



Hutt River Flood Control Scheme Review - Volume 12

# The Hutt River

*Te-Awa-kai-rangi*

**A Modern History  
1840-1990**

The Wellington Regional Council - 1991

Cover photograph taken during the 1955 flood.  
*Evening Post* neg. 295-55.

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*by John Easter*

**Hutt River Flood Control Scheme Review  
Volume 12  
A History of River Management**

*This History is to be maintained as a current document by frequent review. If you have knowledge of the Hutt which you feel should be included in the next printing please contact the Wellington Regional Council.*

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Wellington Regional Council  
142-146 Wakefield Street, Wellington  
PO Box 11-646, Wellington  
Phone 384 5708, Fax 385 6960

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Engineering of NZ Ltd*

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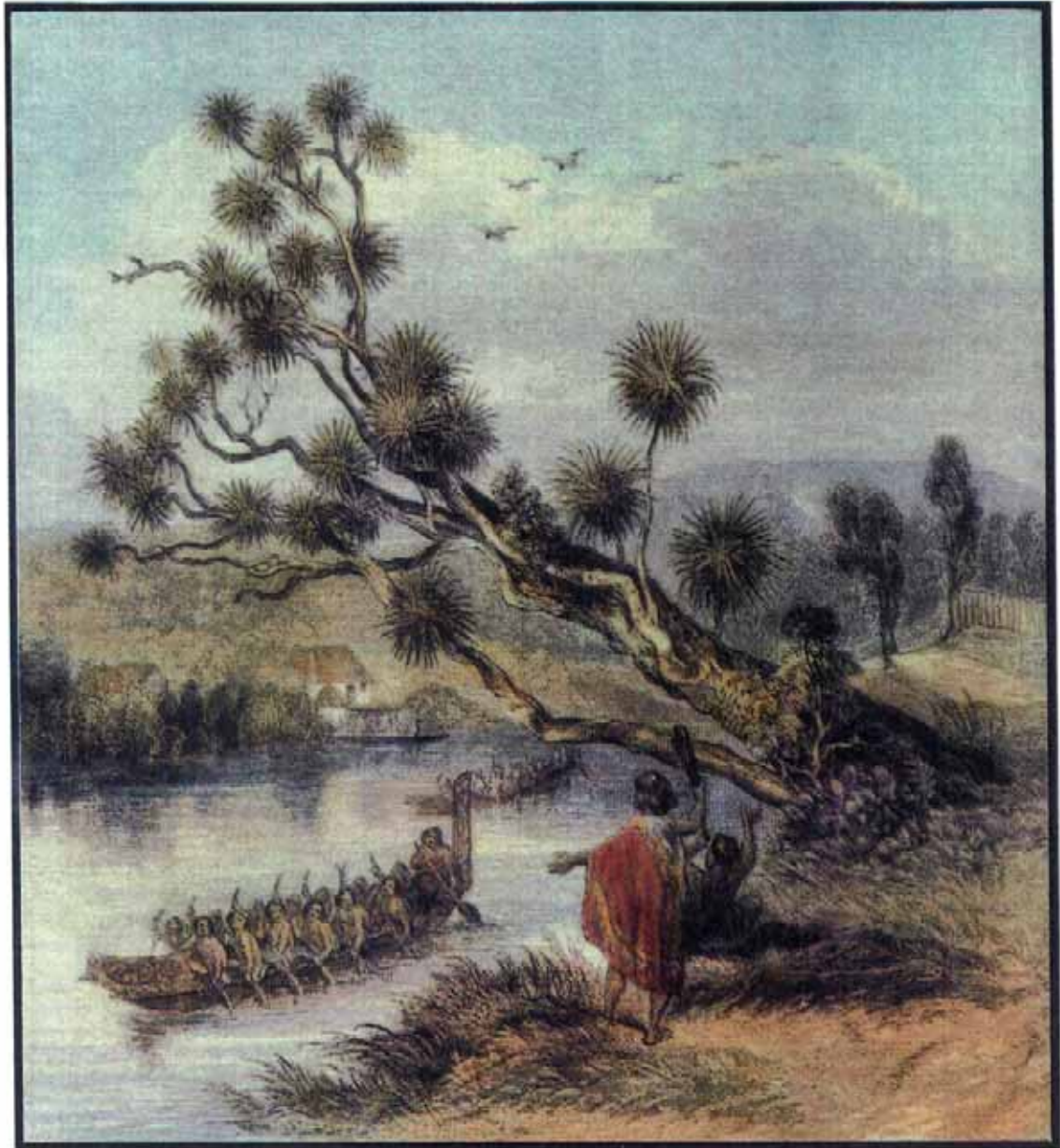
- A Location of Historical Works
- B Historical River Alignments
- C Catchment Plan

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# INTRODUCTION



**Plate 1: Hutt River near Molesworth's farm, 1847.**

Source: Alexander Turnbull Library, S C Brees, ref. PL. 14/42.

# The Hutt River Flood Control Scheme

The control of flooding has been essential for the development of the Hutt River flood plain. Today the lives of most of the residents of the Hutt Valley would be seriously affected should the flood control scheme fail.

Flood control works frequently encourage rapid development on the adjacent flood plain. Often the development is so rapid that the original flood control works, usually funded by a small riparian community, are seen to be inadequate by the new flood plain immigrants. The investment in flood control soon lags behind the investment in capital asset on the protected flood plain. The time taken to construct and commission works is such that growing communities are not provided with adequate levels of protection by the time works are completed. Accordingly, risks are often higher than they should be. To maintain a level of risk acceptable to a changing community, the systems of flood control require constant review.

The last formal review of the Hutt River Flood Control Scheme took place in the 1950s. The final works to complete the revised scheme were completed in 1973. Modifications and commissioning works continued until 1985.

In 1990 the river managers were again advising the community to review the level of protection offered by the "scheme of works". Recent experience during moderate flooding has shown that the system is vulnerable. As the density of the population increases, so do the consequences of scheme failure. The level of risk the residents of the Valley are now exposed to was determined by the post-war community. Is it still acceptable to the current generation or for their children? Has the relative level of protection decreased and have the assumptions made by past designers proved correct?

An understanding of the value of the existing scheme is difficult without some knowledge of the climatic, physical, political and engineering background leading to the scheme construction. This history serves to illustrate the gradual development of the Hutt River and will help answer the "How, Where, and Why?" questions for the existing and earlier control works. It is intended as a directory and summary of the engineering archives but does not purport to replace the original material which should be referred to for specific details.

## Historical Brief

The Brief for this History of the Hutt River was to provide a detailed record of the various major works which form the Hutt Scheme. The Brief required that the record should include:

*A description of the extent, approximate date and location on the river of major works, minor works .... associated protection or training works .... isolated protection or training works, the cost of various other works at that date and indexed to current .... degradation of the channel .... performance and effectiveness of the various works .... damage in floods and cost for repairs if appropriate.*

## Chronology of Events

1855	Seismic uplift and new Estuary Regime
1858	"Old-man" Flood - 9 lives lost.
1871	Flood - destroyed Third Hutt Bridge
1879	First Hutt River Board formed.
1881	Last meeting of the First Hutt River Board
1887	First Hutt River Board goes into permanent recess
1893	Flood - "the valley a desolate scene"
1894	Petone Stopbank constructed
1898	Two large floods swept the whole valley
1899	Second Hutt River Board formed
1899	Consultants commissioned to prepare a scheme of conservation
1901-03	Scheme for Conserving the Hutt River constructed
1906	Gear Island protective works contract
1910	HRB District extended to include Normandale, Taita, pt. Belmont
1913	Flood - problems with shingle movement
1915	Flood - control works rebuilt
1915	HRB District extended to include Epuni
1921	Rating on a uniform scale (without classification)
1924	Shingle Industry successfully restructured
1931	Flood - nearly led to stopbank failure
1933	First stopbank raising (Moera section)
1939	Flood - Largest this century
1944	First Scheme Review commenced
1947	HRB District extended to include Petone
1952-53	Scheme extension and upgrading approved
1955	Flood - Severe in Upper Hutt
1956	HRB District extended to include Upper Hutt
1956-57	Stopbank raising (Pipe Bridge to Ewen Bridge)
1959-60	Melling Diversion Cut - First Stage
1960-61	Melling Diversion Channel - Second Stage
1960-61	Stopbank raising - Ewen Bridge to Melling
1962-64	New stopbank Fraser Park/Mabey Road. Raising bank Taita to Fraser Park
1964	Melling Diversion Cut - Third Stage
1964	Stopbank raising Melling Road to Mills Road
1964-65	Haywards Settlement stopbank construction
1964-65	Whakatiki Street to Maoribank stopbanking
1966-69	Whakatiki Street to Heretaunga Golf Club stopbank
1965-66	Flattening stopbank slope at Hutt Valley High School
1966-67	Auxiliary stopbank construction, Gibbons Street
1966-71	The Silverstream Cut
1967	Channel alignment - Hudson Avenue
1967	Eastern Hutt road channel realignment
1968	Totara Park stopbanks - Stage I
1969	Stopbank construction - Boulcott to Mabey Road
1971-73	Model study of the River Mouth
1972	Maoribank Reserve drainage channel
1972	Regrading drainage channel - Clouston Park to Ebdentown Road
1972	Regrading the stopbank - Boulcott Golf Club
1972	Stopbank reshaping south of Melling Station
1972-73	Okoutu Stream (Black Creek) Auxiliary Stopbank
1973	Amalgamation of HRB to Wellington Regional Water Board. Regional Rating.
1976	Hutt Valley main sewer river crossing Silverstream
1980	Amalgamation of the WRWB into the Wellington Regional Council
1980-81	Protection of State Highway 2 Embankment at Te Marua
1980-81	Stokes Valley Stream outlet stopbank reconstruction
1981	Totara Park stopbanks - Stage II
1981	Te Marua river metal extraction
1981-86	Wellington Golf Club - Heretaunga - river control works
1981-87	Maoribank groynes and planting programme
1981-88	Protection of stopbank and river bank Alicetown
1983	Totara Park stopbanks - Stage III
1983-84	Parkdale subdivision stopbank and associated protection works
1983-84	Concrete cycle track facility
1984	Stopbank reconstruction at Woollen Mills (Moera)
1985	Current Scheme Review commenced
1984-86	Bank stabilisation trial - Estuary section
1984-89	Totara Park bank protection and stabilisation
1984, 1990	Pomare Bridge protection and bank stabilisation
1984-90	Okoutu Stream outlet improvements
1985-86	Bank stabilisation at the Ewen Bridge
1985-87	Bank stabilisation - Harcourt and Haukaretu parks
1985-88	Stopbank repairs at Croft Grove
1985-88	Upper Hutt Bypass - river works
1989	Ewen Bridge area temporary stabilisation works
1989	Stopbank reconstruction at Ewen Park/Melling Reserve
1990	Croft Grove - Black Creek bench construction and rip-rap placement

Archive Table 1: Chronology of Events.

## Archive Sources

To an author attempting a technical history in New Zealand it is clear that the retention of engineering files has traditionally been accorded a low priority. Fortunately the work of our artists and photographers has been treated with greater respect. Throughout this volume their work has been used extensively to portray the physical changes and construction works otherwise unrecorded. Look carefully at the photographs or refer to the originals held at the Wellington Regional Council Library. The backgrounds often contain a wealth of comparative detail.

The principal technical archive sources are the engineering files of Seaton Sladden and Pavitt, the Engineers to the Hutt River Board from 1924 to 1973. These also contain files for the major works undertaken between 1900-1972, and copies of correspondence and the Engineer's monthly reports.

The National Archives have provided access to the Public Works Department and Soil Council correspondence with the Hutt River Board and provide an insight into the Government's involvement in the River Scheme.

Board minutes and a few correspondence files are all that remain of the Hutt River Board records. The minutes provide the only reference to Board activities from 1876-1924. The history of the early occupation and settlement of the Valley has been drawn from historical publications commissioned by Petone Borough, Lower Hutt City and Hutt County.

Technical information covering the period 1972 to the present is held by the Records Section of the Wellington Regional Council. Archive plans and Hutt River Board files (including Seaton Sladden and Pavitt files) can be accessed through the Wellington Regional Council Library. Copies of the relevant National Archives material and prints of the photographs reproduced within this report are also held with the Wellington Regional Council library.

## Acknowledgements

The following histories have been referred to extensively and as for all aspects of this report the reader is encouraged to refer back to the source archives. The references provide valuable background reading of interest to any resident of the Hutt Valley. The right to copy material and benefit from the research of other writers is gratefully acknowledged.

*Lower Hutt Past & Present*, Lower Hutt Borough Council 1941.

*Once Upon A Village - A History of Lower Hutt 1819 - 1965*, David P Millar, New Zealand University Press for the Lower Hutt City Corporation, 1972.

*Petone: A History*, Susan Butterworth, Petone Borough Council in association with Ray Richards Publisher, 1988.

*Petone's First Hundred Years*, W B Nicholson ed., Petone Borough Council, 1940.

*Rugged Landscape: The Geology of Central New Zealand*, Graeme R Stevens, A H and A W Reed Ltd, 1974, Reprinted by DSIR Publishing, 1990.

*The Hutt River - Its History & Its Conquest*, C A L Treadwell, Harry H Tombs Ltd, 1959.

The Pictorial Reference Section of the Alexander Turnbull Library, National Library (abbreviated to ATL where space is tight) has been particularly helpful in processing upward of 150 prints. Photographs have been obtained from the following libraries.

Alexander Turnbull Library, Photographic Collection.

National Museum, Photographic Collection.

Wellington Maritime Museum, Photographic Collection.

Wellington Regional Council, Rivers Department, photographic collection reproduced by Monochrome Studios.

Lower Hutt Memorial Library photographic collection reproduced by Monochrome Studios.

An important part of this history has been to quantify the changes in the river alignment over the last 150 years and to present this record in an accessible format. Historical alignments contained on archive photographs and plans were transposed for plotting over current orthophoto aerial surveys. The Land Resources Department of the Wellington Regional Council digitised into computer files all river alignment archives that could be located. These can now be retrieved and rescaled as required. Their assistance in this lengthy process is gratefully acknowledged. The co-operation and assistance of the staff of the Department of Survey and Land Information in the final presentation of the fold-out photographs and plans has been invaluable.

## Structure of the Report

The history is divided into two parts. Part One contains eight chapters, each covering a period of the River's history. Part Two is the technical section containing a "Project Report" for each major work. A Photographic Archive containing enlarged copies of the text plates, and photographs not included in the report, is held with the Wellington Regional Council Library.

Appendix C contains a location plan for the Hutt Catchment. Parts or "Windows" are reproduced at a larger scale in Appendix A. The windows provide the location of the historical features referred to throughout the report, both in terms of the current river survey and with respect to 1985 (lower valley) and 1988 (upper valley) aerial photography. Parts of these windows have in turn been copied to illustrate the changes in river alignment as recorded by aerial photography taken in 1936, 1951, 1967 and 1974. These are contained in Appendix B.

# Archive Directory

Each chapter includes inset "Archive Tables" containing abbreviated extracts from, or references to the archive documents. The key to abbreviations is contained in Archive Table 2 below.

ABBREVIATIONS	
ATL	Alexander Turnbull Library Pictorial Reference Section.
PAH	<i>Petone : A History</i> by Susan Butterworth, published by Petone Borough Council, 1988.
LHPP	<i>Lower Hutt Past And Present</i> , published by Lower Hutt Borough Council, 1941.
OAV	<i>Once Upon A Village</i> by David P. Millar, published by the Lower Hutt City Corporation, 1972.
NA	Documents held in National Archives on behalf of the various Government departments. PWD Public Works Dept., MOW Ministry of Works, HD Housing Dept., SC Soil Council, MWD Ministry of Works and Development, (MWD, MOW, PWD also referred to as "Works").
HRB	Hutt River Board files. Board minutes are held in the Lower Hutt Memorial Library and by the WRC. Other Board documents now held by the WRC (but not files ex-Seaton Sladden and Pavitt) have been renumbered under the WRC classification system, with a HRB prefix. SOA refers to HRB Statements of Accounts.
SSPHRB	The series of files maintained by Seaton Sladden and Pavitt, as Engineers to the HRB, which cover HRB matters. The files are held by the WRC.
UHB(C)	The Upper Hutt Borough (Council), now Upper Hutt City (Council).
UHCC	Upper Hutt City Council
HCC	Hutt County Council
WRWB	The Wellington Regional Water Board files now held by the WRC.
WRC	The Wellington Regional Council file series.
cusecs	Imperial measurement of water discharge (rate of flow). Cubic feet of fluid passing a point per second.
cumecs	Metric equivalent of cusec. One cubic metre per second (cumec) = 35.3 cusecs.

Archive Table 2: Abbreviations used within the Archive Tables

## How to Use the Archives

Wherever possible, the location of historical features has been shown on the set of current aerial photographs included in Appendix A. To locate the features with respect to the current river survey, current river cross sections have been shown. (Note that the cross section number is a label and does not refer to river centreline measurement.) Items referred to in the archive tables have been located by reference to the nearest river cross section or have been identified on the photographs either by name or by using the alphanumeric code which precedes each table entry. The location of the works described within the Project Reports are identified with a "PR" prefix, indicating the extent of the works.

