

UNITED STATES DEPARTMENT OF THE INTERIOR

U.S. FISH AND WILDLIFE SERVICE  
BUREAU OF COMMERCIAL FISHERIES

Fishery Leaflet 624

Washington, D. C. 20240

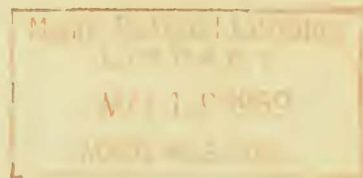
March 1969

**LIST OF SPECIAL SCIENTIFIC REPORTS AND SPECIAL SCIENTIFIC  
REPORT--FISHERIES OF THE U.S. FISH AND WILDLIFE SERVICE**

Special Scientific Reports (1940-49) are preliminary reports, progress reports, and reports on investigations of restricted scope, intended to aid management and utilization; and to help guide administrative or legislative action; issued in limited quantities for Federal, State, and cooperating agencies. In 1949 the Special Scientific Report series was split into a fishery series and a wildlife series, each with a new numerical sequence. The new fishery series became the Special Scientific Report--Fisheries. (Reports preceded by asterisks are out of print, but can be borrowed from some public and college libraries.)

The Special Scientific Report--Fisheries series has limited distribution and the reports are mailed direct to workers in the field of fishery research and conservation and libraries. They are not sent to commercial concerns for selling or lending.

**SPECIAL SCIENTIFIC REPORTS**



No.

Title

- \* 1. Pollution of the Coeur d'Alene River and adjacent waters by mine wastes. By M. M. Ellis. 1940, iii + 61 pp., 13 figs., 4 tables.
- \* 2. Water purity standards for fresh-water fishes. By M. M. Ellis. 1944, i + 16 pp.
- \* 3. Stream pollution studies in the State of Mississippi. By M. M. Ellis. 1940, ii + 13 pp., 3 tables.
- \* 4. Report of the Pensacola Dam impoundment of the Grand River with special reference to fishery problems in the completed reservoir. By M. M. Ellis. 1940, iii + 12 pp., 1 fig., 2 tables.



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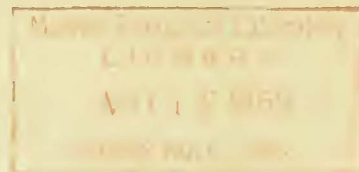
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| * 1. | Pollution of the Coeur d'Alene River and adjacent waters by mine wastes. By M. M. Ellis. 1940, iii + 61 pp., 13 figs., 4 tables.  |
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| * 4. | Report of the Pensacola Dam impoundment of the Grand River with special reference to fishery problems in the completed reservoir. By M. M. Ellis. 1940, iii + 12 pp., 1 fig., 2 tables. |



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| * 5.  | Observations on the life history, occurrence, and distribution of the redfish parasite <i>Sphyrion lumpi</i> . By William C. Herrington, Henry M. Bearse, and Frank E. Firth. 1940, i + 12 pp., 6 figs., 3 tables.  |
| * 6.  | The white marlin fishery of Ocean City, Maryland. By Swepson Earle. 1940, i + 15 pp., 6 figs., 4 tables.  |
| * 7.  | Pulp-mill pollution of the Rainy River near International Falls, Minnesota. By B. A. Westfall and M. M. Ellis. 1940, ii + 11 pp., 3 figs., 1 table.   |
| * 8.  | A study of the Mississippi River from Chain of Rocks, St. Louis, Missouri, to Cairo, Illinois, with special reference to the proposed introduction of ground garbage into the River by the City of St. Louis. By M. M. Ellis. 1940, iii + 22 pp., 7 tables. |
| * 9.  | Pollution studies of effluents from the Dickinson Salt Works, Malden, West Virginia. By M. M. Ellis. 1940, iv + 14 pp., 2 tables.   |
| * 10. | An investigation of fish-salvage problems in relation to Shasta Dam. By Harry A. Hanson, Osgood R. Smith, and Paul R. Needham. 1940, xviii + 200 pp., 23 figs., 45 tables, 2 maps.  |
| * 11. | Pollution survey of the Cumberland River in the vicinity of Nashville, Tenn., August 1936. By M. M. Ellis and B. A. Westfall. 1943, iii + 16 pp.  |
| * 12. | Mine-waste pollution of Bear Butte Creek, Black Hills, South Dakota. By M. M. Ellis. 1940, ii + 9 pp., 1 table.   |
| * 13. | Industrial and organic pollution of the Buffalo River, Buffalo, New York. By B. A. Westfall. 1940, iii + 23 pp., 4 figs., 3 tables.   |
| * 14. | A survey of the Sandy River and its tributaries, 1940, with reference to fish management. By Joseph A. Craig and A. J. Suomela. 1940, iii + 20 pp., 7 figs., 3 tables.  |
| * 15. | Preliminary investigation of methods for freezing and storing fillets of some Pacific Northwest fish. By Maurice E. Stansby and Roger W. Harrison. 1942, 25 pp., 7 tables.  |
| * 16. | Decline in abundance of the blue crab, <i>Callinectes sapidus</i> , in Chesapeake Bay during 1940 and 1941, with suggested conservation measures. By John C. Pearson. 1942, ii + 27 pp., 4 figs., 8 tables.   |
| * 17. | Statistical review of the pink salmon trap fishery of Southeastern Alaska. By Elizabeth Vaughan. 1942, i + 34 pp., 59 figs., 17 tables.   |



| No.   | Title   |
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| * 18. | Fishery management. By William C. Herrington and Robert A. Nesbit. (With an introduction by Ira N. Gabrielson.) 1943, i + 69 pp., 3 figs., 4 tables.  |
| * 19. | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). 1. - Structure of a research program to determine how fishing affects the resource. By Oscar E. Sette. 1943, iv + 27 pp., 3 figs.   |
| * 20. | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). 2. - Determination of the age of juveniles by scales and otoliths. By Lionel A. Walford and Kenneth H. Mosher. 1943, iii + 19 pp., 32 figs., 8 tables.  |
| * 21. | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). 3. - Determination of age of adults by scales, and effect of environment on first year's growth as it bears on age determination. By Lionel A. Walford and Kenneth Mosher. 1943, iii + 29 pp., 6 figs., 9 tables. |
| * 22. | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). 6. - Thermal and diurnal changes in the vertical distribution of eggs and larvae. By Ralph P. Silliman. 1943, iii + 17 pp., 4 figs., 11 tables.   |
| * 23. | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). 4. - Influence of temperature on the rate of development of pilchard eggs in nature. By Elbert H. Ahlstrom. 1943, iii + 26 pp., 2 figs., 6 tables, 2 plates.  |
| * 24. | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). 5. - A method of computing mortalities and replacements. By Ralph P. Silliman. 1943, iii + 10 pp., 2 figs., 3 tables.   |
| * 25. | Outlook for the Alaska herring fishery in 1944. By E. H. Dahlgren and L. N. Kolloen. 1944, 18 pp., 10 tables.   |
| * 26. | Supplementary report on investigations of fish-salvage problems in relation to Shasta Dam. By Paul R. Needham, Harry A. Hanson, and Lewis P. Parker. 1943, ii + 50 pp., 19 tables, 2 maps.  |
| * 27. | The retention of adult salmon with particular reference to the Grand Coulee fish-salvage program. By Frederick F. Fish. 1944, i + 29 pp., 3 figs., 5 tables.  |
| * 28. | Harbor seals and sea lions in Alaska. By Ralph H. Imler and Hosea R. Sarber. 1947, 23 pp., 6 figs., 2 tables.   |
| * 29. | The condition of the natural oyster reefs and other public oyster bottoms of Alabama in 1943 with suggestions for their improvement. By James B. Engle. 1945, 42 pp., 1 fig., 14 tables.  |

| No.   | Title  |
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| * 30. | Water quality studies of the Mississippi River. By Wesley S. Platner. 1946, 77 pp., 22 figs., 29 tables.   |
| * 31. | Studies of an ichthyosporidian-like parasite of oceanpout ( <i>Zoarces anguillaris</i> ). By Leslie A. Sandholzer, Thomas Nostrand, and Leo Young. 1945, ii + 12 pp., 4 tables, 6 plates.  |
| * 32. | Oyster bars of the Potomac River. By David G. Frey. 1946, 93 pp., 26 figs., 27 tables.   |
| * 33. | An investigation of fish-maintenance problems in relation to the Willamette Valley project. By Joseph A. Craig and Lawrence D. Townsend. 1946, vii + 78 pp., 10 figs., 27 tables.  |
| * 34. | Intraseasonal and interseasonal variations in average weight of Columbia River chinook salmon ( <i>Oncorhynchus tshawytscha</i> ), 1939-1945. By Ralph P. Silliman, Willis H. Rich, and Floyd G. Bryant. 1947, 11 pp., 5 figs., 18 tables. |
| 35.   | Not issued.  |
| * 36. | Studies on substitute containers for canned fishery products. By Norman D. Jarvis and Lynne G. McKee. 1948, ii + 26 pp., 23 tables.  |
| * 37. | Studies on gum extracts from <i>Gracilaria confervoides</i> (North Carolina). By Charles F. Lee and Leonard S. Stoloff. 1946, 12 pp., 3 figs., 3 tables.   |
| * 38. | Water quality studies of the Delaware River with reference to shad migration. By M. M. Ellis, B. A. Westfall, D. K. Meyer, and W. S. Platner. 1947, i + 19 pp., 11 figs., 28 tables.   |
| * 39. | Effects of aquatic weed infestations on the fish and wildlife of the Gulf States. By J. J. Lynch, J. E. King, T. K. Chamberlain, and Arthur L. Smith, Jr. 1947, i + 71 pp., 11 tables.   |
| * 40. | Evaluation of fisheries in determining benefits and losses from engineering projects. By Richard A. Kahn and George A. Rounsefell. 1947, 10 pp., 4 tables.   |
| * 41. | DDT investigations by the Fish and Wildlife Service in 1946. By Arnold L. Nelson and Eugene W. Surber. 1947, iii + 8 pp.   |
| * 42. | Toxicity of phenyl-mercuric lactate for fish. By M. M. Ellis. 1947, 6 pp., 2 tables.   |
| * 43. | Cattle losses and the coyote on a southwestern range. By Adolph Murie. 1947, i + 84 pp., 2 tables, 3 maps.   |

| No.   | Title  |
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| * 44. | Echo-ranging for fish schools and observations on temperature and plankton in waters off Central California in the spring of 1946. By Osgood R. Smith and Elbert H. Ahlstrom. 1948, i + 30 pp., 13 figs., 9 tables.  |
| * 45. | Waterfowl breeding conditions-summer 1947. By Cecil S. Williams et al. 1948, i + 101 pp., 15 figs., 21 tables.   |
| * 46. | Red tide. Progress report on the investigations of the cause of the mortality of fish along the west coast of Florida conducted by the U.S. Fish and Wildlife Service and cooperating organizations. By Paul S. Galtsoff. 1948, iii + 44 pp., 9 figs., 8 tables. |
| * 47. | Development of fishery statistics in the North Atlantic. By George A. Rounsefell. 1948, i + 18 pp., 9 figs., 1 table.  |
| 48.   | Not issued.  |
| 49.   | Not issued.  |
| * 50. | Estimation of the troll catch of Columbia River chinook salmon, <i>Oncorhynchus tshawytscha</i> . By Ralph P. Silliman. 1948, ii + 15 pp., 4 figs., 10 tables.   |
| * 51. | A survey of the Columbia River and its tributaries with special reference to the management of its fishery resources. I. Introduction. By Willis H. Rich. 1948, i + 26 pp., 5 figs., 1 table.  |
| * 52. | Outlook for the Alaska herring fishery in 1948. By L. N. Kolloen and C. H. Elling. 1948, 23 pp., 2 figs., 13 tables.   |
| * 53. | History, development, and problems of electric fish screen. By Harlan B. Holmes. 1948, ii + 62 pp.   |
| * 54. | A record of pilchard eggs and larvae collected during surveys made in 1939 to 1941. By Elbert H. Ahlstrom. 1948, i + 76 pp., 6 figs., 22 tables.   |
| * 55. | A report upon the Grand Coulee fish-maintenance project, 1939-1947. By Frederic F. Fish and Mitchell G. Hanavan. 1948, iv + 63 pp., 3 figs., 24 tables, 6 plates.  |
| * 56. | Observations on the horizontal distribution and the numbers of eggs and larvae of the northern anchovy ( <i>Engraulis mordax</i> ) off California in 1940 and 1941. By John C. Marr and Elbert H. Ahlstrom. 1948, i + 13 pp., 4 tables.                          |
| * 57. | Control of deer irruptions in Nevada. By C. M. Aldous. 1948, i + 9 pp., 4 figs., 3 tables.   |



| No.   | Title   |
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| * 58. | A report on the appearance of the fungus <i>Ichthyosporidium hoferi</i> in the herring of the Northwestern Atlantic. By Leslie W. Scattergood. 1948, 33 pp., 7 figs., 9 tables.   |
| * 59. | Investigations of the oyster reefs of Mississippi, Louisiana, and Alabama following the hurricane of September 19, 1947. By James B. Engle. 1948, ii + 70 pp., 3 figs., 9 tables.   |
| * 60. | Waterfowl populations and breeding conditions - summer 1948 with notes on woodcock studies. By C. S. Williams et al. 1948, ii + 186 pp., 24 figs., 48 tables.   |
| * 61. | Conditions affecting shellfish production in Lynnhaven Bay, Virginia, and the possibilities of improving them by increasing tidal flow. By Walter A. Chipman, Jr. 1948, i + 20 pp., 2 figs., 2 tables.  |
| * 62. | A survey of the Columbia River and its tributaries with special reference to its fishery resources. 2. Washington streams from the mouth of the Columbia River to and including the Klickitat River (Area 1). By Floyd G. Bryant. 1949, ii + 110 pp., 7 figs. |
| * 63. | Summary of oyster farming experiments in South Carolina, 1939-1940. By R. O. Smith. 1949, ii + 20 pp., 19 figs., 3 tables.  |
| * 64. | A bibliography of lobster culture. By Leslie W. Scattergood. 1949, 22 pp.   |
| * 65. | Winter mortality among mule deer in the Fishlake National Forest, Utah. By W. Leslie Robinette. 1949, 15 pp., 2 figs., 5 tables.  |
| * 66. | Not issued.   |
| * 67. | The production and the fishing methods of the Maine herring industry with notes on the 1947 season. By Leslie W. Scattergood. 1949, i + 26 pp., 7 figs., 6 tables.  |

## SPECIAL SCIENTIFIC REPORT--FISHERIES

- | No.   | Title   |
|-------|---|
| * 1.  | Effects of oil mixed with carbonized sand on aquatic animals. By Walter A. Chipman and Paul S. Galtsoff. August 1949, iii + 52 pp., 25 figs., 23 tables.                            |
| * 2.  | Water temperature records from California's Central Valley, 1939-48. By Oliver B. Cope. September 1949, 77 pp., 1 fig., 72 tables.  |
| * 3.  | Effects of feeding DDT-sprayed insects to fresh-water fish. By C. H. Hoffmann and E. W. Surber. October 1949, i + 9 pp., 1 table.   |
| * 4.  | Effects of various concentrations of DDT on several species of fish of different sizes. By Eugene W. Surber and Clarence H. Hoffmann. November 1949, i + 19 pp., 3 figs., 7 tables. |
| * 5.  | Preliminary surveys of Roosevelt Lake in relation to game fishes. By Harold A. Gangmark and Leonard A. Fulton. September 1949, i + 29 pp., 4 figs., 10 tables.                      |
| * 6.  | Translations of foreign literature concerning lobster culture and the early life history of the lobster. Edited by Leslie W. Scattergood. October 1949, iv + 173 pp., 21 tables.    |
| * 7.  | A survey of the sports fishery of the Middle Atlantic Bight in 1948. By Raymond J. Buller and Harlan S. Spear. January 1950, ii + 20 pp., 3 figs., 3 tables.                        |
| * 8.  | An investigation of oyster producing areas in Louisiana and Mississippi damaged by flood waters in 1945. By Philip A. Butler. December 1949, ii + 35 pp., 5 figs., 8 tables.        |
| * 9.  | Possibilities for oyster culture in Puerto Rico and the Virgin Islands. By Walter A. Chipman and Paul E. Thompson. January 1950, i + 19 pp., 1 fig., 2 tables.                      |
| * 10. | Drift bottle releases off New Jersey. A preliminary report on experiments begun in 1948. By John R. Webster and Raymond J. Buller. January 1950, ii + 21 pp., 4 figs., 2 tables.    |
| * 11. | Observations of the effect of acid-iron waste disposal at sea on animal populations. By Edgar L. Arnold, Jr., and William F. Royce. January 1950, ii + 12 pp., 2 figs., 5 tables.   |
| * 12. | Biological investigations of the fishery resources of Trinity River, Calif. By James W. Moffett and Stanford H. Smith. February 1950, ii + 71 pp., 13 figs., 24 tables.             |

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| * 13. | The rational exploitation of the sea fisheries with particular reference to the fish stock of the North Sea. By Dr. G. P. Baerends. Translated from the Dutch language by Jan Hahn; edited by Howard A. Schuck. March 1950, iv + 102 pp., 11 figs., 20 tables.   |
| * 14. | The 1950 opening of the Bonnet Carre Spillway: its effect on oysters. By Philip A. Butler and James B. Engle. March 1950, ii + 10 pp., 2 figs., 7 tables.  |
| 15.   | Studies on the Pacific pilchard or sardine ( <i>Sardinops caerulea</i> ). May 1950, ii + 200 pp., 49 figs., 37 tables, 3 plates. (This is a reissue of Special Scientific Reports Nos. 19-24, issued in 1943.)   |
| * 16. | Three papers on the stocks of tunas in Japanese waters: (1) On the stock of <i>Thunnus orientalis</i> (Temminck & Schlegel); (2) on the stock of the yellowfin tuna, <i>Neothunnus macropterus</i> (Temminck & Schlegel); and (3) on the stock of the albacore, <i>Germo germo</i> (Lacépède). By Morisaburō Tauchi. Translated from the Japanese language by W. G. Van Campen. April 1950, i + 15 pp., 11 tables. |
| * 17. | Report of investigations of skipjack and tuna resources in 1947. By Nakamura Research Staff. Translated from the Japanese language by W. G. Van Campen. April 1950, i + 19 pp., 13 tables.   |
| * 18. | Spawning grounds of tuna and skipjack. Translated from the Japanese language by SCAP translators. Edited by B. M. Shimada and W. G. Van Campen. April 1950, i + 14 pp., 1 table.   |
| * 19. | Larval and juvenile tunas and skipjacks. By Kamakichi Kishinouye. Translated from the Japanese language by W. G. Van Campen. April 1950, i + 14 pp., 1 fig.  |
| * 20. | The gonads of skipjack from Palao waters. By Kizō Matsui. Translated from the Japanese language by W. G. Van Campen. April 1950, i + 6 pp., 2 figs.  |
| * 21. | Age determination of fish (preliminary report 1). By Hiroaki Aikawa and Masuo Katō. Translated from the Japanese language by W. G. Van Campen. April 1950, i + 22 pp., 8 figs., 16 tables.   |
| * 22. | Morphometry, growth, and age of tunas. Translated from the Japanese language by SCAP translators and W. G. Van Campen. Edited by B. M. Shimada and W. G. Van Campen. May 1950, i + 30 pp., 8 figs., 26 tables.   |
| * 23. | The food habits of yellowtail tuna <i>Neothunnus macropterus</i> (Schlegel) from the Celebes Sea. By Hiroshi Nakamura. Translated from the Japanese language by W. G. Van Campen. April 1950, i + 8 pp., 3 figs.   |



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| * 24. | A study of the mackerels, cybiids, and tunas. By Kamakichi Kishinouye. Translated from the Japanese language by W. G. Van Campen. May 1950, i + 14 pp.   |
| * 25. | Poisonous fishes of the South Seas. Translated from the Japanese language by W. G. Van Campen. May 1950, iii + 221 pp., 139 tables.  |
| * 26. | The pearl fishery of Venezuela. By Paul S. Galtsoff. May 1950, 26 pp., 6 figs., 7 tables.  |
| * 27. | Ciguatera: tropical fish poisoning. By William Arcisz. May 1950, iii + 23 pp., 7 tables.   |
| * 28. | The pearl-oyster resources of Panama. By Paul S. Galtsoff. May 1950, 53 pp., 28 figs., 7 tables.   |
| * 29. | Injured and dead fish in the vicinity of Bonneville Dam. By Harry A. Hanson, Paul D. Zimmer, and Ivan J. Donaldson. June 1950, v + 41 pp., 9 figs., 19 tables.   |
| * 30. | Pollution in the lower Columbia Basin in 1948--with particular reference to the Willamette Basin. By Frederic F. Fish and Robert R. Rucker. June 1950, iii + 22 pp., 2 figs., 1 table.   |
| * 31. | Doctoral dissertations on the management and ecology of fisheries. Prepared in the Branch of Fishery Biology. July 1950, i + 34 pp. (Reissued in October 1952 as Special Scientific Report--Fisheries No. 87, Doctoral dissertations on the management and ecology of fisheries. Additional listing - 1952.) |
| * 32. | Vitamin A in selected, pale-colored livers of Alaska fur seals, 1948. By Victor B. Scheffer, Neva L. Karrick, and F. Bruce Sanford. July 1950, i + 8 pp., 3 figs., 2 tables.   |
| * 33. | Results of encouragement for the development of albacore fishing grounds in 1939. Translated from the Japanese language by W. G. Van Campen. November 1950, i + 175 pp., 18 figs., 52 tables, 11 charts.   |
| * 34. | Upper Sacramento River sport fishery. By Stanford H. Smith. September 1950, i + 44 pp., 2 figs., 12 tables.  |
| * 35. | English translations of fishery literature. Compiled by Leslie W. Scattergood. March 1951, i + 65 pp.  |
| * 36. | Survey of the Columbia River and its tributaries--Part III. By Zell E. Parkhurst, Floyd G. Bryant, and Reed S. Nielson. September 1950, ii + 103 pp., 7 figs., 1 table.  |

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| * 37. | Survey of the Columbia River and its tributaries--Part IV. By Floyd G. Bryant and Zell E. Parkhurst. September 1950, ii + 108 pp., 9 figs., 2 tables.  |
| * 38. | Survey of the Columbia River and its tributaries--Part V. By Reed S. Nielson. August 1950, ii + 41 pp., 6 figs., 1 table.  |
| * 39. | Survey of the Columbia River and its tributaries--Part VI. By Zell E. Parkhurst. October 1950, ii + 58 pp., 9 figs., 1 table.  |
| * 40. | Survey of the Columbia River and its tributaries--Part VII. By Zell E. Parkhurst. November 1950, ii + 95 pp., 8 figs., 1 table.  |
| * 41. | Oxygen block in the main-stem Willamette River. By Frederic F. Fish and Richard A. Wagner. September 1950, i + 19 pp., 1 fig., 3 tables.   |
| * 42. | Tuna fishing in Palau waters. Translated from the Japanese language by SCAP translators and W. G. Van Campen. Edited by B. M. Shimada and W. G. Van Campen. January 1951, i + 26 pp., 4 tables, 2 charts.                    |
| * 43. | Fishing conditions south of the Marshall Islands. Translated from the Japanese language by W. G. Van Campen. January 1951, iii + 23 pp., 4 tables.   |
| * 44. | Tuna bait resources at Saipan. Translated from the Japanese language by W. G. Van Campen. January 1951, i + 15 pp., 4 tables.  |
| * 45. | Exploratory tuna fishing in Indonesian waters. Translated from the Japanese language by SCAP translators and W. G. Van Campen. Edited by B. M. Shimada and W. G. Van Campen. January 1951, i + 17 pp., 4 tables, 2 charts.   |
| * 46. | Exploratory tuna fishing in the Caroline Islands. Translated from the Japanese language by W. G. Van Campen. January 1951, i + 42 pp., 19 tables, 1 chart.   |
| * 47. | Exploratory tuna fishing in the Marshall Islands. Translated from the Japanese language by SCAP translators and W. G. Van Campen. Edited by B. M. Shimada and W. G. Van Campen. January 1951, i + 21 pp., 7 tables, 1 chart. |
| * 48. | Japanese tuna surveys in tropical waters. Translated from the Japanese language by W. G. Van Campen. January 1951, i + 40 pp., 4 figs., 15 tables.   |
| * 49. | The Japanese skipjack fishery. Translated from the Japanese language by W. G. Van Campen. January 1951, iii + 67 pp., 10 figs., 9 tables.  |

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| * 50. | Kishinouye's order Plecostei. Translated from the Japanese language by W. G. Van Campen. January 1951, i + 16 pp.  |
| * 51. | Japanese skipjack studies. Translated from the Japanese language by W. G. Van Campen. January 1951, i + 30 pp., 12 figs., 1 table.   |
| * 52. | On the Japanese black tuna ( <i>Thunnus orientalis</i> ). Translated from the Japanese language by W. G. Van Campen. January 1951, i + 22 pp., 8 figs., 3 tables, 1 chart.   |
| * 53. | Seasonal variations in toxicity of butter clams from selected Alaska beaches. By John S. Chambers and Harris W. Magnusson. August 1950, i + 10 pp., 9 figs., 2 tables.   |
| * 54. | Mid-Pacific oceanography, January through March, 1950. By Townsend Cromwell. July 1951, iv + 9 pp., 18 figs.   |
| * 55. | Natural history of the sea lamprey, <i>Petromyzon marinus</i> , in Michigan. By Vernon C. Applegate. December 1950, xii + 237 pp., 65 figs., 49 tables.  |
| * 56. | Sacramento - San Joaquin Delta fishery resources: effects of Tracy Pumping Plant and Delta Cross Channel. By Leo F. Erkkila, James W. Moffett, Oliver B. Cope, Bernard R. Smith, and Reed S. Nielson. December 1950, iii + 109 pp., 12 figs., 27 tables. |
| * 57. | Survey of the Columbia River and its tributaries--Part VIII. By Zell E. Parkhurst. December 1950, ii + 19 pp., 2 figs.   |
| * 58. | A fishery survey of southern coastal waters. By Raymond J. Buller. February 1951, ii + 21 pp., 4 figs., 1 table.   |
| * 59. | Tests of hatchery foods for blueback salmon ( <i>Oncorhynchus nerka</i> ), 1944-1948. By Roger E. Burrows, Leslie A. Robinson, and David D. Palmer. March 1951, iii + 39 pp., 3 figs., 5 tables.   |
| * 60. | Tests of hatchery foods for blueback salmon, 1949. By Leslie A. Robinson, David D. Palmer, and Roger E. Burrows. April 1951, i + 21 pp., 6 tables.   |
| * 61. | Sea lamprey spawning runs in the Great Lakes in 1950. By Vernon C. Applegate and Bernard R. Smith. April 1950, iv + 49 pp., 17 figs., 10 tables.   |
| * 62. | A study of the causes of death of bait fishes. By Yasuo Suehiro. Translated from the Japanese language by W. G. Van Campen. March 1951, ii + 57 pp., 12 figs., 24 tables, 1 plate.   |



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| * 63. | Tests of hatchery foods for blueback salmon, 1950. By Leslie A. Robinson, Merl H. Payne, Jr., David D. Palmer, and Roger E. Burrows. May 1951, iii + 23 pp., 2 tables.  |
| * 64. | Effect of tagging on the subsequent behavior and condition of red salmon. By G. J. Eicher, Jr. May 1951, i + 4 pp., 1 table.  |
| * 65. | A fishway that shad ascend. By Gerald B. Collins. July 1951, i + 17 pp., 17 figs.   |
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