

A LISTING
OF MINISTRY PUBLICATIONS
ON FRESHWATER FISH AND FISHERIES

BY
R.M. McDOWALL

FISHERIES ENVIRONMENTAL REPORT NO. 16

N.Z. MINISTRY OF AGRICULTURE AND FISHERIES
CHRISTCHURCH

2nd Edition, published February 1983

MAY
1982

FISHERIES ENVIRONMENTAL REPORTS

Edited by: S.F. Davis

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- (6) They will also be issued as interim reports of on-going environmental studies for which year by year or intermittent reporting is advantageous. These interim reports will not preclude formal scientific publication.

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1. INTRODUCTION

Over the past 50 years extensive research on freshwater fisheries has been carried out by Government sponsored research organisations, initially as part of the Marine Department, until this Department was disbanded in 1972, and since then from within the Ministry of Agriculture and Fisheries. Publications deriving from this work are dispersed through diverse journals and some have been listed in a wide variety of Ministry publication series. Some publications and reports have not been listed at all. Consequently obtaining access to the mass of information contained in these reports is often difficult. No comprehensive listing has previously been prepared. This report seeks to list papers and reports issued since the beginnings of Government sponsored freshwater fisheries research in the 1930's. Prior to about 1930 the Acclimatisation Societies had a Research Committee under whose auspices some work was carried out by persons such as H.J. Finlay, A.W. Parrott, and G. Stokell.

The initial Government research, carried out from the Marine Department "Fisheries Laboratory" was published as Fisheries Bulletins, and a Numbered Reprints series derived from papers published in a variety of scientific journals, both within New Zealand and overseas.

In the late 1950's the Fisheries Laboratory established the "Technical Field Service" (T.F.S.) which carried out an advisory/survey function on recreational freshwater fisheries for the various Acclimatisation Societies and Conservancies of the Wildlife Service of the Department of Internal Affairs. This work was primarily in the South Island, although briefly, there was a North Island T.F.S. The T.F.S. produced mimeographed reports known formally as "Investigation Reports" but more generally referred to as "T.F.S. Reports". These comprise two numbered series, a long series (1-92) for the South Island, and much briefer series (1-6) for the North Island. Ironically, the first

two "South Island" reports involve North Island rivers.

A third, parallel series was the "Special Fisheries Reports". These were also mimeographed, and contained general articles on a wide variety of topics. A fourth series under the heading "Electric Fishing Service" resulted in four mimeographed reports. Another short series known as "Freshwater Fisheries Circulars" was of similar character. A further list of publications comprised "Miscellaneous Reports and Publications" and contains articles and booklets written for a variety of reasons and audiences.

For some years Marine Department Fisheries Laboratory staff contributed articles to "Ammohouse Bulletin" - later known as "CAC Sporting Bulletin" - a trade-house journal published for sportsmen by the Colonial Ammunition Company. Further articles were written for and published in "New Zealand Outdoor", a sportsmen's magazine.

Beginning in 1958 the Laboratory began issuing a major series of reports titled "Marine Department Technical Reports". These too, were mimeographed but were properly "covered and bound" and some were of major size and importance to New Zealand freshwater fisheries research and literature.

Since 1946, freshwater fisheries research has operated with the oversight of the "Freshwater Fisheries Advisory Council", a body appointed by and advisory to the Minister of Marine (now Minister of Fisheries); contained in the Chairman's Reports and the Minutes of the Council Meetings is a mass of information of a wide variety of types. Added to the Chairman's Report (annual) there are frequently Appendices, addressing specific topics. While topics from within the reports and minutes are not listed separately here, the various appendices are listed since they are much more substantial in character. The dates and locations of the various meetings of the Council are also listed below.

In 1964 the Fisheries Laboratory was restructured and divided into Fisheries Research and Fisheries Management Divisions of the Marine Department. With this re-organisation the publishing structure of the former Fisheries Laboratory was to some extent rationalised. Within Fisheries Management Division the Investigation (T.F.S.) Reports continued. Although T.F.S. work ceased and the T.F.S. was disbanded in 1974, the last of the reports has only recently been issued. Some of the work carried out has never been published. Articles continued to appear also in C.A.C. Sporting Bulletin and staff of Fisheries Management Division continued to publish a few articles in scientific journals (F.M.D. numbered reprints). The Technical Report series continued.

Fisheries Research Division rationalised its publications. The old Fisheries Bulletin series was discontinued and replaced by Fisheries Research Bulletins - more than 20 have been published, several on freshwater topics.

The old numbered reprint series of the Fisheries Laboratory was carried through into Fisheries Research Division numbered reprints, which now number almost 450 items. More than 200 of these are on freshwater subjects. In addition new series were added, namely "Information Leaflets" - popular articles for general dispersal - "Occasional Publications" - publications of special character such as conference proceedings, bibliographies, fishery reports - and "Unnumbered papers and articles" - a miscellany of papers that do not fit easily into other categories, usually also of lesser importance. Some publications fit into none of these categories and are also listed.

All of these were issued under the auspices of the Marine Department until 1 September, 1972, when that Department was disbanded and the Fisheries Research and Management Divisions were transferred to what became the Ministry of Agriculture and Fisheries.

Growing interest in the 1970's in salmon fishing and the development of salmon enhancement and ocean ranching prompted the production of a mimeographed information bulletin entitled "South Island Salmon Fishery". Four issues were produced, two under the auspices of Fisheries Management Division, the others under Fisheries Research Division. The contents of these are listed.

In the more than 50 years since the first published "Marine Department Fisheries Bulletin" (1929) a mass of information has thus been assembled in a very wide variety of often obscure locations. Some of these reports have become "lost" and have until recently remained "unknown" even to long serving staff of the two fisheries divisions. Some undoubtedly remain "lost". Some have been special purpose reports prepared for specific functions - such as Catchment Board tribunal hearings or various committees. Such reports are now published in the "Fisheries Environmental Report" series, which commenced in 1979. These are informal reports, issued where a report is required with a time constraint e.g. a submission for a tribunal hearing. They do not preclude formal scientific publication.

For a period the Ministry produced a Fisheries Newsletter 1972-73 which carried a few items of relevance to freshwater fisheries. Subsequently the Ministry began publishing "Catch" a monthly magazine designed to bring popular and technical fisheries information to commercial fishermen and others involved in the fishing industry. Much of the material published is exclusively of marine fisheries interest but articles relevant to freshwater interest were common especially in more recent years. Beginning in December 1978, a quarterly freshwater supplement to Catch has been published (Freshwater Catch), this being directed primarily to anglers and others interested in freshwater fisheries matters. This contains a mass of articles of varying seriousness and complexity, but which keeps readers up-to-date

and informed on matters pertaining to freshwater fisheries in New Zealand.

The "Annual Report on Fisheries" (Marine Department until 1972, Ministry of Agriculture and Fisheries thereafter) also contained material of biological and historical interest. This material is not listed separately but includes such items as catch quantities for commercial eel and whitebait fisheries.

Much of what has been written on New Zealand's freshwater fisheries by Government Fisheries staff thus remains difficult of access largely owing to it not being comprehensively listed. New staff joining the Ministry have no easy entry to this literature. Similarly staff and councillors of the Acclimatisation Societies, which are always undergoing change, have no easy way of discovering what has been written.

Accordingly it seemed profitable to prepare a listing of all such reports, bulletins, circulars, etc. with the express purpose of facilitating access to this mass of literature.

This is not a bibliography of fish and fisheries in New Zealand. It is more aptly seen as a listing of the contributions by the former Marine Department and latterly the Ministry of Agriculture and Fisheries to knowledge and literature on fish and fisheries topics in New Zealand.

Some of the series to which the publications belong include both marine and freshwater subjects. Where this is so, marine publications have been excluded. Accordingly the numbering sequences have numerous gaps.

2. FISHERIES BULLETINS

1. Phillipps, W.J. 1927. Bibliography of New Zealand fishes. 68 pp.
2. Phillipps, J.S. 1929. A report on the food of trout and other conditions affecting their well-being in the Wellington district. 31 pp.
3. Phillipps, J.S. 1931. A further report on conditions affecting the well-being of trout in New Zealand. 27 pp.
4. Parrott, A.W. 1932. The age and growth of trout in New Zealand. 48 pp.
5. Percival, E. 1932. On the depreciation of trout-fishing in the Oreti (or New River), Southland, with remarks on conditions in other parts of New Zealand. 48 pp.
6. Hobbs, Derisley, F. 1937. Natural reproduction of quinnat salmon, brown and rainbow trout in certain New Zealand waters. 104 pp.
8. Hobbs, Derisley, F. 1940. Natural reproduction of trout in New Zealand and its relation to density of populations. 93 pp.
9. Hobbs, Derisley, F. 1948. Trout fisheries in New Zealand: Their development and management. 175 pp.
10. Allen, K. Radway. 1951. The Horokiwi Stream: A study of a trout population. 238 pp.
- 10a. Allen, K. Radway. 1952. A New Zealand trout stream: Some facts and figures. 70 pp.
12. Allen, K. Radway, and Cunningham, B.T. 1957. New Zealand angling 1947-1952: Results of the diary scheme. 153 pp.

Series terminated and replaced by Fisheries Research Bulletins - see p 7.

3. FISHERIES RESEARCH BULLETINS

2. McDowall, R.M. 1968. *Galaxias maculatus* (Jenyns) the New Zealand whitebait. 84 pp.
3. Mitchell, S.F. 1971. Phytoplankton productivity in Tomahawk Lagoon, Lake Waipori and Lake Mahinerangi. 87 pp.
4. Hopkins, C.L. 1970. Some aspects of the bionomics of fish in a brown trout nursery stream. 38 pp.
8. Fish, G.R. 1975. Lakes Rotorua and Rotoiti, North Island, New Zealand: Their trophic status and studies for a nutrient budget. 72 pp.
10. Burnet, A.M.R., and Wallace, Denise, A. 1973. The relation between primary productivity, nutrients and the trout environment in some New Zealand lakes. 28 pp.
17. Cadwallader, P.L. 1978. Age, growth, and condition of the common river galaxias, *Galaxias vulgaris* Stokell, in the Glentui River, Canterbury, New Zealand. 35 pp.
19. Eldon, G.A. 1978. The life history of *Neochanna apoda* Günther (Pisces: Galaxiidae). 44 pp.
20. McDowall, R.M., and Eldon, G.A. 1980. The ecology of whitebait migrations (Galaxiidae: *Galaxias* spp.). 171 pp.

4. FRESHWATER FISHERIES CIRCULARS (Mimeo)

1. Anon. 1946. Artificial fertilisation of trout waters. (Statement issued for the guidance of Acclimatisation Societies by the staff of the Fisheries Laboratory of the Marine Department.)
2. Anon. 1947. Local information. (A statement prepared by the Fisheries staff of the Marine Department on the type of information which may usefully be collected by the staff of Acclimatisation Societies, and on methods which should be employed.)
3. Anon. 1948. The angling record scheme - 1947-8.
4. Allen, K.R. 1950. The angling diary scheme - 1948-9.
5. Dickinson, P. 1953. Fish transportation.
6. Dickinson, P. 1956. Artificial propagation and stocking of trout - when is it warranted?
7. Watson, R.C. 1958. A comparison between fry hatched in hatchery trays and fry hatched under gravel. (From a paper by Richard Vibert.)

5. SPECIAL FISHERIES REPORTS

1. Keith, D.W.N. n.d. Flexible water tank. 1 pp.
2. Hardy, C.J. n.d. A thermally insulated, lightweight livebox used for holding and transporting fish. 3 pp.
3. Hardy, C.J. n.d. The testing of field techniques - April 1961. 8 pp.
5. Hardy, C.J. n.d. Some observations on the ova content of stranded brown trout (*Salmo trutta*) redds examined in the Selwyn River, July-August 1960. 14 pp.
6. Allen, K.R. n.d. Introduction of a new game fish. 12 pp.
8. Fish, G.R. and Parker, A. n.d. Some developments in tagging techniques. 6 pp.
9. Hardy, C.J. n.d. Further collections of material relating to the size and ova content of brown trout redds and to the fecundity of brown trout, principally from the South Branch system. 9 pp.
10. Allen, K.R. n.d. Official tour to Rome, U.K., and U.S.A., 20 April-1 July 1961. 8 pp.
19. Burnet, A.M.R. n.d. The use of carbon 14 to determine productivity and trace element deficiencies in lake waters. 2 pp.
20. Burnet, A.M.R. n.d. A preliminary report on the investigation of the feeding habits of eels and trout. 3 pp.
21. Hopkins, C.L. 1963. Introduction of *Ephemera danica* Mull. 12 pp.
22. Allen, K.R., Maynard, K.F. and Murphy, J.K. n.d. Effects of electric fishing on fertility and development of trout eggs. 2 pp.
24. Allen, K.R. n.d. Fiducial limits in marking experiments with small populations. 3 pp.
25. Hopkins, C.L. 1964. River catchment and the trout fishery in the Tararua Forest Park. 16 pp.

6. FISHERIES RESEARCH DIVISION - NUMBERED REPRINTS

1. Allen, K. Radway. 1947. Some aspects of the production and cropping of fresh waters. Transactions of the Royal Society of N.Z. 77(5): 222-228.
2. Hobbs, Derisley, F. 1947. Migrating eels in Lake Ellesmere. Transactions of the Royal Society of N.Z. 77(5): 228-32.
3. Shorland, F.B. and Russell, J. 1948. Observations on the oil content of New Zealand freshwater eels. N.Z. Journal of Science and Technology, Section B, 29: 164-200.
4. Allen, K. Radway. 1948. The engineer and the angler. N.Z. Engineering 3: 767-769.
5. Hobbs, Derisley F. 1948. Harvesting seas and rivers. Public Service Journal 35(8): 20-23.
6. Allen, K. Radway. 1949. The New Zealand grayling - a vanishing species. Tuatara 2: 22-27.
7. Allen, K. Radway, and Cassie, R. Morrison. 1949. Problems of marine and freshwater fisheries biology in New Zealand. Tuatara 2: 53-57.
8. Allen, K. Radway. 1949. Lakes. N.Z. Science Review 7: 112-119.
9. Allen, K. Radway. 1950. The computation of production in fish populations. N.Z. Science Review 8: 89.
10. Cassie, R. Morrison. 1950. The analysis of polymodal frequency distributions by the probability paper method. N.Z. Science Review 8: 89-91.
11. Dickinson, P. 1951. Stomach contents of New Zealand inland shags. Australian Journal of Marine and Freshwater Research 2: 245-53.
12. Burnet, A.M.R. 1952. Studies of the ecology of the New Zealand longfinned eel, *Anguilla dieffenbachii* Gray. Australian Journal of Marine and Freshwater Research 3: 32-63.
13. Dickinson, P. 1952. Organic pollution of natural waters: A review of literature and a discussion of principles involved. N.Z. Engineering 7: 43-47.
14. Burnet, A.M.R. 1952. Studies on the ecology of the New Zealand freshwater eels. I. The design and use of an electric fishing machine. Australian Journal of Marine and Freshwater Research 3: 111-25.
15. Allen, K. Radway. 1953. A method for computing the optimum size-limit for a fishery. Nature, London, 172: 210.
16. Cunningham, B.T., Moar, N.T., Torrie, A.W. and Parr, P.J. 1953. A survey of the western coastal dune lakes of the North Island, New Zealand. Australian Journal of Marine and Freshwater Research 4: 343-86.

17. Allen, K. Radway. 1954. Factors affecting the efficiency of restrictive regulations in fisheries management. I. Size limits. N.Z. Journal of Science and Technology, Section B, 35: 498-529.
18. Hobbs, Derisley, F. 1953. Factors affecting the size and growth of young Salmonidae in New Zealand. Proceedings of the Seventh Pacific Science Congress 4: 562-75.
19. Allen, K. Radway. 1953. The objects of freshwater fisheries research. Proceedings of the Seventh Pacific Science Congress 4: 556-62.
20. Allen, K. Radway. 1953. Freshwater fisheries research in New Zealand. Proceedings of the Seventh Pacific Science Congress 4: 575-80.
21. Cassie, R. Morrison. 1954. Some uses of probability paper in the analysis of size frequency distributions. Australian Journal of Marine and Freshwater Research 5: 513-22.
22. Allen, K. Radway. 1955. Factors affecting the efficiency of restrictive regulations in fisheries management. II. Bag limits. N.Z. Journal of Science and Technology, Section B, 36: 305-34.
23. Hobbs, Derisley, F. 1954. Farm fish ponds in New Zealand. N.Z. Journal of Agriculture 89: 546-52.
24. Allen, K. Radway. 1955. The wildlife problem: A question of values. N.Z. Science Review 13: 30-35.
25. Hobbs, Derisley F. 1955. Do newly introduced species present a separate problem? Proceedings of the N.Z. Ecological Society 2: 12-14.
26. Allen, K. Radway. 1955. The growth of accuracy in ecology. Proceedings of the N.Z. Ecological Society 2: 1-7.
27. Allen, K. Radway. 1956. The classification of freshwater habitats. Proceedings of the N.Z. Ecological Society 3: 24-25.
28. Allen, K. Radway. 1956. The geography of New Zealand's freshwater fish. N.Z. Science Review 14: 3-9.
34. Allen, K. Radway. 1957. Freshwater fish. In: Callaghan, F.R. (Ed.) "Science in New Zealand". pp 78-87. A.H. and A.W. Reed, Wellington.
35. Allen, K. Radway. 1957. Natural areas in the distribution of freshwater fish. Proceedings of the N.Z. Ecological Society 4: 14-15.
36. Hirsch, Allan. 1957. Biological aspects of water pollution and water supply problems. Proceedings of the N.Z. Ecological Society 5: 6-7.
37. Cunningham, B.T. 1957. The coastal dune lakes. Proceedings of the N.Z. Ecological Society 5: 22-23.

38. Burnet, A.M.R. 1959. Electric fishing with pulsatory direct current. N.Z. Journal of Science 2: 46-56.
40. Longhurst, Alan R. 1959. The sampling problem in benthic ecology. Proceedings of the N.Z. Ecological Society 6: 8-12.
41. Allen, K. Radway. 1959. The distribution of stream bottom faunas. Proceedings of the N.Z. Ecological Society 6: 5-8.
42. Hirsch, Allan. 1959. Biological evaluation of organic pollution of New Zealand streams. N.Z. Journal of Science 1: 500-53.
43. Boud, R., and Cunningham, B.T. 1959. Feeding habits of the black-billed gull. Notornis 8: 119-20.
44. Smith, Derek, C.W. 1959. The biology of the rainbow trout (*Salmo gairdnerii*) in the lakes of the Rotorua district, North Island. N.Z. Journal of Science 2: 275-312.
45. Burnet, A.M.R. 1959. Some observations on natural fluctuations of trout population numbers. N.Z. Journal of Science 2: 410-21.
47. Allen, K. Radway, 1960. Effect of land development on stream bottom faunas. Proceedings of the N.Z. Ecological Society 7: 20-21.
48. Allen, K. Radway. 1960. Freshwater fauna of Wellington. In: O'Connor, M. (Ed.) "Science in Wellington". pp 23-24. Royal Society of N.Z., Wellington.
49. Burnet, A.M.R. 1961. An electric fishing machine with pulsatory direct current. N.Z. Journal of Science 4: 151-61.
50. Allen, K. Radway. 1961. Relations between Salmonidae and the native freshwater fauna in New Zealand. Proceedings of the N.Z. Ecological Society 8: 66-70.
52. Allen, K. Radway. 1962. The natural regulation of population in the Salmonidae. N.Z. Science Review 20: 58-62.
53. Allen, K. Radway. 1962. Exploitation of fish populations. Proceedings of the N.Z. Ecological Society 9: 39-43.
54. Hardy, C.J. 1963. An examination of eleven stranded redds of brown trout (*Salmo trutta*), excavated in the Selwyn River during July and August, 1960. N.Z. Journal of Science 6: 107-19.
55. Fish, G.R. 1963. Observations on excessive weed growth in two lakes in New Zealand. N.Z. Journal of Botany 1: 410-418.
56. Jolly, V.H. 1963. The North Island lake smelt. N.Z. Outdoor 28(7): 15-16.
57. Percival, E., and Burnet, A.M.R. 1963. A study of the Lake Lyndon rainbow trout (*Salmo gairdnerii*). N.Z. Journal of Science 6: 273-303.

58. Fish, G.R. 1963. Limnological conditions and growth of trout in three lakes near Rotorua. Proceedings of the N.Z. Ecological Society 10: 1-7.
60. McDowall, R.M. 1964. Studies on the biology of the redefined bully (*Gobiomorphus huttoni* (Ogilby)): Part I - Habitat and species inter-relationships. Transactions of the Royal Society of N.Z., Zoology, 4: 175-82.
61. Allen, K. Radway. 1963. A review of tagging experiments in New Zealand. International Commission for the Northwest Atlantic Fisheries Special Publication 4: 140-141.
64. Lane, E.D. 1964. Brown trout (*Salmo trutta*) in the Hinds River. Proceedings of the N.Z. Ecological Society 11: 10-16.
65. McDowall, R.M. 1964. The affinities and derivation of the New Zealand freshwater fish fauna. Tuatara 12: 59-67.
68. McDowall, R.M. 1964. A bibliography of the indigenous freshwater fishes of New Zealand. Transactions of the Royal Society of N.Z., Zoology 5: 1-38.
69. McDowall, R.M. 1965. Studies on the biology of the redefined bully *Gobiomorphus huttoni* (Ogilby): Part II - Breeding and life history. Transactions of the Royal Society of N.Z., Zoology, 5: 177-96.
70. McDowall, R.M. 1964. A consideration of the question "What are whitebait?" Tuatara 12: 134-46.
71. McDowall, R.M. 1965. Studies on the biology of the redefined bully *Gobiomorphus huttoni* (Ogilby): Part III - Food studies. Transactions of the Royal Society of N.Z., Zoology, 5: 233-54.
72. Fish, G.R. 1963. Some effects of external conditions upon the water content of rainbow trout in New Zealand lakes. Ichthyologica 2: 76-84.
73. Hopkins, C.L. 1965. Feeding relationships in a mixed population of freshwater fish. N.Z. Journal of Science 8: 149-57.
74. McDowall, R.M. 1966. Further observations on *Galaxias* whitebait and their relation to the distribution of the Galaxiidae. Tuatara 14: 12-18.
75. McDowall, R.M. 1965. A new species of *Retropinna* from Lake Omapere, North Auckland. Records of the Dominion Museum, Wellington, 5: 89-91.
76. McDowall, R.M. 1965. Descriptive and taxonomic notes on *Grahamichthys radiatus* (Valenciennes), Eleotridae. Transactions of the Royal Society of N.Z., Zoology, 7: 51-56.
77. Burnet, A.M.R. 1965. Observations on the spawning migrations of *Galaxias attenuatus* (Jenyns). N.Z. Journal of Science 8: 79-87.
78. McDowall, R.M. 1965. The composition of the New Zealand whitebait catch, 1964. N.Z. Journal of Science 8: 285-300.

79. Fish, G.R. and Ginnelly, G.D. 1966. An adverse effect of coelomic fluid on unspawned ova in trout. Transactions of the American Fisheries Society 95: 104-107.
81. Hopkins, C.L. 1966. A new species of *Limnesia* (Acari, Hydrachnellae) from New Zealand. Transactions of the Royal Society of N.Z., Zoology 8: 1-4.
83. Hopkins, C.L. 1966. Growth in the freshwater crayfish *Paranephrops planifrons* White. N.Z. Journal of Science 9: 50-56.
84. Fish, G.R. 1966. An artificially maintained trout population in a Northland lake. N.Z. Journal of Science 9: 200-10.
85. Hopkins, C.L. 1966. Two new species of water mite (Acari, Hydrachnellae) from New Zealand. Transactions of the Royal Society of N.Z., Zoology, 8: 111-117.
86. Hopkins, C.L., Brewerton, H.V., and McGrath, H.J.W. 1966. The effect on a stream fauna of an aerial application of D.D.T. prills to pasture land. N.Z. Journal of Science 9: 236-48.
87. Woods, C.S. 1966. Species composition of whitebait (*Galaxias* spp.). Records of the Canterbury Museum 8: 177-179.
88. McDowall, R.M. 1966. A guide to the identification of New Zealand freshwater fishes. Tuatara 14: 89-104.
90. Fish, G.R. 1966. Some effects of the destruction of aquatic weeds in Lake Rotoiti, New Zealand. Weed Research 6: 350-358.
91. Fish, G.R. and Will, G.M. 1966. Fluctuations in the chemical composition of two lakeweeds from New Zealand. Weed Research 6: 346-349.
93. McDowall, R.M. 1967. New landlocked fish species of the genus *Galaxias* from North Auckland, New Zealand. Breviora 265: 1-11.
97. Hopkins, C.L. 1967. Breeding in the freshwater crayfish *Paranephrops planifrons* White. N.Z. Journal of Marine and Freshwater Research 1: 51-58.
98. Jolly, V.H. 1967. Observations on the smelt *Retropinna lacustris* Stokell. N.Z. Journal of Science 10: 330-55.
99. Skrzynski, W. 1967. Freshwater fishes of the Chatham Islands. N.Z. Journal of Marine and Freshwater Research 1: 89-98.
104. Fish, G.R., 1968. An examination of the trout population of five lakes near Rotorua, New Zealand. N.Z. Journal of Marine and Freshwater Research 2: 333-62.
105. McDowall, R.M. 1968. The status of *Mesogalaxias neocoleonis* (Weber and de Beaufort) (Pisces, Galaxiidae). Breviora 286: 1-8.
106. Hopkins, C.L. 1967. New genera and species of water mites (Acari, Hydrachnellae) from New Zealand. Transactions of the Royal Society of N.Z., Zoology, 10: 33-44.

107. McDowall, R.M. 1968. The proposed introduction of the large-mouth black bass *Micropterus salmoides* (Lacépède) into New Zealand. N.Z. Journal of Marine and Freshwater Research 2: 149-61.
108. Eldon, G.A. 1968. Notes on the presence of the brown mudfish (*Neochanna apoda* Günther) on the west coast of the South Island of New Zealand. N.Z. Journal of Marine and Freshwater Research 2: 37-48.
109. McDowall, R.M. 1968. The application of the terms anadromous and catadromous to the Southern Hemisphere salmonoid fishes. Copeia 1968: 176-178.
114. McDowall, R.M. 1967. Some points of confusion in galaxiid nomenclature. Copeia 1967: 841-843.
115. McDowall, R.M. 1968. Interactions of the native and alien faunas of New Zealand and the problem of fish introductions. Transactions of the American Fisheries Society 97: 1-11.
119. Woods, C.S. 1968. Variation and taxonomic changes in the family Retropinnidae (Salmonoidea). N.Z. Journal of Marine and Freshwater Research 2: 398-425.
120. Woods, C.S. 1968. Growth characteristics, pigmentation, and the identification of whitebait (*Galaxias* spp., Salmonoidea). N.Z. Journal of Marine and Freshwater Research 2: 162-182.
122. Skrzynski, W. 1968. The Canterbury mudfish, *Galaxias burrowsius* Phillipps, a vanishing species. N.Z. Journal of Marine and Freshwater Research 2: 688-97.
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Appendix B Proposed Fisheries Bulletin No.9.
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Appendix A Salaries of Field Officer in Wildlife Division, D.I.A.
Appendix B Form of Honorary Officers Report.
10. 6 March 1954, Turangi.
11. 18 March 1955, Wellington.
12. 13 March 1956, Ashburton.
13. 22 February, 1957, Wellington.
Appendix A Taupo report 1955-56 season.
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Appendix C Eel investigations - Canterbury District.
Appendix D Rotorua Lakes Research.
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Appendix A Summary of salmon spawning survey in the tributaries of the Rangitata River (E. Percival)
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 Appendix F Comalco.
20. 19 March 1964, Greenmeadows (Napier).
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 Appendix F Dairy factory pollution, Waingona River, Taranaki.
21. 18 March 1965, Blenheim.
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 Appendix C Research on *Lagarosiphon*.
 Appendix C1 Lakeweed
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 Appendix H Report on phytoplankton survey of Lakes Rotorua and Rotoiti. (V. Cassie)
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 (ii) Notes on the introduction of coho salmon.(G.D. Waugh)

- (iii) Coho salmon introduction.(M. Beam)
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