breeding females will start to increase in 1979. It reaches 310,000 in 1990 and continues to increase to maximum (Fig. 2).

VII. No catch of pups or adults.

Result: The stock begins to rise in 1979 and exceeds 600,000 in 1990 (Fig. 1).

13. The Group wishes to emphasize the preliminary nature of its assessment and stresses the importance of continuing adequate programs of research on the harp seal which will lead to better estimates of population parameters.

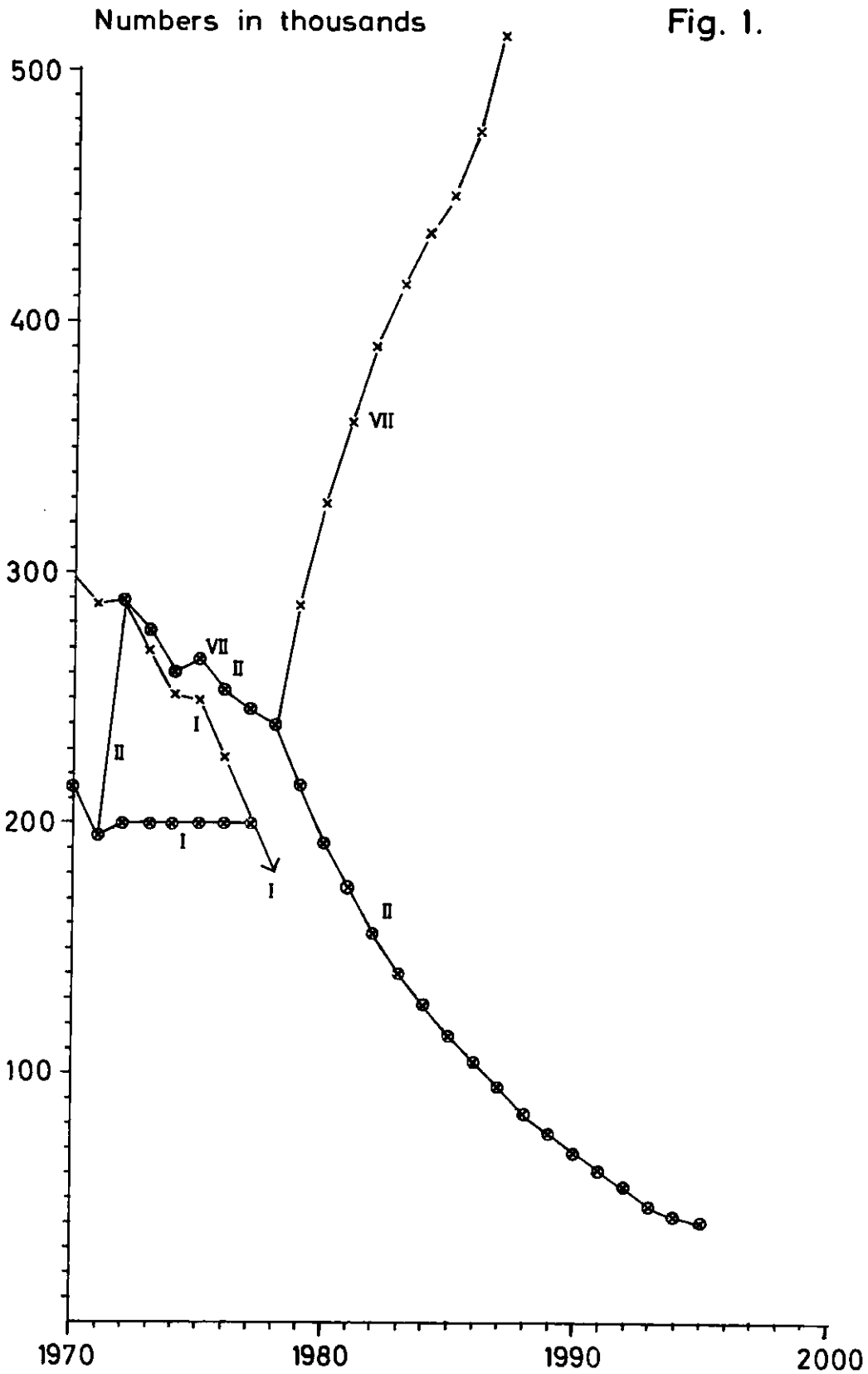

Fig. 1.

Fig. 1. Seal hunting strategies I, II, and VII.

× - breeding stock (equal to pup production)
o - pup harvest

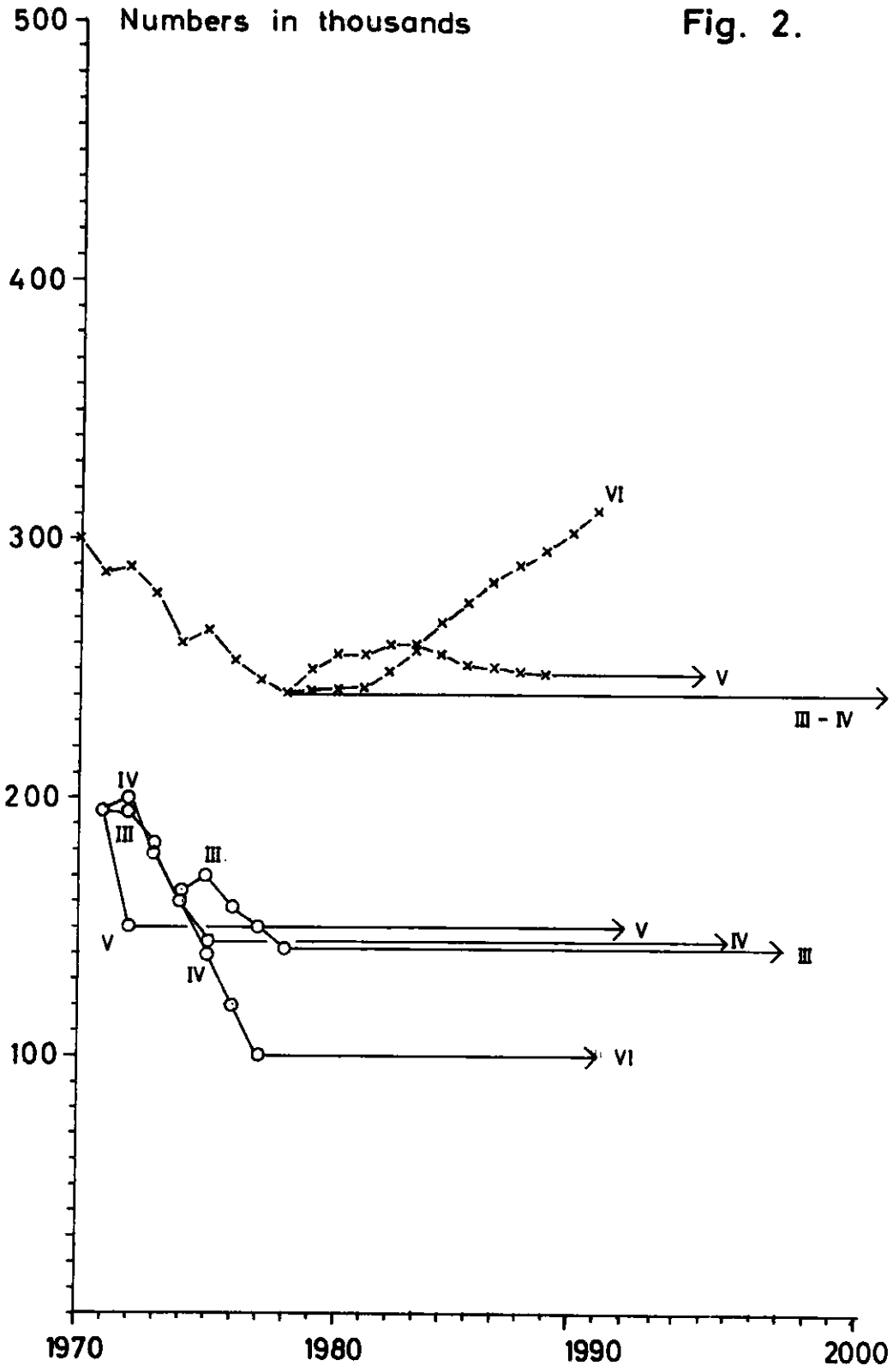

Fig. 2. Seal hunting strategies III, IV, V and VI.

× - breeding stock (equal to pup production)
o - pup harvest

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Annex I

ANNUAL MEETING - JUNE 1972

Meeting of Panel A Experts

Charlottenlund, 23-24 September 1971

Agenda

1. Opening by the Convenor.

2. Adoption of Agenda

3. Election of Rapporteur

4. Review of documentation including papers and reports from the 1971 Annual Meeting of Panel A and ICNAF.

5. Review of latest assessment of state of stocks of harp seals.

6. Biological effects of approaching a given level of catch in more than one step:

   i) Review of possible indication of the practicable magnitude of successive reductions in quota and/or number of successive reductions.

   ii) The biological effects of stepwise approach to a sustainable yield.

7. Consideration of report.

8. Other matters.

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Appendix I
Annex II

ANNUAL MEETING - JUNE 1972

Meeting of Panel A Experts

Charlottenlund, 23-24 September 1971

Basis for Numerical Projections in Examples of Paragraph 12

1. 1970 stock of breeding females = 300,000. Hence also 300,000 pups produced in 1970.

2. During 1963-70 the female breeding stock decreased by 10,000 per year. Together with known pup catches and the survival rate in 3a below this determines the recruitment of breeding females at age 7 in each year.

3 a) For year-classes through 1971, 100,000 surviving pups (both sexes) produced 20,000 females of age 7.

b) For year-classes from 1972 onward, 100,000 surviving pups will produce 25,000 females age 7.

(The difference between a) and b) reflects a postulated reduction of kill of seals of age 1-6; however a small kill - about 2% [about 10,000 juveniles per year] - of this age group is implied in all examples, since the 50% survival over 7 years is less than the 63% that may be possible.)

4. Natural mortality rate of female seals age 7 and older is 10%, catches at Greenland and in the Canadian Arctic are included in this mortality.

5. Items 3b and 4 determine that the equilibrium rate of utilisation of pups is 60%.

6. The above conditions lead to a female breeding stock of 239,000 in 1978.

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Annex III

ANNUAL MEETING - JUNE 1972

Meeting of Panel A Experts

Charlottenlund, 23-24 September 1971

Documentation

A. Documents and reports presented to earlier meetings of ICNAF:

1. ICNAF Annual Meeting Proceedings No. 7 with appendices (Report of Meeting of Panel A, Scientific Advisers to Panel A, and Status of the Harp Seal Fishery and Research carried out), 1971.

2. ICNAF Annual Meeting Proceedings No. 10 (STACRES Report, Assessment section on Seals, provisional pages 26-28), also (Redbook 1971, Part I, p. 30-33).

3. ICNAF Commissioners Document 71/12 (Canadian Proposal Concerning Conservation of Seals in the Convention Area).

4. ICNAF Commissioners Document 71/25 (Proposal by Canadian Delegation on Harp Seal Quotas).

5. Sergeant, D.E.: Calculation of Production of Harp Seals in the Western North Atlantic. ICNAF Research Document 71/7.

6. Øritsland, T.: Progress Report on Norwegian Studies of Harp Seals at Newfoundland. ICNAF Research Document 71/8.

B. Documents regarded as working documents for this Special Meeting of Panel A Experts:

7. Allen, R.L.: The Future of the Harp Seal Stocks of the Western North Atlantic.

8. Kapel, F.: Age Composition of Samples of Harp Seals, W. Greenland 1970 (Figure only).

9. Kapel, F.: Comparison of Greenland Catch of Harp Seals to Estimates of Escapement at Newfoundland (Table and Figure only).

10. Ricker, W.F.: Comments on the West Atlantic Harp Seal Herd and Proposals for the 1972 Harvest.

11. Ulltang, Ø.: Estimates of Mortality and Production of Harp Seals at Newfoundland.

12. Ulltang, Ø.: Effects of Stepwise Reduction of the Catch of Harp Seals at Newfoundland.

13. Sergeant, D.E.: Canadian Studies on Harp Seals in 1971.

Furthermore some updated figures for paper 6 were presented to the Group.