



**NEW ZEALAND
MINISTRY OF AGRICULTURE AND FISHERIES**

**FISHERIES TECHNICAL REPORT
No. 134**

**TOHEROA SURVEY — WELLINGTON
WEST COAST BEACHES 1973**

D. WILLIAMSON

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MINISTRY OF AGRICULTURE
AND FISHERIES
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SUMMARY

Toheroa stocks have increased over the Southern Beaches but dropped sharply over the northern.

Total estimated population in June 1973 stands at 104,000, the same as the 1972 survey. 8.85% of this estimated population is made up of undersized fish, a marked decrease over the 1972 survey.

The largest population is now carried on South Hokio Beach, estimated at 26,000 (25% of the total population).

INTRODUCTION

In May and June 1973 a survey was undertaken to determine whether any changes in toheroa (Paphies Ventricosa) stocks had taken place on Wellington West Coast beaches since the May 1972 survey.

Distribution, abundance, and size range of toheroa found are outlined in this Report.

RESULTS

The area surveyed is shown in Figure 1.

The total beach has been divided into nine parts, covering a total area of 73.6 km (46 miles) for easier representation of results.

Beaches surveyed are listed below from south to north.

Beach	Length		Boundaries
	km	(miles)	
Te Horo	8.8	5½	Waikanae R. to Mangaone Stm
Otaki	6.0	3¾	Waitohu Stm to Ohau R.
Hokio Sth	5.6	3½	Ohau R. to Waiwiri Stm
Hokio Nth	3.6	2¼	Waiwiri Stm to Hokio Stm
Waitarere Sth	4.8	3	Hokio Stm to Waitarere
Waitarere Nth	8.0	5	Waitarere to Manawatu R.
Foxton	9.8	6	Manawatu R. to Himitangi
Tangimoana	10.0	6¼	Himitangi to Rangitikei R.
Moanaroa	17.7	11	Rangitikei R. to Koitiata Stm

No toheroa have been found north or south of these boundaries.

METHODS

As in previous surveys a 30 cm (1 ft) wide trench was dug at right angles to the sea. Digging started at about mid-tide level and continued towards the high and low tide levels until no more toheroa were found. Trenches were dug for a minimum of 12.8 m (14 yds), even if no toheroa were found in initial diggings. Trenches were dug at 400m (quarter mile) interval and intervals between trenches examined visually for signs of toheroa. The total number of toheroa present on each beach was calculated in proportion to the numbers in the trenches.

RESULTS

Figures 2 and 3 show the position of trenches dug and number of toheroa in each trench in comparison to 1971 and 1972. Positions of the trenches differ slightly from year to year.

Table 1 shows estimated numbers of toheroa on each beach.

TABLE 1

ESTIMATED NUMBERS OF TOHEROA ON
WELLINGTON WEST COAST BEACHES

<u>Beach</u>	<u>No. Dug</u>	<u>Estimated No.</u>
Te Horo	14	18,000
Otaki	12	16,000
Hokio South	20	26,000
Hokio North	13	17,000
South Waitarere	-	-
North Waitarere	18	24,000
Foxton	2	3,000
<hr/>		
TOTAL	79	104,000

No Toheroa were found on South Waitarere, Tangimoana or Moanaroa Beaches, the largest population is 26,000 found on South Hokio. North Waitarere beach population dropped by almost 50% from last year's survey. All other beaches increased in population apart from Foxton which dropped by some 10,000 fish. Figures 2 and 3 show numbers of toheroa per trench in 1971, 72 and 73. Fig. 4 shows length composition of the toheroa found.

Te Horo Beach

Fourteen Toheroa were found on this beach stretching from 400 metres north of the Waikanae River to 3.2 km from the Mangaone Stream. Sizes ranged from 8.0 to 13.5 cm.

Otaki Beach

Twelve Toheroa were found on this Beach; the first 1.6 km from the Waitohu Stream and the last 1.6 km South of the Waikawa Stream. Sizes ranged from 8.0 cm to 12.0 cm.

Hokio South Beach

Twenty toheroa, including four undersized, were dug along Hokio South, the first 800 m from the Ohau river and the last 1.6 km from the Waiwiri Stream. Sizes were from 5.5 to 13.0 cm in range.

Hokio Beach North

Thirteen Toheroa, including three undersized, were found scattered along the beach from 800 m north of Waiwiri Stream to 1.2 km South of the Hokio Stream. Lengths ranged from 6.5 cm to 10.5 cm.

North Waitarere

A population of toheroa was found spread 1.6 km from the Manawatu River to 2 km from Waitarere. Sizes ranged from 8.0 cm to 13.5 cm.

Foxton

Two toheroa were found 3.2 km and 4.8 km South of Himitangi. Their lengths were 9 cm and 8.5 cm.

General

Toheroa populations are increasing on the southern beaches but decreasing on the Northern. No evidence was seen of a successful spatfall within the last year.

The populations of burrowing polychaetes and the decapod crustacean Callianassa filholyi are still present in fairly large numbers along most of the area surveyed, with South Waitarere having the largest populations.

COMPARISONS WITH PREVIOUS SURVEYS

Table 2 compares the 1973 population estimates with those made in previous years.

TABLE 2

NUMBER OF TOHEROA 1969-1973

Beach	1969	1970	1971	1972	1973
Te Horo	13,000	4,000	3,000	4,000	18,000
Otaki	33,000	8,000	12,000	4,000	16,000
Hokio	301,000	50,000	33,000	33,000	43,000
South Waitarere	19,000	1,000	-	8,000	-
North Waitarere	148,000	12,000	5,000	42,000	24,000
Foxton	41,000	5,000	3,000	13,000	3,000
Tangi Moana	8,000	-	-	-	-
Moanaroa	1,000	-	-	-	-
Total	564,000	56,000	80,000	104,000	104,000

Figure 5 shows the estimated number of toheroa from 1965 to 1973.

CONCLUSIONS

The number of toheroa over the total beach has remained the same as last years survey figures. A decrease in undersized fish has been noted.

ACKNOWLEDGMENTS

I wish to thank those of my colleagues who participated in the arduous digging of these miles of survey trenches.

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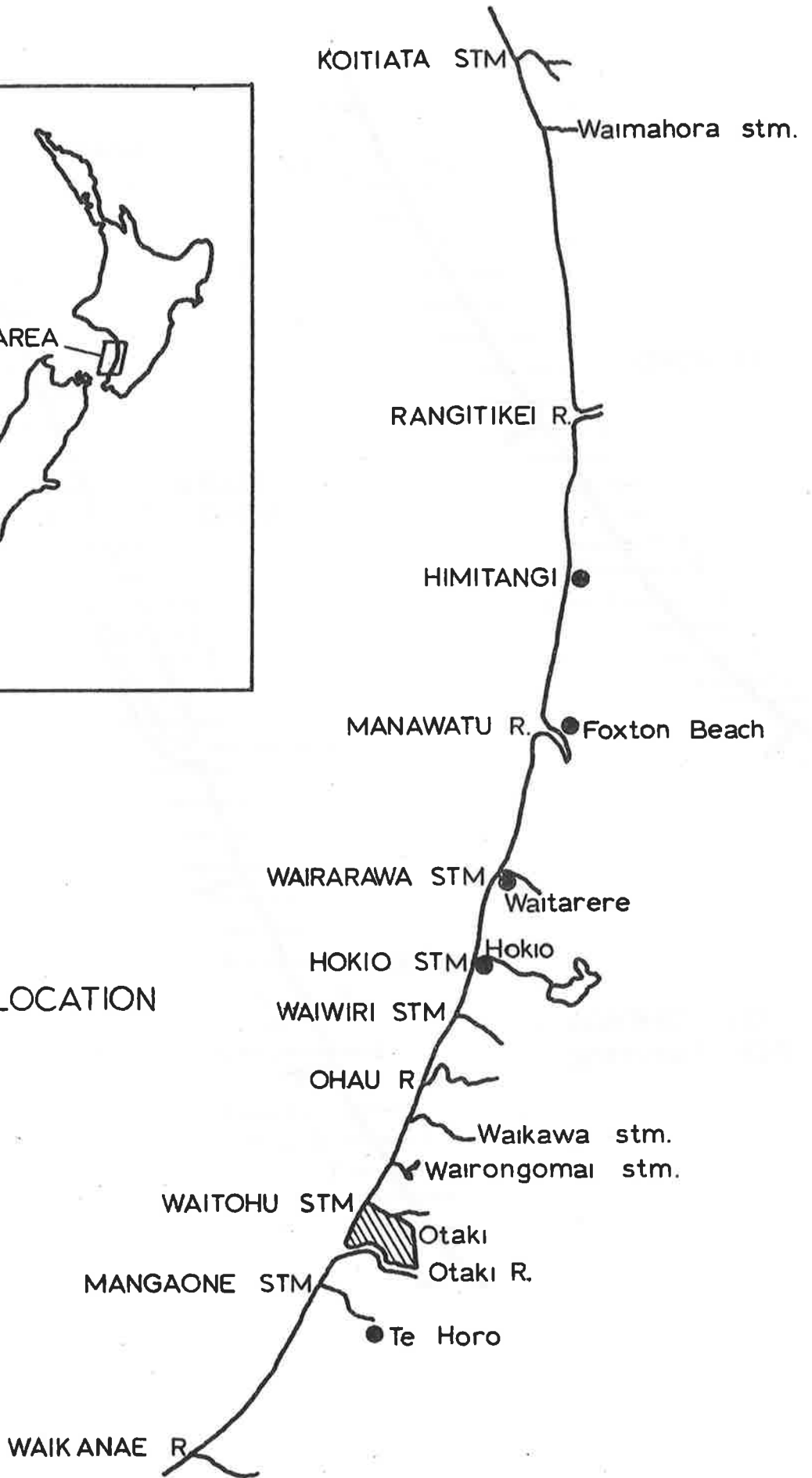


FIG. 1. LOCATION

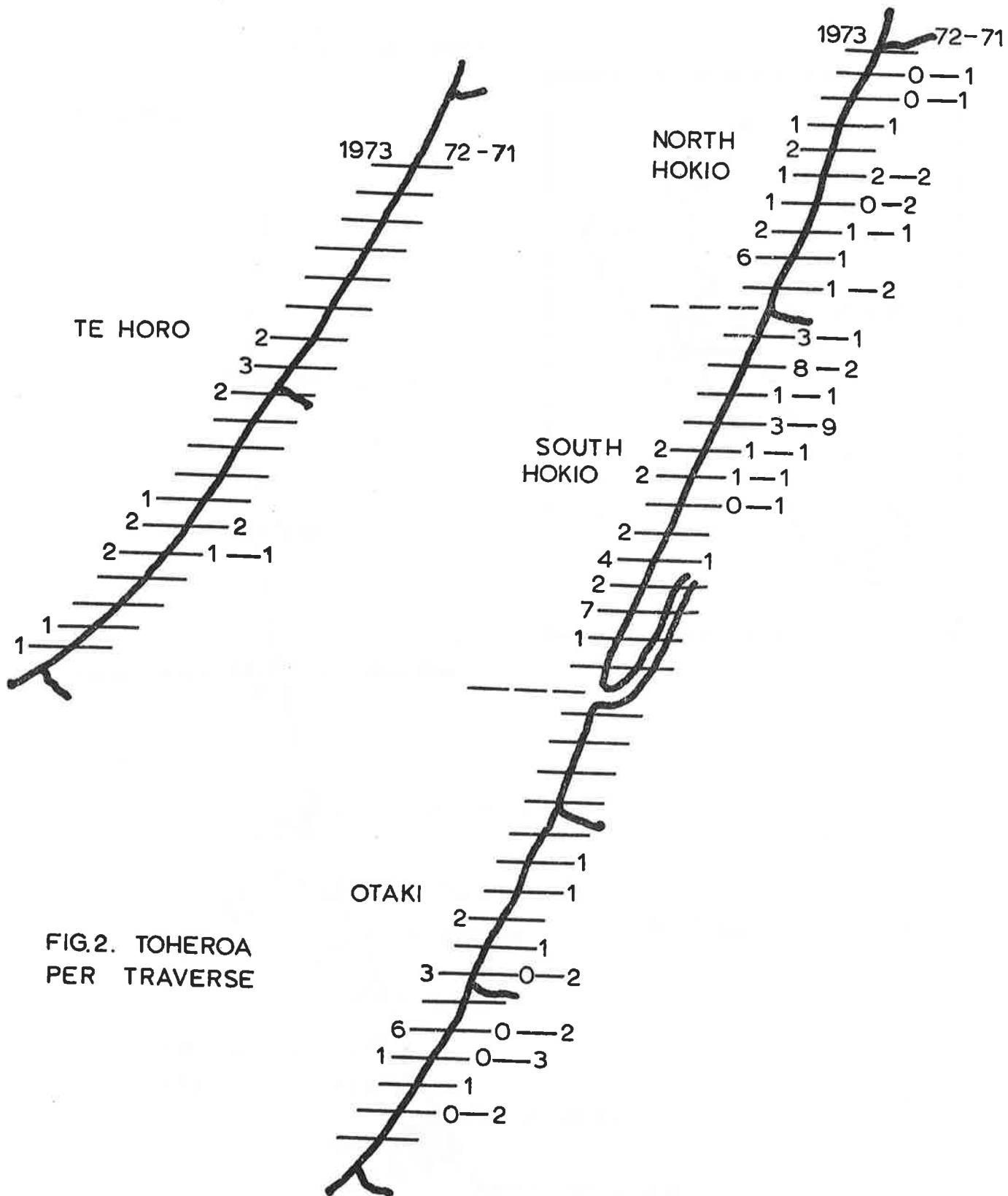


FIG.2. TOHEROA PER TRAVERSE

FIG. 3 TOHEROA
PER TRAVERSE

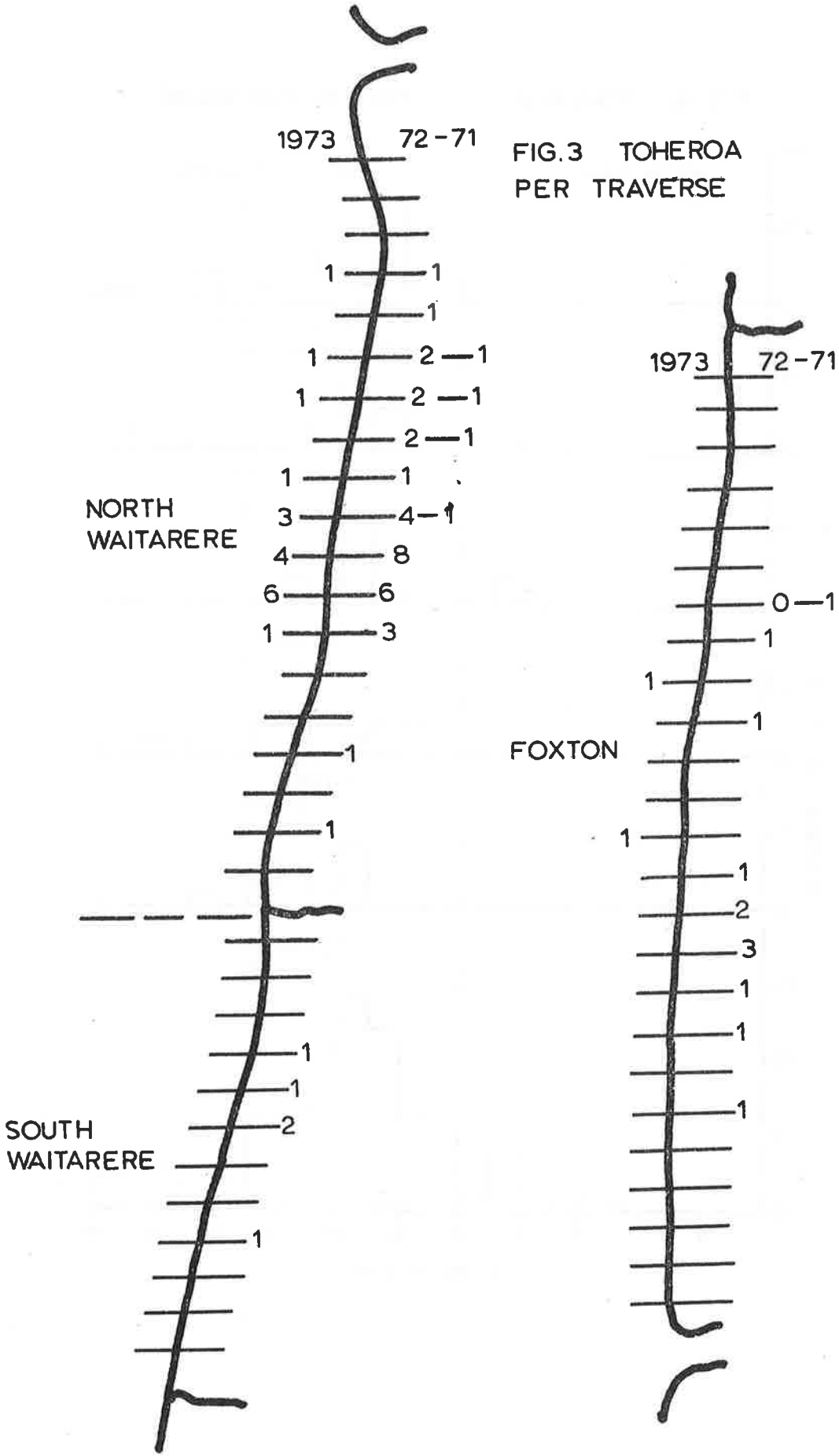


FIG. 4. TOHEROA — LENGTH FREQUENCY

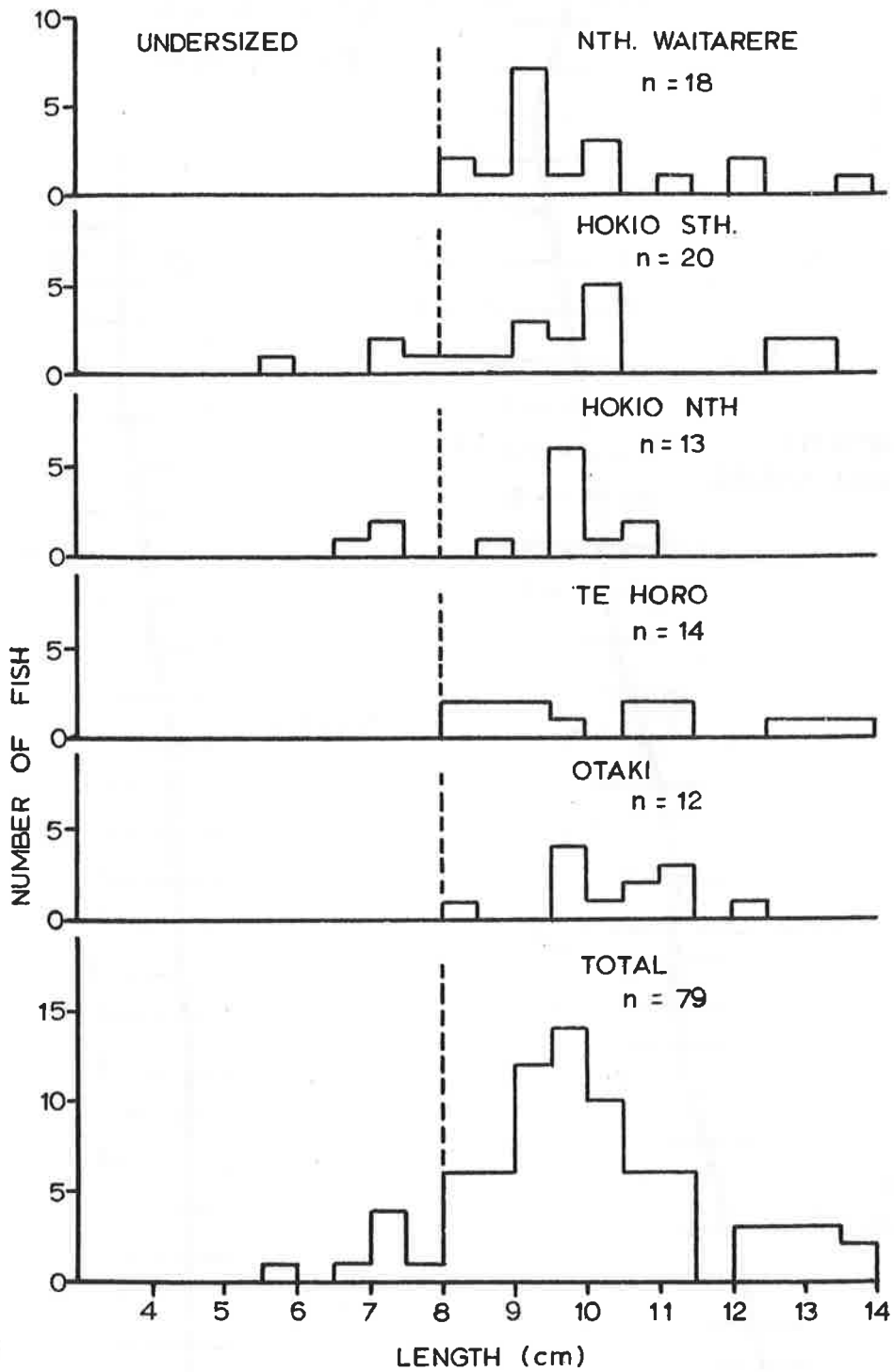


FIG. 5. ESTIMATED NUMBER OF TOHEROA, 1965-73

