

CAFSAC INVERTEBRATES & MARINE PLANTS DOCUMENT #1

Background data for CAFSAC Invertebrates and Marine Plants
Subcommittee Meeting, Quebec City, 19th April/77

This document provides a draft outline of existing management structures and resource subdivisions currently being used in management of Invertebrates & Marine Plants on the East Coast of Canada.

Unit Areas Used for Reporting and Management Purposes

As for marine and anadromous fish species, all invertebrate and marine plant (I&MP) landings (Fig. 1) are reported by statistical district in the annual editions of Fisheries Statistics of Canada. In addition, for a limited number of species, statistics on catch and effort may be reported by area of capture; either by ICNAF subdivision (Fig. 2), or special statistical subdivisions adopted for individual fisheries. For many inshore species such as marine plants, oysters, and clams, the distinction between area landed and the area captured may not be as significant as it is for many of the fisheries prosecuted distant from the port of landing. When considered strictly from the point of view of its potential management role, the CAFSAC I&MP subcommittee may be expected to be most active in terms of those stocks that lie in areas with common access from all three regions.

Landing statistics are reported on a monthly and annual basis in Fisheries Statistics of Canada, and in Maritime region these are divided into fisheries statistical districts (Figs 1a,b,c) which have been modified from time to time, but have remained essentially unchanged since 1956. The smallest division used for reporting annual landings in the Maritimes is by community.

In Newfoundland, the areas used in fisheries statistics (a-o) are similar to those used prior to Confederation (Fig. 1d), each area being broken down into smaller units labelled sections. Several settlements can be identified within each section, and settlement is the finest level of breakdown available. For the Quebec region (Fig. 1e), landings are reported separately for approximately 25 districts.

Information on management and statistical areas other than the above are given under the following species headings:

Lobsters

Maritimes

There are 8 lobster fishing districts and 12 separate management districts (incl. offshore) in the Maritimes (Fig. 3), each having its own seasons, trap limits and size regulations. License limitation is in effect in all areas. Offshore and inshore lobster areas in S.W. Nova Scotia are divided by a 50-mile line, the fisheries inside (district 4) and outside the 50-mile line being considered as separate districts, each with their own regulations. Offshore lobster landings from Georges Bank, Browns and the Scotian Shelf are at present analyzed for catch and effort by 30-minute unit areas.

Newfoundland and Quebec

For management purposes Newfoundland and Quebec each have 4 lobster districts, the only differences in management regulations between these districts being in the opening and closing dates (Fig. 3).

Snow Crabs (*Chionoecetes opilio*)

Maritimes and Quebec

The Gulf is considered a special management area for snow crabs. Port samples and log book information are reported in terms of 20' latitude by 30' longitude unit areas (Fig. 4). Trap limitations are in effect. A small area on the N.E. tip of Cape Breton (shaded area on Fig. 4) has a limit of only 30 traps.

Newfoundland Region

At present the only management area is all waters surrounding Newfoundland, and licensing and limited entry are in effect. The attached map (Fig. 4) shows areas used for reporting crab fisheries data.

Rock Crabs (*Cancer irroratus*)

Maritimes

This small fishery is based largely on bycatch from the lobster fishery and hence zoning follows that used for lobsters.

Shrimp (*Pandalus borealis*)

Three major fishing areas have been described for this species.

1. S.W. Nova Scotia and Bay of Fundy.
2. Gulf of St. Lawrence.
3. Labrador.

Maritimes

Shrimp fisheries in the Bay of Fundy (around Grand Manan) and off S.W. Nova Scotia in the Gulf of Maine were prosecuted actively in the mid 60's, but there has been no active fishery since then. No statistics on catch and effort or biological sampling have been collected for this

fishery, although there has been some interest recently in reviving the fishery. It is likely that such revival will be carried out under license limitation, with a special concern for bycatches of groundfish (especially haddock).

A relatively small participation by the Maritimes in the Gulf of St. Lawrence shrimp fisheries may increase in the near future. No management areas or methods for collection of catch statistics have yet been developed.

Newfoundland

In addition to the statistical areas used for reporting shrimp landings and effort, research vessel, ID and other exploratory fishing catches are coded by modified ICNAF unit areas as per Fig. 2.

MOLLUSCS

Sea Scallops (*Placopecten magellanicus*)

Maritimes

The major fishery in ICNAF subarea 5Ze is divided into 10-minute arbitrary unit areas (Figs 3 & 4) for reporting of Canadian and U.S. catch and effort (days fished, days at sea, and hours fished). Canadian catch and effort data are analyzed from log records, U.S. from port interview; data being exchanged on a regular basis. Canadian and U.S. meat size regulations are in effect here (40 meats/lb - ICNAF agreement made in 1972), together with a Canadian limit on fleet size. The future management regime for the Bank is unclear, but almost certainly will entail regular bilateral U.S.-Canadian consultations.

The Bay of Fundy inshore fishery is divided into "inshore" and "offshore" fisheries by a 6-mile line - the more productive inshore fishery being closed to dragging October to April incl. Fleet size, vessel size and gear limitations are in effect.

The possibility of regulations for scallop fisheries on Browns Bank has received attention of late. These grounds have traditionally been fished by the offshore fleet, and more recently by the inshore fleet.

Scallop fisheries in the southern Gulf of St. Lawrence are at present unregulated, although management proposals have been made in this area.

Newfoundland

No special areas for reporting are used, although since 1956 Port au Port Bay has been considered a special management area in as much as vessels greater than 65' are not allowed to fish there.

(N.B. This is true for the Gulf as a whole, as well as the Bay of Fundy).

Iceland Scallops (*Chlamys islandicus*)

Apart from a minor incidental fishery on St. Pierre Bank by the offshore fleet (Maritimes), the main fishery is in the Strait of Belle Isle. No regulations or management areas are recorded for this fishery.

Squid

At present, outside ICNAF, there are no Canadian committees or working groups concerned with management of the squid fishery.

Oysters (*Crassostrea virginica*)

Maritimes

The inspection division has identified approximately 50 oyster producing areas in P.E.I., N.B. and N.S. Approximately 8,900 acres in the Maritimes

are leased to 2,104 lessees. Each leased area being surveyed accurately. Leases are numbered and records kept of developmental work and productivity by each lessee on an annual basis.

Several areas of high productivity of oyster spat have been designated spat collection reserves for managed commercial collection activities. Spat collection quotas and designated collection sites are in effect in these areas.

Specific fisheries are monitored for production on a yearly or semi-yearly basis.

Soft-Shell Clams (*Mya arenaria*)

Maritimes

Hydraulic clam harvesting permits are now issued on an area by area basis. Areas may be small estuaries, or designated stretches of beach between prominent landmarks. Individual harvester log records must be kept, and quotas are set.

Marine Plants (esp. *Chondrus crispus*)

Management districts are the same as for lobsters. Effort limitation for drag raking has been proposed.

EXISTING MANAGEMENT COMMITTEES

A wide variety of ad hoc and permanent committees or working groups are presently in effect for the major invertebrate and marine plant fisheries on the East Coast. Some of these are true management committees in the sense that they have the power to recommend regulations to the regional director-general, while a variety of other terms of reference, and channels for reporting are in effect for other committees and groups. There appears to be no standard method of cross referencing of committee decisions or recommendations

Lobsters

Since the Lobster Working Group submitted its final report in 1975, there has been no overall lobster management committee at least for the Maritimes region. Authority to manage local lobster stocks appears to be largely delegated to the Area Managers under the present management regime in the Maritimes, although it is hoped that regional lobster management committees representing fishermen, purchasers, federal and provincial government officials will be instituted in the near future. An example of this type of committee is the ad hoc Offshore-Inshore S.W. Nova Scotia Lobster Committee, set up early in 1977.

Newfoundland

C&P has been working towards forming lobster management committees for each of the 4 Newfoundland districts. As of the present time, these committees have only acted as appeals committees, but the intention is that they should have a wider management mandate and report to a regional (Newfoundland) committee. A meeting of this latter body was planned for last fall but for various reasons was never carried out.

Snow Crabs

Maritimes

A permanent Snow Crab Fishery Advisory Committee is in effect for the Gulf of St. Lawrence with representatives from fishermen, purchasers, and federal and provincial governments (P.Q., N.B., N.S., P.E.I.): M.C. Cormier, chairman. Meeting frequency is twice yearly, or as required.

Newfoundland

Newfoundland's Snow Crab Advisory Committee has met four times since its inception in November of 1975. Its mandate is to advise the regional director-general on licensing guidelines and fishing regulations, and to increase communications between government and industry. The only DOE member is the chairman, a C&P Area Manager. A representative of Economics Branch and R.J. Miller are non-member advisers to the committee.

Rock Crabs

Maritimes

Since completion of the Rock Crab Task Force Report in 1974, an ad hoc management committee chaired by M.C. Cormier has met once in 1976 to resolve a specific problem at Shippegan, N.B. The fishery is regulated by the Atlantic Crab Fishery Regulations, formulated by the Snow Crab Fishery Advisory Committee.

Shrimps

Maritimes

No committee in effect.

Newfoundland

Shrimp Management Advisory Committee was formed in the fall of 1976. This committee is made up of a chairman (C&P) and about 6 shrimp fishermen (1 union representative), and has met about three times. Most of their efforts have been devoted to formulation of licensing guidelines, which have now been finalized. The committee has scientific and economic advisers who are not members but attend all meetings.

Interregional

The Director-General of the Quebec region (M.J. Frechet) has recently founded an interregional shrimp committee, charged with overseeing developments in the Gulf fishery. This committee reports to the Atlantic region Director-Generals.

Squid

No management committees in effect outside the ICNAF forum.

Scallops

Maritimes

Offshore and inshore (Bay of Fundy) management committees are in effect in the Maritime region. Pierre Comeau (C&P) is chairman of an Offshore Scallop Management Committee, consisting of industry, fishermen, and federal and provincial representatives, charged with formulation of size regulations, effort control measures, and liaison with the U.S. industry. The Inshore (Bay of Fundy) Scallop Committee is chaired by Glen Smith (C&P Area Manager), and considers changes in seasons, fleet size and other regulations.

Both committees meet at irregular intervals of approximately twice per year, and receive advice from an attending biologist (J.F. Caddy).

Newfoundland

There is no management committee as such in Newfoundland for either sea scallops or Iceland scallops, although a Scallop Culture Working Group has been established jointly between DOE and the Memorial University Aquaculture Group. The main concern of this group is to avoid undue duplication in mariculture activities. The working group meets irregularly.

Oysters

Maritimes

A Maritime Oyster Development Committee meets 4-6 times per year, to promote coordination between various federal and provincial agencies involved in oyster management and promote organization and self-help in the industry. Membership includes Fisheries & Marine Service, EPS, members of the provincial government, DREE, DIAND, and industry representatives from the Maritime Provinces.

Marine Plants

There is as yet no marine plants committee.

In addition to the above specific species-oriented committees, there are several management committees in existence dealing with general matters related to shellfish fisheries, in particular, aspects of sanitation. These are as follows:

a) Interdepartmental Shellfish Committee (permanent)

- This committee is designed to coordinate shellfish sanitation on a nation-wide basis and serve as a focus for interdepartmental and intergovernmental shellfish sanitation problems. Meets once annually: Membership, Field Services Branch (Inspection and C&P), Resource Branch, and EPS, together with provincial and other federal agency representation.

b) Maritime Standing Committee on Shellfish (permanent)

- Designed to coordinate regional shellfish sanitation activities and provide an advisory service to Department of Fisheries and Environment. Meets 10 to 15 times per year. Fisheries and Marine Service, EPS, and provincial representation.

c) Depuration Advisory Committee (ad hoc)

- This committee handles overall Department of Fisheries and Environment approaches to the depuration and coordinates efforts of Fisheries and Marine Service Branches. Meetings are irregular, possibly 2 or 3 times a year.

SOME PRIORITY ITEMS FOR CONSIDERATION BY I&MP SUBCOMMITTEE IN 1977-78

Lobsters

Maritimes and Newfoundland

a) Measures such as trap limitation, limited entry (buy-back schemes), and size limit changes are being considered in a number of areas, or are now being actively pursued.

b) The source of recruitment, and factors determining levels of recruitment, are of prime concern in elucidating interrelationships between adjacent stocks (eg. S.W. Nova Scotia/offshore lobster; possible effects of Canso Causeway).

c) Evaluation of potential impact of irish moss raking on the lobster resource.

Shrimp

This will undoubtedly present immediate problems to the subcommittee, namely:

a) The redfish by-catch problem (in conjunction with groundfish subcommittee).

b) Coordination of research and assessment activities in the 3 regions (advisory to Frechet's committee ?).

Snow Crabs

A preliminary assessment of the main Gulf fishery may be completed in the coming year, and can then be considered by the subcommittee.

Squid

Coordination and standardization of squid sampling procedures aboard vessels in the Atlantic region.

Scallops

While new proposals for management of inshore stocks in both the Maritimes and Newfoundland may be put before the committee, a more immediate priority may be a reassessment of the Georges Bank stock, to be presented at forthcoming U.S.-Canadian bilateral meetings.

Oysters

Consideration of proposed management schemes for local oyster fisheries.

Clams

- a) Coordination of potential impact of hydraulic harvesting.
- b) Feasibility of shellfish depuration from contaminated areas.
- c) Procedure recommended for introduction of exotic species of shellfish to Eastern Canada.

POTENTIAL SCOPE OF I&MP SUBCOMMITTEE ACTIVITIES

Evidently, the geographical scope of the subcommittee's activities extend from small units (such as estuaries and beaches for clams, oysters and marine plants) through intermediate-size units (eg. fisheries/lobster districts) to ICNAF subdivisions for offshore invertebrates, such as shrimp and scallop. Evidently also, there is a more urgent requirement for regional and interregional coordination (as opposed to local or provincial concerns) in the management of these 'offshore' stocks. At the same time, emphasis on offshore stocks will reduce the potential number of units requiring management advice, making this aspect of the subcommittee's activities more immediately rewarding from an interregional point of view, and less redundant in terms of existing local, provincial, and regional management structures. For this reason, it is the

acting chairman's belief that with respect to provision of advice for management of individual stocks, the subcommittee's activities be confined for the immediate future to 'distant water' species, such as shrimp, lobster, scallops and snow crabs. This does not preclude the subcommittee carrying out an active role in developing principles for management of 'local' stocks or species.

Another important point for discussion by the core group is the potential input of economic and sociological considerations to the subcommittee's deliberations. Evidently, economic considerations play a major part in determining seasons and fishing practices in relation to many shellfish species. Discussion of economic rationales will be welcome and we will attempt to entice professional resource economists to contribute to our discussions.

NEW BRUNSWICK SEA AND INLAND FISHERIES DISTRICTS
 DISTRICTS DE PÊCHE MARITIME ET INTÉRIEURE
 DU NOUVEAU-BRUNSWICK

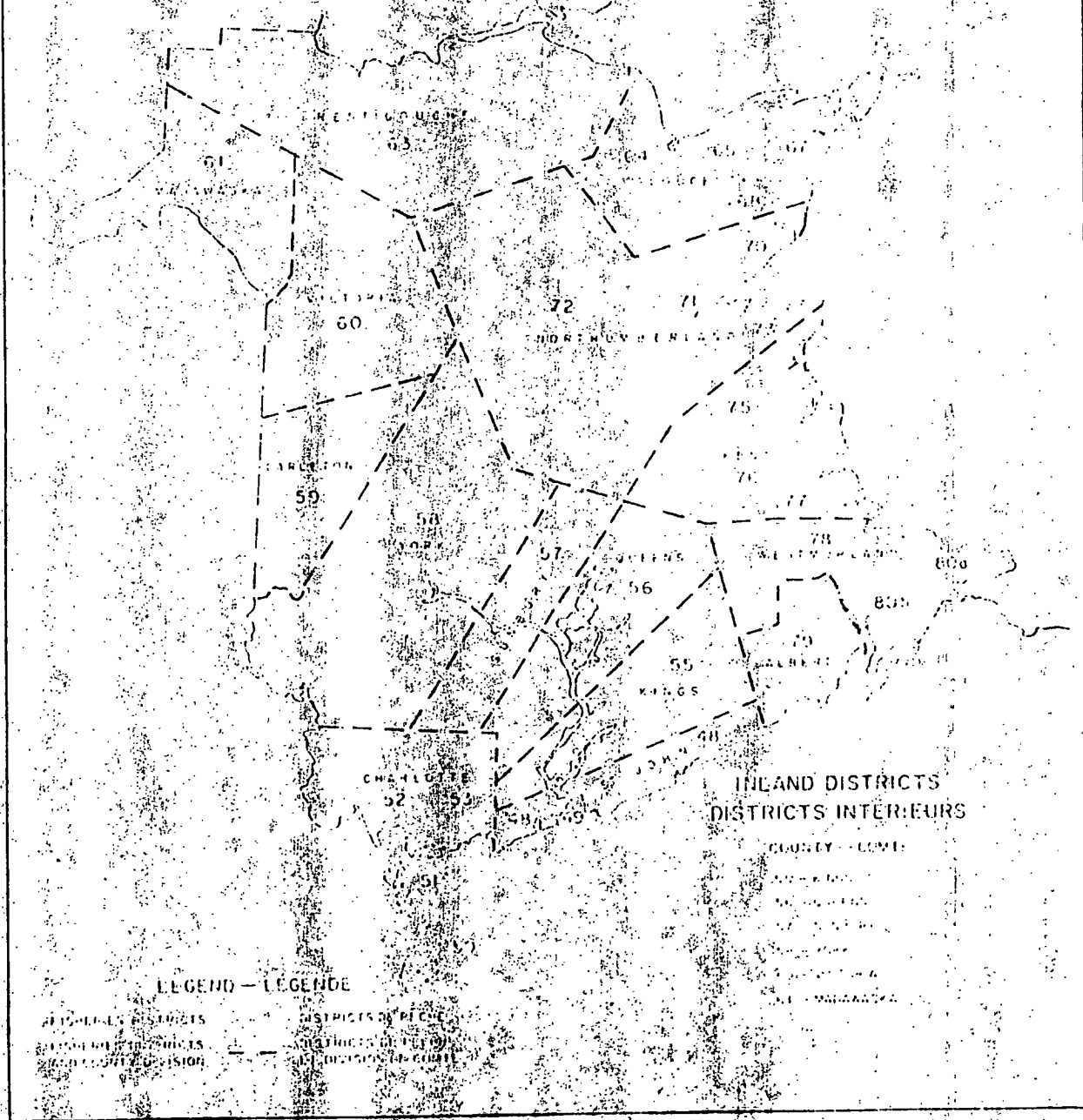
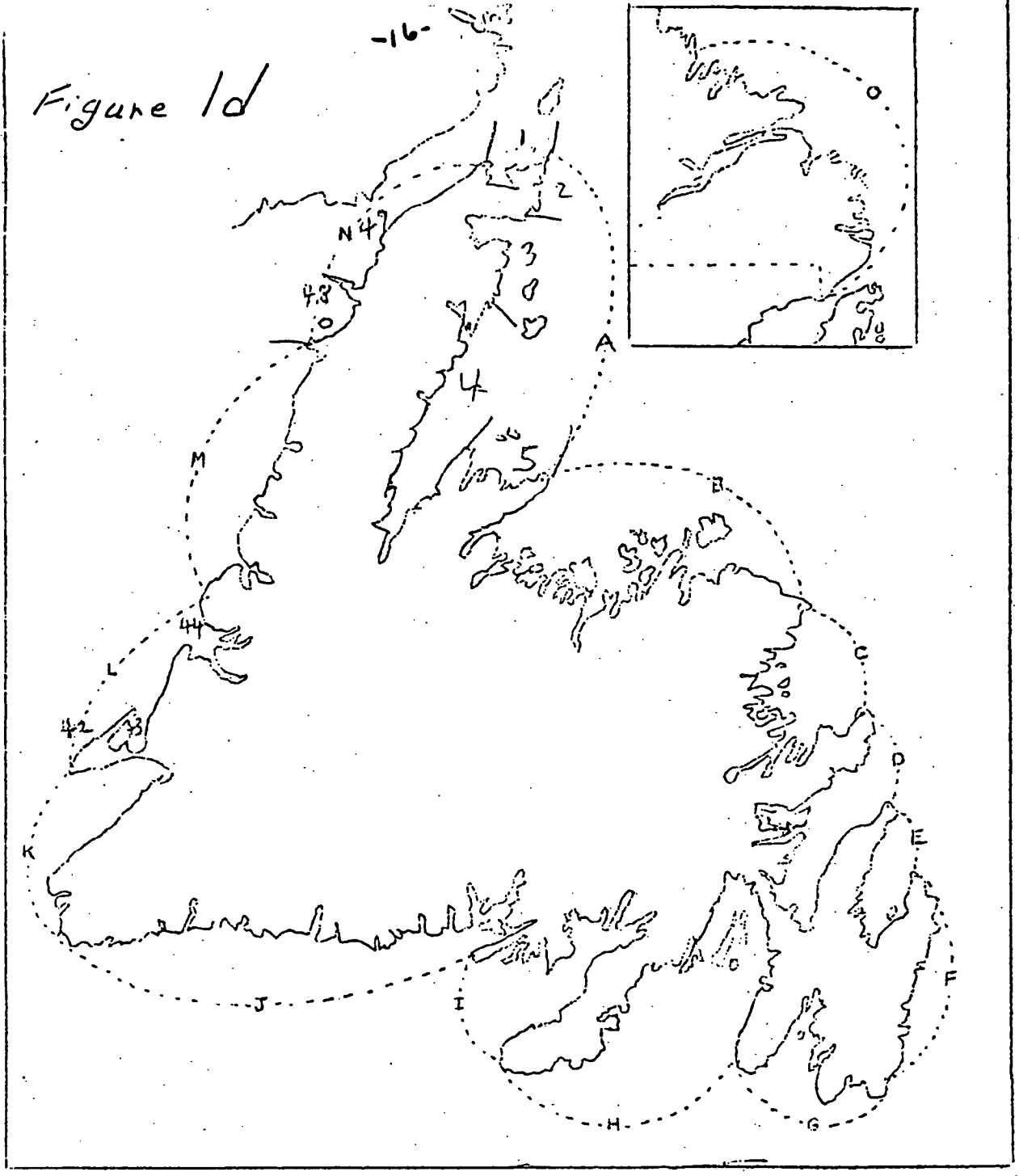


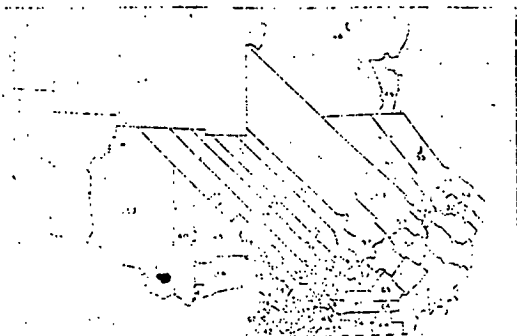
Figure 1d



- A. Cape Norman inclusive to Cape St. John exclusive.
- B. Cape St. John inclusive to Cape Freels inclusive.
- C. Cape Freels exclusive to Cape Bonavista exclusive.
- D. Cape Bonavista inclusive to Grate's Point exclusive.
- E. Grate's Point inclusive to Cape St. Francis exclusive.
- F. Cape St. Francis inclusive to Cape Race exclusive.
- G. Cape Race inclusive to Cape St. Mary's exclusive.
- H. Cape St. Mary's inclusive to Point Crewe exclusive.
- I. Point Crewe inclusive to Pass Island inclusive.
- J. Pass Island exclusive to Cape Ray inclusive.
- K. Cape Ray exclusive to Cape St. George exclusive.
- L. Cape St. George inclusive to Cape St. Gregory exclusive.
- M. Cape St. Gregory inclusive to Point Riche inclusive.
- N. Point Riche exclusive to Cape Norman exclusive.
- O. Point St. Charles inclusive to Hopedale inclusive.

Figure 1e

QUEBEC SEA AND INLAND FISHERIES DISTRICTS
DISTRICTS DE PÊCHE MÉRITIME ET INTÉRIEURE DU QUÉBEC



INLAND DISTRICTS
DISTRICTS INTÉRIEURES

- | | | |
|-----------------|-------------------|------------------|
| 25 - YVES | 48 - LÉVIS | 68 - ROUVILLE |
| 26 - SAINT-POL | 49 - STANISLÈVE | 69 - SAINTE-ROSE |
| 27 - LES-ÉPAGES | 50 - MACHINOVILLE | 70 - JERMIAC |
| 28 - BELLE-ÉRIE | 51 - WOODVILLE | 71 - SULLY |
| 29 - GASTÉ | 52 - WOODVILLE | 72 - HASTINGS |
| 30 - WATSON | 53 - WOODVILLE | 73 - WOODVILLE |
| 31 - WATSON | 54 - WOODVILLE | 74 - WOODVILLE |
| 32 - WATSON | 55 - WOODVILLE | 75 - WOODVILLE |
| 33 - WATSON | 56 - WOODVILLE | 76 - WOODVILLE |
| 34 - WATSON | 57 - WOODVILLE | 77 - WOODVILLE |
| 35 - WATSON | 58 - WOODVILLE | 78 - WOODVILLE |
| 36 - WATSON | 59 - WOODVILLE | 79 - WOODVILLE |
| 37 - WATSON | 60 - WOODVILLE | 80 - WOODVILLE |
| 38 - WATSON | 61 - WOODVILLE | 81 - WOODVILLE |
| 39 - WATSON | 62 - WOODVILLE | 82 - WOODVILLE |
| 40 - WATSON | 63 - WOODVILLE | 83 - WOODVILLE |
| 41 - WATSON | 64 - WOODVILLE | 84 - WOODVILLE |
| 42 - WATSON | 65 - WOODVILLE | 85 - WOODVILLE |
| 43 - WATSON | 66 - WOODVILLE | 86 - WOODVILLE |
| 44 - WATSON | 67 - WOODVILLE | 87 - WOODVILLE |
| 45 - WATSON | 68 - WOODVILLE | 88 - WOODVILLE |
| 46 - WATSON | 69 - WOODVILLE | 89 - WOODVILLE |
| 47 - WATSON | 70 - WOODVILLE | 90 - WOODVILLE |
| 48 - WATSON | 71 - WOODVILLE | 91 - WOODVILLE |
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| 50 - WATSON | 73 - WOODVILLE | 93 - WOODVILLE |
| 51 - WATSON | 74 - WOODVILLE | 94 - WOODVILLE |
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| 53 - WATSON | 76 - WOODVILLE | 96 - WOODVILLE |
| 54 - WATSON | 77 - WOODVILLE | 97 - WOODVILLE |
| 55 - WATSON | 78 - WOODVILLE | 98 - WOODVILLE |
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| 57 - WATSON | 80 - WOODVILLE | 100 - WOODVILLE |

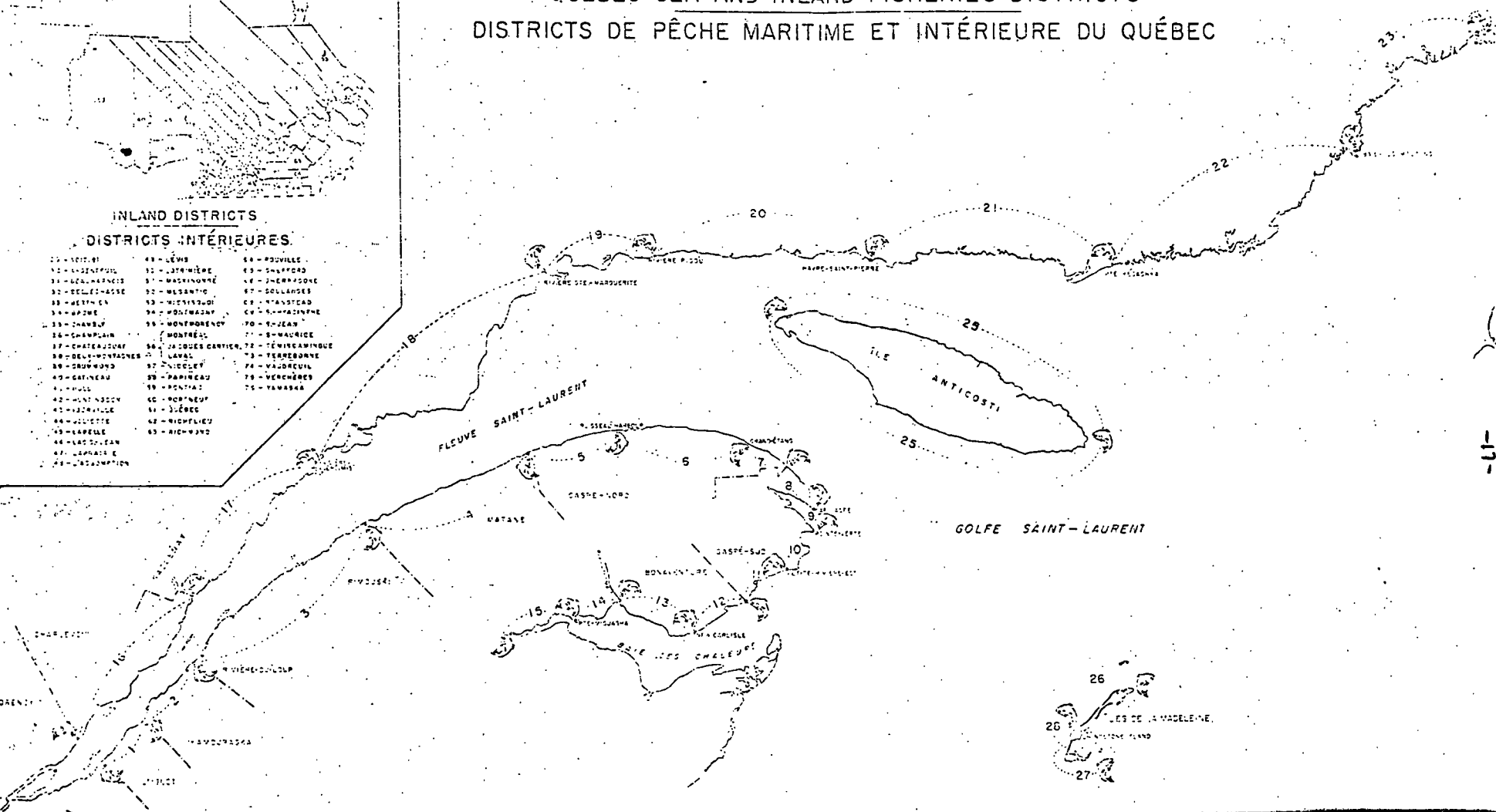
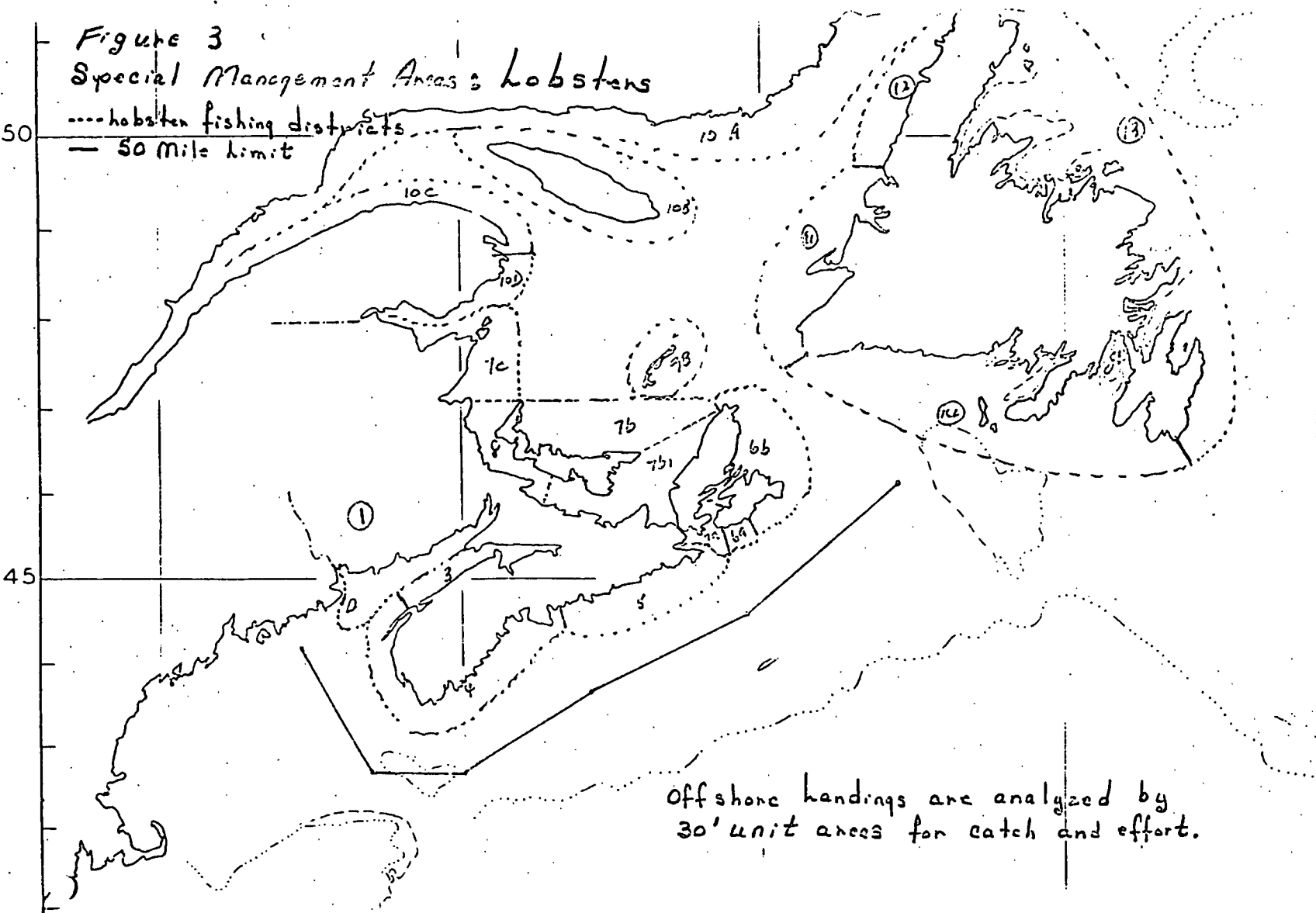


Figure 3
Special Management Areas: Lobsters

--- lobster fishing districts
— 50 mile limit



Offshore landings are analyzed by
30' unit areas for catch and effort.

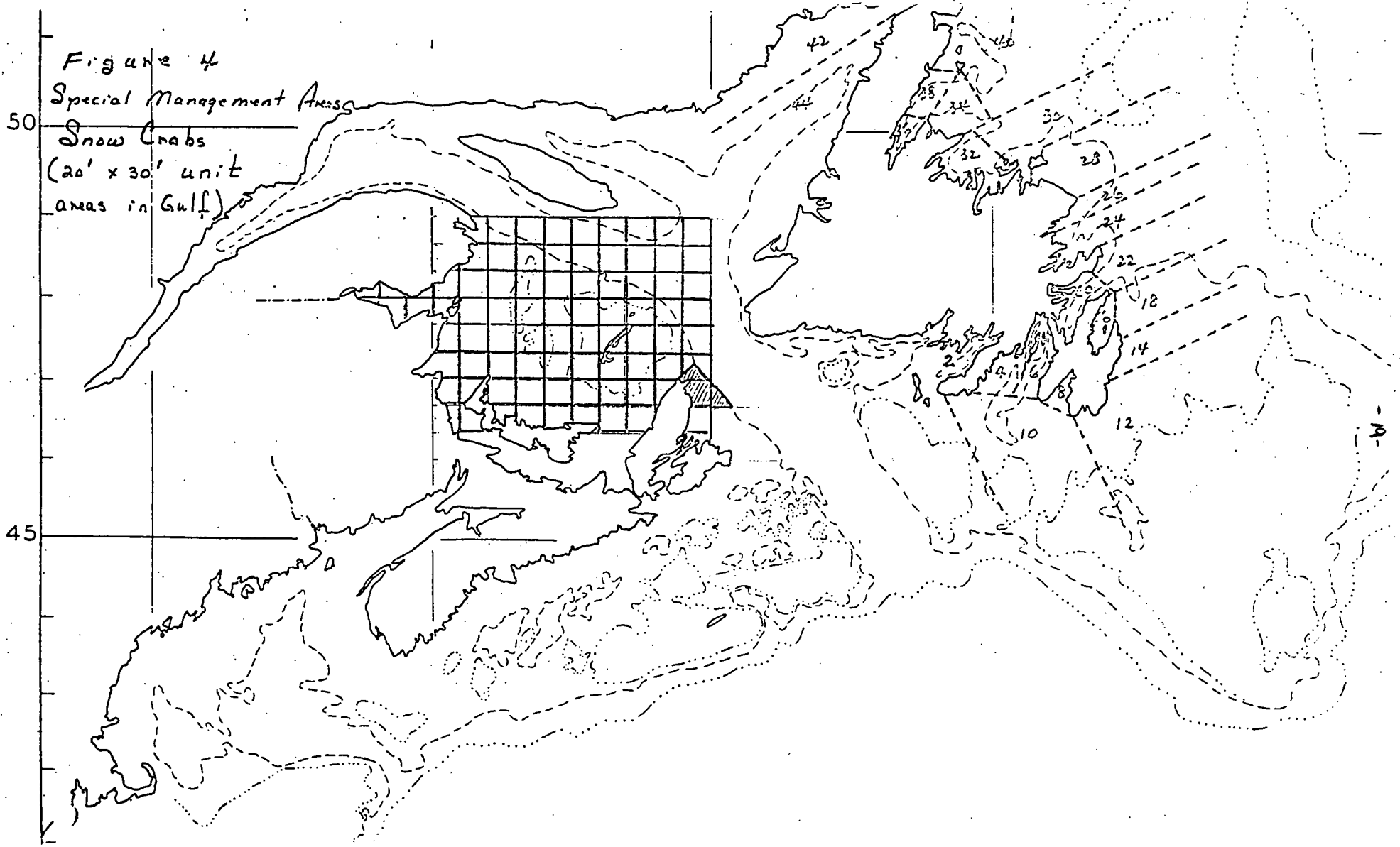


Figure 4
 Special Management Areas
 Snow Crabs
 (20' x 30' unit
 areas in Gulf)

50
 45

Figure 5 - 20-

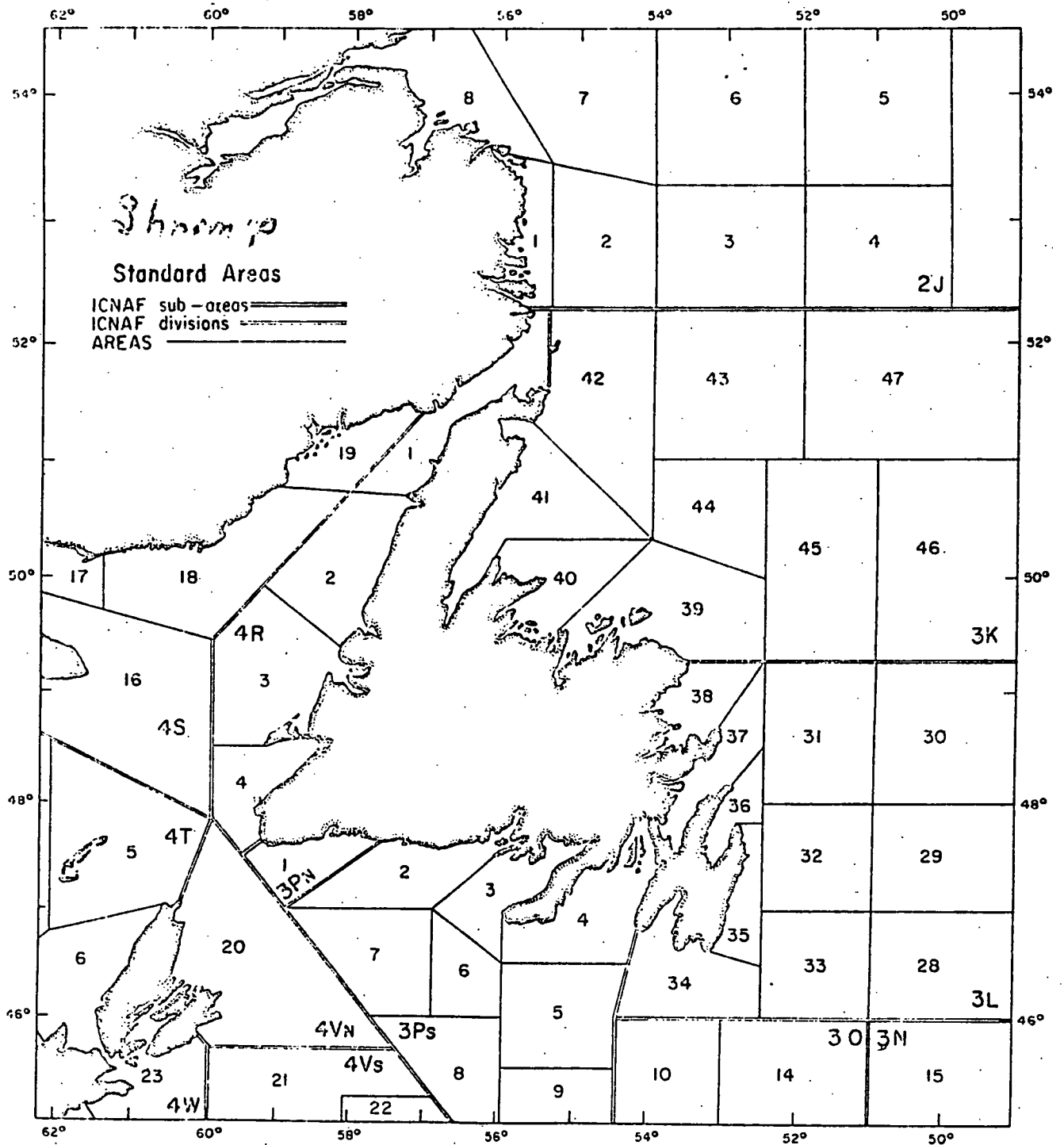
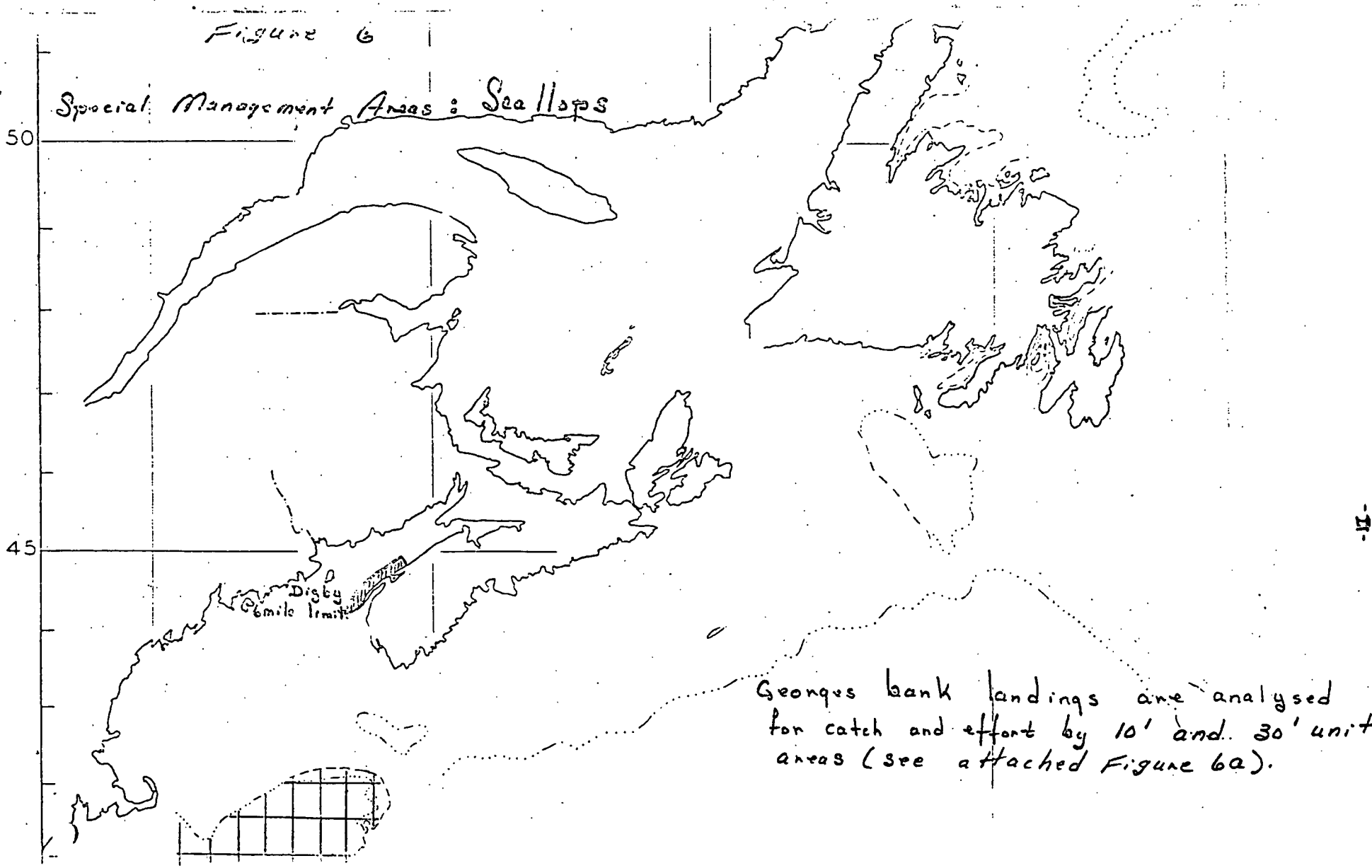


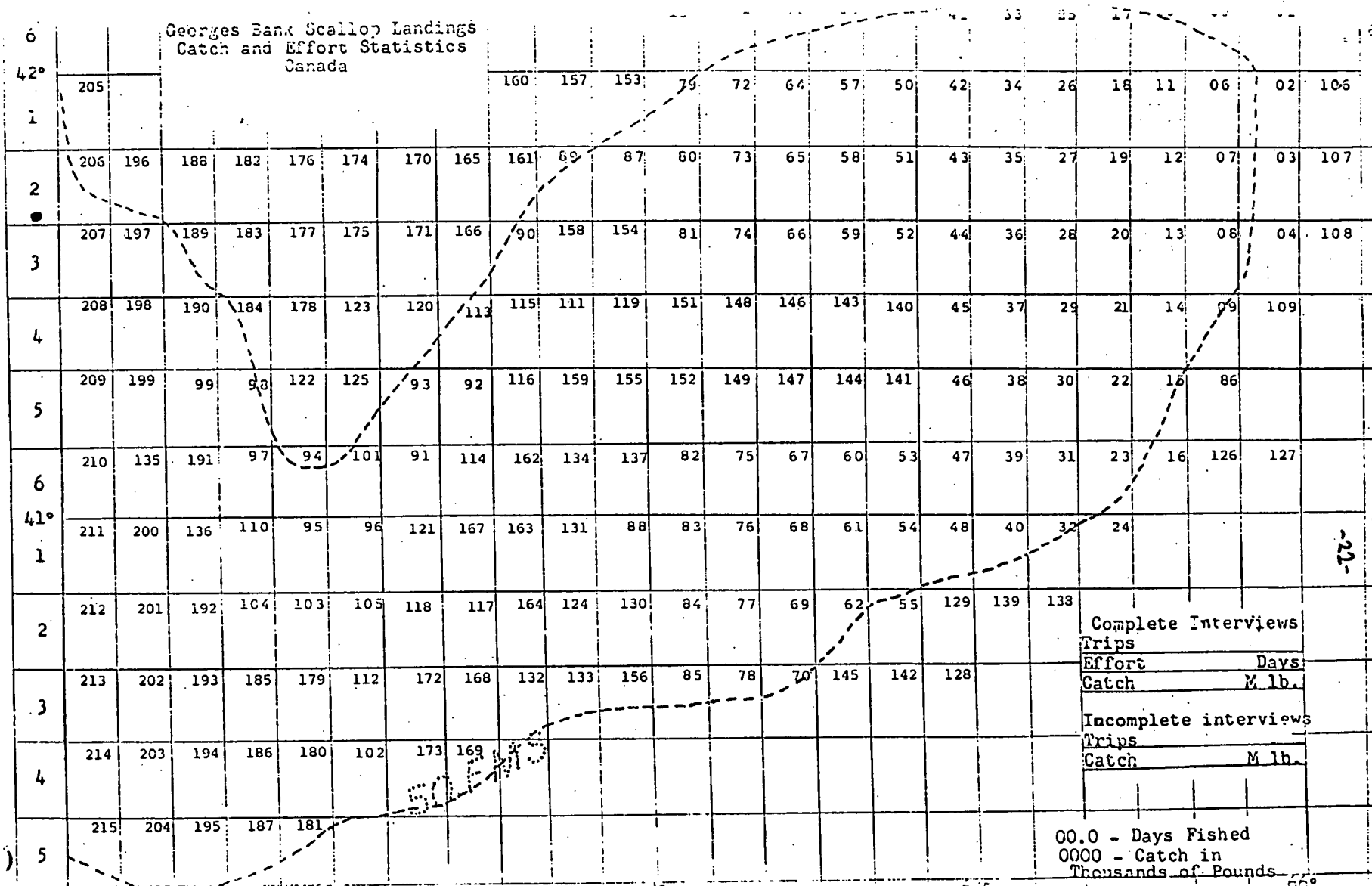
Figure 6

Special Management Areas: Sea Hops



Georges bank landings are analysed for catch and effort by 10' and 30' unit areas (see attached Figure 6a).

Georges Bank Scallop Landings
Catch and Effort Statistics
Canada



Complete Interviews
Trips
Effort Days
Catch M lb.

Incomplete interviews
Trips
Catch M lb.

00.0 - Days Fished
0000 - Catch in
Thousands of Pounds