



**NEW ZEALAND MARINE DEPARTMENT**

**FISHERIES TECHNICAL REPORT**  
**No. 92**

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**TOHEROA SURVEY — WELLINGTON**  
**WEST COAST BEACHES 1972**

**D. WILLIAMSON**

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**WELLINGTON, NEW ZEALAND**  
**1972**

FISHERIES TECHNICAL REPORT

TOHEROA SURVEY - WELLINGTON WEST COAST BEACHES 1972

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## SUMMARY

Toheroa stocks have increased slightly over most of the survey area.

Total estimated population in June 1972 stands at 104,000, an increase of 48,000 over the 1971 survey. 36.3% of this estimated population is made up of undersized fish, a marked increase over the 1971 survey.

The largest population is now carried on North Waitarere Beach, estimated at 42,000 (40.4% of the total population).

## INTRODUCTION

In May 1972 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 1971 survey.

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

## AREA SURVEYED

The area surveyed is shown in Figure 1.

The total beach has been divided into 9 parts, covering a total area of 73.6km (46 miles) for easier representation of results.

Beaches surveyed are listed below from south to north.

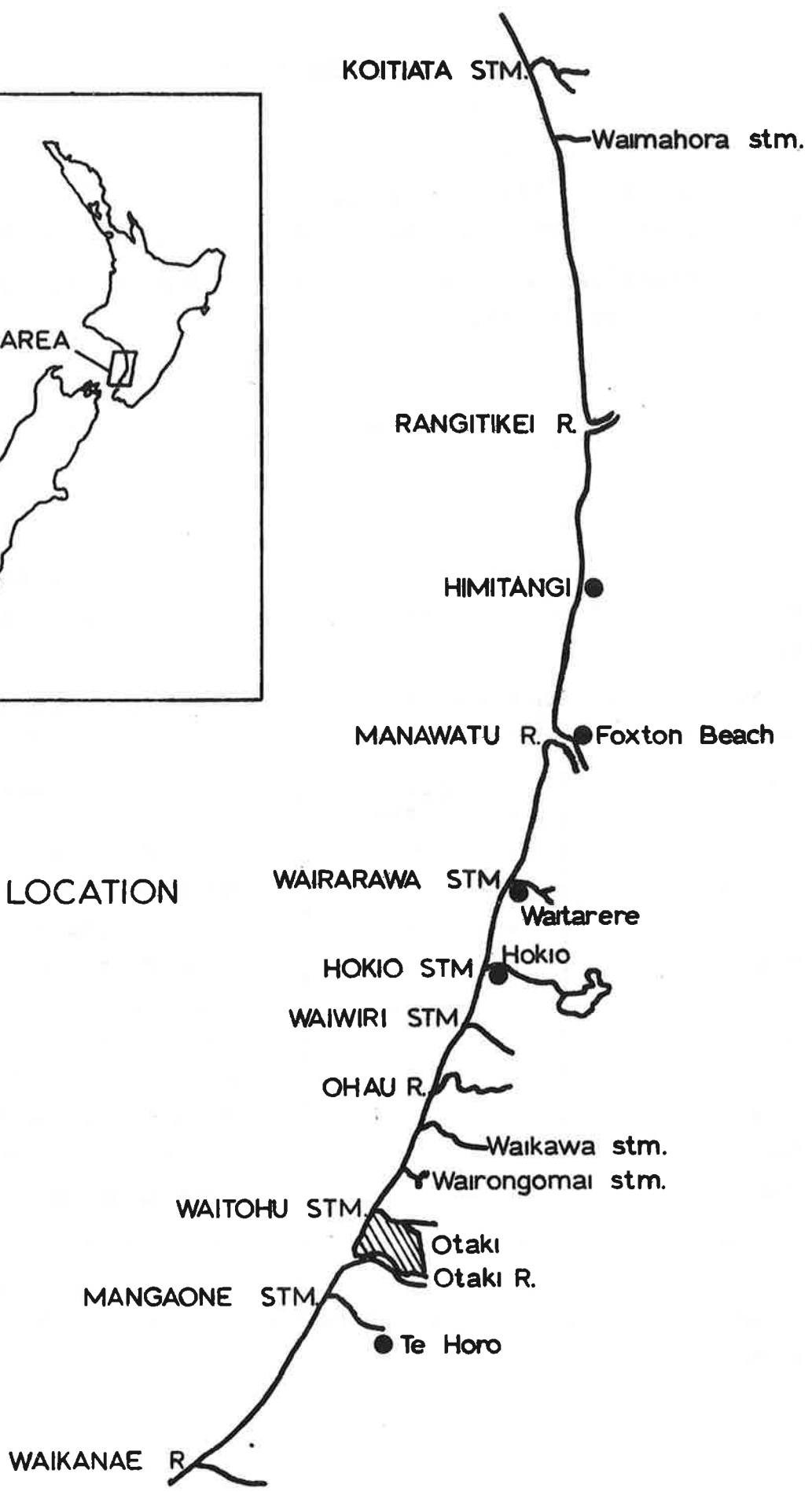
Beach	Length km      (miles)	Boundaries
Te Horo	8.8      5½	Waikanae R. to Mangaone Stm
Otaki	6.0      3¾	Waitohu Stm to Ohau R.
Hokio Sth	5.6      3½	Ohau R. to Waiwiri Stm
Hokio Nth	3.6      2¼	Waiwiri Stm to Hokio Stm
Waitarere Sth	4.8      3	Hokio Stm to Waitarere
Waitarere Nth	8.0      5	Waitarere to Manawatu R.
Foxton	9.6      6	Manawatu R. to Himatangi
Tangimoana	10.0     6¼	Himatangi to Rangatikei R.
Moanaroa	17.7     11	Rangatikei R. to Koitiata Stm

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

2.



FIG. 1 LOCATION



METHODS

As in previous surveys, a 30cm (1ft) 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 12.8m (14 yds), even if no toheroa were found in initial diggings. Trenches were dug at 400m (quarter mile) intervals, 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 1970 and 1971. Positions of the trenches differ slightly from year to year.

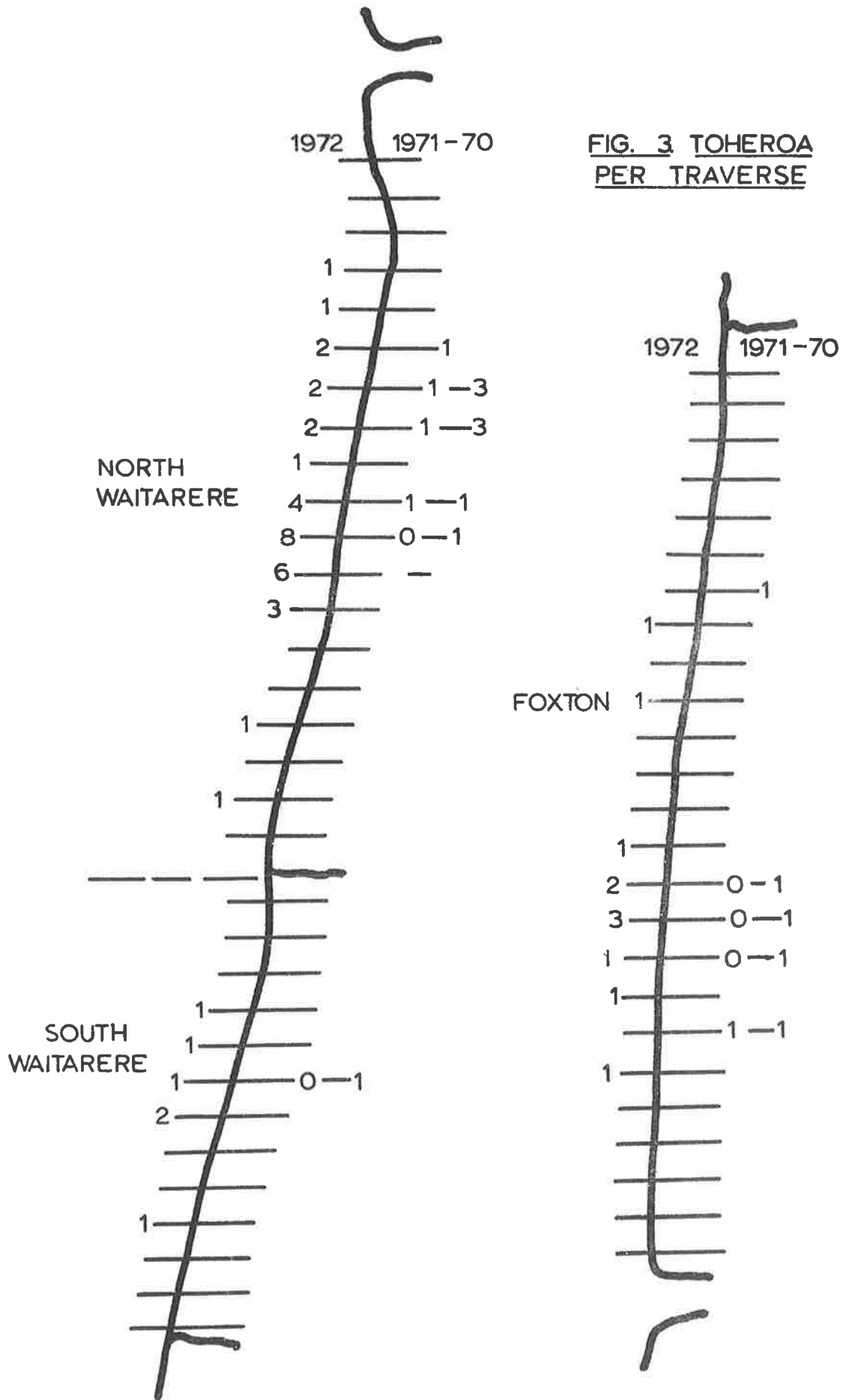
Table 1 shows estimated numbers of toheroa on each beach.

TABLE 1     ESTIMATED NUMBERS OF TOHEROA ON WELLINGTON WEST  
COAST BEACHES

Beach	No. Dug	Estimated Number
Te Horo	3	4,000
Otaki	3	4,000
Hokio Sth	19	25,000
Hokio Nth	6	8,000
Sth Waitarere	6	8,000
Nth Waitarere	32	42,000
Foxton	10	13,000
Total	79	104,000







No toheroa were found on Tangimoana or Moanaroa Beach; the largest population is 42,000, found on north Waitarere Beach. Hokio Beach has remained the same as last year. All other beaches have increased in population apart from Otaki which dropped by some 8,000 fish. Figures 2 - 3 show numbers of toheroa per trench in 1970, 1971 and 1972. Figure 4 shows length composition of the toheroa found. This figure contains measurements of toheroa not taken in the survey trenches, but measured to increase the usefulness of the figure.

#### Te Horo Beach

Three toheroa were found on this beach, the first 2km ( $1\frac{1}{4}$  miles) from the Waikanae River and the next two 400m ( $\frac{1}{4}$  mile) north from the first. They measured 12.5cm (5") and two at 11.5cm (4.5").

#### Otaki

A 7.5cm (3") layer of shell grit covered almost the entire length of this beach, which was also strewn with dead pipi and tuatua shells. Three toheroa were found on this beach. The first, about 1.2km ( $\frac{1}{2}$  mile) from Ohau River, measured 11.5cm ( $4\frac{1}{2}$ "). The second was about 2.4km ( $1\frac{1}{2}$  miles) south of the Ohau River and measured 13cm (5.1"), and the last 800m ( $\frac{1}{2}$  mile) south of that measured 11.0cm (4.2").

#### Hokio South

Toheroa, ranging in size from 4.0cm (1.5") to 12.0cm (4.7") were found 400m ( $\frac{1}{4}$  mile) south of Waiwiri Stream to 2.4km ( $1\frac{1}{2}$  miles) south. One toheroa was found 1.6km (1 mile) north of Ohau River.

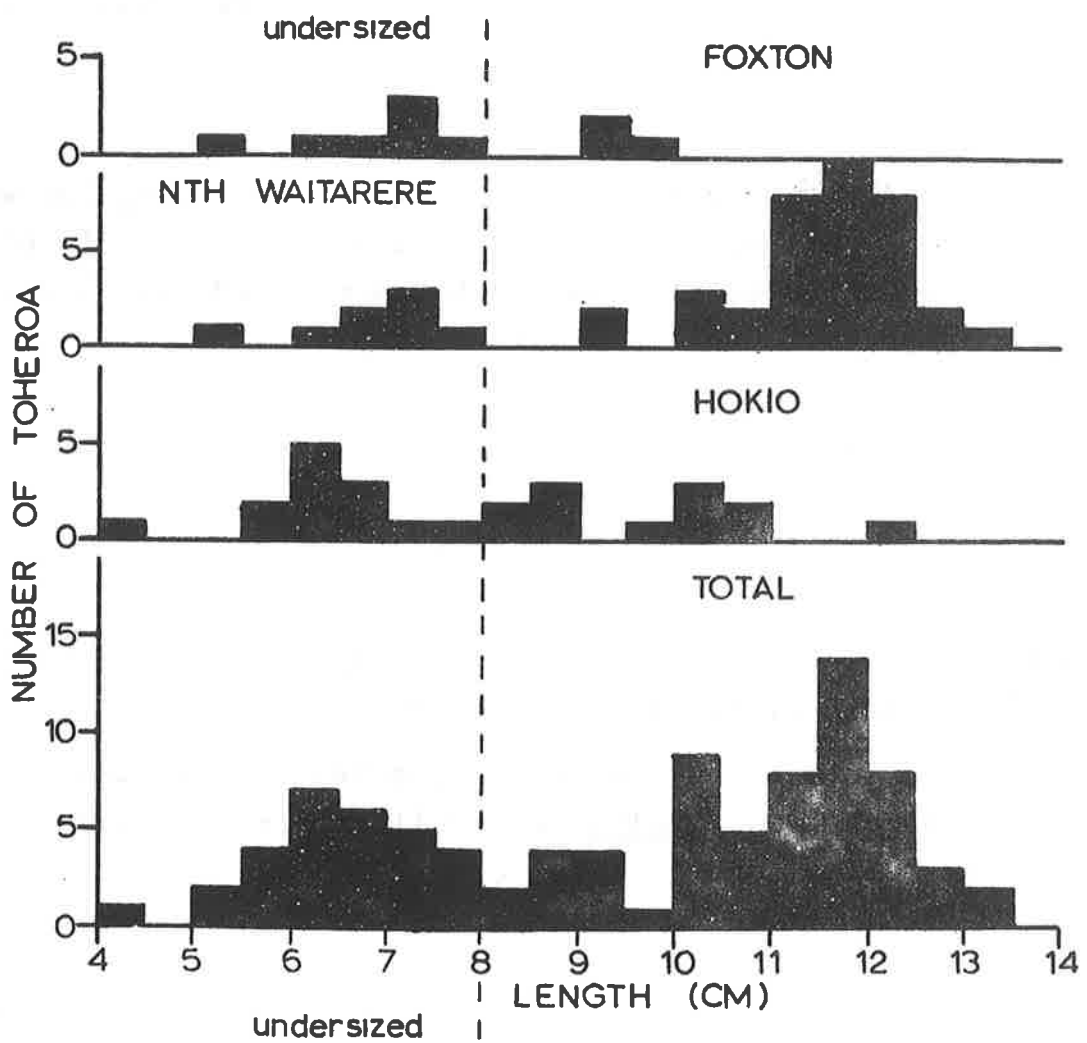
#### Hokio North

Toheroa were found scattered along the beach from 1.2km ( $\frac{1}{2}$  mile) south of Hokio Stream to Waiwiri Stream. Lengths ranged from 9.5cm (3.7") to 10.5cm (4.2").

#### South Waitarere

Toheroa were found 1.6km (1 mile) north of Hokio and again from 2.8km ( $1\frac{3}{4}$  miles) to 4.0km ( $2\frac{1}{2}$  miles) north. Sizes ranged from 6.0cm (2.3") to 9.0cm (3.5").

FIG. 4. TOHEROA - LENGTH FREQUENCY



North Waitarere

A population of toheroa was found spread 1.6km (1 mile) from the Manawatu River to 800m ( $\frac{1}{2}$  mile) from Waitarere. Sizes ranged from 5.0cm (2.0") to 13.0cm (5.1").

Foxton

Scattered toheroa were found 2.0km ( $1\frac{1}{4}$  miles) from Manawatu River to 6.4km (4 miles) north ranging in size from 5cm (2.0") to 10.5cm (4.2"). The rest of this beach was covered with a thick shell grit layer until well past Himatangi.

Tangimoana and Moanaroa

No toheroa were found.

General

Toheroa populations are increasing with evidence 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.

COMPARISONS WITH PREVIOUS SURVEYS

Table 2 compares the 1972 population estimates with those made in previous years.

TABLE 2                      NUMBER OF TOHEROA 1969 - 1972

Beach	1969	1970	1971	1972
Te Horo	13,000	4,000	3,000	4,000
Otaki	33,000	8,000	12,000	4,000
Hokio	301,000	50,000	33,000	33,000
Sth Waitarere	19,000	1,000	-	8,000
Nth Waitarere	148,000	12,000	5,000	42,000
Foxton	41,000	5,000	3,000	13,000
Tangimoana	8,000	-	-	-
Moanaroa	1,000	-	-	-
Total	564,000	80,000	56,000	104,000

Toheroa stocks are beginning to build up again after several years of decline.

CONCLUSION

The number of toheroa on these beaches has risen over last year's figures. A great increase in undersized fish has been noted.

ACKNOWLEDGEMENTS

I wish to thank Messrs J. Fenaughty and A. Turner for their invaluable assistance in the arduous digging of survey trenches.



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