

BIBLIOGRAPHY  
OF  
INLAND AQUATIC ECOSYSTEMS  
OF THE  
MARIANAS ARCHIPELAGO

by  
Bruce R. Best

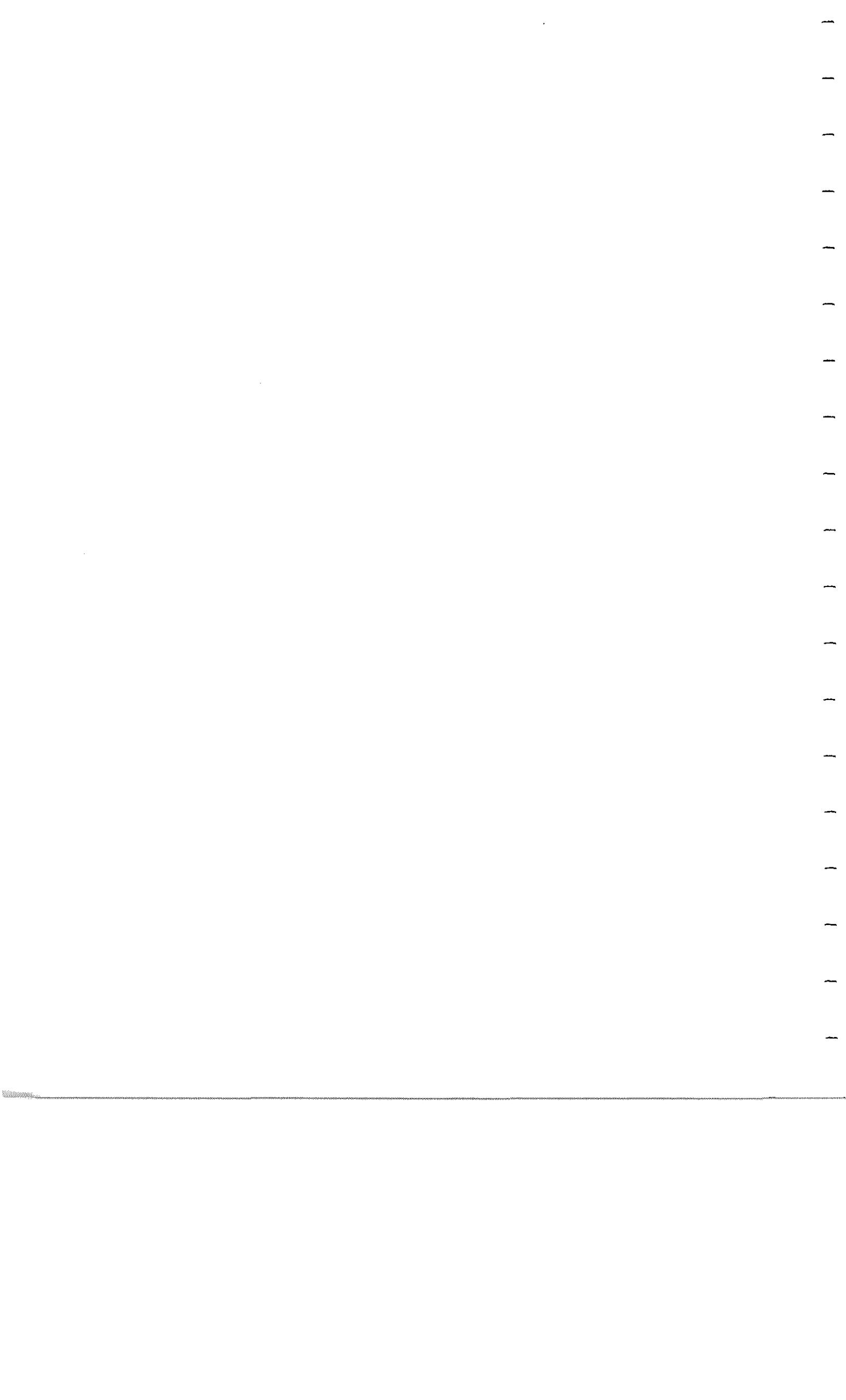
Submitted to  
SEATTLE NATIONAL FISHERY RESEARCH CENTER  
U.S. Fish and Wildlife Service  
Dept. of Interior

UNIVERSITY OF GUAM MARINE LABORATORY

Technical Report 72

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## PREFACE

This bibliography was generated to fulfill the need for a centralized index of available literature concerned with the freshwater systems of the Marianas Archipelago.

Included in this work are both published literature and unpublished letter, technical and other miscellaneous reports. Much work has been printed by the U.S. Government. U.S. Army Corps of Engineer's Military Geology volumes have been published for Guam, Saipan, Tinian, and Pagan. Little information exists on the freshwater systems of Rota.

Particularly strong areas are birds, plants and geology, weak areas are groundwater (available at U.S. Geological Survey, Guam), estuaries, aquaculture and pollution.

This bibliography is not exhaustive and any additions or corrections would be welcomed by the author.

Bruce R. Best

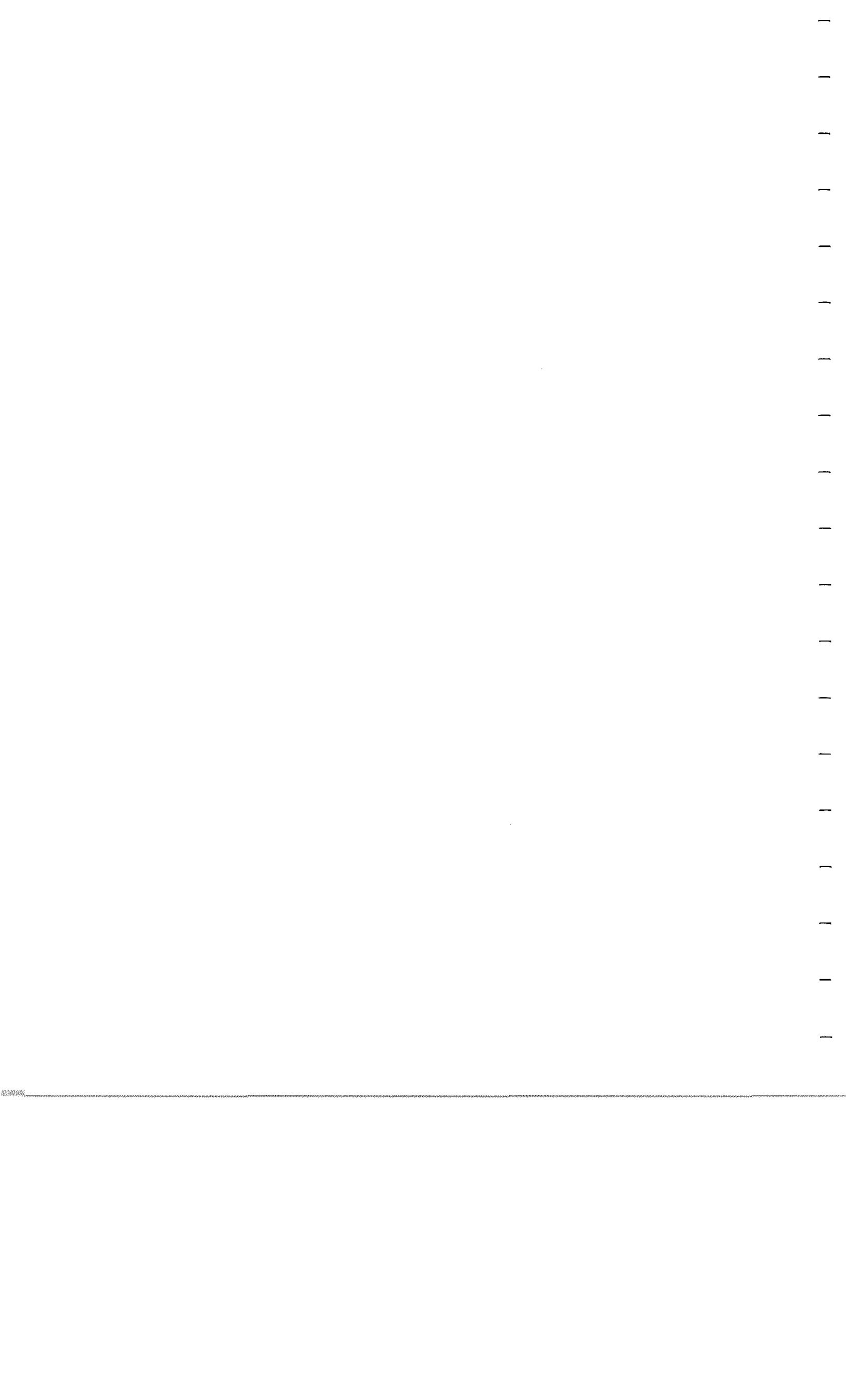
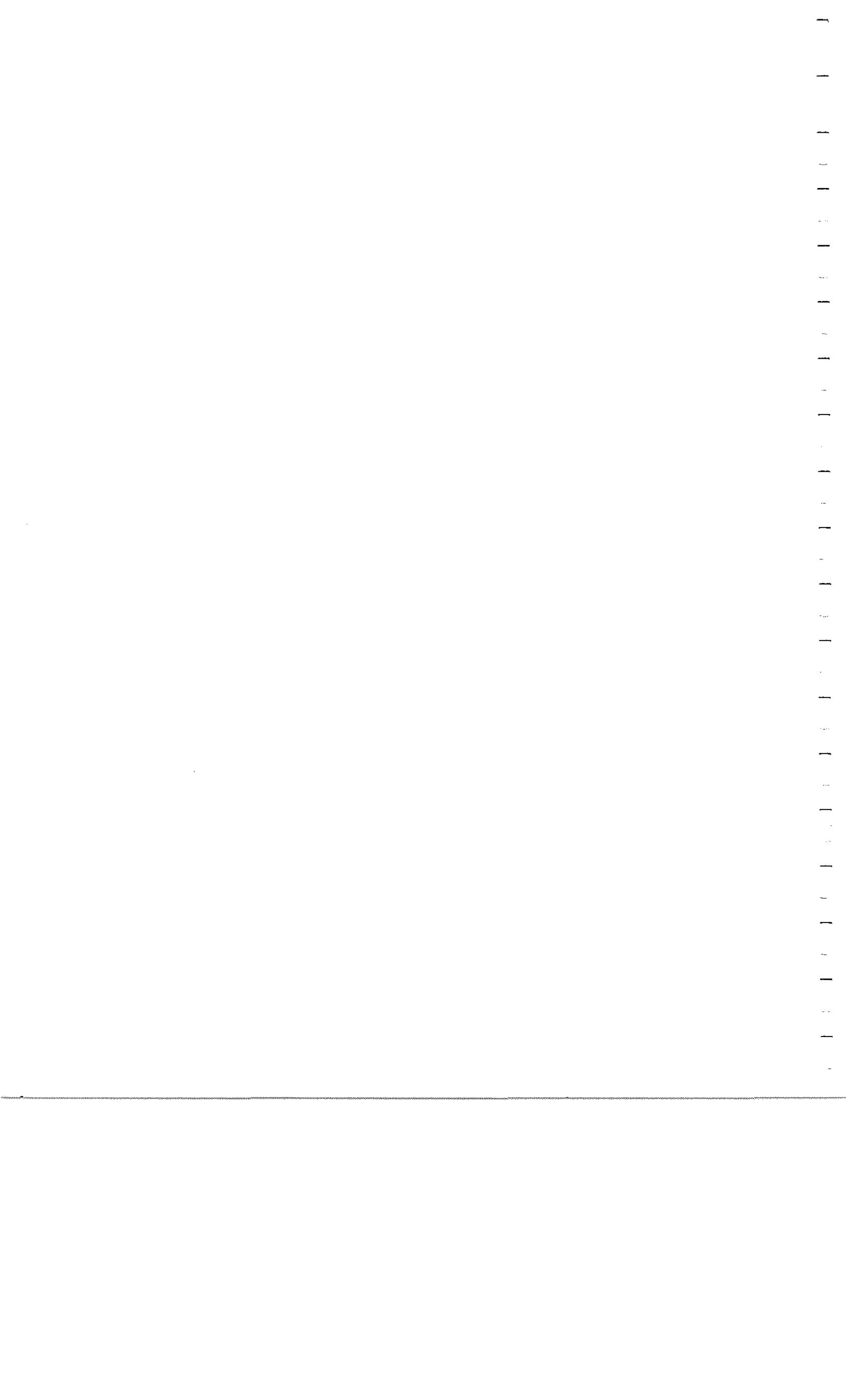


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## INTRODUCTION

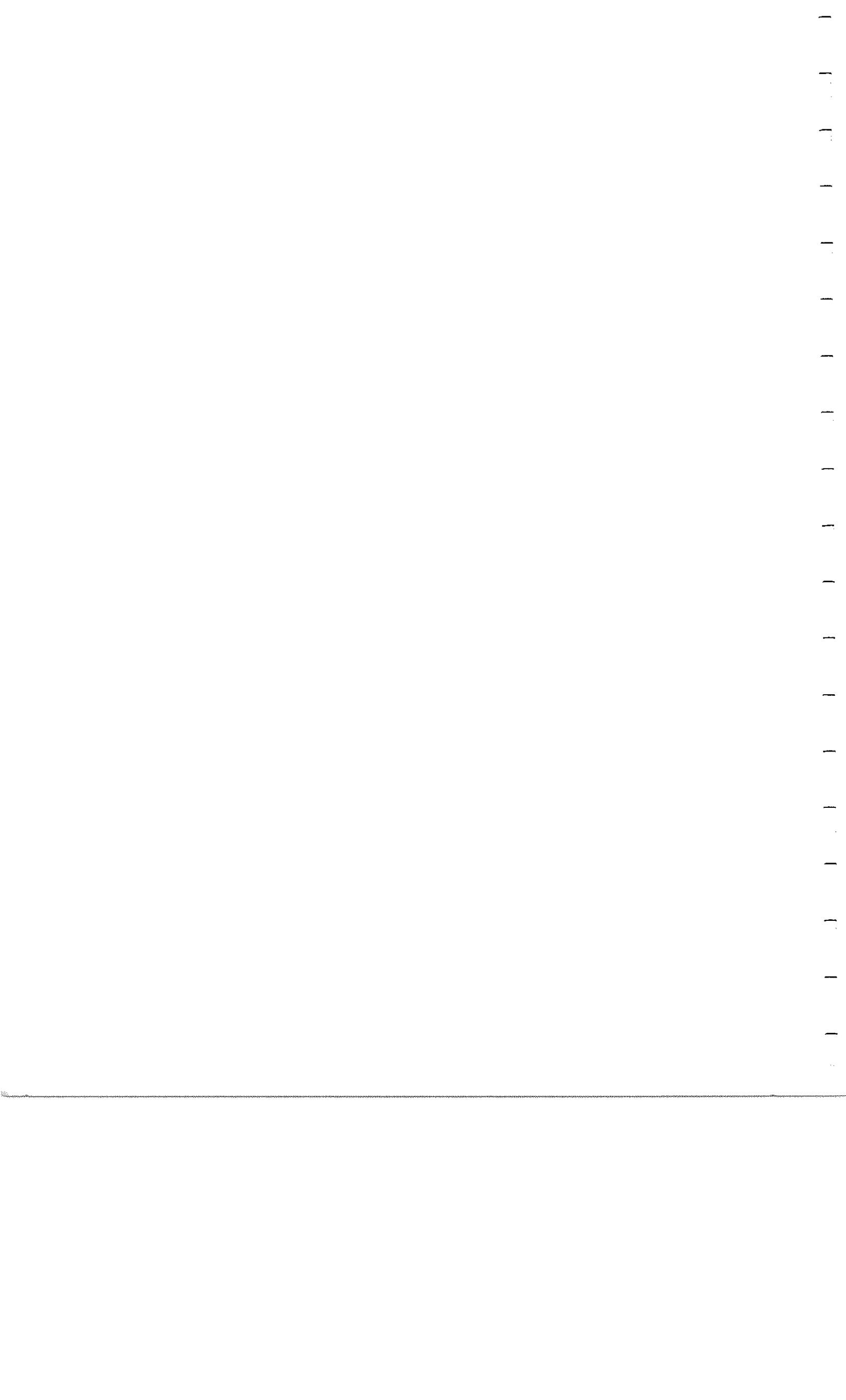
Entries are listed alphabetically by author and cross-referenced by subject and island. The format for the citations is that generally accepted for biological publications: Author, date, title, location, volume, issue, pages. Journal and reference abbreviations follow the format of:

Day, R. A. 1979. How to write and publish a scientific paper. ISI Press, Philadelphia, Pennsylvania. 153p.

A short annotation follows all papers that the author was able to locate. This consists of a brief abstract including specific names of organisms and notes tables, photos, figures, maps, or graphs.

Following the annotation, the physical location of each entry is noted in brackets. A key to source abbreviations follow:

- [BP] Bureau of Planning, Agana, Guam.
- [CE] U.S. Army Corps of Engineers, Pacific Division, Agana, Guam.
- [GAWRD] Guam Aquatic and Wildlife Resources Division, Dept. of Agriculture, Mangilao, Guam.
- [GEPA] Guam Environment Protection Agency.
- [LE] Dr. Lucius Eldredge, University of Guam Marine Laboratory, Mangilao, Guam.
- [LR] Dr. Lynn Raulerson, University of Guam Bioscience Dept., Mangilao, Guam.
- [MARC] Micronesian Area Research Center, University of Guam.
- [NFL] Nieves Flores Library, Agana, Guam.
- [RT] Dr. Roy Tsuda, University of Guam.



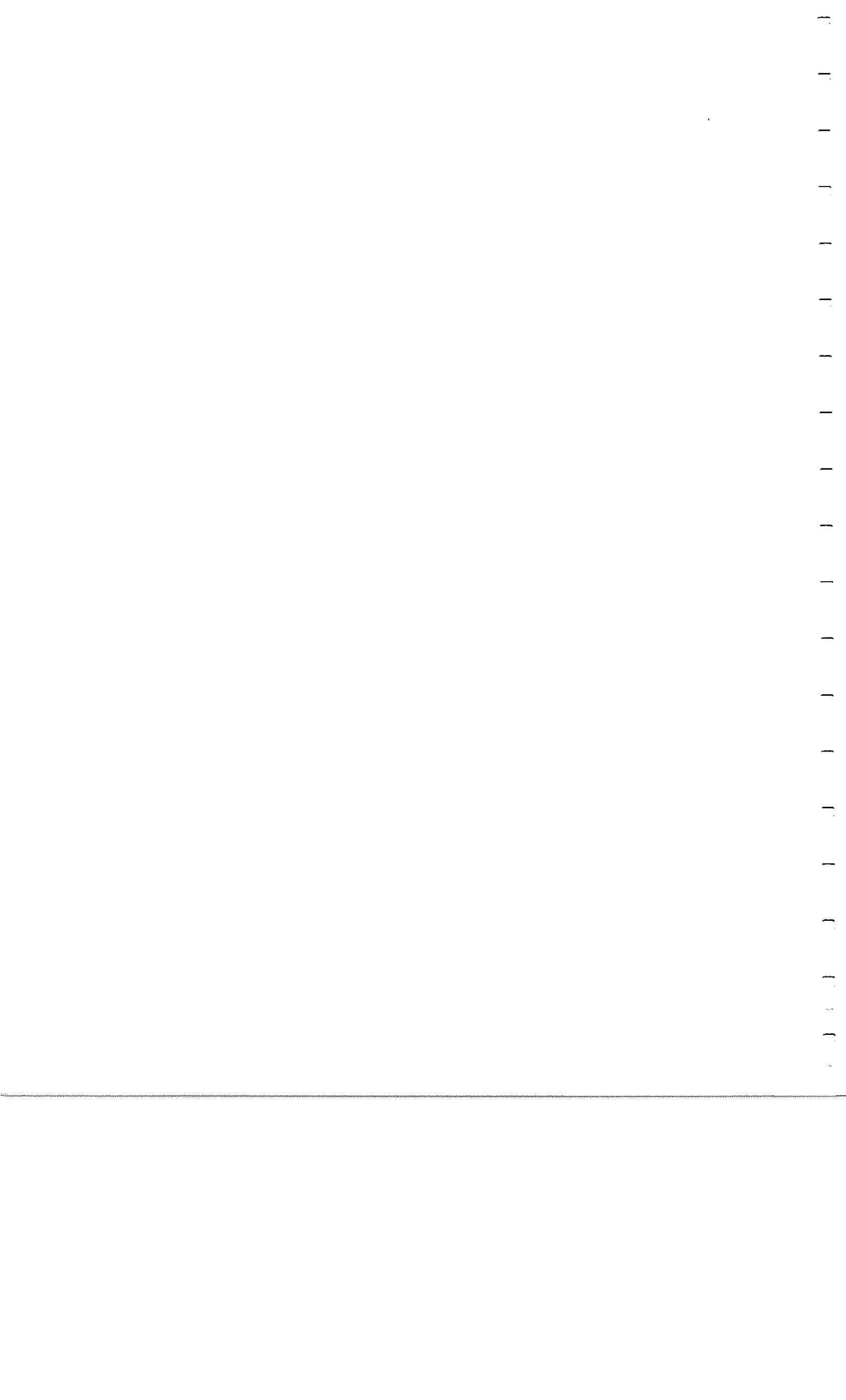
- [SCRM] Coastal Resource Management Office, Nauru Building,  
Saipan, C.N.M.I.
- [UOGML] University of Guam Marine Laboratory, Mangilao, Guam.
- [USGS] U.S. Geological Survey, Sumay, Guam.
- [WERI] Water and Energy Research Institute, University of Guam,  
Mangilao, Guam. Formerly Water Resources Research Center.

Since this is a source for information on freshwater systems of the Marianas, strict bibliography format was waived in favor of practical entries. For instance, a few personal and public libraries are cited if they contain "vertical files" that are continually updated with pertinent freshwater references.

Because of restricted travel allowances, only literature sources in the Marianas are listed, but it should be noted that many freshwater literature sources in Hawaii have the same references and, undoubtedly, other pertinent reports. A few such Hawaiian sources include:

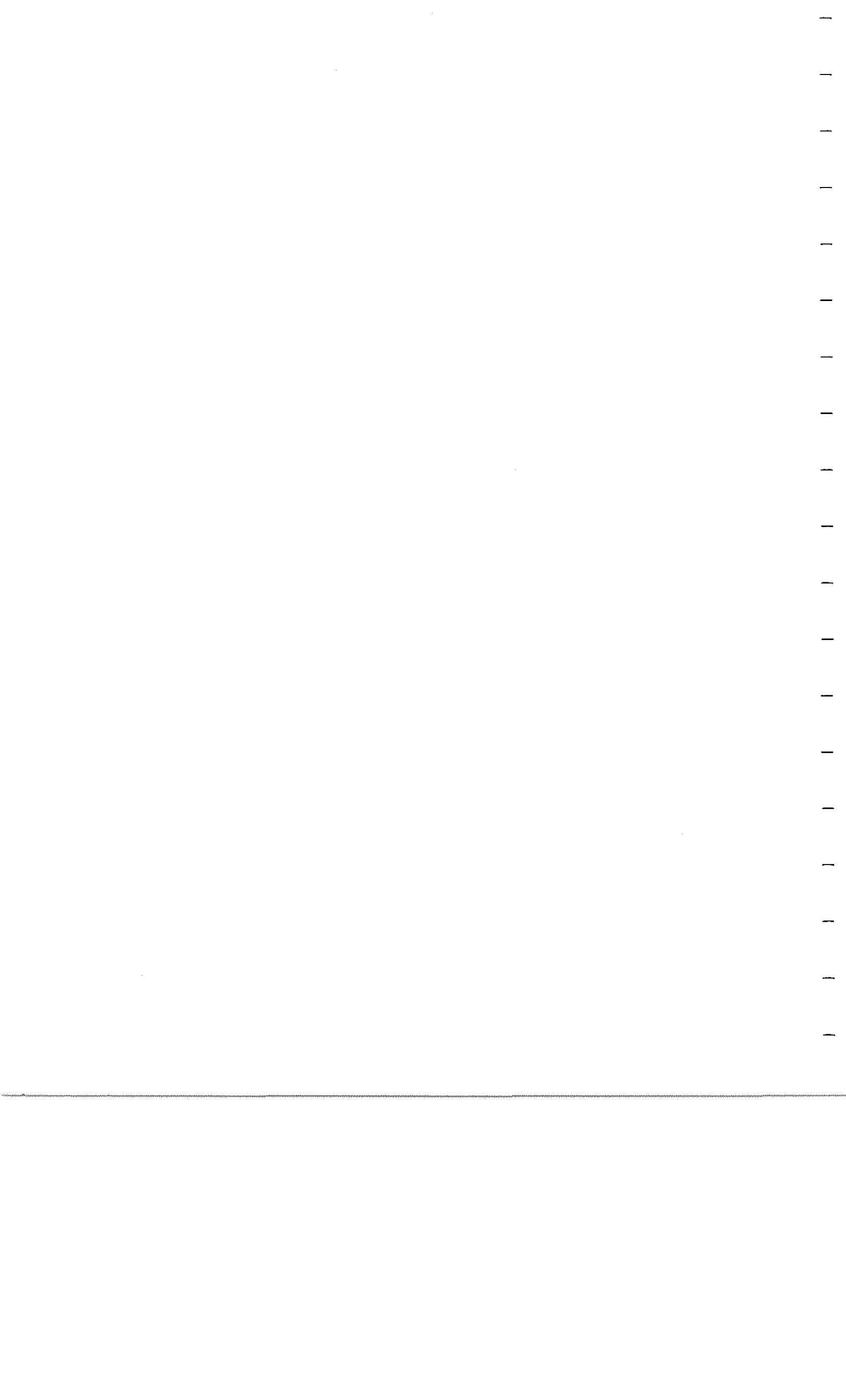
Pacific Science Information Center,  
B.P. Bishop Museum, Honolulu, Hawaii  
U.S. Army Corps of Engineers, Hawaii  
U.S. Fish and Wildlife, Hawaii  
U.S. Geological Society, Hawaii

The intent of this bibliography is to introduce and catalogue freshwater literature concerning the Mariana Islands for the biologist and hydrologist. It is the author's intent that this edition will periodically be supplemented with overlooked and new pertinent literature. Since the original draft, a few additional references have been brought to the author's attention. These additions are included after the original entries so as to not change the original numbering system. Such additions are briefly noted in their respective alphabetical order. The entry numbers coincide with the references numbers found in:



Best, B. R., and C. E. Davidson. 1981.  
Inventory and atlas of the inland  
aquatic ecosystems of the Marianas  
Archipelago. Univ. of Guam Mar. Lab.  
Tech. Rept. 75.

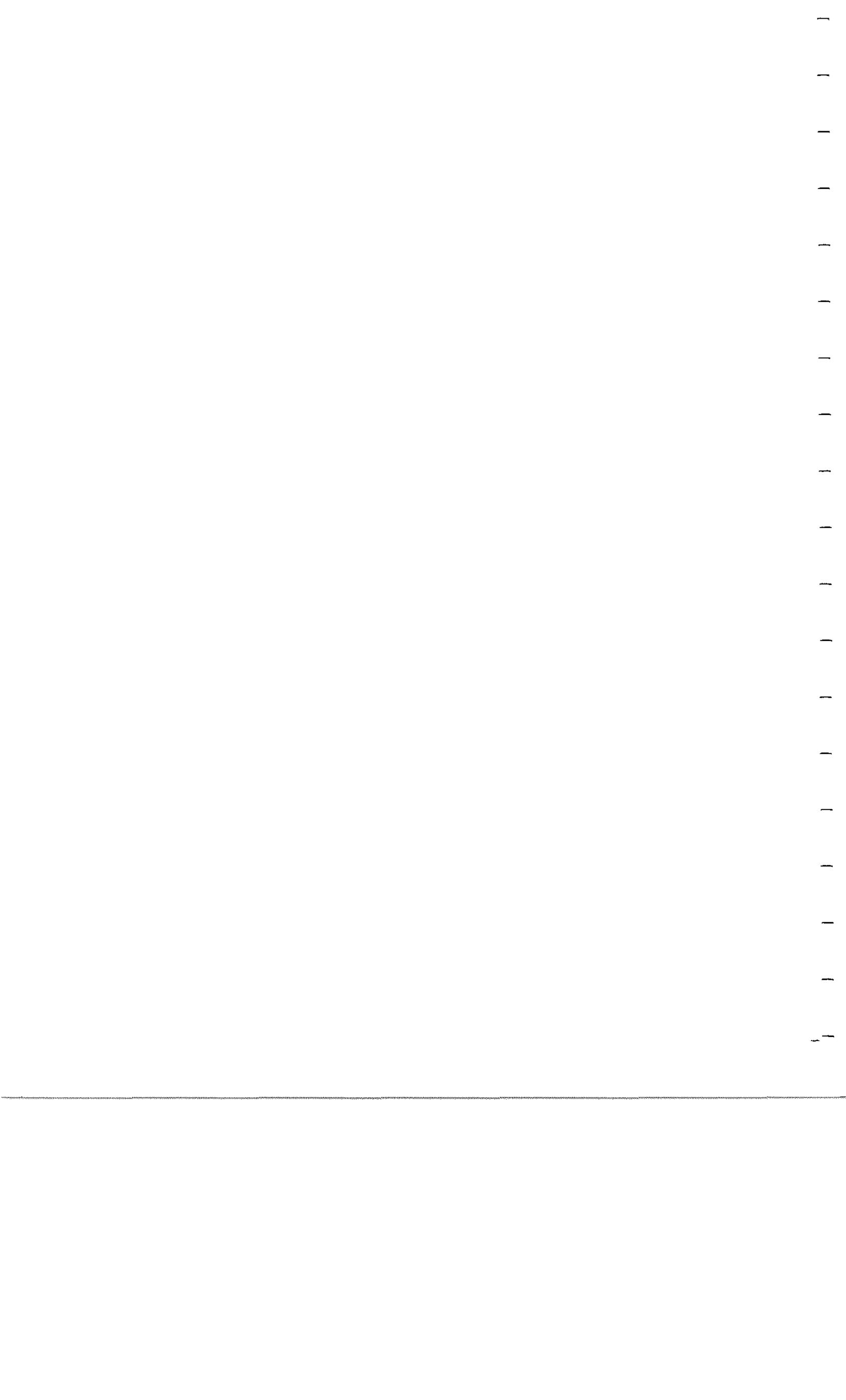
which supplements this bibliography.



## ACKNOWLEDGEMENTS

A bibliography of this scope could not have been completed without the aid of many dedicated people. Without the help of Caroline Davidson, this bibliography would have been delayed many weeks. She helped with the many trips to private and public libraries and helped review the hundreds of references from which these entries were distilled. Rise' Katnik helped during the initial literature research phase. A special thanks goes to the librarians and other personnel of MARC and the Guam offices of USGS, EPA and Bureau of Planning for opening up their libraries. Lynn Raulerson and Lu Eldredge helped tract down the more obscure entries. Lu Eldredge, Steve Nelson, and John Maciolek commented on the drafts. Thanks go to Patti Best, Caroline Davidson, and Lucy Lacsamana for typing sections of the many drafts and to Ms. Lacsamana for typing the final edition.

This project was funded by a grant from U.S. Fish and Wildlife Service of the Dept. of Interior to S. G. Nelson, University of Guam Marine Laboratory (Contract No. 14-1600009-81-016) and is dedicated to the former, and hopefully future, inhabitants of Pagan Island, CNMI.



Bibliography  
of  
Inland Aquatic Ecosystems  
of the  
Marianas Archipelago

1. ABBOTT, R. T. 1945. Report of snail survey of Saipan and Tinian Islands, Marianas. ComForAreaCentPac, P16-4(1)/004; FF12/05-rec; Serial 2978 T-546. 4p.

This is a letter report on six species of freshwater snails from Saipan (Thiara scabra, Lymnaea ollula and four unidentified species of Neritina) and one species from Tinian (L. ollula).

[LE]

2. ABBOTT, R. T. 1952. A study of an intermediate snail host (Thiara granifera of the oriental lung fluke [Paragonimus]). Proc. U.S. Nat. Museum 102:71-116.

This is an in-depth Guam study of this freshwater snail. It contains figures and plates.

[LE]

3. ANDERSON, R. D., R. L. KOCK, H. G. TUCKER, and C. M. WILLIE, (eds.). 1979. Annual report. Guam Aquatic and Wildlife Res. Div., Dept. Agric. 339p.

This is an updated progress report on the survey of the major streams and rivers in Guam, the Masso Reservoir development study, and studies on freshwater fisheries. (For other GAWRD annual reports see Kami et al.).

[LE]

4. ARMKNECKT, R. E. 1940. The new water project. Guam Recorder 16(5):183-184.

This article discusses the Naval Appropriation Act which set out to control and redistribute the natural water sources.

[NFL]

5. AQUATIC AND WILDLIFE RESOURCES DIVISION, GUAM. 1965-75. Job progress reports. Guam Dept. Agric.

6. AQUATIC AND WILDLIFE RESOURCES DIVISION, GUAM. 1976-. Annual reports. Guam Dept. Agric.

See Kami et al. 1976-78, and Anderson 1979.

[GAWRD]

7. AUSTIN, SMITH AND ASSOC., INC. 1968. A report covering the surface water survey of the island of Guam. Prep. for Public Utility Agency Guam. 78p. Typescript.

This report presents a complete assessment of the river and drainage systems of Guam. The figures show duration-discharge curves. It delineates the stream watershed areas, and contains laboratory analyses of samples. The report recommends land areas that should be reserved or restricted, discusses pollution problems and protective methods, and estimates quantity of water available from different sources. There are 30 figures and maps, and 22 tables.

[MARC]

8. AUSTIN, SMITH AND ASSOC., INC. 1970a. Conservation requirements for the preservation of Guam's water resources. Rept. prep. for Public Utility Agency Guam. 13p.

This report recommends establishing drainage basin watershed areas, dams, water rights and restricted areas. There are maps, tables and figures.

[LE]

9. AUSTIN, SMITH AND ASSOC., INC. 1970b. A report covering the domestic and agricultural irrigation water supplies of the island of Guam which indicates the need for conservation areas. U.S. Geol. Surv. 35p.

An update on the growth factors which effect freshwater usage in the near future. Report suggests no exploitation of agriculture in northern Guam and the need to establish watershed basins. There are maps, tables, and figures.

[MARC]

10. AUSTIN, SMITH AND ASSOC., INC. 1971. Water master plan, Guam water system improvements. For Public Utility Agency Guam, Gov't Guam. 36p.

This is the suggested master plan for Guam's 1962-1982 water needs. It recommends outright land purchase and conservation areas. There are maps and tables.

[MARC]

- 7
11. BAILEY, S. F., and R. M. BOHART. 1952. A mosquito survey and control program in Guam. *J. Econ. Entomol.* 45(6):947-952.
  12. BAKER, H. R. 1964. Some effects of the War on the wildlife of Micronesia. *Trans. 11th North Am. Wildlife Inst., Washington, D.C.* p. 205-213.

This report outlines the degradation of the Marianas and Micronesia on a natural resource level.

[MARC]

13. BAKER, R. M. 1951. The avifauna of Micronesia. *Univ. Kansas Publ.* 3(1), Lawrence, Kansas. 359p.

Report includes a section on freshwater birds. Also discusses origin, evolution, and distribution. A good bibliography is included.

[MARC]

14. BANNER, A. H. 1963. A preliminary compilation of animal and plant names of the Mariana Islands. *Univ. Hawaii. Mimeo.* 43p.

15. BASIO, R. G., and W. K. REISEN. 1971. On some mosquitos of Guam, M.I., (Diptera: Culiceae). *Philippine Entomol.*

16. BEACH, P. 1968. Aquatic communities. pp. 54-60. In R. E. Key (ed.), *A naturalists guide to Guam.* Guam Sci. Teachers Assoc. Agana, Guam. 98p.

This guide describes organisms easily found in and around Agana Springs and the streams of Guam. Contains many photos.

[LE]

17. BELK, D. 1973. The Cladocera of Guam. *Crustaceana* 24(1):146-147.

Latonopsis australis from Fena Lake, and Macrothrix laticornis, Moina australiensis, Moina macrocopa macrocopa and Moina weismanni from temporary ponds, are reported.

[LE]

18. BELK, D., M. J. MERTEN, and J. E. SCHAFER. 1971. Agana Springs Nature Reserve: A guide to environmental study areas. *Guam Sci. Teachers Assoc.* Agana, Guam. 67p.

This guide provides a good description of aquatic organisms, plants and birds of Agana Springs.

[NFL]

19. BELK, D., and D. HOTALING. 1971. Guam record of the freshwater medusa Craspedacusta sowerbyi Lankester. *Micronesica* 7:(1-2): 229-230.

A short note about the range extension of this medusa. Report also includes some physiochemical data on Fena Lake.

[UOGLM]

- BEST, B. R., and C. E. DAVIDSON. 1981. see reference 339.

20. BISHOP, B. P., MUSEUM. 1942-1946. Insects of Guam, Vol. I & II. Honolulu, Hawaii. Vol. I, 218p., Vol. II, 237p.

This is a multi-authored description of the insects of Guam including many obligate freshwater species.

[LR]

21. BISHOP, B. P., MUSEUM. 1954. Insects of Micronesia. Honolulu, Hawaii.

A collection of volumes since 1954.

[MARC]

22. BOHART, R. M. 1946. New species of mosquitoes from the Marianas and Okinawa. *Proc. Biol. Soc. Wash.* 59:39-46.

23. BOHART, R. M. 1951. Progress report on Northern Marianas (and Bonin) insect survey. *Pac. Sci. Bd.*, Honolulu, Hawaii. 9p. mimeo.

24. BONNET, D. 1948. Culex quinquefasciatus Say (from Saipan). *Proc. Hawaiian Entomol. Soc.* 13(2):205.

25. BOWERS, N. M. Common plant associations on Saipan, Tinian and Rota. Mimeo. 17p.

A list of plants from strand, marsh, cliff, and cultivated areas. It has local and botanical names, plus a short description on the local use of each species.

[SCRM]

26. BOWMAN, F. O. 1955. Military geology of Saipan, Mariana Islands. Vol. I: Introduction and engineering aspects. *Intell. Div. Office Eng., H.Q.U.S. Army, Pac. Div.* 67p.

This briefly describes water resources of Saipan. It contains a good map section.

[USGS]

27. BROCK, V. E., and Y. YAMAGUCHI. 1955. A limnological survey of Fena River Reservoir, Guam, M.I. Div. of Fish and Game, Hawaii. 16p.

This report contains data from field work at Fena River Reservoir; it includes O<sub>2</sub> and temperature profiles, descriptions of fauna and flora, recommendations for biological control, species introduction, and water management. There are photos and tables.

[LE]

28. BROCK, V. E., and Y. YAMAGUCHI. 1956. A limnological resurvey of Fena River Reservoir, Guam, M.I. Div. of Fish and Game. Hawaii. 9p.

A resurvey to assess the impact of introduced fish and to reevaluate the physical profiles. It has figures and photos.

[LE]

29. BROOKHART, J. W. 1956. Water resources on Guam. Proc. 8th Pac. Sci. Cong. Quezon City, Philippines. 2:271-272.

30. BROOKS, G. R. 1937a. Agana water supply. Guam Recorder. 14(2):7-8.

This article reviews Guam's main water sources and how they have and can be systematically used.

[BP]

31. BROOKS, G. R. 1937b. Water for the people of Guam. Guam Recorder. 14(4):24-25.

This article describes water sources and the development of those resources through well digging.

[BP]

32. BRYAN, E. H., JR. 1938. The plants of Guam. Parts XVII-XXXI. Guam Recorder various issues.

These contain detailed descriptions and family classifications with keys and is bound as Plants of Guam, Guam Recorder at Bur. of Plan. For individual issues and volumes see: Index to Guam Recorder, available at MARC or LE.

[BP]

33. BRYAN, E. H., JR. 1938-41. Fishes of Guam. Parts I-XIII. Guam Recorder various issues.

These classify and give general descriptions of fishes indigenous to Guam waters. There are photos, keys, and illustrations. It is bound as The Fishes of Guam in the Guam Recorder. For individual issues see: Index to Guam Recorder, available from LE or MARC.

[BP]

34. BRYAN, E. H., JR. 1946a. A geographic summary of Micronesia and notes on the climate of Micronesia. Vol. 2. U.S. Comm. Co. Econ. Surv. Honolulu, Hawaii. 102p.

This is a good general source of the water resources of Micronesia. Summary with tables and figures.

[USGS]

35. BRYAN, E. H., JR. 1946b. Bibliography of Micronesia. Vol. 19. U.S. Comm. Co. Econ. Surv., Res. Section. Honolulu, Hawaii. 257p.

36. BRYAN, E. H., JR. 1956-59. Plants of Guam. Mimeo. from Guam Daily News from Nov. 13, 1956 to June 24, 1959 at Pac. Islands Central School, Truk, Caroline Islands.

37. BRYAN, E. H., JR. 1965. Maps of the islands of Micronesia, Trust Territory of the Pacific Islands, under the administration of U.S. Dept. of Int., Marshall, Caroline, Mariana Isl. Reissued 1965 Saipan, Lit. Prod. Cent. 68p. Maps, Tables.

38. BRYAN, E. H., JR. 1970. Land in Micronesia and its resources: An annotated bibliography. Pac. Sci. Information Center, B.P. Bishop Mus., Honolulu, Hawaii. 119p.

This bibliography contains good cross references to subjects and authors.

[LR]

39. BRYAN, E. H., JR. 1971. Guide to place names in the Trust Territory of the Pacific Islands. Pac. Sci. Information Center, Honolulu, Hawaii.

A good source for cross indexing literature place references from Saipan, Pagan, Tinian and Guam. Includes index and maps.

[LE]

40. BRYAN, E. H., JR. 1976. Bibliography of the Mariana Islands other than subjects concerned only with Guam. Compiled at the Pac. Sci. Information Center, B.P. Bishop Mus., Honolulu, Hawaii. 57p.

This is an incomplete, unpublished, annotated and xeroxed bibliography with over 200 entries.

[LE]

41. BUREAU OF PLANNING, GUAM. Library. PDN Building, Agana, Guam.

The library has a full-time librarian and many reports, transcripts, etc. The Dept. updates an "Inventory of Planning Literature" and a Guam bibliography which has a water section. It has many papers and transcripts on the Ugum River Dam study, storm drainage systems, ponding basins, and bills concerning environmental protection issues.

[BP]

42. BUREAU OF PLANNING, GUAM. 1976. Guam inventory of planning information. Supplement for physical planning, Agana, Guam.

This inventory contains reports and surveys concerned with planning projects.

[BP]

43. BUREAU OF PLANNING, GUAM. 1977. Land-use plan. Govt. Guam, Agana. 84p.

This report contains sections on freshwater resources and wetlands. It has maps, annotations of Bur. of Plan. reports, and a bibliography.

[BP]

44. BUREAU OF PLANNING, GUAM. 1978. Coastal planning bibliography. Coastal Management Section. 2nd ed. Govt. Guam.

This bibliography contains information on freshwater usage, water data, freshwater resources, and flora and fauna.

[WERI]

45. BURKE, H. W. 1951. Available water supply on Saipan, Mariana Islands. Military Geol. Branch, U.S. Geol. Surv. 3p.

It has detailed information on the available water resources with maps.

[USGS]

46. BURNHAM, W. L. 1973. Reconnaissance survey of the chemical quality of surface waters of the Fena Reservoir Watershed. Letter Rept., U.S. Geol. Surv., Honolulu, Hawaii. 2p.

47. CHAN, A. C. 1977. An inventory of present and projected coastal land and water uses. Guam Bur. of Planning, Coastal Management Section. Guam Coastal Management Program Tech. Rept. 1. 45p.

This inventory contains information on current marine and freshwater aquaculture systems. It describes Guam's potential for freshwater aquaculture. Includes figures and tables.

[GEPA]

48. CHAPMAN, V. J. 1967. Conservation of maritime vegetation and the introduction of submerged freshwater aquatics. *Micronesica* 3(1):31-35.

This discusses exotic freshwater plants in relation to the freshwater lakes of the Pacific.

[MARC]

49. CHERNIN, M. I. 1979. Population dynamics and reproductive strategy of Bufo marinus L. on Guam. Univ. Guam, M.S. Thesis. 56p.

This thesis reports distribution and abundance in different island environments; wetlands have greater abundance than other areas. There are figures and tables.

[LR]

CHIMITS, P. 1957. See reference 340.

50. CLOUD, P. E., JR. 1951. Reconnaissance geology of Guam and problems of water supply and fuel storage. U.S. Geol. Surv. Far East Div. 50p.

Water supply section discusses both the southern and northern systems. It also addresses supply problems.

[MARC]

51. CLOUD, P. E., JR., R. G. SCHMIDT, and H. N. BURKE. 1958. Geology of Saipan, Mariana Islands. U.S. Geol. Surv. Prof. Paper 280-A. 445p.

This paper discusses the water resources, plants, and animals of Saipan. Includes many maps, plates, and tables. There is a section on submarine topography and shoal-water ecology.

[SCRM]

52. COASTAL ZONE MANAGEMENT. 1979. Natural resources study Commonwealth of Northern Mariana Islands. 65p.

Contains a summary of the coastal resources including lakes, mangroves, and wetland areas. Also lists plant species.

[SCRM]

53. COLE, W. S., and J. BRIDGE. 1953. Geology and larger Foraminifera of Saipan Island. U.S. Geol. Surv. Prof. Paper 253. 45p.

This report briefly describes geography and geology of Saipan. Includes a section on water resources with illustrations and tables.

[NFL]

54. COOLIDGE, H. J., (ed.). 1948. Conservation in Micronesia. A report on two conferences held under the auspices of the Pac. Sci. Bd. in Honolulu and Washington, D.C. 70p.

A compilation of papers concerning general island fauna and flora, the Mariana Mallard, and general freshwater usage.

[LE]

56. CORWIN, G., L. D. BONHAM, M. J. TERMAN, and G. W. VIELE. 1957. Military geology of Pagan, M.I. Intell. Div. Office Eng. H.Q.U.S. Army Pac. Div. 259p.

This study presents data on geology, climate, oceanography, vegetation, and water resources of Pagan. Report includes maps and photos of the two existing lakes and presents some physiochemical data of their waters.

[SCRM]

57. COURET, C. L. 1978. Description of some freshwater decapods found in the rivers of Guam. A letter report to Guam Dept. Agric., Aquatic and Wildlife Resources Division. 3p.

This report lists the taxonomic characteristics of 5 species of atyid shrimp; Atya spinipes, A. serrata, Caridina nilotica, C. serratisostris, and C. typus. Letter also contains additional comments on an unidentified species of Varuna (Grapsidae).

[LR]

58. COX, D. C. 1957. Water supply. p. 41-109. In Utilities study of sewage and waste disposal, power, roads, and water for U.S. Naval Administration Unit, Saipan, Mariana Islands. Belt, Collins, and Assoc., Honolulu, Hawaii.

59. CRAMPTON, H. E. 1921. A journey to the Mariana Islands -- Guam and Saipan. Nat. Hist. 21(2):127-145.

60. DAMES AND MOORE. 1977. Preliminary geological engineering services, dam site investigation, Ugum River, Territory of Guam. Prep. for U.S. Army Corps of Eng. Pac. Div. 42p.

It contains preliminary field reconnaissance and examines the geological features of the Ugum River. Includes many tables and plates.

[GEPA]

61. DAVIS, D. A. 1958. Military geology of Saipan, Marianas Islands. Vol. II. Water resources. Intell. Div. Office Eng., H.Q.U.S. Army Pac. Div. 96p.

This is a standard reference which contains rainfall data, describes streams, lakes, swamps, springs, and rain catchment systems of Saipan. Paper includes maps, tables, and ground water data.

[LE]

62. DAVIS, D. A. 1976. Notes on water resources in the Trust Territory of the Pacific Islands. Memo-to-record. U.S. Geol. Surv., Guam.

These notes describe groundwater resources and rain catchment for Micronesian Islands.

[USGS]

63. DelaCRUZ, G. D., and R. I. KAPILEO. 1972. Land capability report of Rota, Mariana Islands. Trust Territory Pac. Islands, Dept. Resources and Development, Div. Land and Surveys, Mariana Islands, Dist., Land Management Office, Saipan. 44p.

This report includes sections on springs and streams, water caves and general water resources. It also list plants, birds and other animals, with Chamorro names. There are photos and maps.

[MARC]

64. DELORME, L. D. 1973. Freshwater ostracodes reported from Guam. A letter report to D. Belk. 4p.

An unpublished report with identifications and habitat data.

[LE]

65. DEPT. OF THE ARMY. See U.S. Army.

66. DEPT. OF COMMERCE. Draft environmental impact statement and proposed coastal management program for the Territory of Guam. Bur. Planning, Govt. Guam. Vol. 1, 225p. Vol. 2, 173p.

Vol. 1 details the program which delineates wetlands and flood hazzard areas as areas of particular concern. Vol. 2 has 7 appendices including lists of endangered and threatened plant and animal species on Guam. Report has tables and maps.  
[BP]

67. DEPT. OF PARKS AND RECREATION. 1976. Guam: Historic preservation plan. Govt. Guam. 145p.

This plan gives historical background, inventories archaeological remains, and recommends preservation areas. Many of the sites are on or near rivers.

[MARC]

68. DEPT. OF PARKS AND RECREATION. 1980. Guam comprehensive outdoor recreation plan. 55p.

This describes the current, and recommends future, recreation on Guam. There are photos, maps and a bibliography. It supercedes past outdoor rec. plans.

[BP]

69. DEPT. PUBLIC WORKS, SAIPAN. 1949. Report of island water system, Saipan. Island water supply officer. U.S. Geol. Surv. 20p.

This report reviews water development on Saipan. There are maps with detailed tables.

[USGS]

70. DEVAMBEZ, L. C. 1964. Tilapia in the South Pacific. South Pac. Comm. Bull. 14(4):27-28, 52.

This paper notes the introduction of T. mossambica and T. zilli to Guam. All T. mossambica introduced in Oceania were from a river estuary in West Java. Paper also mentions large and small mouth bass introductions.

[LE]

71. DIAZ, G., and D. HOTALING. 1977. Life on Guam: Mangrove flat. Dept. of Education. Agana, Guam. 39p.

A popular account of the mangrove ecosystem of Apra, Guam. Includes comments on fiddler crabs, mudskippers, and mangroves. There are many drawings and one map.

[LR]

72. DICKINSON, R. E. 1977. The occurrence and natural habitat of the mangrove crab *Scylla serrata* (Forsk.) at Ponape and Guam. Univ. Guam, M.S. Thesis. 71p.

This thesis is a good general study of this estuarine portunid. Morphometric measurements, gut analyses, tagging studies, and physical habitat data are reported. Also includes temperature, dissolved oxygen, salinity, and turbidity data tables for the Ylig, Pago, and Talofofo Rivers.

[UOGML]

73. DOAN, D. B. 1933. Dredging channel to Agana Springs. Guam Recorder 10(6):87.

A brief progress report on the dredging of Agana Springs.

[NFL]

74. DOAN, D. B. 1950. Reconnaissance geology of Rota. U.S. Geol. Surv., Memo. Rept. 10p.

75. DOAN, D. B., H. W. BURKE, H. G. MAY, and C. H. STENSLAND. 1960. Military geology of Tinian, Mariana Islands. Intell. Div. Office Eng., H.Q.U.S. Army Pac. Div. 149p.

This report describes the terrain and environment and presents preliminary results of geologic and soil mapping plus information on climate, physiography, geophysical phenomena, generalized oceanography, and bathymetry of surrounding waters. Report also mentions groundwater resources. There are good maps and references.

[SCRM]

76. DOCUMENTATION ASSOCIATES INFORMATION SERVICES INCORPORATED. 1979. Literature review and synthesis of information on Pacific islands ecosystems. Prep. U.S. Fish and Wildlife Service FWS/OBS-79/35. 338p.

A set of 10 papers with freshwater (see Timbol 1979), birds, and plant sections.

[LE]

77. DOWNS, T. 1946. Birds on Tinian in the Marianas. Trans. Kansas Acad. Sci. 49(1).

79. DRAHOS, N. 1977. Additions to the avifauna of Guam. Micronesica 13(1):45-48.

This supplement adds 10 birds to the known birds of Guam.

[MARC]

80. ECKBURG, W. T. 1935. The Atantano River Valley. Guam Recorder 11(11):297.

A brief description of the river system which gives theories as to the causes of river bed build up and floods. It describes channel silting and preventive measures.

[NFL]

81. ELDREDGE, L. G. Guam freshwater notes: An ongoing file on checklists and biological notes for freshwater organisms. Univ. Guam Mar. Lab.

L. E. also updates files of letter reports, miscellaneous publications, and personal bibliographies concerning water resources and development in the C.N.M.I.

[LE]

82. ELDREDGE, L. G. 1977. Japanese translations available at the Micronesian Area Research Center. Univ. Guam Mar. Lab. Tech. Rept. 32. 26p.

A helpful, cross-referenced index of translations of scientific literature.

[UOGML]

83. ELDREDGE, L. G. 1979. Natural history bibliography of the Marianas Northern Islands. Unpubl. 7p. Mimeo.

A preliminary bibliography containing articles on the natural history of the Northern Mariana Islands with approximately 90 listings.

[LE]

84. ELDREDGE, L. G., and R. H. RANDALL. 1980. Atlas of reefs and beaches of Saipan, Tinian, and Rota. Rept. for Coastal Resources Management Program, C.N.M.I. 159p.

These maps depict substratum type, shoreline features (both onshore and nearshore). Also describes substrate, and flora and fauna associated with the stream mouth areas.

[UOGML]

85. FOSBERG, F. R. 1947. Micronesian mangroves. N.Y. Bot. Gard. 48:128-138.

86. FOSBERG, F. R. 1958a. Vascular flora of Pagan Island, Northern Marianas. *Pac. Sci.* 12:17-20.

A list of species with a general description of plant habitats.  
[LE]

87. FOSBERG, F. R. 1958b. Vegetation of the islands of Oceania. Study of tropical vegetation. *In* UNESCO Humid Tropics Proc. Kandy Symp. p. 54-60.

88. FOSBERG, F. R. 1959. Vegetation. pp. 167-217. *In* J. I. Tracey, Jr., C. H. Stensland, D. B. Doan, H. G. May, S. O. Schlanger, and J. T. Stark. Military geology of Guam, Mariana Islands. Intell. Div., Office of Eng. H.Q.U.S. Army Forces, Pac. Div. 282p.

89. FOSBERG, F. R. 1960a. Checklist of the seed plants of Guam. U.S. Geol. Surv. 51p.

A list of Guam's plants with notes of origin either native, planted, established or naturalized.

[MARC]

90. FOSBERG, F. R. 1960b. The vegetation of Micronesia. I. General descriptions, the vegetation of the Mariana Islands, and a detailed consideration of the vegetation of Guam. *Bull. Am. Mus. Nat. Hist.* 119(1):1-75.

A revised and updated version of Fosberg's earlier reports. It has good site descriptions of mangrove swamps, *Nypa* swamp and *Barringtonia* swamps. There are 40 plates in the bound report.

[MARC]

91. FOSBERG, F. R. 1966. Critical notes on Pacific island plants. *Micronesica* 2(2):143-152.

This compares the species throughout the Pacific.

[MARC]

92. FOSBERG, F. R., and M. V. C. FALANRUW. 1980. Noteworthy Micronesian plants. 4. *Micronesica* 16(2):201-210.

This includes many new Marianas records.

[MARC]

93. FOSBERG, F. R., M. V. C. FALANRUW, and M.-H. SACHET. 1975. Vascular flora of the Northern Mariana Islands. Smithsonian Contrib. Bot. 22. 45p.

Paper presents a preliminary annotated list of plants, also has good references.

[MARC]

94. FOSBERG, F. R., M. V. C. FALANRUW, and M.-H. SACHET. 1980. Additional records of vascular plants from the Northern Mariana Islands. 2. Micronesica 16(2):211-214.

A list of new records, mostly from Pagan.

[MARC]

95. FOSBERG, F. R., and M.-H. SACHET. 1975. Flora of Micronesia. (Many installments and families.) Smithsonian Contrib. Bot.

Part of a series of updated descriptions of plants. Part 1; Gymnospermae. Part 2; Casuarinaceae, Piparaceae and Myricaceae.

[MARC]

96. FOSBERG, F. R., M.-H. SACHET, and R. OLIVER. 1979. A geographical checklist of Micronesian Dicotyledonae. Micronesica 15(1-2): 42-295.

A list of 1342 species, 78 endemic to the Marianas.

[MARC]

97. FOWLER, H. W. 1925. Fishes of Guam, Hawaii, Samoa and Tahiti. P. Bishop Museum, Bull. 22. 38p.

A checklist of 158 species from Guam, based in the work of Seale and Fowler from 1900 to 1925.

[MARC]

98. FOWLER, H. W. 1945. Fishes from Saipan Island. Proc. Acad. Nat. Sci. Phil. 97:59-74.

99. FRITZ, G. 1902. Reise Nach den Nördlichen Marianen. Mitteil. Forschungs-~~Gefährten~~ Deutschen Schutzgeb. 15:96-118.

A much referred to early natural history account of the Mariana Islands. It describes freshwater systems at the time, in English.

[LE]

100. GAWEL, M. J. 1976. Guam coastal planning bibliography. Sea Grant. Publ. 76-07. Univ. Guam Mar. Lab. 205p.
- A comprehensive compilation of available land and water use literature for Guam and reports the physical location of documents.
- [UOGML]
101. GILHAM, KOEBIG, AND KOEBIG, INC. 1973. Irrigation feasibility study. Rept. Prep. for Guam Dept. Agric. 96p.
- This study discusses damming rivers for irrigation. Contains tables and many figures.
- [MARC]
102. GLASSMAN, S. F. 1948. A survey of the plants of Guam. J. Arnold Arbor. 29:169-185.
103. GREENLEAF, TELESCA-AHN. 1971. Guam master plan; infrastructure-drain. Guam Bur. Planning. 66p.
- This briefly describes 49 river and sink drainage basins of Guam. It contains maps and tables.
- [BP]
104. GRESSITT, J. L. 1954. Insects of Micronesia, Introduction. Insects of Micronesia 1:1-255.
- Report includes a wetland collection with site descriptions from Saipan and Guam along with general floral and faunal descriptions of the Marianas. There are maps and many habitat photos.
- [LE]
105. GROSENBAUGH, D. A. 1979. Role of the blue-green alga Nostoc muscorum as a possible nitrate source to the groundwaters of Guam. Univ. Guam, M.S. Thesis. 51p.
- An investigation of Nostoc in which it was concluded that the alga does not significantly contribute to the high nitrate content of Guam's groundwater. Study transects were located in surface ponding basins on Guam.
- [UOGML]

## 106. GUAM ENVIRONMENTAL PROTECTION AGENCY. Library.

GEPA library contains EIS's, pollution reports and general water studies including a "Monthly water Resources Memorandum" which tabularizes many stream parameters.

[GEPA]

## 107. GUAM ENVIRONMENTAL PROTECTION AGENCY. 1972. Annual Reports. Territory of Guam.

Reports contain information and data on past and current freshwater resources.

[GEPA]

## 108. GUAM ENVIRONMENTAL PROTECTION AGENCY. 1975. Water quality inventory report to Congress. 186p.

## 109. GUAM ENVIRONMENTAL PROTECTION AGENCY. 1977. Point source discharges, coastal waters, revised per field inspection.

## 110. GUAM ENVIRONMENTAL PROTECTION AGENCY. 1978. Guam water quality management plan. 200p.

This is an in-depth study of Guam's water resources, supply systems, control needs, regulatory programs, and environmental impact assessment. Includes tables and figures.

[BP]

## 111. GUAM SCIENCE TEACHERS ASSOCIATION. 1968. A science teacher's handbook to Guam. 98p.

A naturalist guide to Guam which includes the aquatic community (Beach 1968). This booklet was also printed as: A naturalist guide to Guam.

[LE]

## 112. GUAM SCIENCE TEACHERS ASSOCIATION. 1970. Agana Springs Nature Preserve, a report on its natural history, educational value and renovation progress. Rept. Prep. for Govt. Guam. 20p.

This report describes the history, geology, flora and fauna, and educational value of the area in hopes of having a renovation project initiated that will preserve this important wetland habitat. There are tables, checklists, photos, and appendices.

[MARC]

113. GUAM WATER POLLUTION CONTROL COMMISSION. 1967. Standards of water quality for waters of the territory of Guam. 27p.

This defines and classifies near-shore, off-shore and coastal water systems. It recognizes the freshwater problems and defines a plan for implementation of standards.

[MARC]

114. GURNEY, R. 1939. A description of the adult and larval stages of a new species of Palaemonetes from the Marianne Islands. Annot. Zool. Japon. 18(2):145-153.

A description of a palemonid shrimp Palaemonetes pacificus, n.sp. from Charanka (Susupe) Lake on Saipan. (Later corrected from Palaemonetes to Leander gardineri [hence to Palaemon debilis]), a known species (Annot. Zool. Japon. 19(1):80).

[LE]

115. HARLAN, S. R. 1939. Miemo River Valley and entrance to Hidden River. Guam Recorder 16(4):139-140.

A brief general geographic description of the Miemo River area with emphasis on the Natural Bridge.

[BP]

116. HARTERT, E. 1898. On the birds of the Marianne Islands. Novitates Zool. 5(1):51-69.

This early work presents notes and describes habitats on 41 birds of the Marianas. It also lists 56 birds known from the Marianas at the time.

[LE]

117. HATANAKA, S., M. YAMAMOTO, and H. SAITO. 1979. A bibliography of Micronesia compiled from Japanese publications. Occasional Papers, Res. Inst. Oriental Cultures, Gakushuin Univ., Tokyo, Japan 8:1-217.

This is a good bibliography on physical anthropology, botany, zoology, geology, oceanography, limnology, geophysics, and seismology in Micronesia.

[LE]

118. HENDRICKS, E. L. 1962. Surface water supply of Mariana, Caroline, and Samoa Islands through June 1960. U.S. Govt. Printing Office, Washington, D.C. 107p.

This report includes Guam and Saipan. It contains records of 13 gaging stations on Guam, 1 on Saipan from 1951, with tables.

[SCRM]

119. HOFFARD, S. H. 1961. Predicted yield of Fena Reservoir, Guam, M.I. U.S. Geol. Surv. Administrative Rept. 17p.

This discusses the potential water production on basis of rainfall and runoff. Includes illustrations and tables.

[USGS]

120. HOSOKAWA, T. 1934-1943. Materials of the botanical research towards the flora of Micronesia. 27 sections. Trans. Nat. Hist. Soc. Formosa.

All 27 sections are bound in MARC. It is an early description from many islands with a few photos and figures of type specimens.

[MARC]

121. HOSOKAWA, T. 1934a. Preliminary account of the vegetation of the Marianne Islands group. Bull. Biogeogr. Soc. Japan 5(2):124-172.

122. HOSOKAWA, T. 1934b. Phytogeographical relationship between the Bonin and the Marianne Islands. J. Soc. Trop. Agric. 6:201-209, 657-670.

This paper stresses the distributions of families, genera, and species of indigenous plants.

[MARC]

123. HOSOKAWA, T. 1967. On the phytogeography of the Micronesian Islands. Indian Bot. Soc. 46(4):363-373.

124. HUXEL, C. J. 1973. Water resources in limestone islands, seminar on conservation education. South Pac. Comm. Rept. (unpubl.).

[USGS]

IKEBE, K. 1939. See reference 341.

125. JOHNSTON, E. G. 1967. References to the birds of the Mariana Islands. Univ. Guam Micronesia Area Res. Center. 9p. (unpubl.)

A mimeographed reference list of over 150 papers.

[LE]

126. JOHNSTON, E. G. 1972. Bibliography relative to the development of water resources, Territory of Guam, compiled by G. Johnston, and L. Williams. U.S. Army Corps Eng. Pac. Div. Univ. Guam Micronesia Area Res. Center.

This bibliography contains references on flood control, water supply, geology and hydrology of Guam with approximately 320 listings.

[LR]

127. JOHNSTON, E. G., and A. L. WILLIAMS. 1973. Bibliography relative to the development of water resources, territory of Guam. Univ. Guam Micronesia Area Res. Center, Spec. Publ. 1.

This has the same text as Johnston 1972.

[MARC]

128. JOHNSTON, E. G. 1974. Spanish dikes in the Agana Swamp. Guam Recorder 4(3):11-12.

129. JOHNSTON, W. G. 1926. The water systems of Agana, Guam Recorder 3(3):66-67.

A good general review of the first water systems established on Guam.

[NFL]

130. JONES, R. S., and H. K. LARSON. 1972. A key to the families of fishes as recorded from Guam. Univ. Guam Mar. Lab. Tech. Rept. 10. 47p.

A brief handbook for family identification.

[UOGML]

131. KAMI, H. T. 1971. Checklist of Guam fishes: Supplement I. Micronesica 7(1-2):215-228.

An update of Kami, et al. (1968) with 133 species and 10 family additions. Includes 3 species of freshwater and euryhaline fishes.

[UOGML]

132. KAMI, H. T. 1975. Checklist of Guam fishes: Supplement II. Micronesica 11(1):115-122.

Report adds 75 species and four families, bringing the total number of species to 673 and total number of families to 94 for Guam. Includes 6 freshwater species.

[UOGML]

133. KAMI, H. T., N. DRAHOS, R. J. LUJAN, and J. J. JEFREY. 1974. Biological Study of the Geus River Basin. Univ. Guam Mar. Lab. Tech. Rept. 16. 22p.
- This report discusses the geology, terrestrial and aquatic flora and fauna, and ecological importance of the Geus Basin. It has photos, 1 map and lists of organisms. [UOGML]
134. KAMI, H. T., N. DRAHOS, R. D. STRONG, and R. J. LUJAN. 1976. Job progress report, federal aid to fish and wildlife restoration. Guam Aquatic and Wildlife Resources Div., Dept. Agric. 11p.
- An update on Guam's stream, inshore lagoon, and bird surveys. [GAWRD]
135. KAMI, H. T., I. T. IKAHARA, and F. P. DELEON. 1968. Checklist of Guam fishes. Micronesica 4(1):95-131.
- This list which includes freshwater fishes, is based on specimens recently collected on Guam, most of which are held at the Dept. of Agriculture. The local names are included. [UOGML]
136. KAMI, H. T., R. D. STRONG, R. L. KOCK, JR., M. E. MOLINA, and C. P. NEUBAUER. 1977. Job progress report, federal aid to fish and wildlife restoration. Guam Aquatic and Wildlife Resources Div., Dept. Agric. 98p.
- Report includes a summarization of a limnological survey of the major streams and rivers on Guam. It also includes sections on birds, Masso River fishing project and inshore lagoons. [GAWRD]
137. KAMI, H. T., H. G. TUCKER, R. D. ANDERSON, G. D. GORDON, R. D. STRONG, J. M. JENKINS, M. E. WHEELER, R. L. KOCK, JR., M. E. MOLINA, and C. P. NEUBAUER. 1978. Job progress report, federal aid to fish and wildlife restoration. Guam Aquatic and Wildlife Resources Div., Dept. Agric. 146p.
- A progress report on many Guam projects: limnological survey of the major streams and rivers; studies on the deer, bats and other wildlife of Guam. [GAWRD]
138. KANEHIRA, R. 1934. A botanical excursion to the Northern Mariana Islands. Bot. Zool. 2:913-922.

139. KANEHIRA, R. 1935. An enumeration of Micronesian plants. J. Dept. of Agric., Kyushu Imperial Univ. 4(6):337-464.

A good compilation of the early expeditions with the most extensive work done in the Northern Marianas. Bound and with one map.

[MARC]

141. KENNEDY ENGINEERS. 1965. Water supply for Government of Guam M.I. Dept. Navy, Bur. Yards Docks, Wash., D.C. 40p.

This presents an engineering and economic study of the feasible sources of water to supply Govt. Guam. It considers spring, ground, and surface water. There are tables and maps.

[BP]

142. KENNEDY ENGINEERS. 1974. Fena River watershed and reservoir management study. Pac. Div. Naval Facilities Eng. Command. 20lp.

This study contains information on the physical, biological, and chemical condition of Fena Reservoir; it includes some flora and fauna identification and photographs, maps, and tables.

[GEPa]

143. KURODA, M. N. 1941. A study of the Mariana Duck, Anas oustaleti Salvadori. Tori 11(51-52):99-119. [In Japanese]

144. KURODA, M. N. 1942. A study of the Mariana Duck, Anas oustaleti Salvadori (II). Tori 11(53-54):443-448. [In Japanese]

145. LAWRENCE, W. A. 1946. Rebuilding Guam's war-torn water system. Proc. U.S. Naval Inst. 72(518):560-567.

146. LOTZ, D. T. 1973. Analysis and preliminary plan for Tarzan Falls. Proposal to Guam Dept. of Parks and Recreation.

This paper reviews Tarzan Falls' potential for recreational development; with figures.

[BP]

M. AND E. PACIFIC, INC. 1978. See reference 342.

MACIOLEK, J. A. 1982. See reference 343.

147. MALLO, J. 1978. Water. What else do we have to quench Guam's thirst? Pacific Daily News, April 19. p. 4.

This article discusses the drinking water situation as related to possible contamination or drought.

[MARC]

148. MARSH, J. A., and S. J. WINTER. 1975. Part V. Environmental issues. 87p. In The social-economic impact of modern technology upon a developing insular region: Guam. Vol. III. Univ. Guam Press.

An assessment that stresses the need for preservation of the freshwater resources.

[UOGLM]

149. MARSHALL, J. T., JR. 1949. The endemic avifauna of Saipan, Tinian, Guam, and Palau. Condor 51(5):200-221.

This describes the land and freshwater birds of these islands, especially in the freshwater marshes on Saipan, Tinian, and Guam.

[SCRM]

150. MARSHALL, M. and J. D. NASON. 1975. Micronesia 1944-1974; a bibliography of anthropological and related source materials. HRAF Press, New Haven. 337p.

This bibliography contains some entries on geology and biology of Marianas; maps are included.

[MARC]

151. MERRILL, E. D. 1914. Enumeration of the plants of Guam. Philippine J. Sci. Bot. 9(1):17-163.

This source provides early checklists of the plants of Guam.

[MARC]

152. MERRILL, M. H., JR. 1964a. Talofof Falls. Pac. Profile 2(8):14-15 .

A popular account of this much used recreation area, including one photo.

[MARC]

153. MERRILL, M. H., JR. 1964b. Malojloj Falls. Pac. Profile 2(10): 29-30.

A dammed freshwater pond at the base of the falls makes a delightful recreational area.

[MARC]

154. MIAN, G. N. 1972. Temperature, dissolved oxygen, and turbidity data on Fena Reservoir. Fena Reservoir water treatment plant lab. Pub. Works Center, U.S. Navy. Guam. (Data from Feb. 1963 to Nov. 1972.)

155. MICRONESIAN AREA RES. CENTER. Birds. Vertical file.

An updated file on fresh and marine avifauna.

[MARC]

156. MICRONESIAN AREA RES. CENTER. Caves. Vertical file.

Information on several caves with underground springs.

[MARC]

157. MICRONESIAN AREA RES. CENTER. Conservation of natural resources--Guam. Vertical file.

An on-going file of conservation procedures and related information on freshwater resources.

[MARC]

158. MICRONESIAN AREA RES. CENTER. Fishes--Guam. Vertical file.

A current file on both fresh and marine fish of Guam.

[MARC]

159. MICRONESIAN AREA RES. CENTER. Fisheries. Vertical file.

This file contains papers on both fresh and marine aquaculture.

[MARC]

160. MICRONESIAN AREA RES. CENTER. Guam herbarium handbook. Vertical file.

This source identified ferns, monocots and dicots of Guam.

[MARC]

161. MICRONESIAN AREA RES. CENTER. Guam water pollution control.  
Vertical file.

A general on-going file on water pollution control.

[MARC]

162. MICRONESIAN AREA RES. CENTER. Maps. Vertical file.

This file includes maps of rivers, streams, and Fena Lake.

[MARC]

163. MICRONESIAN AREA RES. CENTER. Mosquitos--Guam. Vertical file.

A collection of articles about breeding and control of  
mosquitos.

[MARC]

164. MICRONESIAN AREA RES. CENTER. Natural history--Guam. Vertical  
file.

There are articles on the wildlife and natural resources  
on Guam.

[MARC]

165. MICRONESIAN AREA RES. CENTER. Natural history--Mariana Islands.  
Vertical file.

A constantly updated file of natural resource articles.  
Recreation areas, such as waterfalls, lakes and nearshore  
communities, are stressed.

[MARC]

166. MICRONESIAN AREA RES. CENTER. Plant names. Vertical file.

An on-going file with Chamorro names and other related  
information.

[MARC]

167. MICRONESIAN AREA RES. CENTER. Plants--Mariana Islands. Vertical  
file.

An on-going file of plant-related literature of the Marianas.

[MARC]

168. MICRONESIAN AREA RES. CENTER. Rota Island. Vertical file.

An on-going file of newsclippings and papers on general island site descriptions and resources.

[MARC]

169. MICRONESIAN AREA RES. CENTER. Saipan. Vertical file.

An on-going file with articles on natural resources and geographical information; with some maps.

[MARC]

170. MICRONESIAN AREA RES. CENTER. Tarzan Falls. Vertical file.

Safety precautions and area descriptions are emphasized in this file.

[MARC]

171. MICRONESIAN AREA RES. CENTER. Talofofo Falls. Vertical file.

File includes safety and hiking tips plus area descriptions of this well used recreation area.

[MARC]

172. MICRONESIAN AREA RES. CENTER. Tinian. Vertical file.

An updated file of articles pertaining to the island.

[MARC]

173. MICRONESIAN AREA RES. CENTER. Water. Vertical file.

A folder that is continually updated on subjects such as: water bibliographies for Marianas, pollution, supply, falls, and sports.

[MARC]

174. MICRONESIAN AREA RES. CENTER. 1961. Pacific insects monographs. B.P. Bishop Mus.

A collection of volumes since 1961 which includes many Marianas references.

[MARC]

- ✓ 175. MILIAS, W. 1977. Determination that the Marianas Mallard is an endangered species. Fed. Register 42(106):28-36.

176. MILLER, H. A. 1968. Bryophyta of Guam and Northern Micronesia. *Micronesica* 4(1):49-84.

A compilation of many sources with keys and figures.

[MARC]

177. MILLER, M. and T. ARNOW. 1965. Report on water supply conditions on Yap and Saipan, Trust Territory of the Pacific Isl. Prep. by the U.S. Dept. of the Int. Geol. Surv. for Office of the High Commissioner, Saipan. 12p.

178. MOGI, H. 1977. Northern Mariana Islands park and outdoor recreation resource study. Northern Mariana Islands Planning Office. 287p.

A general assessment of the Marianas recreational resources. It includes sections on water resources and recommendations for the archipelago's lakes and wetlands; includes maps.

[LE]

179. MOMIYAMA, T. 1922. Birds of Micronesia. *Japanese Ornithol. Sci.*

An early list of the birds of Micronesia with descriptions of the new finds by N. Kuroda. There are 2 parts; in Japanese.

[MARC]

180. MOORE, P. H. 1968. Plant communities. Chap. 2. In R. E. Key (ed.), *A science teacher's handbook to Guam*. Guam Sci. Teachers Assoc., Agana.

181. MOORE, P. H. 1977. An ecological survey of pristine terrestrial communities on Guam. In *Coastal Zone Management Tech. Rept.* Bur. Planning, Govt. Guam 1:1-45.

182. MOORE, P. H., and P. D. McMAKIN. 1978. The plants of Guam. Univ. Guam College Agricul. Life Sciences Cooperative Extension Service. 186p.

A general study of the various natural plant communities on Guam.

[BP]

183. MOORE, P. H., and L. RAULERSON. 1979. Vegetation of Fena Dam, Guam, M.I. A Letter Rept. Prep. for W. A. Wahler and Assoc. 10p.

This lists vascular plant species, except grasses and sedges, around Fena Lake. It recommends removal procedures and discusses root systems.

[LE]

184. MOORE, P., L. RAULERSON, M. CHERNIN, and P. McMAKIN. 1977. Inventory and mapping of wetland vegetation in Guam, Tinian, and Saipan, Mariana Islands. Univ. of Guam Biosciences. 253p.

A survey of 26 wetland sites: 7 on Saipan, 2 on Tinian, and 17 on Guam. The areas were photographed, mapped and characterized by such ecological parameters as substrate type, ground water type, and dominant vegetation. Species and relative abundance of each species were noted. There are drawings, maps, photos, and glossary, and bibliography.

[LE]

185. NATIONAL PARK SERVICE. 1967. Master plan, proposed Guam National Seashore. U.S. Dept. of Interior, Washington, D.C. 29p.

186. NELSON, S. G. 1979. The role of the freshwater prawn Macrobrachium lar (Fabricus) in the processing of nitrogen in Pacific Island ecosystems. XIV Pac. Sci. Cong., Khabarovsk, USSR. [abstract]

A preliminary evaluation of this shrimp's ecological role in the Mariana Islands streams is presented.

[UOGML]

187. NELSON, S. G., and R. K. KROPP. 1981. Ammonia excretion by the freshwater prawn Macrobrachium lar in relation to diet. Univ. Guam Mar. Lab. Tech. Rept. 67. 14p.

Rates of ammonia excretion by M. lar from Guam were determined and the rates were influenced by diet but not by amount ingested.

[UOGML]

188. NELSON, S. G., B. D. SMITH, and B. R. BEST. 1980. Nitrogen uptake by tropical freshwater macrophytes. Univ. Guam Mar. Lab. Tech. Rept. 56. Water Resources Res. Center, Tech. Rept. 10. 21p.

This paper presents our research on some freshwater plants from the Agana Swamp area. Kinetics of nitrogen uptake were examined for Pistia stratiotes, Hydrilla venticillata, and Microspora sp.

[UOGML]

189. NELSON, S. G., B. D. SMITH, and B. R. BEST. 1981. Kinetics of nitrate and ammonium uptake by the tropical freshwater macrophyte Pistia stratiotes L. *Aquaculture* 24:11-19.

This is published data on the uptake of this Guam macrophyte. Paper distilled from previous reference.

[RT]

190. NEUBAUER, C. P. 1981. The effects of landclearing on a small watershed in Southern Guam. Univ. Guam Water and Energy Res. Inst. Tech. Rept. 24. 56p.

This paper contains information on the effects of landclearing on nutrient flux, water quality, and erosion. The study site adjacent to Fena Lake, Guam.

[NERI]

191. NIEVES M. FLORES MEMORIAL LIBRARY. Guam vertical files and Guam room. Agana, Guam.

This file contains bibliographies and literature on Guam's resources as Talofof Falls.

[NFL]

192. NOWELL, W. R. 1976. An annotated bibliography of the mosquitoes (Diptera, Culicidae), and mosquito-borne diseases of Guam. *Mosq. Syst.* 8(4):355-385.

193. NOWELL, W. R., and SULTON, D. R. 1977. The mosquito fauna (Diptera: Culicidae) of Rota Island, Mariana Isl. *J. Med. Entomol.* 14(5):411-416.

194. OWEN, R. 1974. Environmental impact study on the terrestrial fauna and flora of Tinian with respect to proposed establishment of a military base on that island. U.S. Air Force ~~Mimeo.~~ 22p.

Lists the fauna and flora in the wetlands of Lake Hagoi and Marpo Swamp. Good information on the avifauna is provided.

[LE]

195. OWEN, R. P. 1977. A checklist of the birds of Micronesia. *Micronesica* 13(1):65-81.

A checklist of 191 species of birds, with many from the Marianas. Paper also contains good references.

[MARC]

196. PACIFIC DAILY NEWS. 1973. The Agana River. Editorial, Sat., July 7. p. 28.

A newsclipping on the potential use of the Agana River.

[MARC]

197. PACIFIC ISLANDS ENGINEERS. 1948a. Historical review of the meteorology of Guam with references. U.S. Dept. Navy Bur. Yards Docks. U.S.G.S. 100p.

This source lists station data for rainfall. It has a good annotated bibliography and is one of the four volumes (see next entry).

[USGS]

198. PACIFIC ISLANDS ENGINEERS. 1948b. Historical reviews of the meteorology, seismology, oceanology, and geology of Guam, with references (4 vols.) U.S. Dept. Navy, Bur. Yards Docks, (Contract NOY-13626 unpubl.).

[USGS]

199. PACIFIC ISLANDS ENGINEERS. 1949a. Water resources report. Guam, M.I. 13p.

This report reviews the present sources, future requirements, potential yield, and proposed projects for potable water on Guam. It indicates the feasibility of tapping off the Talofof and Pago River systems. A cost analysis, maps and charts are included.

[MARC]

200. PACIFIC ISLANDS ENGINEERS. 1949b. Report on geological investigations of dam sites Talofof drainage basin. Prep. for Dept. of the Navy Bur. of Yards and Docks. 39p.

This report presents data and discussion on water quality studies for 3 sites along the river. Plates are included.

[USGS]

201. PACIFIC ISLANDS ENGINEERS. 1949c. Water sources report. Guam, Mariana Islands. U.S. Dept. Navy, Bur. Yards Docks. 16p.

This report reviews the sources of supply and projects future water requirements. Water projects for Fena Lake and Upper Talofof are described. There are many tables, maps, and economic projections.

[MARC]

202. PACIFIC ISLANDS ENGINEERS. 1950. Geology of Middle Guam, Mariana Islands. Prep. for Dept. of the Navy, Bur. of Yards and Docks. Vol. 1 and 2.

This provides extensive geological information for 5 sites on Guam. Tables and plates are included.

[USGS]

203. PANGELINAN, J. B., and R. I. KAPILEO. 1970. Pagan land use proposals. Trust Territory Dept. of Resour. and Devel., Div. of Lands and Surveys. 27p.

A general description of Pagan with many maps. Previous well sites, water catchment systems, lakes and springs are mentioned.

[MARC]

PETERMAN, P. H. 1945. See reference 344.

204. PETERMAN, P. H., F. OHRT, and C. K. WENTWORTH. 1945. Water resources and development on Guam. U.S. Navy.

This report is a survey of the water resources, both surface and ground.

[USGS]

205. PIPER, A. W. 1946. Water resources of Guam and the ex-mandated islands of the Western Pacific. In Economic survey of Micronesia, Vol. 4. U.S. Commercial Co., Honolulu, Hawaii. 181p.

This report is an appraisal of the water supplies on Guam and the Northern Marianas. Illustrations, tables, and a map are included.

[USGS]

206. PRATT, H. D., P. L. BRUNNER, and D. G. BERRETT. 1979. America's unknown avifauna: The birds of the Mariana Islands. Am. Birds 33(3):227-235.

This study reviews literature, and has some wetland habitat descriptions for Guam, Saipan, Tinian and Rota. Paper also lists the distribution, habitats, and status of 24 species, including many waterbirds. Paper includes many figures.

[LE]

207. PUBLIC UTILITY AGENCY OF GUAM. 1970. Conservation requirements for preservation of Guam's water resources. 13p.

This describes present surface and groundwater sources and considers potential development. Figures and tables are included.

[NFL]

208. PUBLIC UTILITY AGENCY OF GUAM. 1971. Master plan report Guam water system improvements. Fiscal Years 1972-1982. Govt. Guam.

This report contains information regarding ground water resources and consumption.

[BP]

209. QUINN, S. S. 1978. The Northern Mariana Islands; an annotated bibliography of selected works. Edited and expanded by Donna O'Connor Villagomez. TTPI Bur. of Ed., Saipan. 175p.

An extensive annotated bibliography on selective works on various subjects.

[MARC]

210. RANDALL, R. H. 1974. Talofofu Bay coastal survey. Univ. Guam Mar. Lab. Tech. Rept. 13. 77p.

This describes Talofofu and Ugum Rivers and lists how they affect the siltation in Talofofu Bay; includes figures and tables.

[UOGML]

211. RANDALL, R. H., and C. BIRKELAND. 1978. Guam's reefs and beaches. Part II. Sedimentation studies at Fouha Bay and Ylig Bay. Univ. Guam Mar. Lab. Tech. Rept. 47. 77p.

This report describes terrestrial run-off sedimentation and its effect on coral reefs; with figures and tables.

[UOGML]

212. RANDALL, R. H., C. BIRKELAND, R. T. TSUDA, D. R. LASSUY, and S. E. HEDLUND. 1978. Guam's reefs and beaches. Part II. Transect studies. Univ. Guam Mar. Lab. Tech. Rept. 48. 90p.

This report provides general information on the coastal region, including mangrove swamps, river mouths, and estuaries. Figures and tables are included.

[MARC]

213. RANDALL, R. H., and L. G. ELDREDGE. 1976. Atlas of the reefs and beaches of Guam. Coastal Zone Management Section, Bur. Planning, Agana, Guam. 191p.

This contains detailed coastal maps of Guam including the river mouth areas and upstream navigatable areas. Maps depict facies, substratum, and vegetation. Format is 11"x14".  
[UOGML]

214. RANDALL, R. H., and J. HOLLOWMAN. 1974. Coastal survey of Guam. Univ. Guam Mar. Lab. Tech. Rept. 14. 404p.

This study discusses communities and soils of rivers, wetlands, estuaries and bays along the coast. It is augmented by illustrations, maps, charts, tables and photographs. There are 5 reports in this series.

[UOGML]

215. RANDALL, R. H., and R. T. TSUDA. 1974. Field ecological survey of the Agana Chaot River Basin, Guam. Univ. Guam Mar. Lab. Tech. Rept. 12. 64p.

A field ecological study on the Agana River system. Report discusses the geomorphology and lists fauna and flora of the area. Maps and photos are included.

[UOGML]

216. RAULERSON, L. Personal library. Univ. Guam Bioscience Dept.

She retains much local freshwater information and has a complete set of the Life on Guam series, which include biological pamphlets on estuaries and freshwater systems.

[LR]

217. RAULERSON, L. 1977. Life on Guam: Freshwater. Dept. Ed., Guam. 78p.

A good popular description of Guam's freshwater system; includes general information on freshwater organisms.

[LR]

218. RAULERSON, L., (ed.). 1981. Plant biogeography of Guam. Univ. Guam Mar. Lab. Tech. Rept. 69. 138p.

Compiles individual studies on different plant communities on Guam. Includes a description of the vegetation of upper Togcha River Valley.

[LR]

219. RAULERSON, L., M. CHERNIN, and P. MOORE. 1978. Biological study of the potential Ugum Dam site, Guam. Univ. Guam Biosciences. 61p.

An inventory of the aquatic organisms and the terrestrial flora and fauna of the area. Generally, it discusses the total ecosystem complex.

[BP]

220. RAULERSON, L. 1979. Terrestrial and freshwater organisms within, and limnology and hydrology of, the Guam seashore study area and the War in the Pacific National Park. Univ. Guam Dept. Biology. 93p.

This provides a brief review of the origin, hydrology and sculpturing of Guam. It contains lists of the plants and animals in the aquatic communities. There are 16 tables and 29 figures, mostly photos.

[MARC]

221. RAULERSON, L., and M. CHERNIN. 1978. A survey of the organisms of the Big Guatali River and the terrestrial animals in a portion of GORCO Property, Guam. Prep. for Dames and Moore, Environ. Consultants. 11p.

In this report, tables are included of microscopic, macroscopic and terrestrial organisms of the area.

[LR]

222. REID, C. F. 1939. A bibliography of the island of Guam. 102p. N.Y.

A bibliography with sections on hydrology and geology of Guam.

[NFL]

ROBBINS, W. H., and H. R. MacCRIMMON. 1974. See reference 345.

223. ROBERT AND COMPANY, INC. 1948. Reconnaissance survey for new freshwater sources on the northern section of Guam, M.I. Consultant Rept. Atlanta, Georgia. 24p.

Survey reports some springs; includes photos, a map and a chart.

[USGS]

224. ROTH, A. 1976. Preliminary checklist of gastropods of Guam. Univ. Guam Mar. Lab. Tech. Rept. 27. 99p.

This list of nearly 950 species for Guam includes many fresh-water species. Many additions and changes have been noted since this edition but list remains the baseline for Guam's gastropods.

[UOGML]

225. SACHET, M.-H., and F. R. FOSBERG. 1955. Island bibliographies. Publ. Natl. Acad. Sci. Natl. Res. Council, Wash., D.C. No. 335. 577p.

This is a very thorough bibliography of the plants, the land environment and the coral atoll vegetation of the tropical Pacific.

[MARC]

226. SACHET, M.-H., and F. R. FOSBERG. 1971. Island bibliographies supplement to No. 335. Publ. Natl. Acad. Sci. Natl. Res. Council, Wash., D.C. 427p.

An updated supplement to the preceding entry.

[USGS]

227. SAFFORD, W. E. 1905. Useful plants of Guam. Contrib. U.S. Natl. Herbarium 9:1-416.

An early but much referred to volume. This is an introductory account of the physical features, natural history and agriculture at the time; includes 70 plates.

[MARC]

228. SALVADORI, T. 1894. Anas oustaleti, n. sp. Bull. British Ornith. Club 20:1.

This is the original description of the Marianas Mallard.

[LE]

229. SCHMIDT, E. 1941. Concerning a small collection of dragonflies from Saipan, Mariana Islands. Deutchen Ent. Gesell. Mitt. 10:23-26.

230. SCHMIDT, G. R., and P. E. CLOUD, JR. 1949. Report on a reconnaissance study of the geology of Alamagan, Pagan, and Agrihan, Northern Mariana Islands. Pac. Geol. Surv. Military Geol. Branch, U.S.G.S. Tokyo, Japan. 14p.

This report describes the freshwater systems on these islands.  
[USGS]

231. SCHNEE, P. 1912. About mosquitos in Saipan. Archiv. Schniffs Tropen-Hygiene 16:711.

232. SCHULTZ, L. P., AND COLLABORATORS. 1953. Fishes of the Marshall and Mariana Islands. U.S. Natl. Mus. Bull. 202. Vol. 1. 685p.

These classic works form the basis for all fish studies and revisions. Figures and photos are included. All three available in MARC.

[MARC]

233. SCHULTZ, L. P., AND COLLABORATORS. 1960. Fishes of the Marshall and Mariana Islands. Vol. 2. U.S. Natl. Mus. Bull. 202. 438p.

Second volume in the series.

[MARC]

234. SCHULTZ, L. P., AND COLLABORATORS. 1966. Fishes of the Marshall and Mariana Islands. Vol. 3. U.S. Natl. Mus. Bull. 202. 176p.

Third volume in the series.

[MARC]

235. SEABURY, C. C. 1934. Improvements in Agana Swamp region. Guam Recorder 11(5):85-87.

This article outlines the improvements and usage up to 1934.

[MARC]

236. SEARLES, P. J. 1936a. The geology of the island of Guam. Guam Recorder 13(4):36-38.

An early general description of Guam's geology with information on the streams and rivers.

[BP]

237. SEARLES, P. J. 1936b. Geology of the Mariana Islands. Guam Recorder. Part I-IV. 13(7):19; 13(8):10-31; 13(9):16-33; 13(10):5.

A good general description of Guam, Agiguan (Aguigan), Saipan, Guguan and Agrihan, (bound in the June 1937 Guam Recorder, Bur. Planning).

[BP]

238. SIREN, N., and L. SCHEURING. Murky waters of Micronesia. A bacteriologic water pollution survey of Micronesia.

This survey contains coliform data, maps, and photos of the surrounding polluted shoreline of the six district centers in Micronesia. It discusses the lack of dispersion of sewage from the shoreline of Saipan.

[MARC]

239. SKOLMEN, R. G. 1971. Vegetation of naval lands near Fena Reservoir and Sasa Valley, Guam. Pac. Southwest Forest Range Exp. Sta., Hawaii.

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240. SMITH, B. D., and S. E. HEDLUND. 1978. Environmental survey of a proposed fill site in Agana Swamp. Univ. Guam Mar. Lab. Environ. Surv. Rept. 18. 27p.

This provides a checklist of the flora and fauna of the area and chemical analysis of standing water. Tables and figures are included.

[UOGLM]

241. STEARNS, H. T. 1937. Geology and water resources on Guam. U.S. Geol. Surv., Dept. of Int. (unpubl.). 94p.

This describes early water catchment system, and estimates the discharge of 140 perennial streams and springs. Maps are included.

[MARC]

STEARNS, H. T. 1944. See reference 347.

242. STEPHENSON, R. A. (ed.). 1979. Freshwater use customs on Guam. Exploratory study. Univ. Guam Water Resources Res. Center Tech. Rept. 8. 146p.

This study describes the traditional water sources and customs, and lists the rivers and springs used by older Chamorros during pre-war Guam. Figures and photos are included.

[WERI]

- \*SMALLEY, T. L., W. J. ZOLAN, and S. J. WINTER. 1981. See reference 346.

243. STEPHENSON, R. A., and D. MOORE. 1980. Freshwater use customs on Rota: an exploratory study. Univ. Guam Water Resources Res. Center Tech. Rept. 17.

This contains information on the freshwater sources on Rota in prehistoric and historic times. Photos and illustrations are included.

[WERI]

244. STONE, A. 1945. A new species of Aedes from Saipan and the larva of Aedeia pandani (Diptera, Culicidae). Proc. Ent. Soc. Wash. 47:65-69.

245. STONE, B. C. 1964a. A review of the new botanical names published in Safford's "Useful Plants of Guam." Micronesica 1(1-2):123-130.

This reviews and changes invalid or illegitimate names to currently accepted names. A bibliography of recent publications on the flora of Guam is included.

[MARC]

246. STONE, B. C. 1964b. Additions to the flora of Guam. Micronesica 1(1-2):131-136.

This is the first such paper on addition plant descriptions.

[UOGML]

247. STONE, B. D. 1965. Further additions to the flora of Guam. Micronesica 2(1):47-50.

This is the second addition to the flora of Guam.

[UOGML]

248. STONE, B. C. 1966. Further additions to the flora of Guam, III. Micronesica 2(2):133-142.

This article adds descriptions which supplement previous notes. It has 1 key, 1 photo, and 1 figure.

[MARC]

249. STONE, B. C. 1967. The phytogeography of Guam. Micronesica 3(1): 67-73.

A review of the origins of the plants (931 species) of Guam; it suggests 63% are introduced.

[MARC]

250. STONE, B. C. 1970. The flora of Guam. *Micronesica* 6(1-2):1-659.

A much referred-to volume of botanical descriptions, ranges and photos.

[MARC]

251. STROUP, L. 1940. On the geology of Guam. *Guam Recorder* 17(4): 139-140; 17(7):271-273, 297-298.

252. SUGAWARA, S. 1934. Topography, geology and coral reefs of Rota Island. Thesis, Inst. Geol. Paleontol., Tohoku Imp. Univ. 58p.

This thesis contains general notes on topography. It has a section on drainage system. Many maps, tables and lists are included. His map is one of only a few that even sketches in the streams of Rota.

[MARC]

253. SUNDSTROM, R. W. 1947. Water resources of Guam. U.S. Dept. of the Army, Corps of Eng. Mimeo. 52p.

254. SUNN, LOW, TOM, and HARA. 1977. Hydrological study for potential water supply reservoir, Ugum River. Territory of Guam. Prep. for U.S. Army Corps Eng.

255. TAYAMA, R. 1935. Topography of Rota Island. *Geog. Rev. Tokyo* (Chirigaku Hyoron) 11(6).

256. TAYAMA, R. 1936a. Geomorphology, geology and coral reefs of Tinian Island, together with Aguijan and Naftan Islands. Inst. of Geol. and Paleontol., Tohoku Univ., Contrib. 108p.

A brief general geological description with figures.

[MARC]

257. TAYAMA, R. 1936b. Observations of the topography and geology of Tinian (supplement). *Japan Assoc. Arts Sci. Rept.* (Nippon Gaku Tutsu Kyokai Hokoku) 11(2):182-185.

[MARC]

258. TAYAMA, R. 1936c. Geomorphology, geology and coral reefs of the North Marianas group. Inst. Geol. Paleont., Tohoku Imp. Univ. Contrib. 23. 81p.

This describes the Pagan Lakes at the time; includes 75 figures. This paper has been translated to English.

[LE]

259. TAYLOR, M. H. 1979a. Flood control project in the Chalan/Kanoa Susupe area, Saipan, C.N.M.I. A letter rept. of the U.S. Fish and Wildlife Serv. biological reconnaissance rept. on concepts developed by the U.S. Army Corps Eng., Honolulu Dist. 20p.

This analyzes the impact to the biota by proposed levees and dikes. It lists flora and fauna of the wetland/lake area and the marine outfall area. Tables, maps and photos are included.

[LE]

260. TAYLOR, M. H. 1979b. Asan river flood control project, Asan, Guam. A letter rept. from U.S. Fish and Wildlife Serv. to U.S. Army Corps of Eng., Fort Shafter, Hawaii. 27p.

A descriptive account of the environmental setting and flood problems. It contains tables of physiochemical conditions and organisms found on or near 8 river collecting stations. Figures and photos are included.

[LE]

261. TAYLOR, M. H. 1979c. Garapan area flood control, Saipan, C.N.M.I. U.S. Fish and Wildlife Serv. Planning aid letter on the proposed U.S. Army Corps Eng. Garapan area flood control project. 8p.

This survey includes the flora and fauna that would be affected by a proposed 1300 ft. by 20 ft. wide concrete channel. Tables and maps are included.

[LE]

262. TENORIO, J. C. AND ASSOCIATES, INC. 1979. Ornithological survey of wetlands in Guam, Saipan, Tinian and Pagan. U.S. Army Corps of Eng. Pac. Div. 202p.

A good inventory of the wetland birds and certain wetland sites. It compiles relevant biological data about wetland sites and has aerial maps with overlays by Asia Mapping.

[LE]

263. TIMBOL, A. 1979. Freshwater macrofauna and habitats in the Hawaiian archipelago and U.S. Oceania. pp. 1-23. In Literature review and synthesis of information on Pacific Island ecosystems. Prep. by Documentation Assoc. for the U.S. Fish and Wildlife Serv. 338p.

A good source for Hawaiian fauna but lacking on Marianas literature. One reference (Randall and Tsuda 1973) does not exist.

[LE]

264. TOWILL CORP., R. M. 1978. Headwaters of streams. Honolulu, Hawaii. Prep. for U.S. Army Corps of Eng.

This contains streamflow data for gaged perennial streams on Guam.

[GEPA]

265. TRACEY, J. I., JR., C. H. STENSLAND, D. B. DOAN, H. G. MAY, S.O. SCHLANGER, and J. T. STARK. 1959. Military geology of Guam, Mariana Islands. Intell. Div. Office of Eng., H.Q.U.S. Army Pac. Div. 282p.

Part 1 has data concerning geology, geography, soils, vegetation and climate. Part 2 has suitabilities of the terrain for military operations. Maps, figures, tables and photos are included.

[USGS]

266. TRACEY, J. I., JR., S. O. SCHLANGER, J. T. STARK, D. B. DOAN, and H. G. MAY. 1964. General geology of Guam. Geol. Surv. Prof. Paper 403-A. 104p.

A study of the stratigraphy, structure, and recent geologic history of Guam. Maps, figures and photos are included.

[USGS]

267. TSUDA, R. T.(ed.) 1969. Biological results of an expedition to Rota. Mariana Islands. Univ. Guam Div. of Biosciences and Marine Studies. 37p.

This report includes lists of some marine and terrestrial wetland flora and fauna. Figures, tables, and a bibliography are included.

[UOGML]

268. UNIVERSITY OF GUAM MARINE LABORATORY. 1981. A working list of marine organisms from Guam. Univ. Guam Mar. Lab. Tech. Rept. 70. 88p.

This report contains freshwater fishes found in Guam's rivers. It includes a list of introduced river and Fena Reservoir fish.

[UOGML]

269. U.S. ARMY CORPS OF ENGINEERS. Flood hazard information. Pac. Div. Honolulu, Hawaii.

This contains information of flood hazards in the Tamuning area, Agana River, Masso River, and the Salinas River.

[BP]

270. U.S. ARMY CORPS OF ENGINEERS. Reconnaissance report on flood problems at Merizo (Geus River), Umatac (Umatac River) and Agat-Santa Rita (Namo River), Territory of Guam. Pac. Div., Honolulu, Hawaii. 15p.

271. U.S. ARMY CORPS OF ENGINEERS. 1944. Strategic engineering study no. 113. Marianas (except Guam) Terrain Intell. Prep. by U.S. Geol. Surv. for U.S. Army, Office Chief of Engineers, Washington, D.C. 47p.

A description of the general geology, topography, water supply and vegetation for the M.I. Maps and photos are included.

[USGS]

272. U.S. ARMY CORPS OF ENGINEERS. 1956. Annotated bibliography of geologic and soils literature of western north Pacific Islands. Prep. by Intell. Div. Office of Eng., H.Q.U.S. Army Far East, with U.S. Geol. Surv.

An annotated bibliography that contains translations, lists and figures.

[USGS]

273. U.S. ARMY CORPS OF ENGINEERS. 1972a. Plan of investigation for navigation flood control and related water resources Territory of Guam, M.I. Pac. Div., Honolulu, Hawaii. 15p.

This survey includes the entire island; covers navigation, flood control and related water resources.

[BP]

274. U.S. ARMY CORPS OF ENGINEERS. 1972b. Draft environmental statement, flood control project Namo River, Territory of Guam. Pac. Div. Honolulu, Hawaii. 16p.

This report outlines the potential control of flooding Namo river.

[LE]

275. U.S. ARMY CORPS OF ENGINEERS. 1973. Detailed project report for flood control, Namo River, Guam. Pac. Div., Honolulu, Hawaii. 61p.

This is an evaluation of flooding problems in the Santa Rita-Agat area; discusses possible solutions. Tables and plates are included.

[BP]

276. U.S. ARMY CORPS OF ENGINEERS. 1974. Agreement between the United States of America and Government of Guam for local cooperation at Namo River flood control project. Pac. Div., Honolulu, Hawaii.

This is a formal contract written up by the U.S. Army Corps for channelization of the Namo flood plain.

[BP]

277. U.S. ARMY CORPS OF ENGINEERS. 1975a. Draft environmental statement; harbors and rivers in the Territory of Guam. Interim. Rept. on flood control Agana River, Guam. Pac. Div., Honolulu, Hawaii. 43+6p.

This investigates the navigation, flood control and related cultural and physical water resource problems of the Agana River. It suggests proposed actions and alternatives for improvement. The Appendix summarizes the benefits, cost analysis and flora and fauna of the Agana-Chaot River basin (from UOG Mar. Lab. Rept.). Plates are included.

[MARC]

278. U.S. ARMY CORPS OF ENGINEERS. 1975b. Interim report harbors and rivers in the Territory of Guam, Agana, River. Pac. Div., Honolulu, Hawaii. 32p.

This report addresses resources, problems, and present and future water drainage needs. The appendix discusses geology, hydrology and economics. Maps, figures and tables are included.

[USGS]

280. U.S. ARMY CORPS OF ENGINEERS. 1975d. Flood hazard study, Geus River, Guam. Pac. Div., Honolulu, Hawaii. 4p.

This discusses the hydrology and presents technical information on flood frequencies and discharges. A map of the area which would be inundated by a 100-year flood is included. Four plates are presented in this study.

[USGS]

281. U.S. ARMY CORPS OF ENGINEERS. 1975 e. Flood hazard study, Inarajan River, Guam. Pac. Div., Honolulu, Hawaii. 3p.

This report presents information on the flood hazard potential along the river. It includes hydrology and technical information on flood frequencies and discharges. Six plates are included.

[USGS]

282. U.S. ARMY CORPS OF ENGINEERS. 1975f. Flood hazard study, Masso River, Guam. Pac. Div., Honolulu, Hawaii. 4p.

This report includes hydrology and technical information on the flood hazard potential along the river. Four plates are included.

[USGS]

283. U.S. ARMY CORPS OF ENGINEERS. 1975g. Flood hazard study, Salinas River, Guam. Pac. Div., Honolulu, Hawaii. 4p.

This study discusses hydrology and presents technical information on flood frequencies and discharges. Tables and plates are included.

[USGS]

284. U.S. ARMY CORPS OF ENGINEERS. 1975h. Flood hazard study, Tamuning area, Guam. Pac. Div., Honolulu, Hawaii. 3p.

This study discusses hydrology of the basin and presents technical information on the flood frequencies and discharges. Three plates are included.

[USGS]

285. U.S. ARMY CORPS OF ENGINEERS. 1975i. Flood hazard study, Umatac River, Guam. Pac. Div., Honolulu, Hawaii. 4p.

This provides information flood potential and hazards and technical information on flood frequencies and discharges. Five plates are included.

[USGS]

286. U.S. ARMY CORPS OF ENGINEERS, 1975j. Flood hazard study, Agana River, Guam. Pac. Div., Honolulu, Hawaii. 3p.

This study discusses hydrology and presents information on flood frequencies and discharges. Four plates are included.

[USGS]

287. U.S. ARMY CORPS OF ENGINEERS. 1976a. Flood hazard study, Asan area, Guam. Pac. Div., Honolulu, Hawaii. 3p.

This study discusses the hydrology of the area and presents technical information on flood frequencies and discharges. Seven plates are included.

[USGS]

288. U.S. ARMY CORPS OF ENGINEERS. 1976b. Flood hazard study, Pago River, Guam. Pac. Div., Honolulu, Hawaii.

This report discusses the hydrology of the Pago River drainage and basin and present technical information on flood frequencies and discharges. Four plates are included.

[USGS]

289. U.S. ARMY CORPS OF ENGINEERS. 1976c. Flood hazard study, Ylig River, Guam. Pac. Div., Honolulu, Hawaii. 4p.

This discusses the hydrology of the drainage basin and presents technical information on flood frequencies and discharges. Four plates are included.

[MARC]

290. U.S. ARMY CORPS OF ENGINEERS. 1977a. Plan of study: Ugum River. Territory of Guam. Pac. Div., Honolulu, Hawaii.

This is a detailed survey of Ugum River surface water resources for potential development of a potable water supply.

[LR]

291. U.S. ARMY CORPS OF ENGINEERS. 1977b. Guam water resources development. Pac. Div., Honolulu, Hawaii. 24p.

This describes the role of the U.S. Army Corps of Eng. on the planning and development of water resources.

[BP]

292. U.S. ARMY CORPS OF ENGINEERS. 1978. Headwaters on Guam. Pac. Div., Honolulu, Hawaii. 7p.

293. U.S. ARMY CORPS OF ENGINEERS. 1979a. Harbors and rivers in Guam: Reconnaissance (Stage 1) report for a comprehensive study of Guam's water resources. Pac. Div., Honolulu, Hawaii. 104p.

This identifies the water resource problems and formulates management measures. It has a good bibliography and many maps.  
[BP]

294. U.S. ARMY CORPS OF ENGINEERS. 1979b. Water resources development in the Commonwealth of the Northern Mariana Islands. Pac. Div., Honolulu, Hawaii. 24p.

This study includes a description and summary of freshwater floodplain areas of Saipan; includes glossary and photos.  
[LE]

295. U.S. ARMY CORPS OF ENGINEERS. 1980a. Ugum River interim report and environmental impact statement. Pac. Div., Honolulu, Hawaii. 48p.

This main report identifies problems and recommends plans for future water needs. It has 11 appendices which cover hydrology, geology and economics. Many figures and tables are included.  
[USGS]

296. U.S. ARMY CORPS OF ENGINEERS. 1980b. Flood and drainage on Guam, a handbook of basic information: a technical report from the comprehensive study of Guam's water and related resources. Pac. Div., Honolulu, Hawaii.

297. U.S. ARMY CORPS OF ENGINEERS. 1980c. Susupe-Chalan Kanoa flood control study. Pac. Div., Honolulu, Hawaii. 97p+Appendices.

This study identifies problems and formulates recommendations for this Saipan wetland. The appendices are extensive; on hydrology, geology, and economics. Maps, figures and tables are included.  
[LE]

298. U.S. FISH AND WILDLIFE SERVICE. 1979a. A bibliography of the Northern Mariana Islands. Pac. Is. computer citation list by S.D.C.'s Inter. Search Service. 105p.

This is a list with 510 citations.  
[LE]

299. U.S. FISH AND WILDLIFE SERVICE. 1979b. Guam Island bibliography. Pac. Is. computer citation list by S.D.C.'s Inter. Search Service. 203p.

This bibliography lists 1000 citations concerning Guam.  
[LE]

300. U.S. GEOLOGICAL SURVEY. U.S. Geol. Surv. Library, Guam.  
 They retain and updated files on river E.I.S.'s and flood control plans for Guam's rivers, groundwater supplies, and drilling. Files on the Trust Territory and Marianas projects, letters and notes from Fumikiko Nakajima (Eng.) and Risabura Tayama, and catalogues of Japanese translations of geological papers are also available for reference.  
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302. U.S. GEOLOGICAL SURVEY. 1959b. Surface water supply of Hawaii and other Pacific areas. U.S. Geol. Surv. Water Resources Div. 96p.  
 [NFL]
303. U.S. GEOLOGICAL SURVEY. 1962. Surface water supply of the Marianas, Caroline and Samoa Islands through June, 1960. Water Supply Paper 1751. 107p.  
 This is a record of results from gaging stations; Denni Springs on Saipan and 13 sites on Guam. Reports for other years are filed at the USGS library.  
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304. U.S. GEOLOGICAL SURVEY. 1962-65. Geology and hydrology of Guam. U.S. Geol. Surv. Professional Papers 403-A through 403-H.  
 This series covers geology, petrology, foraminifera, fossil calcareous algae, mineralogy and hydrology (Ward 1964). All eight volumes are bound in MARC.  
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305. U.S. GEOLOGICAL SURVEY. 1967. Water resources data for Hawaii and other Pacific areas, 1966. U.S. Dept. Int. Honolulu, Hawaii. 261p.  
 These reports are updated yearly from 1966.  
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306. U.S. GEOLOGICAL SURVEY. 1968. Water resources data for Hawaii and other Pacific areas, 1967. U.S. Dept. Int. Honolulu, Hawaii. 267p.

307. U.S. GEOLOGICAL SURVEY. 1969. Water resources data for Hawaii and Pacific areas. U.S. Dept. Int. Honolulu, Hawaii. 289p.

These are current and ongoing water data reports.

[USGS]

308. U.S. GEOLOGICAL SURVEY. 1970. Water resources data for Hawaii and other Pacific areas, 1968. U.S. Dept. Int. Honolulu, Hawaii. 296p.

These are current and ongoing water data reports.

[USGS]

309. U.S. GEOLOGICAL SURVEY. 1971a. Surface water supply of the United States, Part 16, Hawaii and other Pacific areas. Geol. Surv. Water Supply Paper 1937. 710p.

[USGS]

310. U.S. GEOLOGICAL SURVEY. 1971b. Water resources data for the Trust Territory of the Pacific Isl. 1968-70. Surface water records. U.S. Geol. Surv., Rept. 71. 92p.

This is a record of discharge and the stream stages in the Trust Territory. It includes Denni Spring and south and middle fork of Talofof stream. Maps, tables and photos of gaging stations are included.

[USGS]

311. U.S. GEOLOGICAL SURVEY. 1973. Water resources data for Hawaii and other Pacific areas. 264p.

These are current and ongoing water progress reports.

312. U.S. GEOLOGICAL SURVEY. 1974. Water resources data for Hawaii and other Pacific areas. 277p.

This is a combined surface water and water quality record. It includes 3 sites on Saipan, 1 site on Rota, and 13 sites on Guam.

[USGS]

313. U.S. GEOLOGICAL SURVEY. 1976. Water resource data for Hawaii and other Pacific areas. 445p.

This study contains records at 3 sites on Saipan (Talofof River and Denni Springs) and 11 sites on Guam. See entry 316 for sites.

[LE]

314. U.S. GEOLOGICAL SURVEY. 1977. Water resources data for Hawaii and other Pacific areas, Vol. 2. Trust Territory of the Pacific Islands, Guam, American Samoa, and Northern Mariana Islands. 90p.

This reports the discharges from 3 sites on Saipan and 11 sites on Guam. See entry 316 for sites.

[LE]

315. U.S. GEOLOGICAL SURVEY. 1978. Water resources data for Hawaii and other Pacific areas, Vol. 2. Trust Territory of the Pacific Islands, Guam, American Samoa, and Northern Mariana Islands. 108p.

This records of the discharge from 3 sites on Saipan and 11 sites on Guam. See entry 316 for sites.

[LE]

316. U.S. GEOLOGICAL SURVEY. 1979. Water resources data for Hawaii and other Pacific areas, Vol. 2. Trust Territory of the Pacific Islands, Guam, American Samoa, and Northern Mariana Islands. HI-72-2. 126p.

A record of stage discharge and water levels in wells and springs. There are three sites on Saipan, 11 sites on Guam. The sites are: Saipan; Demmi Spring, South and Middle Fork Talofofa Stream. Guam; Finile Creek at Agat, La Sa Fua River near Umatac, Inarajan River, Tinaga River, Imong River, Almagasa River, Maulap River, Fena Dam spillway and the Ugum, Ylig, and Pago Rivers. It includes tables of phytoplankton data from Pago River. See reference 347 (1980 ed.).

[LE]

317. U.S. NAVY. 1943. Water resources data: Pacific Islands. U.S. Navy Yards and Docks. 66p.

[MARC]

318. U.S. NAVY. 1945-46. Report on the water supply system of Saipan. U.S. Geol. Surv. 64p.

This report reviews the water sources as well as water tables and their development on Saipan. Tables and maps are included.

[USGS]

319. U.S. NAVY. 1974. Fena River watershed and reservoir management study, Guam, M.I. Phase I: Baseline study. Phase I: Dam stability study watershed management plan. 138p.

This study discusses the general watershed characteristics, limnological and chemical data, hydrology, dam stability, water quality control, and management plan for Fena. Study also lists plants, macroinvertebrates, and fish in the area.  
[MARC]

320. U.S. PACIFIC FLEET. 1945. Water resources and development on Guam. Commander Serv. Forces. 5p.

A lab report of mineral analysis for Guam compared with water analysis from Oahu, Hawaii.

[USGS]

321. U.S. WATER RESOURCES COUNCIL. 1970. Regulation of flood hazard areas to reduce flood losses. Guam Bur. Planning Library. Three parts.

[LE]

322. UTINOMI, H. 1952. Bibliography of Micronesia. Univ. Hawaii Press, Honolulu. 157p.

This has sections on geology, limnology, botany and zoology for Guam and the Marianas.

[NFL]

323. VALDER, S. M., HOSKINS, R., and A. RANOS. 1976. Some mosquitos of Tinian, Mariana Islands. Mosq. News 36(3):365-366.

324. VAN DER BURGH, J. 1917. Notes on the herpetology of Guam. Mariana Islands. Calif. Acad. Sci. Proc. (4th series) 7:37-39.

325. VAN DER BRUG, D. 1971. Water resources data for the Trust Territory of the Pacific Islands, 1968-1970 water records. U.S. Geol. Surv. Rept. 1971. 92p. Seven figures.

VAN PEL, H. 1955. See reference 348.

326. VERMEIJ, G. J. 1969. Observations on the shells of some fresh-water neritid gastropods from Hawaii and Guam. Micronesica 5(1):155-162.

This study relates the clinging ability in swift and quiet waters to shell morphology for three species of Neritina and one species of Septaria.

[UOGML]

327. VILLALOBOS, F. R. 1833. Geographic, military and political description of the island of Guam. San Ignacio, Agana, Guam, M.I. Translated by Sister Felicia Plaza, M.M.B.

This contains descriptions of river locations.

[MARC]

328. VON PROWAZEK, S. 1913. Die Deutschen Marianen. Johann Ambrosius Barth, Leipzig. 125p.

This is an early German classic on the natural history of mostly Guam, Rota, Tinian and Saipan. It includes a fauna and flora species list.

[LE]

329. WAGNER, W. H., JR., and D. F. GREYER. 1948. Pteridophytes of Guam. B.P. Bishop Museum Occas. Paper 19:25-99.

330. WARD, P. E. 1961. Water in Guam. The Military Eng. July-August. 270-272.

This study discusses the early natural history conditions and hydrology. It concludes that hydrologic conditions are complex on Guam.

[MARC]

331. WARD, P. E., and J. W. BROOKHART. 1962. Military geology of Guam, Mariana Islands. Water resources supplement. Office of Eng. H.Q.U.S. Army Pac. Div. Intell. Div. 182p.

A detailed description of the major groundwater supply in Guam. Figures, tables and a map are included.

[USGS]

332. WARD, P. E., S. H. HOFFARD, and D. A. DAVIS. 1965. Hydrology of Guam. U.S. Geol. Surv. Prof. Paper 403-H. 28p.

This describes the water on the surface and in the rocks of Guam. The report includes a summary of the climate and an outline of the geology of the island. It gives information on the development of Guam's water and the chemical character of the water. Charts and maps are included.

[MARC]

333. WATER AND ENERGY RES. INSTITUTE. Technical reports. 1975- .

These reports are available at the research center at the Univ. Guam campus. Presently (1981) 29 reports have been printed; mostly freshwater oriented.

[WERI]

334. WATER RESOURCES RES. CENTER. Annual reports. 1975-79.

These report on the status of programs and activities in progress.

[WERI]

335. WATKINS, R. L., and D. BELK. 1975. The Copepoda of Guam. *Crustaceana* 28(3):302-304.

This paper describes three freshwater copepod species: Mesocyclops leuckarti from ponds, and Bryocyclops anninae and Phyllognathopus viguieri menzeli from leaf axles of Pandanus. One figure is included.

[LE]

336. WENTWORTH, D. K., P. H. PETERMAN, and F. OHRT. 1945. Water resources and development on Tinian. *Comserv. Pac. LTR. Serial* 263-09 and 4121-09.

337. WILDER, M. J. 1976. Estuarine and mangrove shorelines. pp. 157-189. In R. H. Randall and L. G. Eldredge. *Atlas of the reefs and beaches of Guam*. Coastal Zone Management section, Bur. Planning, Agana, Guam. 191p.

These detailed maps of the back bay areas of Apra Harbor and Cocos Lagoon depict the mangrove vegetation and estuarine river channels.

[UOGLM]

338. YAMASHIMA, Y. 1948. Notes on the Mariana Mallard. *Pac. Sci.* 2:121-124.

This contains early notes on the duck from Guam, Tinian, and Saipan.

[RT]

#### LATE ENTRIES

339. BEST, B. R., and C. E. DAVIDSON. 1981. Inventory and atlas of the inland aquatic ecosystems of the Marianas archipelago. Univ. Guam Mar. Lab. Tech. Rept. 75.

This atlas and biological inventory supplements this bibliography.

[UOGML]

340. CHIMITS, P. 1957. The tilapias and their culture. FAO Fish. Bull. 10(1):1-24.

This paper notes the release of T. mossambica in Lake Susupe, Saipan, M.I.

[LE]

341. IKEBE, K. 1939. Records of the introduction of the top minnows into the South Sea Islands. Nanyo Suisan Jōho (South Sea Fishery News) 3(9):7-10.

This note relates the introduction of 170 Gambusia to Saipan and eventually Palau.

[LE]

342. M. AND E. PACIFIC, INC. 1978. Water management plan for Saipan, Rota and Tinian. Dept. of Public Works, Govt. of the Northern Mariana Islands.

This presents a master plan of these islands' water system; delineates the impact on the NMI and suggest improvements to conform to the water requirements.

[USGS]

343. MACIOLEK, J. A. 1982. Exotic fishes in Hawaii and other islands in Oceania. In W. R. Courtenay, Jr., and J. R. Stauffer (eds.), Distribution, biology and management of exotic fishes. Am. Fish. Soc. (In prep.).

344. PETERMAN, P. H. 1945. Water resources and development on Tinian. Bd. of Water Supply. Honolulu, HI. 16p.

Paper reports a survey of natural water resources with recommendations for development.

[USGS]

345. ROBBINS, W. H., and H. R. MacCRIMMON. 1974. The blackbass in America and overseas. Publ. Div. Biomangement Res. Enterprises, Sault Ste Marie, Ontario, Can. 196p.

This report notes the 1963 introduction of 56 largemouth bass in Almagosa River, Guam, and another 3000 fingerlings into Fena Reservoir.

346. SMALLEY, T. L., W. J. ZOLAN, and S. J. WINTER. 1981. The water quality assessment for Agana Springs. Water and Energy Research Inst. Tech. Rept. 22. 34p. [WERI]
347. STERNS, H. T. 1944. Report on the water, rock and mineral resources of Saipan. Dept. Int., Geol. Surv. 28p.  
  
This is a comprehensive collection of information on the natural water resources on Saipan. Suggestions are offered on conservation and development of the water resources. Maps and plates are included. [USGS]
348. VAN PEL, H. 1955. Pond culture of Tilapia. South Pac. Comm. Quarterly Bull. 5(2):30-31.  
  
Reports the introduction of T. mossambica to Guam from the Philippines. [LE]
349. U.S. GEOLOGICAL SURVEY. 1980. Water resources data for Hawaii and other Pacific areas, Vol. 2. Trust Territory of the Pacific Islands, Guam, American Samoa, and Northern Mariana Islands. 158p.  
  
Yearly report on the discharge data of 3 sites on Saipan and 11 sites on Guam. See reference 316 for site locations. [USGS]
350. ZOLAN, W. J. 1981. Diatom assemblages as indicators of water quality in the freshwater habitats of Guam. Water and Energy Res. Inst. Tech. Rept. 29. 34p.

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