

WHITHER THE ICCAT "ARTICLE IV" PUBLICATIONS?  
HISTORY, PROJECTIONS TO THE YEAR 2000, AND SOME RECOMMENDATIONS FOR MANAGEMENT

*J. P. Wise*  
*ICCAT Secretariat*  
*Principe de Vergara, 17-7, 28001 Madrid, Spain*

## SUMMARY

The total bulk of the ICCAT Collective Volumes, Statistical Series, Data Records and Statistical Bulletins has been growing. ICCAT presently publishes about 2,000 pages of these reports per year, vs. about 1,000 pages per year in the 1970s. If growth continues at the present alarming rate, the cumulative number of pages published by the year 2000 will be over 100,000. The history and present composition of these publications is reviewed, and recommendations made that could lead to control of growth. The principal recommendations concern the Data Record, the Reports "A", and the SCRS papers in the Collective Volumes.

## RESUME

Le volume des Recueils de Documents scientifiques, de Séries statistiques, de Recueils de Données et des Bulletins statistiques de l'ICCAT s'est accru. L'ICCAT publie à l'heure actuelle environ 2.000 pages de ces rapports par an, par rapport aux quelque 1.000 pages par an dans les années 70. Si ceci continue à augmenter au rythme actuel, qui est alarmant, le nombre cumulé de pages publiées en l'an 2000 dépassera 100.000. Le présent document étudie le contenu historique et actuel de ces publications, et des recommandations sont formulées pour amener à contrôler leur volume. Parmi ces recommandations, les plus importantes portent sur le Recueil de Données, le Rapport "A" et les documents SCRS publiés dans les Recueils de Documents scientifiques.

## RESUMEN

El volumen total de las publicaciones ICCAT: Colección de Documentos Científicos, Series Estadísticas, Colección de Datos y Boletín Estadístico, ha ido en constante aumento. Actualmente, ICCAT emite unas 2.000 páginas de estos informes cada año, en contraste con las cerca de 1.000 páginas por año que se publicaban durante los años 70. Si se mantiene este nivel alarmante de crecimiento, el número acumulativo de páginas en el año 2000 sobrepasará las 100.000. Se revisa en este documento la historia y actual composición de estas publicaciones, y se hacen recomendaciones con vistas a controlar su crecimiento. Estas recomendaciones se refieren principalmente a la Colección de Datos, Informes "A" y documentos SCRS en la Colección de Documentos Científicos.

Article IV of the ICCAT Convention prescribes the publishing of reports of findings, plus statistical, biological and other scientific information relative to the tuna fisheries of the Convention area. These objectives are met by:

- The "Redbooks"
- The Statistical Series
- The Data Records
- The Statistical Bulletins

A summary of the history of these publications is shown in Table 1. As of the end of 1984, a total of 18,500 pages had been published. (Un-numbered and Roman-numbered pages are not included.) The number of pages per year averaged over 2,000 in 1980-1984. The number of pages increased from 1973 to 1984 at 9.3 percent per year. If growth continues at this rate, the number of pages published in the year 2000 will be about 9,600. The cumulative number of pages published will be about 105,000, weighing over 240 kg and occupying more than 6 meters of shelf space.

There is a real danger of drowning in a rising tide of paper unless thought is devoted to the possibility of controlling the bulk of the "Article IV" reports published each year. It is thus useful to review the history and present composition of these publications and to make some projections and recommendations.

COLLECTIVE VOLUME OF SCIENTIFIC PAPERS - "REDBOOK"

The Redbook makes up about half the bulk of the Article IV publications (Table 1). The total number of Redbook pages has been just over 10,000 through 1985 (Tables 2 & 3). The number of pages has been growing at 10.5 percent per year. If growth were to continue at this rate, the number of pages published in the year 2000 would be about 5,300, and the cumulative total would reach 54,000.

Simply calculating a rate of apparent growth and its possible consequences obscures the fact that there was a change in the nature of the Redbook following 1979. From 1973 through 1979, papers from SCRS meetings made up more than 90 percent of the content. During 1980-1985 the proportion of space devoted to SCRS papers was only about half (Table 3).

The number of pages published in 1980, over 1,800 in five Volumes, was greater than that in any other year, but they contained only 40 percent SCRS papers. Publication of the ISYP Program Plan took up 365 pages (20 percent) of the 1980 Volumes; the other 40 percent was occupied by reports of workshops and a working group.

In the last six years (1980-1985) the percentage composition of the Redbook (excluding the ISYP Program Plan) has been:

<u>Component</u>	<u>Percent of total pages</u>
SCRS papers	51 (following 1979)
Workshop/Working Group Reports	30 (following 1979)
Reports "A"	20 (following 1980)
Symposia	5 (following 1981)

Percentages do not add to 100 because they are for different periods.

The number of pages per year devoted to each of the Redbook components is shown in Table 3. None shows a growth trend over time. In other words, the "growth" of the Redbook is more apparent than real. What has taken place is accretion-- the addition of an average of just over one workshop/working group report of about 175 pages per year following 1979, the addition of the Reports "A", each with about 200 pages following 1980, and the addition in most years following 1981 of symposium reports, each about 70 pages.

In fact, there has been no significant growth in the number of Redbook pages in the period 1980-1985. If the average annual bulk of the Redbook remains stable between now and the end of the century at the 1981-1985 level, one may anticipate just under 1,000 pages per year and a cumulative total of 25,000 pages (still a very appreciable quantity) by the year 2000. If it is decided that the average annual bulk should be reduced or at least not allowed to increase, the most logical approach would be to control the principal components of the Redbook.

SCRS Papers

The 6,239 pages of SCRS papers published in the Redbook 1973-1985 comprise about 650 papers bearing over 350 different senior and junior authors' names. However, anonymous contributions plus those of only 17 individuals account for over 40 percent of all the papers published.

Table 4 shows the distribution of the papers published by the 17 authors, each of whom has ten or more SCRS papers as senior or sole author. The five most prolific individuals produced 121 papers, nearly half the total for the 17. (One of the five, perhaps in a burst of enthusiasm, published the same paper twice, in different volumes.)

The median length of the papers published by the 17 leading contributors is 5 pages. (A "page" is a Redbook page, usually two photoreduced typescript pages.) But the mean length of the papers published by the top five individuals is over 9 pages. The almost 1,200 pages published by these five most prolific authors account for over 50 percent of the pages published by the group of 17, and almost 20 percent of all the pages of SCRS papers published during 1973-1985 (Table 3).

These data suggest two possible ways to manage the bulk of the SCRS papers. One is to exercise control over the number of pages in the individual contributions. This control could have a considerable influence on the total bulk of the Redbook, and could be effected by the cooperation of a small number of authors. The other is to limit the number of papers. Adoption of either or both of these measures would mean a departure from the present policy of accepting SCRS papers for publication in the Redbook almost without question. It would place a burden on an editor or editorial group. It could also cause delay in the issuance of the Redbook, now usually accomplished within four to six months after the SCRS meeting.

#### Workshop/working group reports

Workshop/working group reports make up about 30 percent of the volume of the Redbooks following 1979. A typical recent working group report contains the report proper, contributed papers, and general supporting tables and figures. The composition of the reports varies considerably. For example, three of the seven reports have no contributed papers; one has over 90 percent contributed papers (Table 5a).

On the whole, the reports contain about 20 percent general supporting tables and figures. Many of the contributed papers have large proportions of tables and figures (Table 5b). Overall, the workshop/working group reports have about 50 percent tables and figures, some in special sections and some in contributed papers (Table 5).

It is evidently undesirable to eliminate the reports proper, so savings in bulk, should they be desired, must come from the supporting material. The extensive tables and figures suggest themselves as possible sacrifices. There are obvious reasons to preserve in the published reports all of the tables and figures considered and discussed, the policy at present. But considerable savings could be made by including only key tables and figures, specifying that details are available from authors or from the Secretariat.

#### Reports "A"

Reports "A" make up about 20 percent of the bulk of the Redbook following 1980 (Table 3). According to the preface to the first Report "A" published, "At the 1979 SCRS meeting, it was... approved to change the format of the SCRS Report, on a trial basis... The Working Group... developed a new format... consisting of two documents, Report A and Report B. Report A is a series of working papers... intended to be a source of information for formulating and approving Report B... Report B is included in the Report for Biennial Period..."

The composition of the Reports has been consistent--some 60 percent of the pages devoted to the report proper, about 15 percent to tables, and about 25 percent to figures (Table 6).

Perhaps the time has come to evaluate the trial initiated in 1979 and decide whether the Reports "A" are serving their intended purpose as "a source of information for formulating and approving Report B", and/or other useful purposes. In any case, a large percentage of the tables and figures in the Reports "A" duplicate those in the Biennial Reports, and some figures in the Report "A" and Biennial duplicate those in SCRS papers. It is worthwhile considering whether it is worth publishing the same material twice or even three times each year.

#### STATISTICAL SERIES

The Statistical Series has made up about 9 percent of the total bulk of the Article IV publications, 1976-1984 (Table 1). There is no notable trend in the number of pages in the Series. On average, just over one number of about 120 pages has been published each year since 1976 (Table 7).

According to the Preface to Statistical Series 1, the series is informal, and "contains the results of statistical works achieved by the Secretariat, whereas the ICCAT 'Data Record' series contains most of the data presented by the National Offices." The distinction may have been blurred in 1978-1979 when data from the Spanish tropical fleet and from Ghana-based baitboats were included in several numbers. The Spanish data (Statistical Series 3) were collected by Spanish authorities and processed by the Secretariat. Data from Ghana-based fleets of several nationalities (Statistical Series 5 and 8) were collected by Ghanaian authorities and processed by the Secretariat. Another apparent exception took place when several years of data collected from the Taiwanese longline fleet by the Secretariat were included in the Data Record.

Minor savings in covers, prefaces, introductory material, etc., could be made by incorporating the Series in the Data Record. There seems to be no compelling reason not to do so.

#### DATA RECORD

The Data Record has occupied about a third of the bulk of the Article IV publications (Table 1). The history of the Data Records is shown in Table 8. The Data Record originated with the instructions that:

The Secretariat will obtain summarized catch-effort data and publish the information in a single volume, keeping publishing costs to a minimum.

The Secretariat will compile and publish an annual report of summarized data on length composition of catch...

(Biennial Report for 1972-73, Part I)

Each recent Data Record begins with about 15 pages of explanatory material and keys, a cumulative catalog of Task II catch and effort data (8 pages in Volume 25), and a cumulative catalog of Task II size frequency data (28 pages in Volume 25). This introductory material is printed on Roman-numbered pages, and not included in the page count in Table 8. It is followed by a varying number of pages of catch and effort and size data, average 330 in 1980-1984. Two Data Records are issued each year. The average number of pages per year in 1980-1984 was about 655.

The number of pages has been growing at 6.5 percent per year (Table 8). If growth continues at this rate, the number of pages published in the year 2000 will be about 2,000, and the cumulative number will be almost 27,000.

There are reasons to expect that the rate of growth will increase, and that the bulk in the future could considerably exceed this estimate. ICCAT reports catches of nearly 30 species of tunas and tuna-like fishes by more than 30 kinds of gear for over 80 countries. If catch-effort and size data for all of these categories were to be reported quarterly for four Atlantic areas, the number of reports annually would be well over 2,000,000. Not all countries take all species with all gears in all areas. But if only 0.1 percent of the potential is realized, over 2,000 reports can be expected each year.

This latter estimate is well within the range of possibility. The present number of species, areas, etc., combinations in the Data Record is on the order of 500. Wise (1985), after grouping gears, areas, minor species, and non-reporting countries, used nearly 140 country-species categories in an analysis of Task II size sampling published in the Data Record. A similar analysis of Task II catch and

effort sampling, with comparable grouping (SCRS/85/16) required the use of over 170 country-species categories.

Improved collection and reporting of catch-effort and size data is a constant concern of the SCRS. Thus, it may in the near future be unrealistic for the Secretariat to continue to comply with the 1972 mandate unless the degree of summarization reaches the point where the published data are impossible to use for analysis.

Another consideration is revision of catch-effort and size data. The results of recent workshops on bluefin tuna have rendered obsolete most if not all of the published data for the species. Cayré (1984) and Pallarés (1984) described the necessity for revision of all the FIS, FISM and Spanish data for tropical yellowfin, bigeye and skipjack tunas taken by purse seiners through 1983. Several hundred pages of data on these species in the Data Records (and all of Statistical Series 5) have become obsolete.

The consequence is that a user of the Data Record has great difficulty in determining if the data on a particular page are the most up-to-date available, or if they have undergone substantial revision. There is usually no way the status of the data can be determined from the volume in which they are contained. Sometimes (but not always) their status can be inferred from subsequent Data Records if they have been republished or if supplements have been issued. Sometimes subsequent catalogs in which the "published" or "reference" item corresponding to the data has been left blank or bears some notation furnish useful information.

A possible solution to these serious problems, which are likely to become more serious, is to stop issuing the Data Record in its present form. The publication of printed data summaries is postulated on the data-handling techniques of 1972. An alternative would be to print and distribute only catalogs of the catch-effort and size data in the ICCAT data base once or twice a year. Organizations with suitable equipment could be furnished with magnetic tapes or computer diskettes containing the up-to-date Task II data. Others could request specific computer outputs on paper from the Secretariat as needed.

#### THE STATISTICAL BULLETINS

The Statistical Bulletin has been published annually since 1971 and has accounted for about 8 percent of the bulk of the Article IV publications from 1973 through 1984 (Table 1). (The Provisional Statistical Bulletin, issued in limited numbers, is not considered here.) It assumed essentially its present form in 1975, and since that time has been growing in number of pages at 5.3 percent per year. If growth continues at this rate, the Statistical Bulletin published in the year 2000 will have a bit over 300 pages, and the cumulative number of pages will be about 5,300. Perhaps ways can be found to effect economies, but publication of these data is obviously necessary, and the effects of any economies on the total bulk of Article IV publications would be minor.

Two Historical Statistical Bulletins totaling 188 pages were published in 1982.

#### RECOMMENDATIONS

The above considerations lead to the following recommendations, listed in rough order of priority:

1. Consider better ways than the Data Record of meeting needs for availability of catch and effort and size data. Distribution of printed catalogs and periodically updated computer tapes or diskettes is an alternative.

2. Reexamine the utility of the Reports "A", and the necessity of publishing similar tables and figures two or more times each year.

3. Consider controlling the bulk of SCRS papers published in the Redbook.

4. Consider condensing the workshop/working group reports published in the Redbook by reducing the number of tables and figures.

5. Consider merging the Statistical Series with the Data Record.

6. Consider forms other than printed volumes (microfilm, microfiche, floppy disks, magnetic tape, optical disks, etc.) for dissemination of Article IV reports. Recent Biennial Reports (English), Statistical Bulletins, Historical Statistical Bulletins, Data Records and Newsletters (English) are in fact presently available on microfiche from a private company.

#### REFERENCES

Cayré, P.

1984

Procédure suivie pour la revision de la composition spécifique des statistiques thonnières FISM (France, Côte d'Ivoire, Sénégal et Maroc). ICCAT Collective Volume of Scientific Papers - Vol. XXI(2): 102-107 (JTT/84/13).

Pallarés, P.

1984

Nota sobre el método seguido para la corrección de las estadísticas españolas. ICCAT Collective Volume of Scientific Papers - Vol. XXI(2): 142 (JTT/84/17).

Wise, J.P.

1985

Analysis of levels of size sampling by species and country in the ICCAT Task II data base, 1975-82. ICCAT Collective Volume of Scientific Papers - Vol. XXIII(2): 357-372 (SCRS/84/27).

Table 1 - Selected\* ICCAT Publications, 1973-1985

Year	Redbook	Stat. Series	Data Record pages	Stat. Bulletin	Total
1973	560	0	396	105	1,061
1974	628	0	302	102	1,032
1975	212	0	310	109	631
1976	385	109	698	74	1,266
1977	459	206	565	87	1,317
1978	400	544	558	89	1,591
1979	591	70	330	100	1,091
1980	1,824	119	625	120	2,688
1981	800	119	544	123	1,586
1982	697	0	736	310**	1,743
1983	1,096	166	543	131	1,936
1984	1,488	115	823	132	2,558
1985	895***				895
Total	10,035	1,448	6,430	1,482	19,395

\*Does not include Biennial Reports, Newsletters, Provisional Statistical Bulletins, or miscellaneous publications

\*\*Includes two Historical Statistical Bulletins (79 and 109 pages)

\*\*\*Does not include indices

Note:  
Does not include un-numbered or Roman-numbered pages

Table 2 - The ICCAT Redbook, 1973-1985

Year	Volume	Contents	No. of Pages	Yearly Total
1973	I	SCRS - 1972	560	560
1974	II III	SCRS - 1973 Dynamics workshop	348 280	628
1975	IV	SCRS - 1974	212	212
1976	V	SCRS - 1975	385	385
1977	VI	SCRS - 1976	459	459
1978	VII	SCRS - 1977	400	400
1979	VIII	SCRS - 1978	591	591
1980	IX X XI XII XIII	SCRS - 1979 JTT Workshop Bluefin workshop ISYP Program Plan JTT Working Group	738 72 418 365 231	1,824
1981	XIV XV XVI	Report "A" 1980 SCRS - 1980 Billfish Workshop	198 423 179	800
1982	XVII	SCRS - 1981 SYMP - 1981 Report "A" 1981	430 60 207	697
1983	XVIII	SCRS - 1982 SYMP - 1982 Report "A" 1982	757 88 251	1,096
1984	XIX XX XXI	Bluefin Workshop SCRS - 1983 Report "A" 1983 JTT Working Group	282 551 178 477	1,488
1985	XXII XXIII	Bluefin Working Group *SCRS - 1984 **SYMP - 1984 Report "A" 1984	264 385 60 186	895***
Total			10,035	10,035

\*Does not include bluefin tuna papers

\*\*"Day to review statistics"

\*\*\*Does not include indices

SCRS = Standing Committee on Research and Statistics  
JTT = Juvenile tropical tunas  
ISYP = International Skipjack Year  
SYMP = Symposium

Note:  
Does not include un-numbered or Roman-numbered pages

Table 3 - Components of the ICCAT Redbook, 1973-1985

Year	SCRS papers	Wkshp./ work.gp. reports	Reports "A" pages	Symp. reports	ISYP Plan	Total
1973	560	0	0	0	0	560
1974	348	280	0	0	0	628
1975	212	0	0	0	0	212
1976	385	0	0	0	0	385
1977	459	0	0	0	0	459
1978	400	0	0	0	0	400
1979	591	0	0	0	0	591
1980	738	721	0	0	365	1,824
1981	423	179	198	0	0	800
1982	430	0	207	60	0	697
1983	757	0	251	88	0	1,096
1984	551	759	178	0	0	1,488
1985	385	264	186	60	0	895
Total	6,239	2,203	1,020	208	365	10,035

Table 4 - Principal authors (sole or senior) of SCRS papers published in the ICCAT Redbook, 1973-1985

Author	Number of papers	Years active	Papers/Year	Total pages	Pages/paper	Pages/Year
A	31	73-85	2.38	298	9.6	22.9
B	30	74-85	2.50	188	6.2	15.7
C	24	73-85	1.85	366	15.3	28.2
D	18	73-80	2.25	121	6.7	15.1
E	18*	74-85	1.50	167	9.3	13.9
F	16	75-84	1.60	99	6.2	9.9
G	16	76-83	2.00	62	3.9	7.7
H	15	73-83	1.36	63	4.2	5.7
J	14	75-83	1.56	84	6.0	9.3
K	13	75-85	1.18	105	8.1	9.5
L	12	76-84	1.33	155	12.9	17.2
M	11	77-83	1.57	68	6.2	9.7
N	11	78-84	1.57	76	6.9	10.9
O	11	76-85	1.10	52	4.7	5.2
P	10	80-82	3.33	62	6.2	20.7
Q	10	74-79	1.67	128	12.8	21.3
R	10	73-80	1.25	73	7.3	9.1
Total	270*			2,167		

\*Includes one paper also published in a working group report

Notes:

- Does not include papers published in reports of workshops, working groups or symposia
- "Years active" = earliest and latest years of publication
- "Page" = Redbook page, usually two photoreduced typescript pages.

Table 5 - Workshop/working group reports in the ICCAT Redbook, 1980-1985

5a - Relative importance of component parts

Vol.	Subject	Report proper	Contrib. papers	Supporting Tables & figures	Total
X	JTT	50	0	22	72
XI	BFT	73	331*	14	418
XIII	JTT	72	101	58	231
XVI	BIL	97	82	0	179
XIX	BFT	62	0	220	282
XXI	JTT	184	188	103	477
XXII	BFT	48	184	32	264
Total		586	886	451	1,923

\*Seventeen summary descriptions of fisheries

5a - Composition of contributed papers

Vol.	Subject	Text	Tables	Figures	Total
XI	BFT	181	63	87	331
XIII	JTT	68	15	18	101
XVI	BIL	13	48	21	82
XXI	JTT	49	74	65	188
XXII	BFT	79	41	64	184
Total		390	241	255	886

JTT = Juvenile tropical tunas  
 BFT = Bluefin tuna  
 BIL = Billfishes

Note:

The reports proper are trilingual. The contributed papers, with the exception of Volume XI, are usually included only in the original language.

Table 6 - Reports "A" in the ICCAT Redbook, 1981-1985

Volume	Report proper	Tables	Figures	Total
XIV	126	23	49	198
XVII(3)	136	27	44	207
XVIII(4)	156	23	72	251
XX(3)	110	30	38	178
XXIII(1)	110	25	51	186
Total	638	128	254	1,020

Table 7 - The ICCAT Statistical Series, 1976-1984

Year	No.	Contents	Pages	Yearly total
1976	1	Longline data, 1974-75	109	109
1977	2	Longline data, 1975	84	206
	3	Longline data, 1976	122	
1978	4	Longline data, 1977	93	544
	5	Spanish tropical data, 1973-77*	148	
	6	Ghana-based baitboats, 1973-77	163	
	7	Longline data, 1978	140	
1979	8	Ghana-based baitboats, 1978	70	70
1980**	9	Longline data, 1979	119	119
1981	10	Longline data, 1980	119	119
1982	-	--	-	-
1983	11	Longline data, 1981-82	166	166
1984	12	Longline data, 1983	115	115
Total				1,448

\*Title says 1974-77

\*\*Spine says 1979

Note:

Does not include un-numbered or Roman-numbered pages

Table 8 - The ICCAT Data Record, 1973-1984

Year	Number	Pages	Yearly total
1973	1	271	396
	2	125	
1974	3	181	302
	4	121	
1975	5	138	310
	6	172	
1976	7	359	698
	8	339	
1977	9	255	565
	10	310	
1978	11	272	558
	12	286	
1979	13	121	330
	14	209	
1980	15	226	625
	16	399	
1981	17	120	544
	18	424	
1982	19	261	736
	20	475	
1983	21	201	543
	22	342	
1984	23	218	823
	24	605	
1985	25	131	---
	26	-	
Total (through 1984)			6,430

Note:

Does not include un-numbered or Roman-numbered pages, nearly 30 percent of all the pages in Number 23