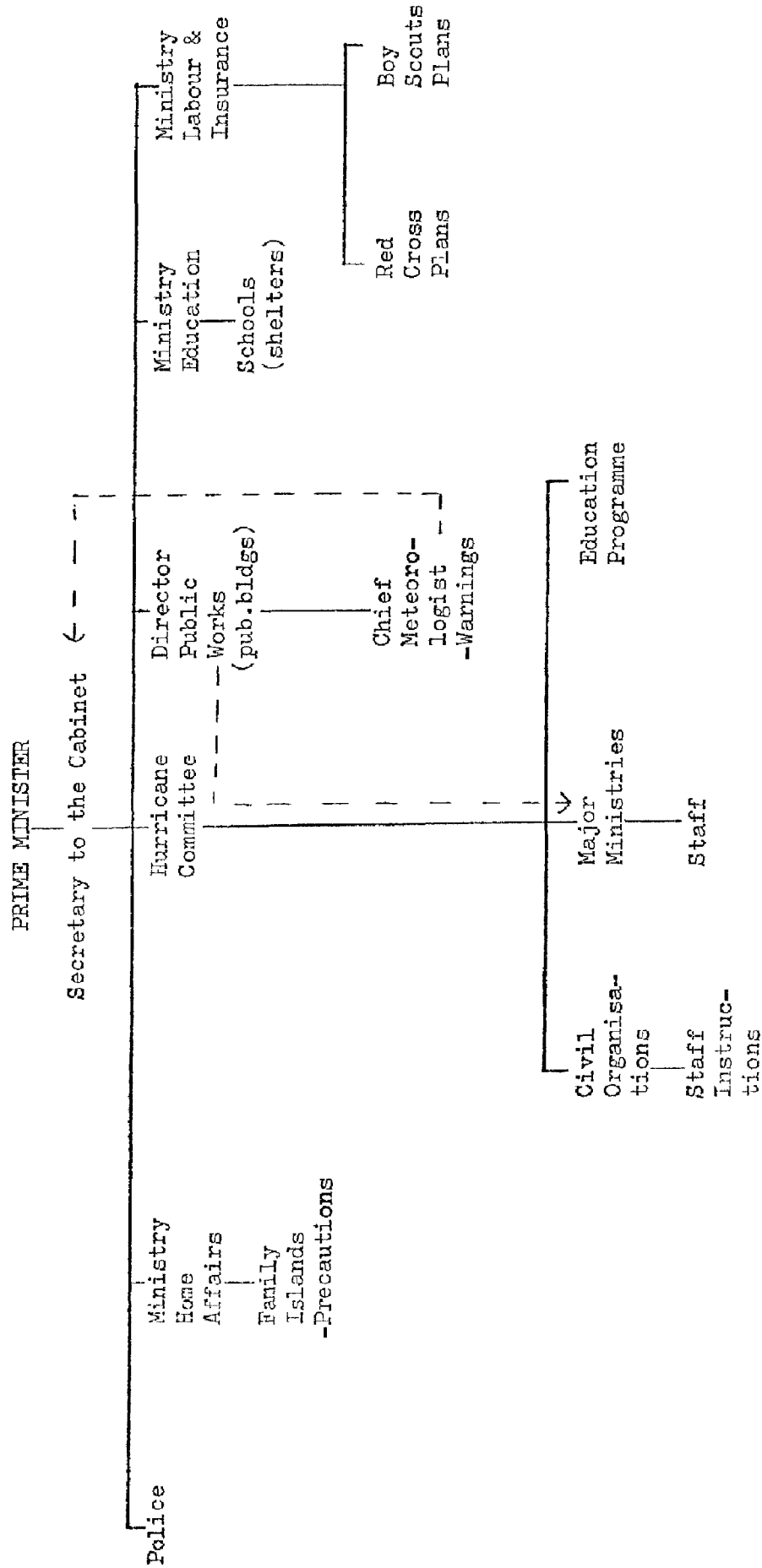


FIGURE 84

Item	Construction	Not less than % per annum
1.	Buildings having external walls constructed entirely of concrete, brick or stone with roof of (a) reinforced concrete 0.225 (b) wood shingles 0.275 (c) (i) timber covered with asphalt shingles coated with mineral granules, or (ii) corrugated iron or aluminium sheeting bolted to steel beams and joists and without any overhang 0.325 (d) tiles, slates, asbestos shingles or timber covered with tarred paper 0.45 (e) corrugated iron, aluminium or asbestos sheeting, other than provided for in (c) above 0.60 <u>NB.</u> Steel Frame and/or Steel Roof buildings including those of aluminium sandwich panel components designed to withstand Hurricane force winds may be rated under Item 1.(c) above.	
2	Buildings having external walls constructed of stone and iron, however roofed, or buildings constructed entirely of iron, i.e. iron on a steel framework	0.85
3	Buildings having external walls constructed of stone and timber, however roofed, or buildings wholly or iron on a framework of timber	1.10
4	Buildings having external walls constructed entirely of timber, however roofed	1.35

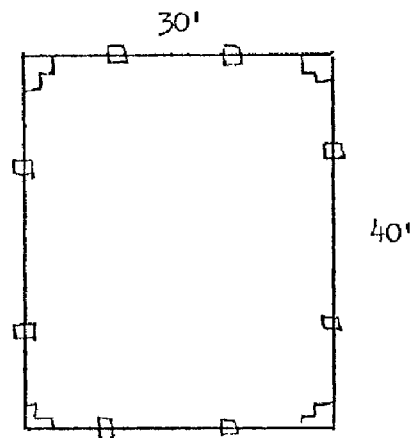
FIGURE 74.a. GOVERNMENT ORGANISATION FOR HURRICANE OCCURRENCE



Source: Precautionary Planning. Adapted from information in the 1973 National Plan.

FIGURE 87

COSTING OF HURRICANE PRECAUTIONS - LOWER MIDDLE CLASS HOUSE



	Measure- ments	Quantity	Cost per Unit item	Total Cost
<u>OMISSIONS</u>				
$\frac{5}{8}$ reinforcing to foundation				
6/6/30.0 - 120.0				
6/2/40.0 - 160.0				
280.0	lbs	292	60¢	175.20
Concrete in columns				
4/1.4 - 5.4				
8/1.0 - 8.0				
13.4				
13.4 x 6.8 x 7.0 =	cu.y	2 $\frac{1}{2}$	54 ⁰⁰	135.00
Ironwork				
4/4.0 - 16.0				
8/3.0 - 24.0				
40.0				
40.0 x 7.0 =	sq.y	31	9 ⁰⁰	279.00
$\frac{5}{8}$ " Steel				
4/5/1 - 20				
8/4/1 - 32				
52/10.0				
= 520 x 1.043	lbs	542	60¢	325.42
$\frac{1}{4}$ " Slumps				
4/8/4.0 - 128.0				
8/8/3.8 - 234.8				
362.8				
362.8 x 167 =	lbs	39	60¢	23.40

/cont.

FIGURE 87 /cont..

	Measure- ments	Quantity	Cost per Unit Item	Total Cost
Belt Beam				
8/30.0 -				
6/40.0 -				
140.0				
140.0 x 0.8 x 1.0 = 93.5	cu.y	3 $\frac{1}{2}$	54 ⁰⁰	189.00
Ironwork				
140.0 x 2.8 = 373.4	sq.y	41	9 ⁰⁰	369.00
$\frac{5}{8}$ " Steel				
4/140.0 - 560.0 x 1.043	lbs	584	60 ^c	350.40
$\frac{1}{4}$ " Slumps				
2/31 - 62				
2/41 - 82				
144/3.8				
= 528.0 x 167 =	lbs	88	60 ^c	52.80
<u>OMISSIONS</u>				8 1899.22
<u>ADD</u>				
8" Block Walls				
4/1.4 x 7.0 - 37.4				
8/1.0 x 7.0 - 56.0				
140.0 x 1.0 - 140.0				
233.4	sq.y	26	10 ⁰⁰	259.20
Additional cost for hurricane protection measures				2 1640.02

Saving on a 30' x 40' house = \$1640.02

= \$1.37 sq.ft.

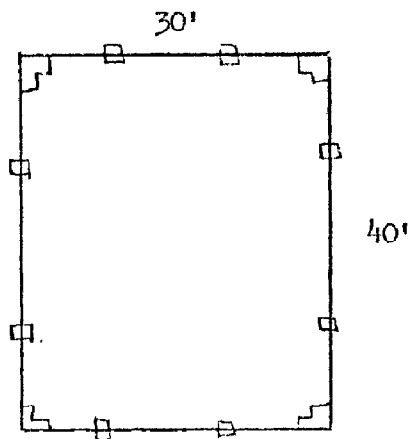
Average cost of housing in Bahamas \$25 - 30 per sq.ft.

Therefore, \$1.37 sq.ft saving = 5.48% on \$25.00 per sq.ft.

/cont..

FIGURE 87

COSTING OF HURRICANE PRECAUTIONS - LOWER MIDDLE CLASS HOUSE



	Measure- ments	Quantity	Cost per Unit item	Total Cost
<u>OMISSIONS</u>				
$\frac{5}{8}$ reinforcing to foundation				
6/6/30.0 -		120.0		
6/2/40.0 -		<u>160.0</u>		
		280.0		
	lbs	292	60¢	175.20
Concrete in columns				
4/1.4 -		5.4		
8/1.0 -		<u>8.0</u>		
		13.4		
13.4 x 0.8 x 7.0 =	cu.y	2 $\frac{1}{2}$	54 ⁰⁰	135.00
Ironwork				
4/4.0 -		16.0		
8/3.0 -		<u>24.0</u>		
		40.0		
40.0 x 7.0 =	sq.y	31	9 ⁰⁰	279.00
$\frac{5}{8}$ " Steel				
4/5/1 -		20		
8/4/1 -		<u>32</u>		
		52/10.0		
= 520 x 1.043	lbs	542	60¢	325.42
$\frac{1}{4}$ " Slumps				
4/8/4.0 -		128.0		
8/8/3.8 -		<u>234.8</u>		
		362.8		
362.8 x 167 =	lbs	39	60¢	23.40

FIGURE 87 /cont..

	Measure- ments	Quantity	Cost per Unit Item	Total Cost
Belt Beam				
8/30.0 -				
6/40.0 -				
140.0				
140.0 x 0.8 x 1.0 = 93.5	cu.y	3 $\frac{1}{2}$	54 ⁰⁰	189.00
Ironwork				
140.0 x 2.8 = 373.4	sq.y	41	9 ⁰⁰	369.00
$\frac{5}{8}$ " Steel				
4/140.0 - 560.0 x 1.043	lbs	584	60 [¢]	350.40
$\frac{1}{4}$ " Slumps				
2/31 - 62				
2/41 - 82				
144/3.8				
= 528.0 x 167 =	lbs	88	60 [¢]	52.80
<u>OMISSIONS</u>				8 1899.22
<u>ADD</u>				
8" Block Walls				
4/1.4 x 7.0 - 37.4				
8/1.0 x 7.0 - 56.0				
140.0 x 1.0 - 140.0				
233.4	sq.y	26	10 ⁰⁰	259.20
Additional cost for hurricane protection measures				2 1640.02

Saving on a 30' x 40' house = \$1640.02
= \$1.37 sq.ft.

Average cost of housing in Bahamas \$25 - 30 per sq.ft.

Therefore, \$1.37 sq.ft saving = 5.48% on \$25.00 per sq.ft.

/cont..

FIGURE 87 /cont...

Average Building:	2 storeys		
	50' x 50'	=	5,000 sq.ft.
Cost of Buildings:	@ B\$25 per sq.ft.	=	B\$ 125,000
Number of Buildings in area:	400	=	B\$50,000,000
25% Cost		=	B\$12,500,000

HYPOTHETICAL IMPACT OF BAHAMAS BUILDING CODE ON
HURRICANE DAMAGE IN BAHAMAS

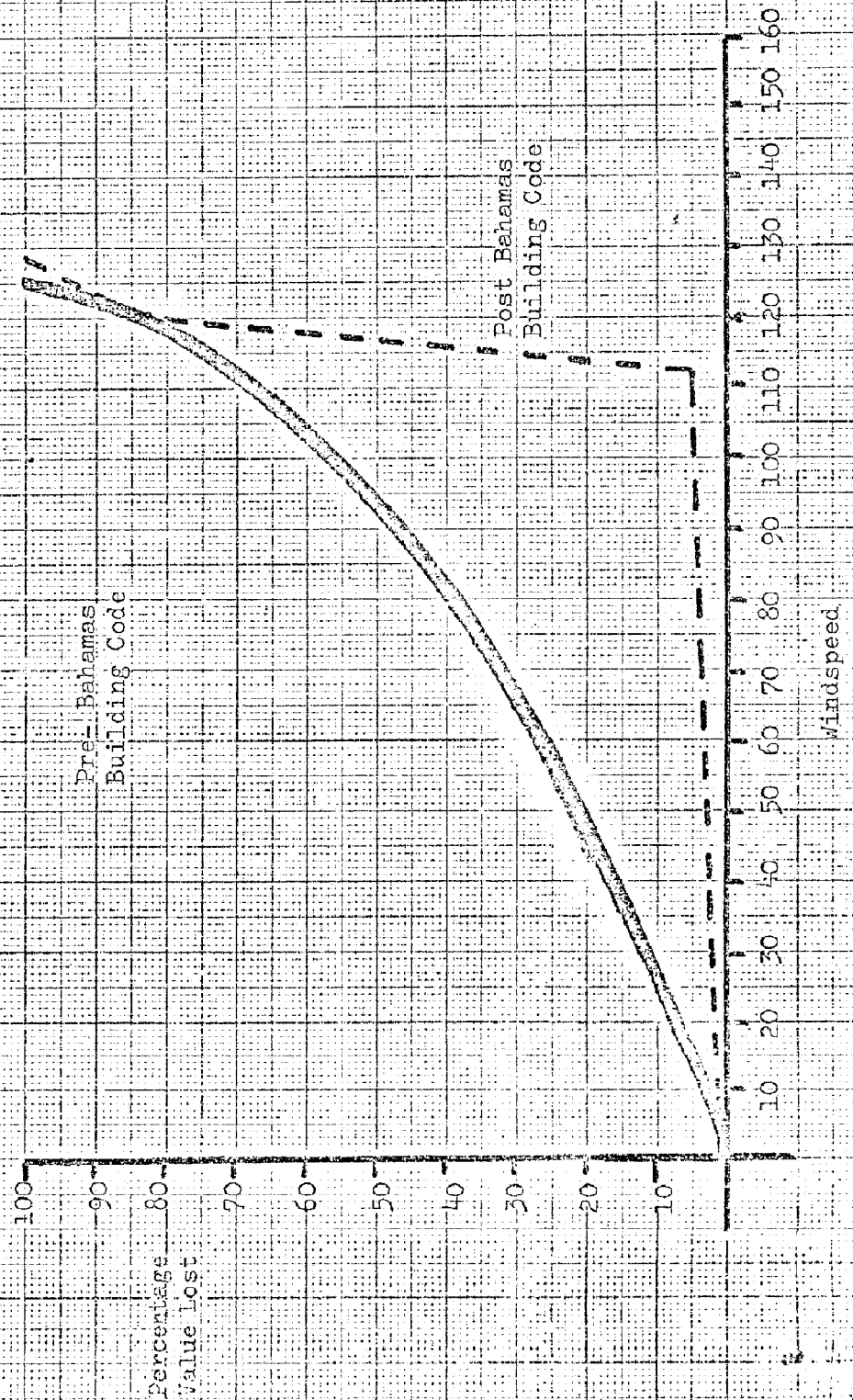


FIGURE 89

COMPARATIVE DEVELOPMENT PER ISLAND

An attempt was made to classify the islands according to their level of modernisation. Remittances from agriculture, industrial complexes and hotel accommodation are ranked to give indications of the comparative prosperity of primary, secondary and tertiary sectors of the economy. These three rankings were multiplied together and divided by the ranked population density. The index of modernisation attained indicated the predominance of the NW island group, namely New Providence, Eleuthera, Grand Bahama, Abaco and Andros.

FIGURE 89 /cont..

	Population Density (Table 14)	Remittances (Table 26)	Hotels. (Telephone Directory)	Industry (Telephone Directory)	Index
New Providence	2	2	1	1	1
Eleuthera	4	1	3	3	2.25
Grand Bahama	3	10	2	2	13.3
Abaco	9	4	7	5	15.5
Andros	13	10	7	4	21.5
Berry	5	5	4	9	36
Long	6	3	7	9	31.5
Cat	7	6	10	9	77.1
Crooked	10	8	7	9	50.4
Acklins	11	9	10	9	73.6
Myaguana	12	7	10	9	52.5
Inagua	14	10	10	6	42.8
Ragged	8	10	10	9	112.5
Ranked Figures	A	B	C	D	

$$\text{Index} = \frac{BCD}{A}$$

Cut off above 25

*Modernised Islands include: New Providence, Grand Bahama, Abaco, Andros, Eleuthera.

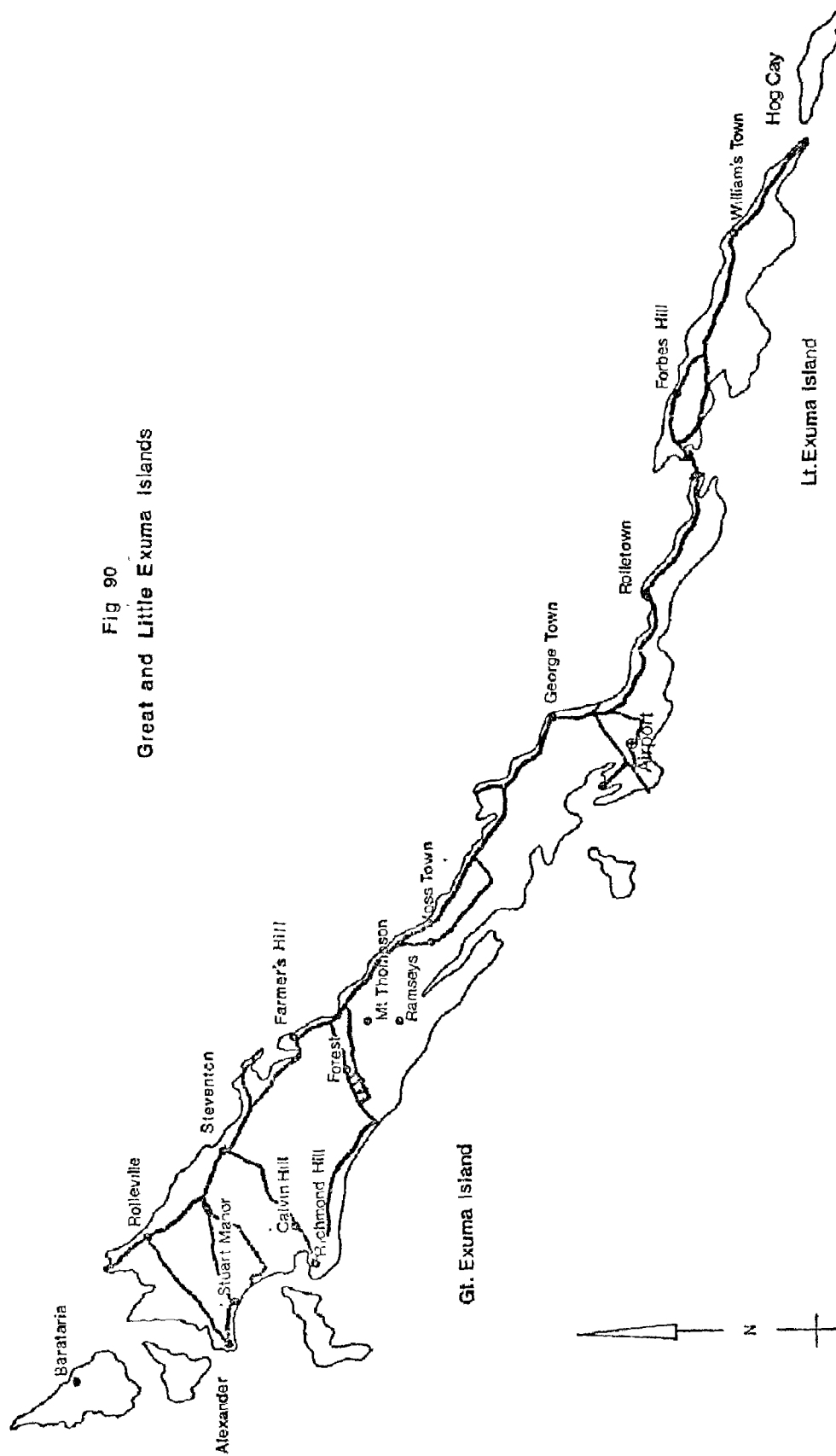


Fig 90
Great and Little Exuma Islands

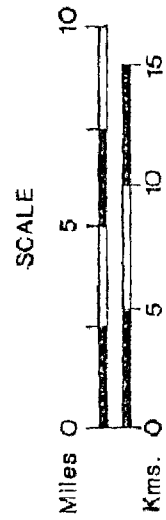
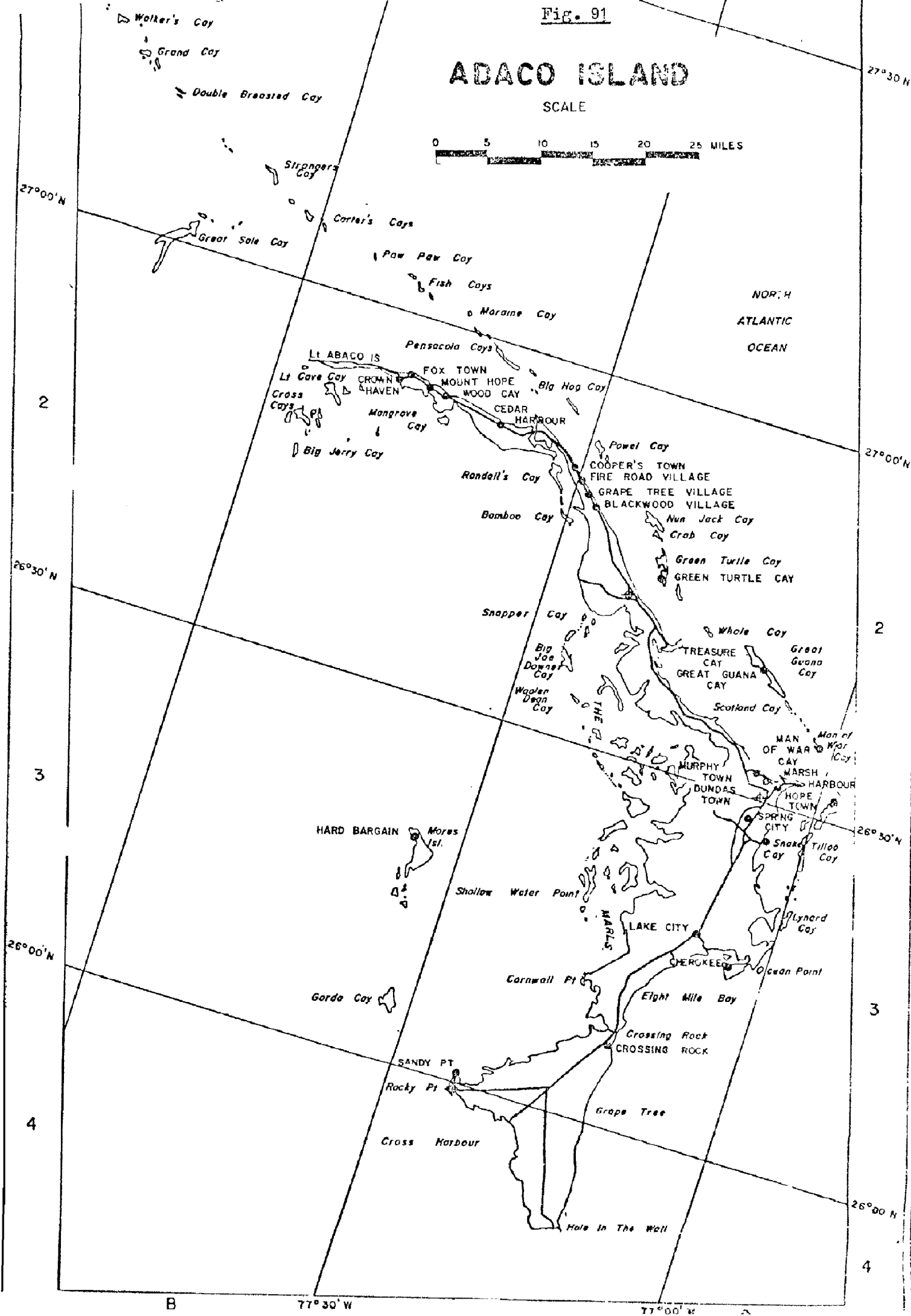
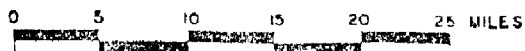


Fig. 91

ADACO ISLAND

SCALE

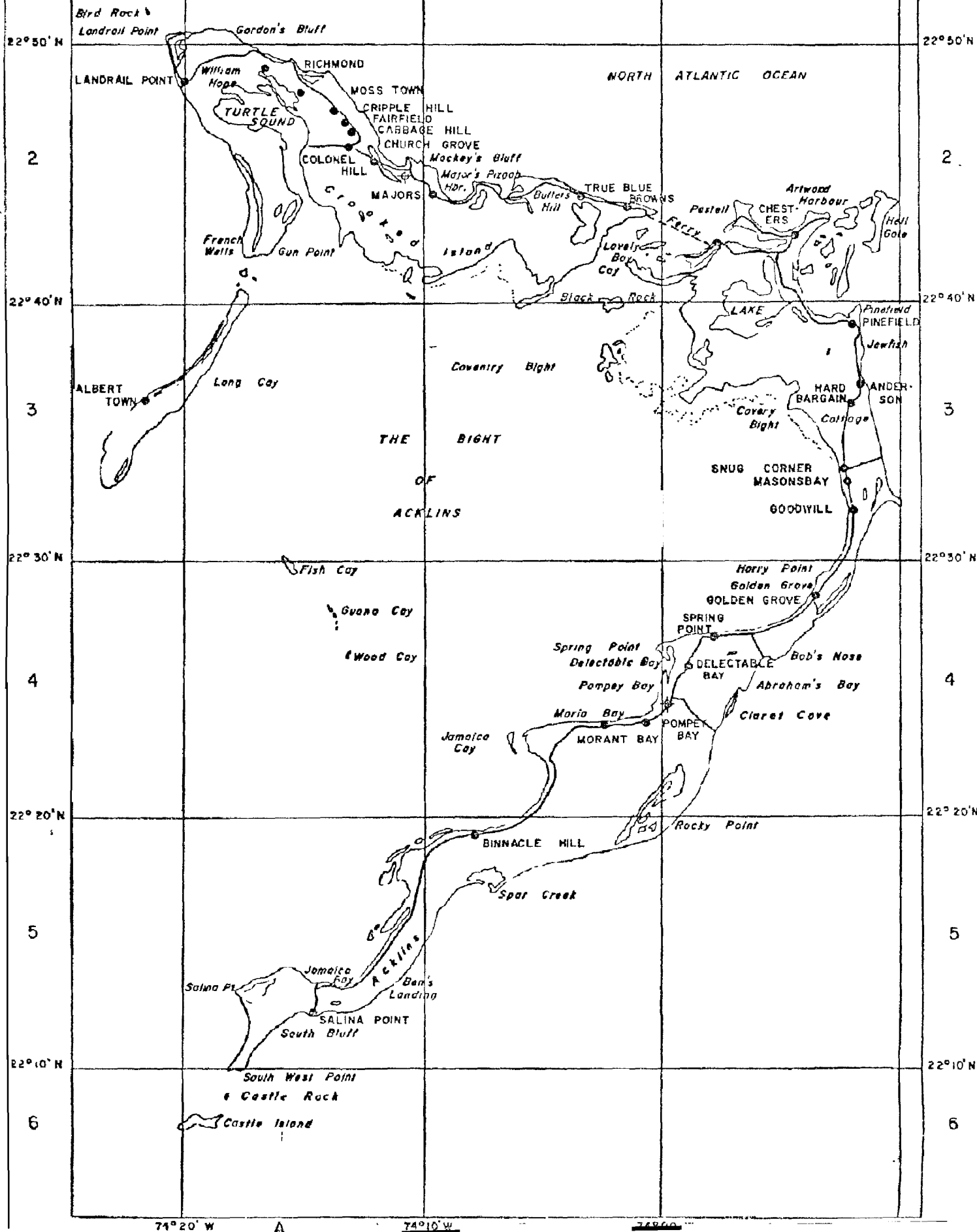


ACKLINS & CROOKED ISLANDS

SCALE

Fig. 92

0 1 2 3 4 MILES

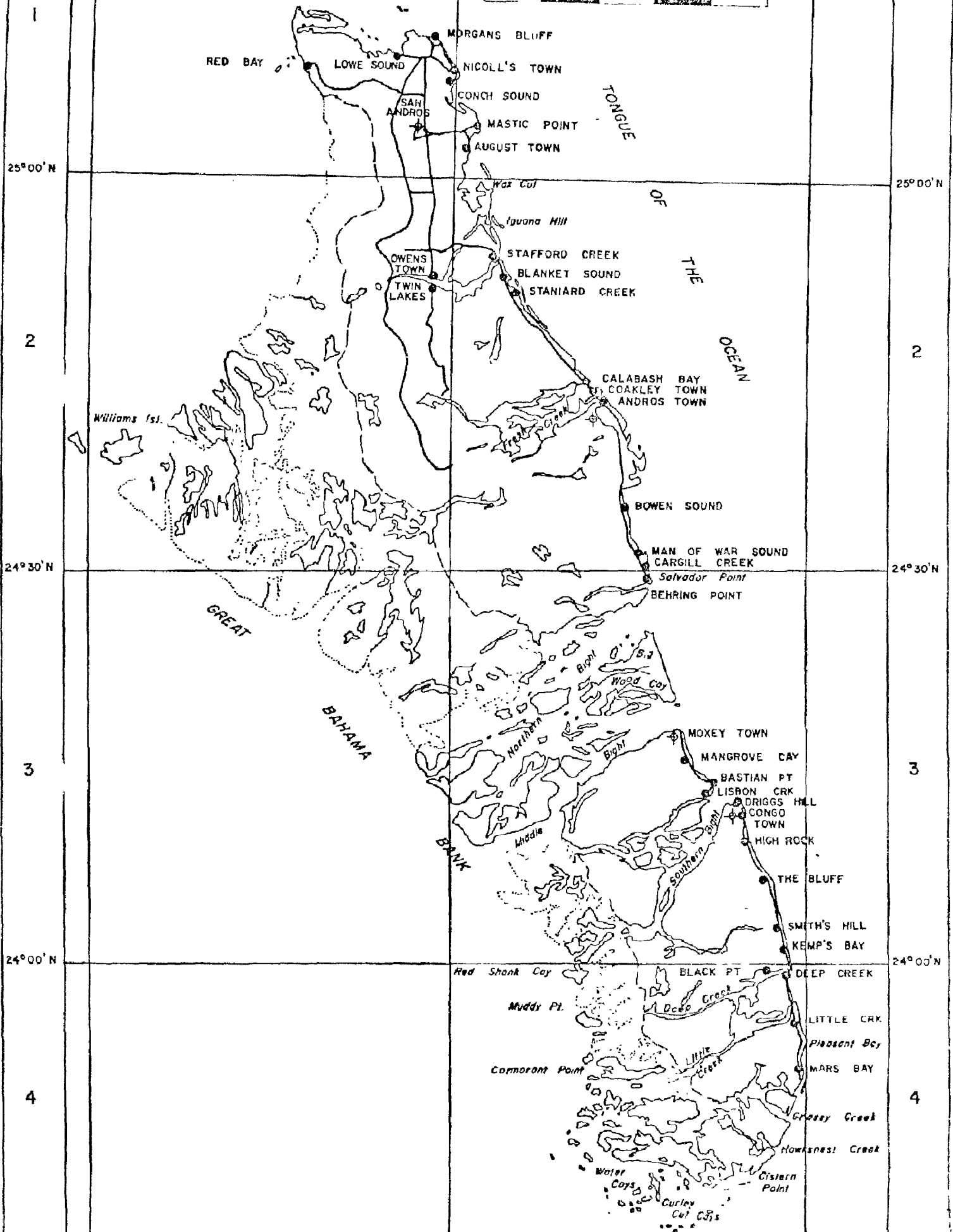
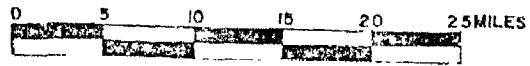


ANDROS ISLAND

Fig. 93

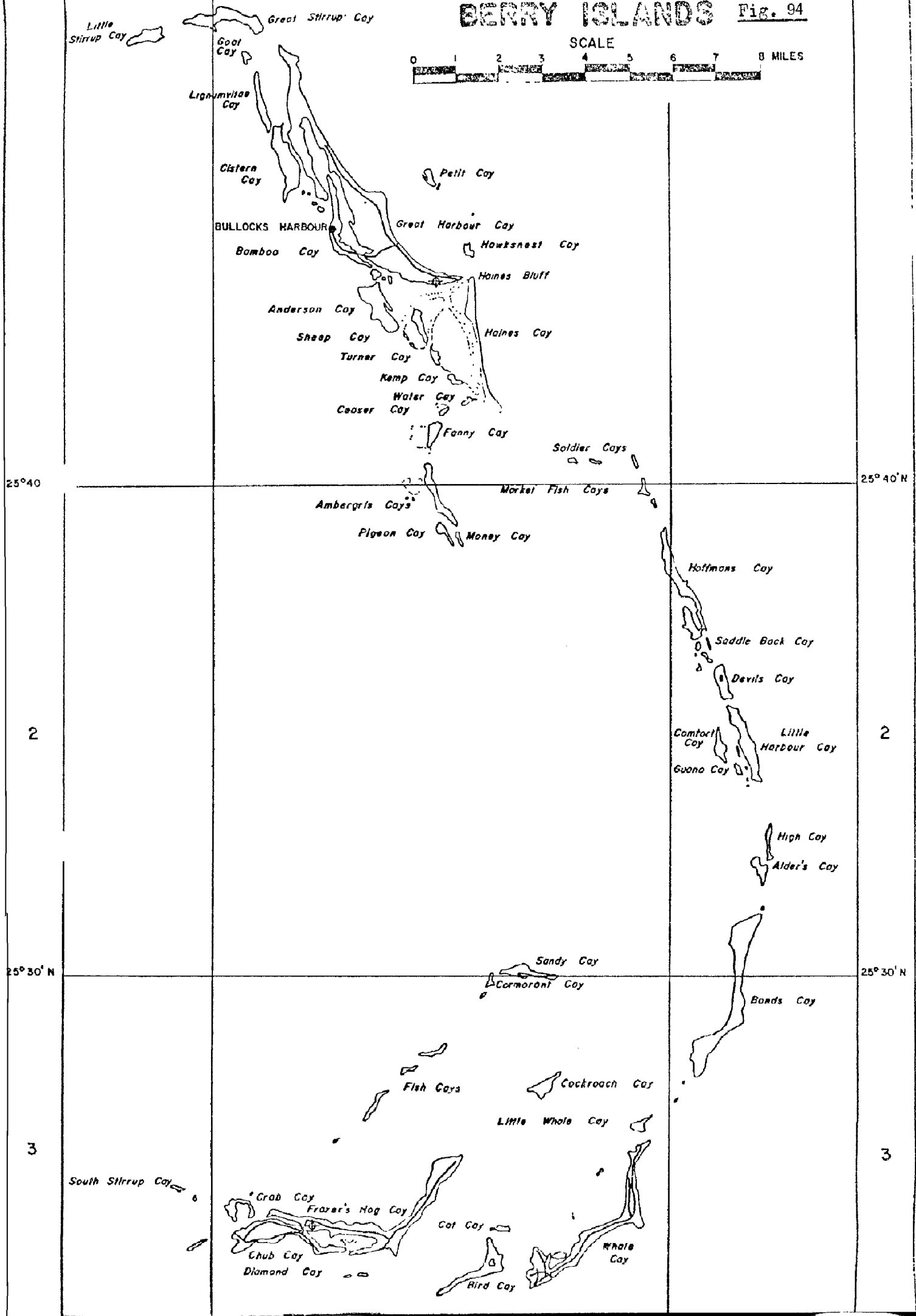
Joultier Coys

SCALE



BERRY ISLANDS Fig. 94

SCALE



BIMINI ISLANDS

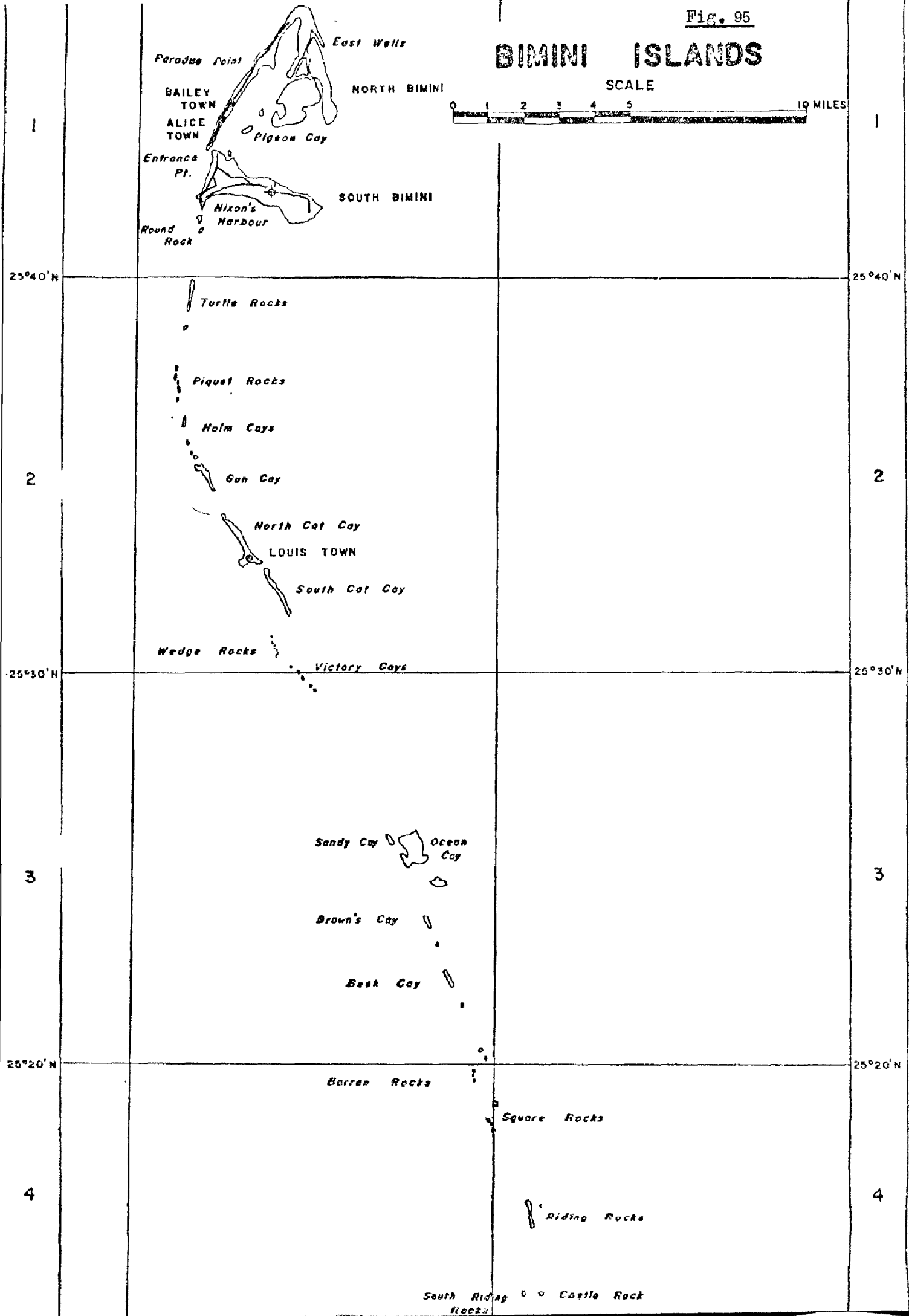


Fig. 96

CAT ISLAND

SCALE

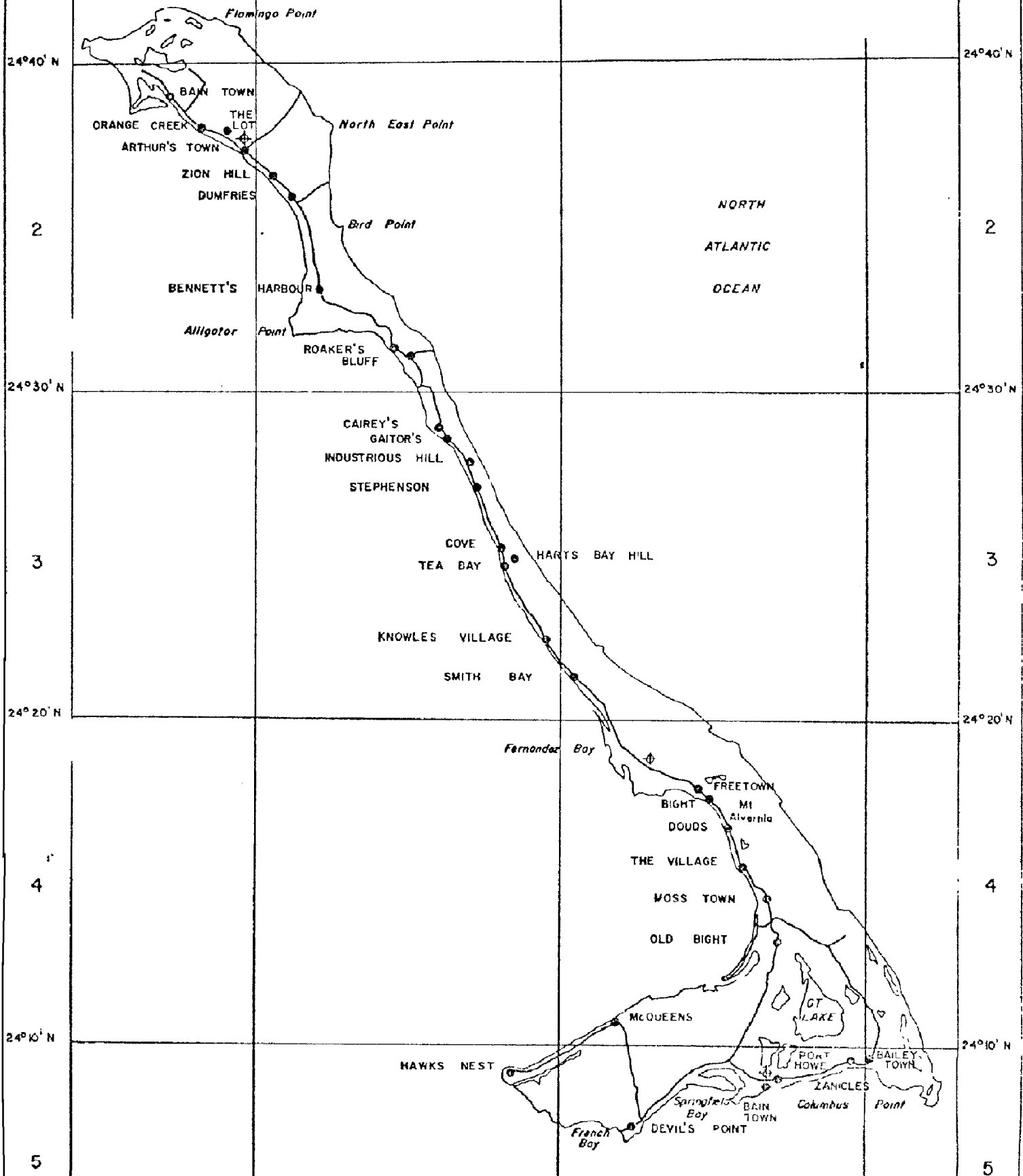
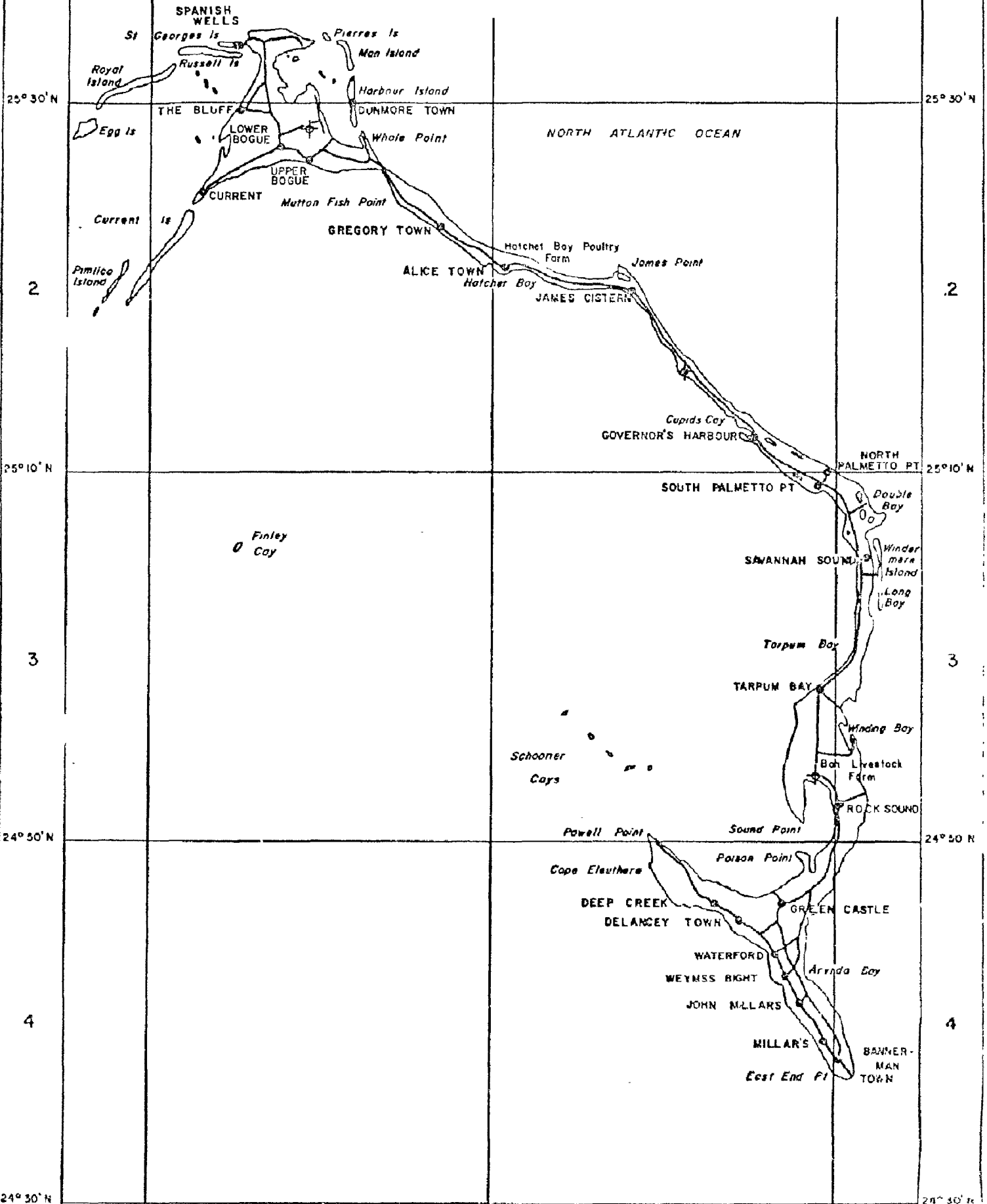
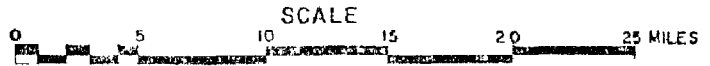


Fig. 97

ELEUTHERA ISLAND



EXUMA CAYS

Fig. 98

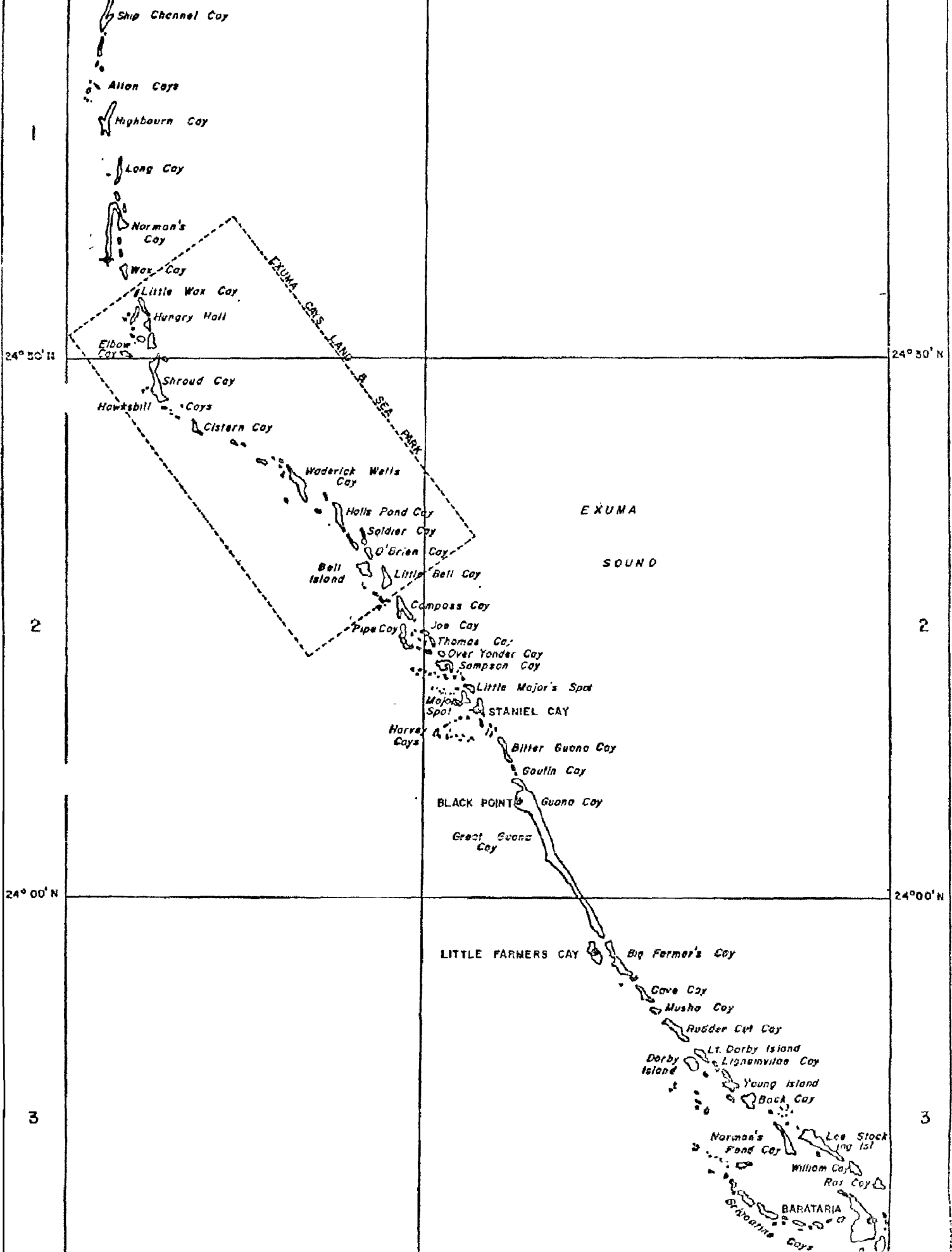
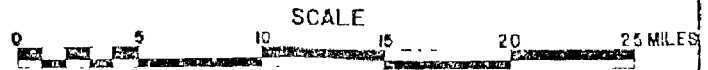


Fig. 99

LONG ISLAND

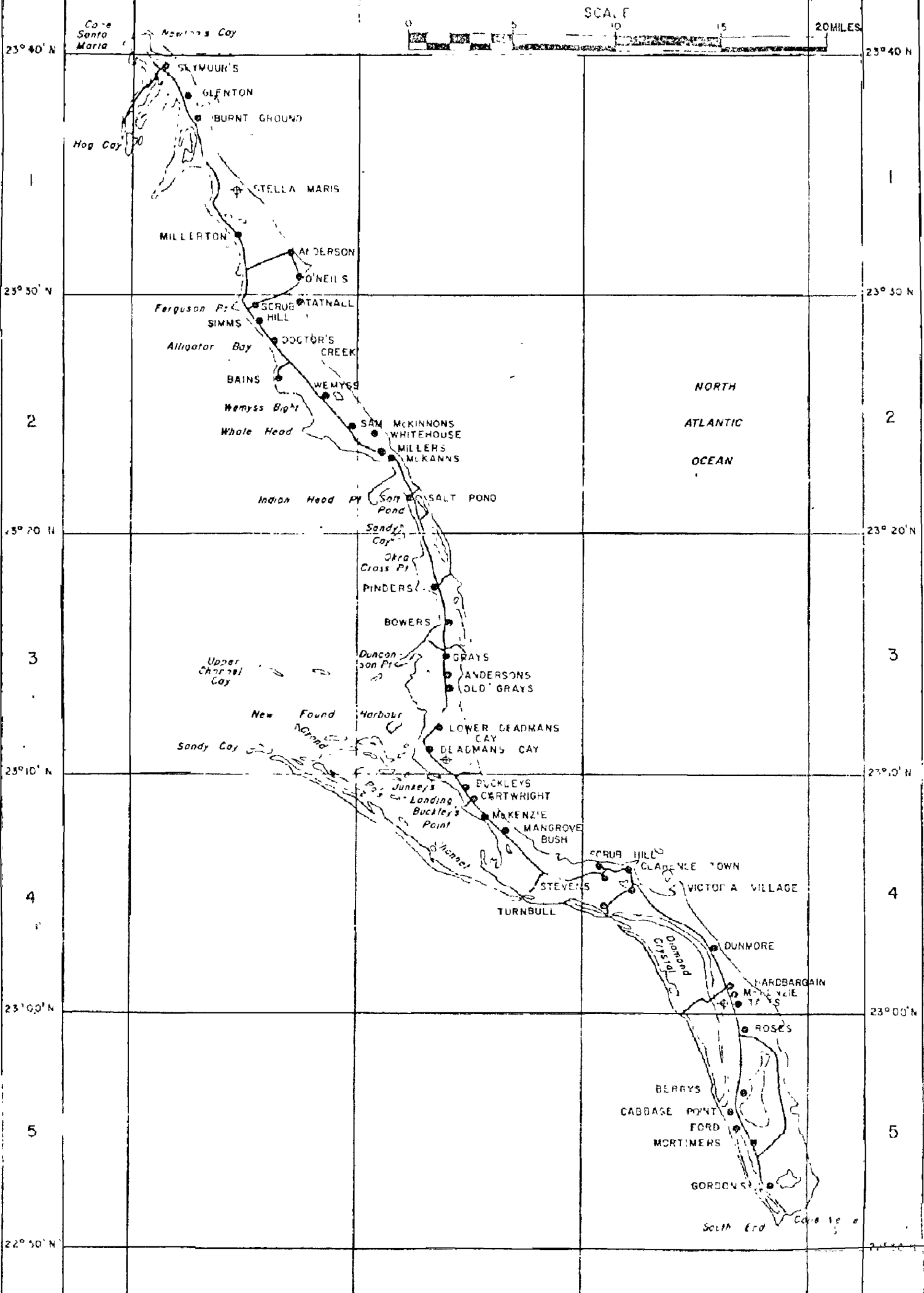
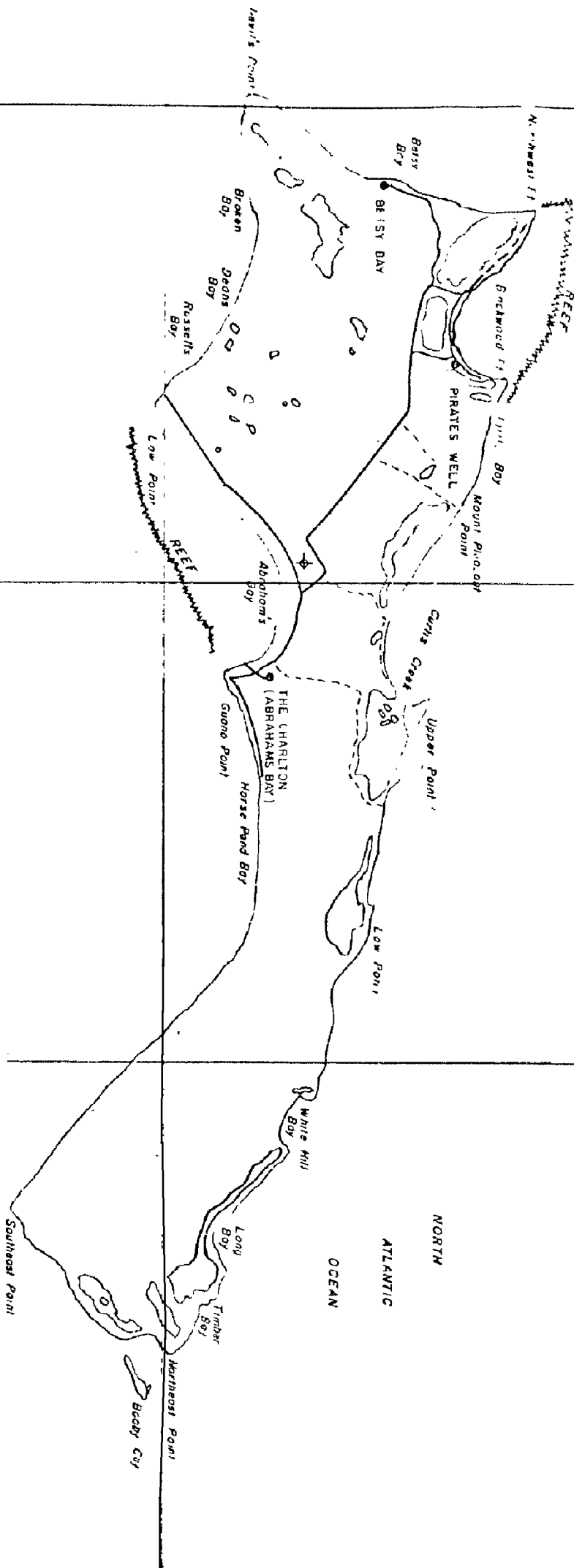


Fig. 100

MAYAGUANA ISLAND

SCALE



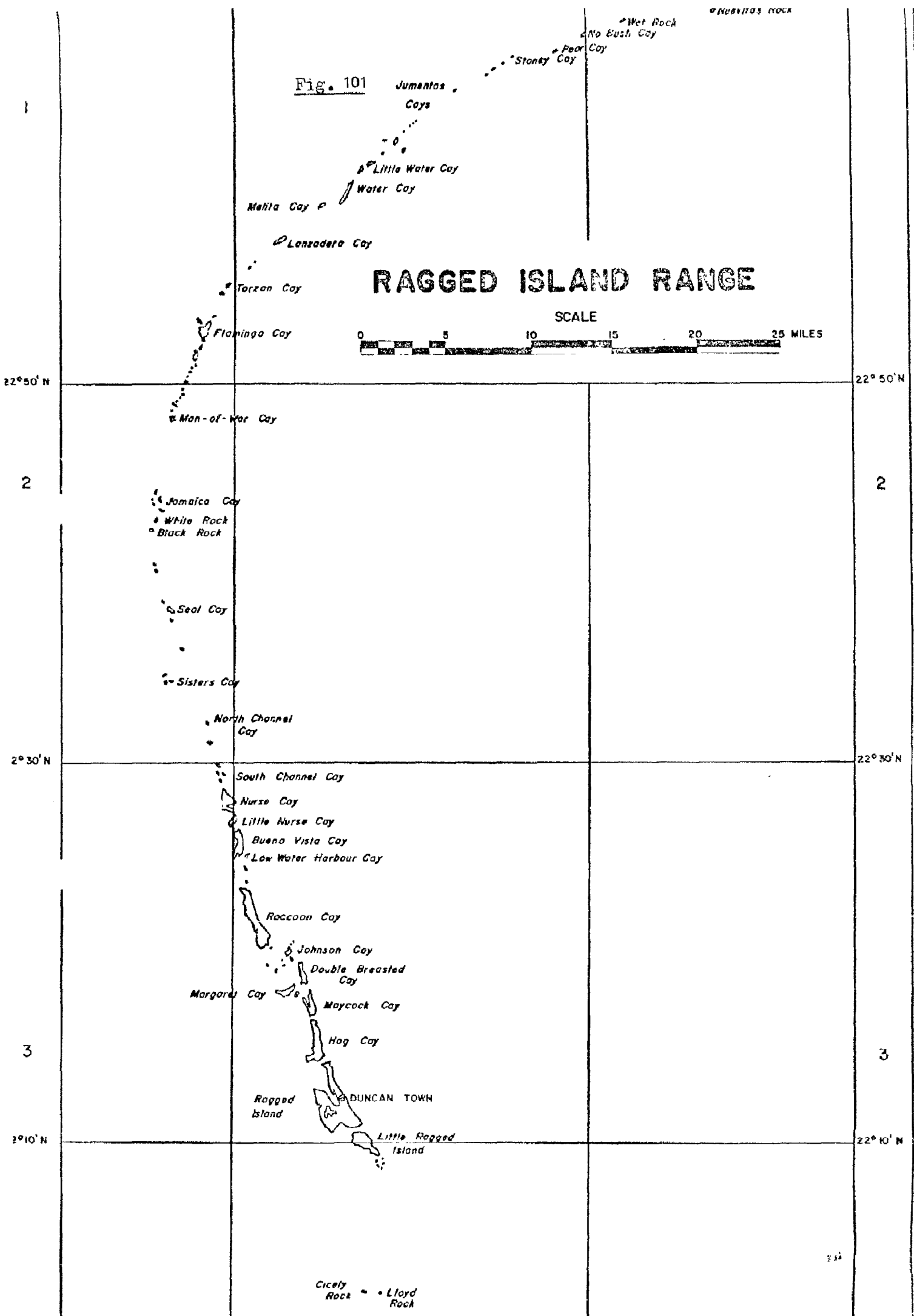
RED BY MAPPING SECTION
AND SURVEYS DEPARTMENT
NASSAU GOVERNMENT (DATE 1974)

13° 0' W 73° 0' W 72° 50' W 72° 40' W

A B C

REFERENCE
Principal Roads
Principal Settlements
Airports

Fig. 101



74°51' W

A

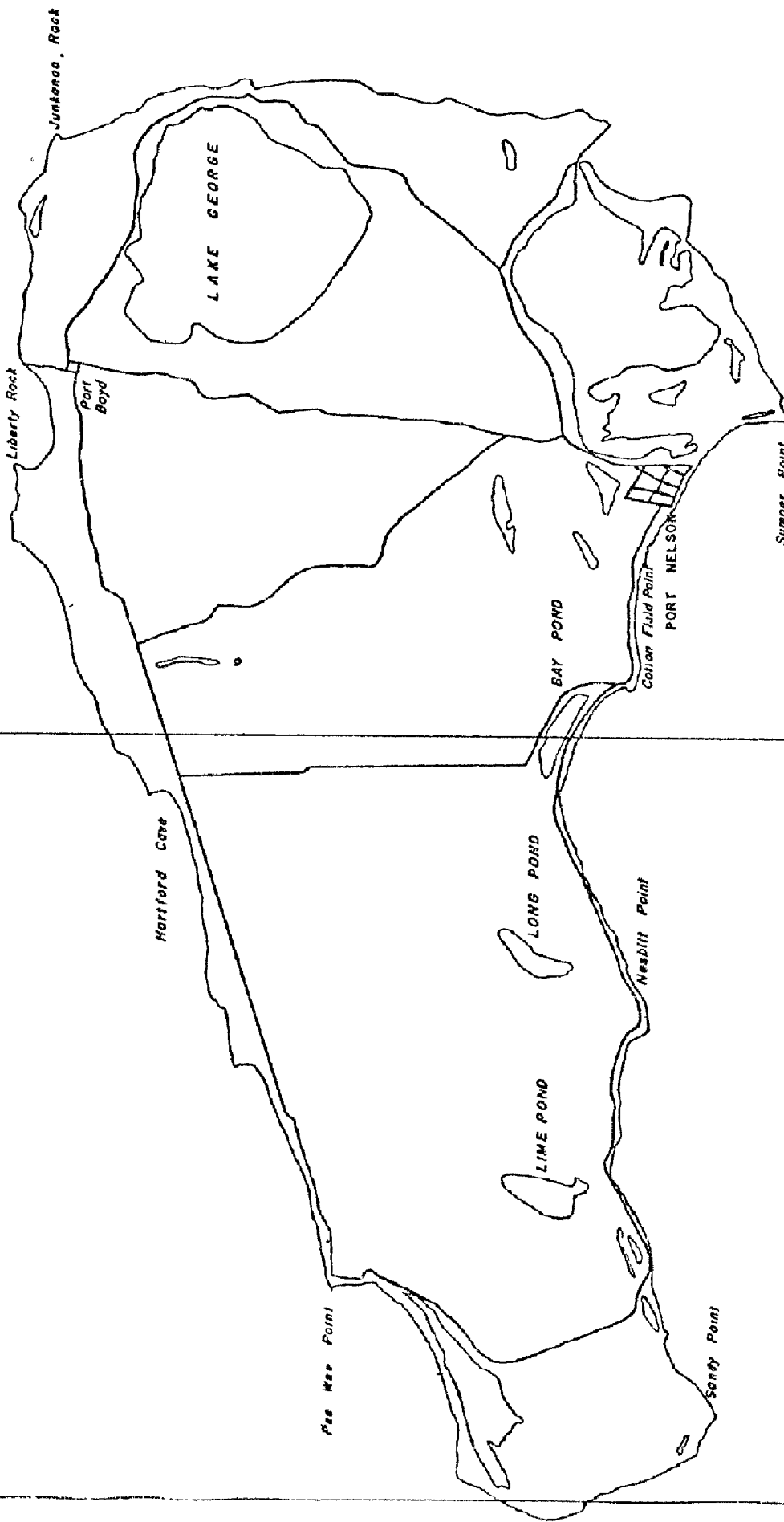
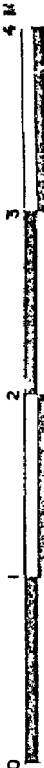
74°52' W

B

74°47' W

RUM CAY

SCALE



74°51' W

A

74°52' W

B

74°47' W

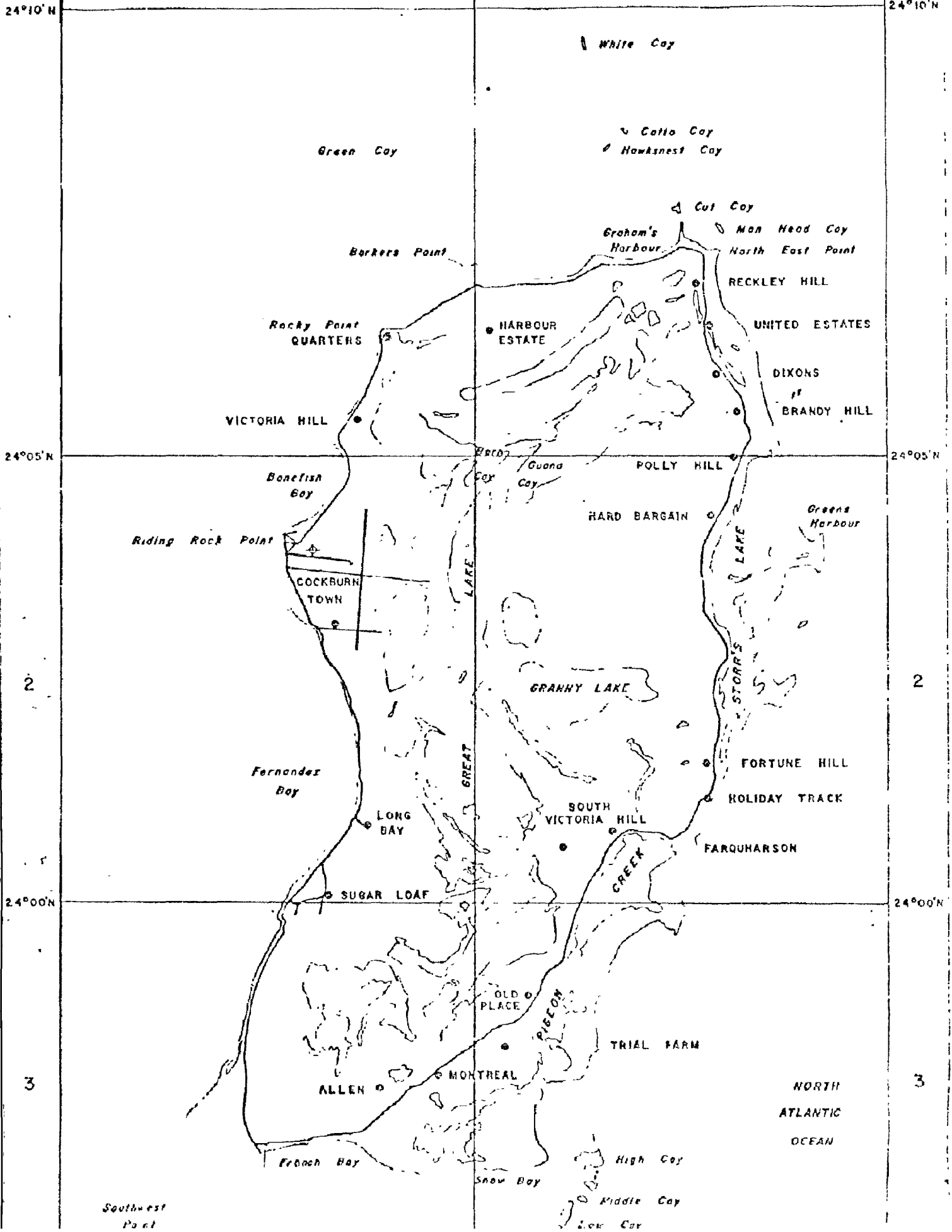
REF BY MAPPING SECTION
and Survey Department
for 1922, Nassau Bahamas (DATE 1974)

REFERENCE
Principal Roads
Principal Settlements
Airports

SAN SALVADOR

Fig. 103

SCALE



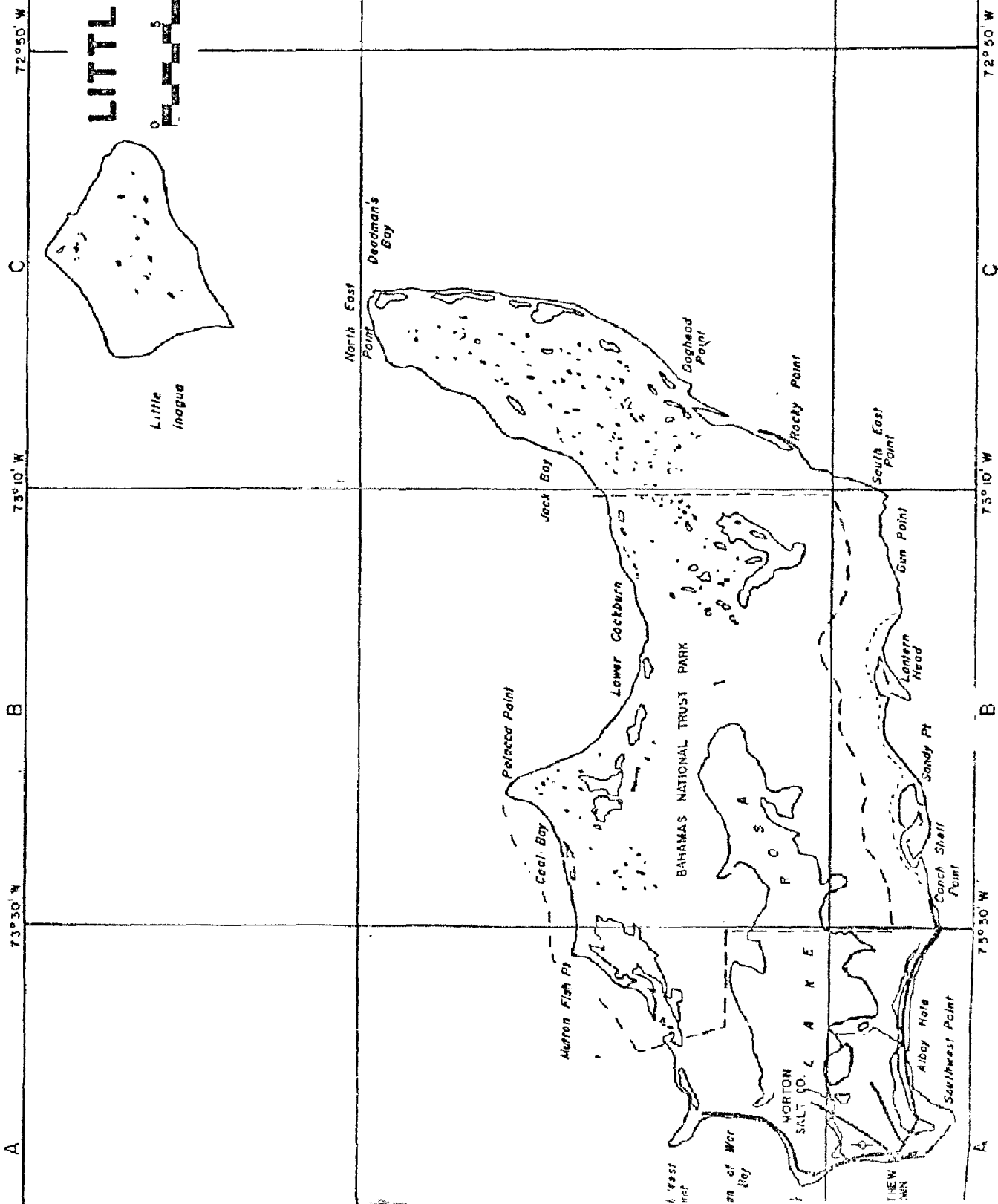


Fig. 104

REFERENCE
 Principal Roads
 Principal Settlements
 Airports

INDEX

1. Westgate, K. A Bibliography of Disaster Reference Material.
2. Lewis, J. Disaster Management with Special Reference to Pre-disaster Planning.
3. Lewis, J. Proposals for a Working Method of Indigenous Resource Co-ordination as a Part of a Pre-Disaster Plan.
4. Westgate, K. Definitions of Disaster.
5. Lewis, J.
and O'Keefe, P. A Philosophy of Planning.
6. O'Keefe, P. Gakarara — A Study in the Development of Underdevelopment.
7. Westgate, K. Flixborough — the Human Response.
8. O'Keefe, P. African Drought
9. Gane, M. Report of Mission to Assess the Hurricane Factor for Planning Purposes in Fiji.

N.B. Occasional Paper No. 8: title should read, 'African Drought — A Review'