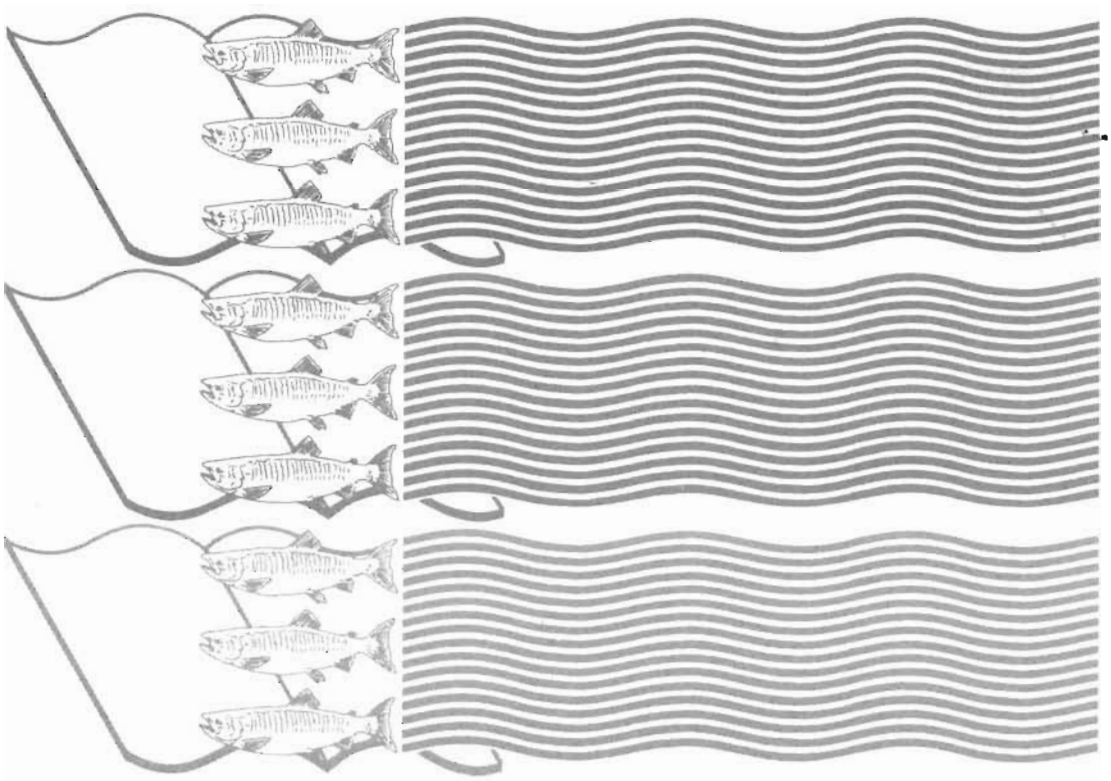
NOAA Technical Report NMFS 62 December 1987

Fishery Publication Index, 1980-85
Technical Memorandum Index, 1972-85

Cynthia S. Martin
Shelley E. Arenas
Jacki A. Guffey
Joni M. Packard



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

NOAA TECHNICAL REPORT NMFS

The major responsibilities of the National Marine Fisheries Service (NMFS) are to monitor and assess the abundance and geographic distribution of fishery resources, to understand and predict fluctuations in the quantity and distribution of these resources, and to establish levels for their optimum use. NMFS is also charged with the development and implementation of policies for managing national fishing grounds, development and enforcement of domestic fisheries regulations, surveillance of foreign fishing off United States coastal waters, and the development and enforcement of international fishery agreements and policies. NMFS also assists the fishing industry through marketing service and economic analysis programs, and mortgage insurance and vessel construction subsidies. It collects, analyzes, and publishes statistics on various phases of the industry.

The NOAA Technical Report NMFS series was established in 1983 to replace two subcategories of the Technical Reports series: "Special Scientific Report—Fisheries" and "Circular." The series contains the following types of reports: Scientific investigations that document long-term continuing programs of NMFS; intensive scientific reports on studies of restricted scope; papers on applied fishery problems; technical reports of general interest intended to aid conservation and management; reports that review in considerable detail and at a high technical level certain broad areas of research; and technical papers originating in economics studies and from management investigations. Since this is a formal series, all submitted papers receive peer review and those accepted receive professional editing before publication.

Copies of NOAA Technical Reports NMFS are available free in limited numbers to governmental agencies, both Federal and State. They are also available in exchange for other scientific and technical publications in the marine sciences. Individual copies may be obtained from: U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. Although the contents have not been copyrighted and may be reprinted entirely, reference to source is appreciated.

13. Guidelines for reducing porpoise mortality in tuna purse seining, by James M. Coe, David B. Holts, and Richard W. Butler. September 1984, 16 p.

14. Synopsis of biological data on shortnose sturgeon, *Acipenser brevirostrum* LeSueur 1818, by Michael J. Dadswell, Bruce D. Taubert, Thomas S. Squiers, Donald Marchette, and Jack Buckley. October 1984, 45 p.

15. Chaetognatha of the Caribbean sea and adjacent areas, by Harding B. Michel. October 1984, 33 p.

16. Proceedings of the Ninth and Tenth U.S.-Japan Meetings on Aquaculture, by Carl J. Sindermann (editor). November 1984, 92 p.

17. Identification and estimation of size from the beaks of 18 species of cephalopods from the Pacific Ocean, by Gary A. Wolff. November 1984, 50 p.

18. A temporal and spatial study of invertebrate communities associated with hard-bottom habitats in the South Atlantic Bight, by E. L. Wenner, P. Hinde, D. M. Knott, and R. F. Van Dolah. November 1984, 104 p.

19. Synopsis of biological data on spottail pinfish, *Diplodus holbrooki* (Pisces: Sparidae), by George H. Darcy. January 1985, 11 p.

20. Ichthyoplankton of the Continental Shelf near Kodiak Island, Alaska, by Arthur W. Kendall, Jr., and Jean R. Dunn. January 1985, 89 p.

21. Annotated bibliography on hypoxia and its effects on marine life, with emphasis on the Gulf of Mexico, by Maurice L. Renaud. February 1985, 9 p.

22. Congrid eels of the eastern Pacific and key to their Leptocephali, by Solomon N. Raju. February 1985, 19 p.

23. Synopsis of biological data on the pinfish, *Lagodon rhomboides* (Pisces:Sparidae), by George H. Darcy. February 1985, 32 p.

24. Temperature conditions in the cold pool 1977-81: A comparison between southern New England and New York transects, by Steven K. Cook. February 1985, 22 p.

25. Parasitology and pathology of marine organisms of the world ocean, by William J. Hargis, Jr. (editor). March 1985, 135 p.

26. Synopsis of biological data on the sand perch, *Diplectrum formosum* (Pisces: Serranidae), by George H. Darcy. March 1985, 21 p.

27. Proceedings of the Eleventh U.S.-Japan Meeting on Aquaculture, Salmon Enhancement, Tokyo, Japan, October 19-20, 1982, by Carl J. Sindermann (editor). March 1985, 102 p.

28. Review of geographical stocks of tropical dolphins (*Stenella* spp. and *Delphinus delphis*) in the eastern Pacific, by William F. Perrin, Michael D. Scott, G. Jay Walker, and Virginia L. Cass. March 1985, 28 p.

29. Prevalence, intensity, longevity, and persistence of *Anisakis* sp. larvae and *Lacistorhynchus tenuis* metacestodes in San Francisco striped bass, by Mike Moser, Judy A. Sakanari, Carol A. Reilly, and Jeannette Whipple. April 1985, 4 p.

30. Synopsis of biological data on the pink shrimp, *Pandalus borealis* Kröyer, 1838, by Sandra E. Shumway, Herbert C. Perkins, Daniel F. Schick, and Alden P. Stickney. May 1985, 57 p.

31. Shark catches from selected fisheries off the U.S. east coast, by Emory D. Anderson, John G. Casey, John J. Hoey, and W. N. Witzell. July 1985, 22 p.

32. Nutrient Distributions for Georges Bank and adjacent waters in 1979, by A. F. J. Draxler, A. Matte, R. Waldhauer, and J. E. O'Reilly. July 1985, 34 p.

33. Marine flora and fauna of the Northeastern United States. Echinodermata: Echinoidea, by D. Keith Serafy and F. Julian Fell. September 1985, 27 p.

34. Additions to a revision of the shark genus *Carcharhinus*: Synonymy of *Aprionodon* and *Hypoprion*, and description of a new species of *Carcharhinus* (Carcharhinidae), by J. A. F. Garrick. November 1985, 26 p.

35. Synoptic review of the literature on the Southern oyster drill *Thais haemastoma floridana*, by Philip A. Butler. November 1985, 9 p.

36. An egg production method for estimating spawning biomass of pelagic fish: Application to the northern anchovy, *Engraulis mordax*, by Reuben Lasker (editor). December 1985, 99 p.

37. A histopathologic evaluation of gross lesions excised from commercially important North Atlantic marine fishes, by Robert A. Murchelano, Linda Despres-Patanjo, and John Ziskowski. March 1986, 14 p.

38. Fishery atlas of the northwestern Hawaiian Islands, by Richard N. Uchida and James H. Uchiyama (editors). September 1986, 142 p.

39. Survey of fish protective facilities at water withdrawal sites on the Snake and Columbia Rivers, by George A. Swan, Tommy G. Withrow, and Donn L. Park. April 1986, 34 p.

40. Potential impact of ocean thermal energy conversion (OTEC) on fisheries, by Edward P. Myers, Donald E. Hoss, Walter M. Matsumoto, David S. Peters, Michael P. Seki, Richard N. Uchida, John D. Ditmars, and Robert A. Paddock. June 1986, 33 p.

41. A stationary visual census technique for quantitatively assessing community structure of coral reef fishes, by James A. Bohnsack and Scott P. Bannerot. July 1986, 15 p.

42. Effects of temperature on the biology of the northern shrimp, *Pandalus boreulis*, in the Gulf of Maine, by Spencer Apollonio, David K. Stevenson, and Earl E. Dunton, Jr. September 1986, 22 p.

43. Environment and resources of seamounts in the North Pacific, by Richard N. Uchida, Sigeiti Hayasi, and George W. Boehlert (editors). September 1986, 105 p.

44. Synopsis of biological data on the porgies, *Calamus arctifrons* and *C. proridens* (Pisces: Sparidae), by George H. Darcy. September 1986, 19 p.

45. Meristic variation in *Sebastes* (Scorpaenidae), with an analysis of character association and bilateral pattern and their significance in species separation, by Lo-chai Chen. September 1986, 17 p.

46. Distribution and relative abundance of pelagic nonsalmonid nekton off Oregon and Washington 1979-84, by Richard D. Brodeur and William G. Pearcy. December 1986, 85 p.

NOAA Technical Report NMFS 62

Fishery Publication Index, 1980-85
Technical Memoradum Index, 1972-85

Cynthia S. Martin
Shelley E. Arenas
Jacki A. Guffey
Joni M. Packard

December 1987

U.S. DEPARTMENT OF COMMERCE
C. William Verity, Jr., Secretary
National Oceanic and Atmospheric Administration
Anthony J. Calio, Administrator
National Marine Fisheries Service
William E. Evans, Assistant Administrator for Fisheries

CONTENTS

Fisheries Publication Index, 1980-85 Technical Memoradum Index, 1972-85

CYNTHIA S. MARTIN
SHELLEY E. ARENAS
JACKI A. GUFFEY
JONI M. PACKARD
Scientific Publications Office
National Marine Fisheries Service, NOAA
7600 Sand Point Way N.E.
Seattle, Washington 98115

ABSTRACT

The following series of fishery publications produced in calendar years 1980-85 by the Scientific Publications Office of the National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), are listed numerically and indexed by author and subject: *Circular*, *Fishery Bulletin*, *Marine Fisheries Review*, *Special Scientific Report—Fisheries*, and *Technical Report NMFS*. Also included is an alphanumeric listing of the *NOAA Technical Memorandum NMFS* series published in calendar years 1972-85 by NMFS regional offices and fisheries centers. Authors and subjects for the Memoradum series are indexed with the other publication series.

INTRODUCTION

This index includes those publication series produced by the Scientific Publications Office of the National Marine Fisheries Service, NOAA, and issued from 1980 through 1985. It also includes the first complete listing of the NOAA Technical Memorandum NMFS Series issued by NMFS regional offices, laboratories, and fisheries centers from 1972 to 1985. The index includes a list of each publication series in numerical order and alphabetical indexes of authors and subjects.

This index is a continuation of the following: *Fishery Publication Index, 1975-79*, NOAA Technical Report NMFS Circular 437; *Fishery Publication Index, 1965-74*, NOAA Technical Report NMFS Circular 400; *Fishery Publication Index 1955-64*, U.S. Fish and Wildlife Service Circular 296; *Fishery Publication Index 1920-54*, U.S. Fish and Wildlife Service Circular 36; and *Publications of the United States Bureau of Fisheries 1871-1940*, U.S. Fish and Wildlife Service Special Scientific Report—Fisheries 284.

PUBLICATIONS DISTRIBUTION

Most publications are distributed free to libraries designated as depository libraries for Government publications; a list of depository libraries may be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402. Subscriptions to the two periodicals, *Fishery Bulletin* and *Marine Fisheries Review*, are also available from the Superintendent of Documents in Washington, D.C. Individual sale copies in paper or microfiche form are available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. Interested readers should contact the Superintendent of Documents or NTIS directly for current information on availability and pricing, since prepayment is required for sale copies and subscriptions. Occasionally, limited free copies of these publications (except the *Technical Memorandum* series) are available from the Scientific Publications Office, National Marine Fisheries Service, NOAA, 7600 Sand Point Way N.E., Seattle, WA 98115-0070.

Circular

The *Circular* series continues a series begun in 1941 and includes semitechnical publications of general and regional interest intended to aid conservation and management. In 1983 this subcategory of technical reports was merged with the *Special Scientific Report—Fisheries* series into the *NOAA Technical Report NMFS* series; *Circular* 451 was the last one issued.

430 Guide to identification of some sculpin (Cottidae) larvae from marine and brackish waters off Oregon and adjacent areas in the northeast Pacific, by **Sally L. Richardson and Betsy B. Washington**. January 1980, 56 p.

431 Guide to some trawl-caught marine fishes from Maine to Cape Hatteras, North Carolina, by **Donald D. Flescher**. March 1980, 34 p.

432 Synopsis of biological data on bonitos of the genus *Sarda*, by **Howard O. Yoshida**. May 1980, 50 p.

433 Synopsis of biological data on striped bass, *Morone saxatilis* (Walbaum), by **Eileen M. Setzler, Walter R. Boynton, Kathryn V. Wood, Henry H. Zion, Lawrence Lubbers, Nancy K. Mountford, Phyllis Frere, Luther Tucker, and Joseph A. Mihursky**. June 1980, 69 p.

434 Osteology, phylogeny, and higher classification of the fishes of the order Plectognathi (Tetraodontiformes), by **James C. Tyler**. October 1980, 422 p.

435 Field guide to fishes commonly taken in longline operations in the western north Atlantic Ocean, by **Joseph L. Russo**. January 1981, 51 p.

436 Synopsis of biological data on frigate tuna, *Auxis thazard*, and bullet tuna, *A. rochei*, by **Richard N. Uchida**. January 1981, 63 p.

437 Fishery Publications Index, 1975-79, by **Lee C. Thorson**. May 1981, 117 p.

438 Marine flora and fauna of the northeastern United States. Scleractinia, by **Stephen D. Cairns**. July 1981, 15 p.

439 Marine flora and fauna of the northeastern United States. Protozoa: Sarcodina: Benthic Foraminifera, by **Ruth Todd and Doris Low**. June 1981, 51 p.

440 Marine flora and fauna of the northeastern United States. Turbellaria: Acoela and Nemertodermatida, by **Louise F. Bush**. July 1981, 71 p.

441 Synopsis of the biology of the swordfish, *Xiphias gladius* Linnaeus, by **B. J. Palko, G. L. Beardsley, and W. J. Richards**. November 1981, 21 p.

442 Proceedings of the sixth U.S.-Japan meeting on aquaculture, Santa Barbara, California, August 27-28, 1977, by **Carl J. Sindermann** (editor). March 1982, 66 p.

- 1-5 Information on the culture of phytoplankton for aquacultural needs in Japan, by **Yunosuke Saito**.
- 7-12 Recent problems of nori (*Porphyra* spp.) culture in Japan, by **Hitoshi Kito**.
- 13-17 The present status of brown algae culture in Japan, by **Yunosuke Saito**.
- 19-24 The use of phytoplankton for aquaculture needs—a status report, by **William N. Shaw**.
- 25-66 Seaweed cultivation: A review, by **Arthur C. Mathieson**.

443 Synopsis of the biological data on dolphin-fishes, *Coryphaena hippurus* Linnaeus and *Coryphaena equiselis* Linnaeus, by **Barbara Jayne Palko, Grant L. Beardsley, and William J. Richards**. April 1982, 28 p.

444 Whales, dolphins, and porpoises of the eastern North Pacific and adjacent Arctic waters, a guide to their identification, by **Stephen Leatherwood, Randall R. Reeves, William F. Perrin, and William E. Evans**, with Appendix A on Tagging by **Larry Hobbs**. July 1982, 245 p.

445 Sharks of the genus *Carcharhinus*, by **J. A. F. Garrick**. May 1982, 194 p.

446 Marine flora and fauna of the northeastern United States. Lichens (Ascomycetes) of the intertidal region, by **Ronald M. Taylor**. August 1982, 26 p.

447 Proceedings of the eighth U.S.-Japan meeting on aquaculture at Bellingham, Washington, October 17-18, 1979, Under the Aquaculture Panel, U.S.-Japan Cooperative Program in Natural Resources (UJNR), by **William N. Shaw** (editor). November 1982, 25 p.

- 1 Joint statement of the UJNR Aquaculture Panel, October 18, 1979, Bellingham, Washington, by **William N. Shaw and Shigekatsu Sato**.
- 3-5 Freshwater finfish culture in Japan, by **Shigeru Arai**.
- 7-13 Freshwater development and smoltification in coho salmon from the Columbia River, by **Leroy C. Folmar, Walton W. Dickhoff, Waldo S. Zaugg, and Conrad V. W. Mahnken**.
- 15-19 The use of soybean meal in trout and salmon diets, by **Ronald W. Hardy**.
- 21-22 Freshwater aspects of anadromous salmonid enhancement, by **Rowan W. Gould**.
- 23-25 Catfish aquaculture in the United States, by **Harry K. Dupree**.

448 Synopsis of biological data on the grunts *Haemulon aurolineatum* and *H. plumieri* (Pisces: Haemulidae), by **George H. Darcy**. February 1983, 37 p.

449 Synopsis of biological data on the pigfish, *Orthopristis chrysoptera* (Pisces: Haemulidae), by **George H. Darcy**. March 1983, 23 p.

450 The utility of developmental osteology in taxonomic and systematic studies of teleost larvae: A review, by **Jean R. Dunn**. June 1983, 19 p.

451 Synopsis of biological data on skipjack tuna, *Katsuwonus pelamis*, by **Walter M. Matsumoto, Robert A. Skillman, and Andrew E. Dizon**. January 1984, 92 p.

Fishery Bulletin

The *Fishery Bulletin* contains original research reports and technical notes on investigations in fishery science, engineering, and economics. First established as the *Bulletin of the U.S. Fish Commission* in 1881, this series became the *Bulletin of the Bureau of Fisheries* in 1904 and the *Fishery Bulletin of the Fish and Wildlife Service* in 1941. Separates were issued as documents through volume 46; beginning with volume 47 in 1931 and continuing through volume 62 in 1963, each separate appeared as a numbered bulletin. Starting with volume 63 in 1963, papers were bound together in a single issue of the bulletin instead of being issued individually. In January 1972, beginning with volume 70, number 1, the *Fishery Bulletin* became a periodical, issued quarterly.

Vol. 78, no. 4, 1980

Vol. 79, no. 1, 1981

Vol. 80, no. 3, 1982

644-648 Growth of juvenile red snapper, *Lutjanus campechanus*, in the northwestern Gulf of Mexico, by **Scott A. Holt and Connie R. Arnold**.

648-650 An association between a pelagic octopod, *Argonauta* sp. Linnaeus 1758, and aggregate salps, by **P. T. Banas, D. E. Smith, and D. C. Biggs**.

650-651 Migration of a juvenile wolf eel, *Anarrhichthys ocellatus*, from Port Hardy, British Columbia, to Willapa Bay, Washington, by **David R. Miller**.

Vol. 80, no. 4, 1982

655-686 Qualitative and quantitative nutrient requirements of fishes: A review, by **Mark R. Millikin**.

687-701 Analysis of double-tagging experiments, by **Jerry A. Wetherall**.

703-734 Four new species of squid (Oegopsida: *Enoploteuthis*) from the central Pacific and a description of adult *Enoploteuthis reticulata*, by **Lourdes Alvina Burgess**.

735-743 Life history studies of the sandworm, *Nereis virens* Sars, in the Sheepscot Estuary, Maine, by **Edwin P. Creaser and David A. Clifford**.

745-759 Diet overlap between Atlantic cod, *Gadus morhua*, silver hake, *Merluccius bilinearis*, and fifteen other northwest Atlantic finfish, by **Richard W. Langton**.

761-768 The relationship of winter temperature and spring landings of pink shrimp, *Penaeus duorarum*, in North Carolina, by **William F. Hettler and Alexander J. Chester**.

769-790 Seasonal abundance, composition, and productivity of the littoral fish assemblage in upper Newport Bay, California, by **Larry G. Allen**.

791-801 Cyclic covariation in the California king salmon, *Oncorhynchus tshawytscha*, silver salmon, *O. kisutch*, and Dungeness crab, *Cancer magister*, fisheries, by **Louis W. Botsford, Richard D. Methot, Jr., and James E. Wilen**.

803-812 Swimming kinematics of sharks, by **P. W. Webb and Raymond S. Keyes**.

813-825 Population biology of chum salmon, *Oncorhynchus keta*, from the Fraser River, British Columbia, by **Terry D. Beacham and Paul Starr**.

827-840 Trophic patterns among larvae of five species of sculpins (Family: Cottidae) in a Maine estuary, by **Joanne Lyczkowski Laroche**.

841-851 Food habits of juvenile salmon in the Oregon coastal zone, June 1979, by **William T. Peterson, Richard D. Brodeur, and William G. Pearcy**.

853-862 Spawning and larval development of the hogfish, *Lachnolaimus maximus* (Pisces: Labridae), by **Patrick L. Colin**.

863-874 Biology of the whitebone porgy, *Calamus leucosteus*, in the South Atlantic Bight, by **C. Wayne Waltz, William A. Roumillat, and Charles A. Wenner**.

875-880 Observations of right whales, *Eubalaena glacialis*, in Cape Cod waters, by **William A. Watkins and William E. Schevill**.

881-884 Fecundity of the widow rockfish, *Sebastes entomelas*, off the coast of Oregon, by **George W. Boehlert, W. H. Barss, and P. B. Lamberson**.

884-890 A comparative study of autochthonous bacterial flora on the gills of the blue crab, *Callinectes sapidus*, and its environment, by **John A. Babinchak, Daniel Goldmintz, and Gary P. Richards**.

891-895 White shark predation on pinnipeds in California coastal waters, by **Burney J. Le Boeuf, Marianne Riedman, and Raymond S. Keyes**.

895-902 Vertical stratification of three nearshore southern California larval fishes (*Engraulis mordax*, *Genyonemus lineatus*, and *Seriphus politus*), by **Robert E. Schlotterbeck and David W. Connally**.

902-905 Decrease in length at predominant ages during a spawning migration of the alewife, *Alosa pseudoharengus*, by **David A. Libby**.

906-907 Seasonal spawning cycle of the longfin sanddab, *Citharichthys xanthostigma* (Bothidae), by **Stephen R. Goldberg**.

907-909 Otter trawl sampling bias of the gill parasite, *Lironeca vulgaris* (Isopoda, Cymothoidae), from sanddab hosts, *Citharichthys* spp., by **Gary R. Robinson**.

Vol. 81, no. 1, 1983

1-13 Changes in size of three dolphin (*Stenella* spp.) populations in the eastern tropical Pacific, by **Tim D. Smith**.

15-22 Food habits of yellowtail flounder, *Limanda ferruginea* (Storer), from off the northeastern United States, by **Richard W. Langton**.

23-40 Development and distribution of the young of northern smoothtongue, *Leuroglossus schmidti* (Bathylagidae), in the northeast Pacific, with comments on the systematics of the genus *Leuroglossus* Gilbert, by **Jean R. Dunn**.

41-50 Delineation of tilefish, *Lopholatilus chamaeleonticeps*, stocks along the United States east coast and in the Gulf of Mexico, by **S. J. Katz, C. B. Grimes, and K. W. Able**.

51-60 Effects of behavioral interactions on the catchability of American lobster, *Homarus americanus*, and two species of Cancer crab, by **R. Anne Richards, J. Stanley Cobb, and Michael J. Fogarty**.

61-73 The reproductive biology of the Atlantic sharpnose shark, *Rhizoprionodon terraenovae* (Richardson), by **Glenn R. Parsons**.

75-84 Variation in the growth rate of *Mya arenaria* and its relationship to the environment as analyzed through principal components analysis and the ω parameter of the von Bertalanffy equation, by **Richard S. Appeldoorn**.

85-90 Biochemical genetics of Pacific blue marlin, *Makaira nigricans*, from Hawaiian waters, by **James B. Shaklee, Richard W. Brill, and Robin Acerra**.

91-96 Stochastic age-frequency estimation using the von Bertalanffy growth equation, by **Norman W. Bartoo and Keith R. Parker**.

97-106 Age, growth, and mortality of king mackerel, *Scomberomorus cavalla*, from the southeastern United States, by **Allyn G. Johnson, William A. Fable, Jr., Mark L. Williams, and Lyman E. Barger**.

107-119 Review and analysis of the bluefin tuna, *Thunnus thynnus*, fishery in the eastern North Pacific Ocean, by **Doyle A. Hanan**.

121-132 Interactions between fur seal populations and fisheries in the Bering Sea, by **Gordon L. Swartzman and Robert T. Haar**.

133-141 Age, size, growth, and chemical composition of Atlantic menhaden, *Brevoortia tyrannus*, from Narragansett Bay, Rhode Island, by **Ann Gail Durbin, Edward G. Durbin, Thomas J. Smayda, and Peter G. Verity**.

Vol. 81, no. 4, 1983

Vol. 83, No. 4, 1985

Marine Fisheries Review

Marine Fisheries Review contains review articles, original research reports, significant progress reports, technical notes, and news on fisheries science, engineering, and economics, commercial and recreational fisheries, marine mammal studies, aquaculture, and U.S. and foreign fisheries developments. Emphasis is on in-depth review articles and practical or applied aspects of marine fisheries.

This series was first initiated in 1939 as the *Fishery Market News*, published monthly by the Bureau of Fisheries. In 1946 the Fish and Wildlife Service renamed it the *Commercial Fisheries Review*; in mid-1972 the title was changed by its publisher, the National Marine Fisheries Service, to its current one. Since April 1983, *Marine Fisheries Review* has been published on a quarterly basis.

Vol. 42, no. 1, 1980

Vol. 42, no. 2, 1980

Vol. 42, no. 3-4, 1980

Vol. 42, no. 5, 1980

1-14 Implications of transplantations to aquaculture and ecosystems, by **H. Rosenthal**.

15-20 The snail resource of the Eastern Bering Sea and its fishery, by **Richard A. MacIntosh**.

21-35 Groundfish monitoring in sponge-coral areas off the southeastern United States, by **H. Powles and C. A. Barans**.

Vol. 42, no. 6, 1980

1-14 Environmental factors affecting smoltification and early marine survival of anadromous salmonids, by **Gary A. Wedemeyer, Richard L. Saunders, and W. Craig Clarke**.

15-24 The efficiency of mollies, *Poecilia mexicana*, as live bait for pole-and-line skipjack fishing: fishing trials in the tropical central Pacific, by **Patrick G. Bryan**.

25-28 Evaluation of a bypass system for juvenile salmonids at Little Goose Dam, by **Jerrel R. Harmon and Donn L. Park**.

29-31 Recent observations of a large eddy in the Gulf of Alaska, by **R. K. Reed**.

32-34 Instrument for determining depth of dehydration of frozen fish, by **John G. Callan and John J. Ryan**.

Vol. 42, no. 7-8, 1980

1-9 Japan's squid fishing industry, by **William G. Court**.

10-14 Developments in South American squid fisheries, by **Marcelo Juanico**.

15-22 Recent developments in the squid, *Illex illecebrosus*, fishery of Newfoundland, Canada, by **Geoffrey V. Hurley**.

23-38 Biological considerations relevant to the management of squid (*Loligo pealei* and *Illex illecebrosus*) of the northwest Atlantic, by **A. M. T. Lange and M. P. Sissenwine**.

39-43 Squid catches resulting from trawl surveys off the southeastern United States, by **J. David Whitaker**.

44-50 Squid fishery in Texas: Biological, economic, and market considerations, by **Raymond F. Hixon, Roger T. Hanlon, Samuel M. Gillespie, and Wade L. Griffin**.

51-56 Experimental fishing for squid with lights in Nantucket Sound, by **Elizabeth H. Amaral and H. Arnold Carr**.

57-59 Experimental pair trawling for squid in New England, by **Alan J. Blott**.

60-66 Experimental jigging for squid off the northeast United States, by **Douglas Long and W. F. Rathjen**.

67-73 Scanning electron microscopy of squid, *Loligo pealei*: Raw, cooked, and frozen mantle, by **W. Steven Otwell and George G. Giddings**.

74-76 The quality of squid held in chilled seawater versus conventional shipboard handling, by **Vincent G. Ampola**.

77-84 Development of a squid skinning and eviscerating system, by **R. Paul Singh and Daniel E. Brown**.

85-92 "Saki-ika": Dried squid processing equipment and markets, by **Daniel J. Sheehy and Susan F. Vik**.

Vol. 42, no. 9-10, 1980

1 The bowhead whale: Whaling and biological research (preface).

2-5 Introduction: A scientific perspective of the bowhead whale problem, by **Michael F. Tillman**.

5-19 Historical shore-based catch of bowhead whales in the Bering, Chukchi, and Beaufort Seas, by **William M. Marquette and John R. Bockstoce**.

20-27 A preliminary estimate of the reduction of the western Arctic bowhead whale population by the pelagic whaling industry: 1848-1915, by **John R. Bockstoce**.

27-29 Minimal historical size of the western Arctic population of bowhead whales, by **L. L. Eberhardt and J. M. Breiwick**.

30-36 Sampling strategy for enumerating the western Arctic population of the bowhead whale, by **Bruce D. Krogman**.

36-46 Spring migration of the western Arctic population of bowhead whales, by **Howard W. Braham, Mark A. Fraker, and Bruce D. Krogman**.

46-51 Migration of bowhead whales past Cape Lisburne, Alaska, by **David J. Rugh and James C. Cubbage**.

51-57 Vessel survey for bowhead whales in the Bering and Chukchi Seas, June-July 1978, by **Marilyn Dahlheim, Teresa Bray, and Howard Braham**.

57-64 Summer distribution of bowhead whales in the Eastern Beaufort Sea, by **Mark A. Fraker and John R. Bockstoce**.

65-69 Spitsbergen bowhead stock: A short review, by **Randall R. Reeves**.

70-73 Ingutuk: A morphological variant of the bowhead whale, *Balaena mysticetus*, by **Howard W. Braham, Floyd E. Durham, Gordon H. Jarrell, and Stephen Leatherwood**.

74-80 External morphology of bowhead fetuses and calves, by **Floyd E. Durham**.

80-85 Observations of bowhead whales during spring migration, by **Geoffry M. Carroll and John R. Smithhisler**.

86-87 Sounds recorded in the presence of an adult and calf bowhead whale, by **D. K. Ljungblad, S. Leatherwood, and M. E. Dahlheim**.

88-91 Foods utilized by bowhead whales near Barter Island, Alaska, autumn 1979, by **Lloyd F. Lowry and John J. Burns**.

91-92 Some observations on urine from a bowhead whale, by **W. Medway**.

92-96 Healed penetrating injury of a bowhead whale, by **Thomas F. Albert, George Migaki, Harold W. Casey, and L. Michael Philo**.

Vol. 42, no. 11, 1980

1-12 Offshore petroleum resource development and marine mammals: A review and research recommendations, by **J. R. Geraci and D. J. St. Aubin**.

13-18 A preliminary analysis of the tilefish, *Lopholatilus chamaeleonticeps*, fishery in the Mid-Atlantic Bight, by **C. B. Grimes, K. W. Able, and S. C. Turner**.

19-25 Preliminary method for estimating marine fisheries enforcement requirements, by **Charles M. Fuss, Jr., Daniel W. Dunn, and Robert M. Spraitz**.

26-30 The effect of washing on the quality characteristics of minced fresh croaker, *Micropogon undulatus*, held in frozen storage, by **Jamshyd G. Rasekh, Melvin E. Waters, and V. D. Sidwell**.

Vol. 42, no. 12, 1980

1-11 A review of introductions of exotic oysters and biological planning for new importations, by **Jay D. Andrews**.

12-17 Social considerations associated with marine recreational fishing under FCMA, by **Chad P. Dawson and Bruce T. Wilkins**.

Vol. 46, no. 3, 1984

Vol. 46, no. 4, 1984

Vol. 47, no. 1, 1985

Vol. 47, no. 2, 1985

Vol. 47, no. 3, 1985

Vol. 47, no. 4, 1985

Special Scientific Report—Fisheries (SSRF)

Established in 1949, this series consists of reports on scientific investigations which document long-term continuing programs of NMFS, and intensive reports on studies of restricted scope. Bibliographies of a specialized nature are also published in this series. In 1983 this subcategory of technical reports was merged with the *Circular* series into the *NOAA Technical Report NMFS* series; SSRF 783 was the last report published.

740 Food of fifteen northwest Atlantic gadiform fishes, by **Richard W. Langton and Ray E. Bowman**. February 1980, 23 p.

741 Distribution of gammaridean Amphipoda (Crustacea) in the Middle Atlantic Bight region, by **John J. Dickinson, Roland L. Wigley, Richard D. Brodeur, and Susan Brown-Leger**. October 1980, 46 p.

742 Water structure at Ocean Weather Station V, northwestern Pacific Ocean, 1966-71, by **D. M. Husby and G. R. Seckel**. October 1980, 56 p.

743 Average density index for walleye pollock, *Theragra chalcogramma*, in the Bering Sea, by **Loh-Lee Low and Ikuo Ikeda**. November 1980, 11 p.

744 Tunas, oceanography and meteorology of the Pacific, an annotated bibliography, 1950-78, by **Paul N. Sund**. March 1981, 123 p.

745 Dorsal mantle length–total weight relationships of squids *Loligo pealei* and *Illex illecebrosus* from the Atlantic coast of the United States, by **Anne M. T. Lange and Karen L. Johnson**. March 1981, 17 p.

746 Distribution of Gammaridean Amphipoda (Crustacea) on Georges Bank, by **John J. Dickinson and Roland L. Wigley**. June 1981, 25 p.

747 Movement, growth, and mortality of American lobsters, *Homarus americanus*, tagged along the coast of Maine, by **Jay S. Krouse**. September 1981, 12 p.

748 Annotated bibliography of the conch genus *Strombus* (Gastropoda, Strombidae) in the western Atlantic Ocean, by **George H. Darcy**. September 1981, 16 p.

749 Food of eight Northwest Atlantic pleuronectiform fishes, by **Richard W. Langton and Ray E. Bowman**. September 1981, 16 p.

750 World literature to fish hybrids with an analysis by family, species, and hybrid: supplement 1, by **Frank J. Schwartz**. November 1981, 507 p.

751 The barge *Ocean 250* gasoline spill, by **Carolyn A. Griswold** (editor). November 1981, 30 p.

- 1-5 The barge *Ocean 250* gasoline spill (Introduction and background information), by **Carolyn A. Griswold**.
- 5-8 Chemical analyses of water and benthic organisms, by **J. L. Lake, C. W. Dimock, C. Norwood, R. Bowen, and B. Kyle**.
- 8-12 Hydrocarbon analyses of plankton samples, by **E. J. Hoffman and J. G. Quinn**.
- 13-15 Chemical analyses of fish samples, by **P. D. Boehm and J. E. Barak**.
- 16-20 Analyses of benthic macrofauna from the area of *Ocean 250* gasoline spill, by **Sheldon D. Pratt**.
- 20-21 Zooplankton community structure in the area of *Ocean 250* gasoline spill, by **Jerome Prezioso and Carolyn A. Griswold**.
- 21-29 Cytological-cytogenetic analyses of fourbeard rockling and yellowtail flounder eggs from plankton at *Ocean 250* gasoline spill, by **J. B. Hughes and A. Crosby Longwell**.

752 Movements of tagged summer flounder, *Paralichthys dentatus*, off southern New England, by **F. E. Lux and F. E. Nichy**. December 1981, 16 p.

753 Factors influencing ocean catches of salmon, *Oncorhynchus* spp., off Washington and Vancouver Island, by **R. A. Low, Jr. and S. B. Mathews**. January 1982., 12 p.

754 Demersal fish resources of the eastern Bering Sea: spring 1976, by **Gary B. Smith and Richard G. Bakkala**. March 1982, 129 p.

755 Annotated bibliography and subject index on the summer flounder, *Paralichthys dentatus*, by **Paul G. Scarlett**. March 1982, 12 p.

756 Annotated bibliography of the hard clam (*Mercenaria mercenaria*), by **J. L. McHugh, Marjorie W. Sumner, Paul J. Flagg, Douglas W. Lipton, and William J. Behrens**. March 1982, 845 p.

757 A profile of the fish and decapod crustacean community in a South Carolina estuarine system prior to flow alteration, by **Elizabeth Lewis Wenner, Malcolm H. Shealy, Jr., and Paul A. Sandifer**. March 1982, 17 p.

758 Equipment and techniques for handling northern fur seals, by **Roger L. Gentry and John R. Holt**. July 1982, 15 p.

759 Catch temperatures for some important marine species off California, by **James L. Squire, Jr.** August 1982, 19 p.

760 Parasite-host records of Alaskan fishes, by **Adam Moles**. September 1982, 41 p.

761 Sea level variations at Monterey, California, by **Dale Emil Bretschneider and Douglas R. McLain**. January 1983, 50 p.

762 Abundance of pelagic resources off California, 1963-78, as measured by an airborne fish monitoring program, by **James L. Squire, Jr.** February 1983, 75 p.

763 Climatology of surface heat fluxes over the California current region, by **Craig S. Nelson and David M. Husby**. February 1983, 155 p.

764 Demersal fishes and invertebrates trawled in the northeastern Chukchi and western Beaufort Seas, 1976-77, by **Kathryn J. Frost and Lloyd F. Lowry**. February 1983, 22 p.

765 Distribution and abundance of larvae of king crab, *Paralithodes camtschatica*, and pandalid shrimp in the Kachemak Bay area, Alaska, 1972 and 1976, by **Evan Haynes**. April 1983, 64 p.

766 An atlas of the distribution and abundance of dominant benthic invertebrates in the New York Bight apex with reviews of their life histories, by **Janice V. Caracciolo and Frank W. Steimle, Jr.** March 1983, 58 p.

767 A commercial sampling program for sandworms, *Nereis virens* Sars, and bloodworms, *Glycera dibranchiata* Ehlers, harvested along the Maine coast, by **Edwin P. Creaser, Jr., David A. Clifford, Michael J. Hogan, and David B. Sampson**. April 1983, 56 p.

768 Distribution and abundance of East Coast bivalve mollusks based on specimens in the National Marine Fisheries Service Woods Hole Collection, by **Roger B. Theroux and Roland L. Wigley**. June 1983, 172 p.

769 Krill and its utilization: a review, by **John D. Kaylor and Robert J. Learson**. July 1983, 10 p.

770 Population characteristics of the American lobster, *Homarus americanus*, in eastern Long Island Sound, Connecticut, by **Milan Keser, Donald F. Landers, Jr., and Jeffrey D. Morris**. October 1983, 7 p.

771 Mesh size and the New England groundfishery—applications and implications, by **Ronald Joel Smolowitz**. July 1983, 60 p.

772 Results of a tagging program to determine migration rates and patterns for black marlin, *Makaira indica*, in the southwest Pacific Ocean, by **James L. Squire, Jr. and Daphne V. Nielsen**. July 1983, 19 p.

773 Food habits and trophic relationships of a community of fishes on the Outer Continental Shelf, by **George R. Sedberry**. September 1983, 56 p.

774 Distribution of eggs and larvae of Atlantic menhaden, *Brevoortia tyrannus*, along the Atlantic coast of the United States, by **Mayo H. Judy and Robert M. Lewis**. October 1983, 23 p.

775 Distribution and relative abundance of American lobster, *Homarus americanus*, larvae: New England investigations during 1974-79, by **Michael J. Fogarty** (editor). September 1983, 64 p.

- 3-8 Distribution and relative abundance of American lobster, *Homarus americanus*, larvae: A review, by **Michael J. Fogarty**.
- 9-14 An overview of larval American lobster, *Homarus americanus*, sampling programs in New England during 1974-79, by **Michael J. Fogarty and Robert Lawton**.
- 15-22 Distribution and abundance of lobster larvae (*Homarus americanus*) in Block Island Sound, by **Brenda Goldberg Bibb, Ronald L. Hersey, and Rocco A. Marcello, Jr.**
- 23-28 Distribution, relative abundance, and seasonal production of American lobster, *Homarus americanus*, larvae in Block Island Sound in 1978, by **Michael J. Fogarty, Martin A. Hyman, George F. Johnson, and Clement A. Griscom**.
- 29-33 Distribution and abundance of larval lobsters (*Homarus americanus*) in Buzzards Bay, Massachusetts, during 1976-79, by **Fred E. Lux, George F. Kelly, and Charles L. Wheeler**.
- 35-40 The spatio-temporal distribution of American lobster, *Homarus americanus*, larvae in the Cape Cod Canal and approaches, by **W. Stephen Collings, Christine Cooper-Sheehan, Sally C. Hughes, and James L. Buckley**.
- 41-46 Observations on the seasonal occurence, abundance, and distribution of larval lobsters (*Homarus americanus*) in Cape Cod Bay, by **George C. Matthiessen and Michael D. Scherer**.
- 47-52 Distribution and abundance of larval American lobsters, *Homarus americanus* Milne-Edwards, in the western inshore region of Cape Cod Bay, Massachusetts, by **Robert Lawton, Elizabeth Kouloheras, Phillips Brady, Wendell Sides, and Mando Borgatti**.
- 53-57 New Hampshire lobster larvae studies, by **Stephen A. Grabe, John W. Shipman, and Weldon S. Bosworth**.
- 59-61 Abundance and distribution of lobster larvae (*Homarus americanus*) for selected locations in Penobscot Bay, Maine, by **Daniel M. Greenstein, Leigh C. Alexander, and Daryl E. Richter**.
- 63-64 A comparison of lobster larvae sampling using neuston and tucker nets, by **Brenda Goldberg Bibb, Ronald L. Hersey, and Rocco A. Marcello, Jr.**

776 Kinds and abundances of fish larvae in the Caribbean Sea and adjacent areas, by **William J. Richards**. May 1984, 54 p.

777 A checklist of parasites of California, Oregon, and Washington marine and estuarine fishes, by **Milton S. Love and Mike Moser**. December 1983, 576 p.

778 Bowhead and white whale migration, distribution, and abundance in the Bering, Chukchi, and Beaufort Seas, 1975-78, by **Howard W. Braham, Bruce D. Krogman, and Geoffrey M. Carroll**. January 1984, 39 p.

779 Opportunistic feeding of the northern fur seal, *Callorhinus ursinus*, in the eastern North Pacific Ocean and eastern Bering Sea, by **Hiroshi Kajimura**. February 1984, 49 p.

780 History of scientific study and management of the Alaskan fur seal, *Callorhinus ursinus*, 1786-1964, by **Victor B. Scheffer, Clifford H. Fiscus, and Ethel I. Todd**. March 1984, 70 p.

781 An annotated checklist of the fishes of Samoa, by **Richard C. Wass**. May 1984, 43 p.

782 A five-year study of seasonal distribution and abundance of fishes and decapod crustaceans in the Cooper River and Charleston Harbor, S.C., prior to diversion, by **E. L. Wenner, W. P. Coon III, M. H. Shealy, Jr., and P. A. Sandifer**. July 1984, 16 p.

783 Biomass and density of macrobenthic invertebrates on the U.S. Continental Shelf off Martha's Vineyard, Mass., in relation to environmental factors, by **Don Maurer and Roland L. Wigley**. July 1984, 20 p.

Technical Report

Established in 1983, this series replaces two subcategories: *Special Scientific Report—Fisheries*, and *Circular*. It contains reports on scientific investigations that document long-term continuing programs of NMFS, intensive scientific reports on studies of restricted scope, papers on applied fishery problems, technical reports of general interest to aid conservation and management, reports that review certain broad areas of research in considerable detail and at a highly technical level, and technical papers originating in economics studies and from management investigations.

1 **Synopsis of biological data on the blue crab,** *Callinectes sapidus* Rathbun, by **Mark R. Millikin and Austin B. Williams**. March 1984, 39 p. FAO Fisheries Synopsis No. 138.

2 Development of hexagrammids (Pisces: Scorpaeniformes) in the northeastern Pacific Ocean, by **Arthur W. Kendall, Jr. and Beverly Vinter**. March 1984, 44 p.

3 Configurations and relative efficiencies of shrimp trawls employed in southeastern United States waters, by **John W. Watson, Jr., Ian K. Workman, Charles W. Taylor, and Anthony F. Serra**. March 1984, 12 p.

4 Management of northern fur seals on the Pribilof Islands, Alaska, 1786-1981, by **Alton Y. Roppel**. April 1984, 26 p.

5 Net phytoplankton and zooplankton in the New York Bight, January 1976 to February 1978, with comments on the effects of wind, Gulf stream eddies, and slope water intrusions, by **Daniel E. Smith and Jack W. Jossi**. May 1984, 41 p.

6 Ichthyoplankton survey of the estuarine and inshore waters of the Florida Everglades, May 1971 to February 1972, by **L. Alan Collins and John H. Finucane**. July 1984, 75 p.

7 The feeding ecology of some zooplankters that are important prey items of larval fish, by **Jefferson T. Turner**. July 1984, 28 p.

8 Proceedings of the international workshop on age determination of oceanic pelagic fishes: Tunas, billfishes, and sharks, by **Eric D. Prince** (Convener and editor) and **Lynn M. Pulos** (editor). December 1983, 211 pages.

- 1-17 Age and growth assessment of fish from their calcified structures—techniques and tools, by **John M. Casselman**.
- 19-24 Some statistical characteristics of ageing data and their ramifications in population analysis of oceanic pelagic fishes, by **Joseph E. Powers**.
- 25-27 Reduction of bias generated by age-frequency estimation using the von Bertalanffy growth equation, by **Norman V. Bartoo and Keith R. Parker**.
- 29-33 Validation of age determination estimates: The forgotten requirement, by **Richard J. Beamish and Gordon A. McFarlane**.
- 35-44 Summary of round table discussions on age validation, by **Edward B. Brothers**.
- 45-47 Summary of round table discussions on back calculation, by **C. Lavett Smith**.
- 49-59 Age and growth of young-of-the-year bluefin tuna, *Thunnus thynnus*, from otolith microstructure, by **Edward B. Brothers, Eric D. Prince, and Dennis W. Lee**.
- 61-69 Interpretation of growth bands on vertebrae and otoliths of Atlantic bluefin tuna, *Thunnus thynnus*, by **Dennis W. Lee, Eric D. Prince, and Michael E. Crow**.
- 71-75 Age and growth estimation of Atlantic bluefin tuna, *Thunnus thynnus*, using otoliths, by **Peter C. F. Hurley, and T. Derrick Iles**.
- 77-86 Growth increments on dorsal spines of eastern Atlantic bluefin tuna, *Thunnus thynnus*, and their possible relation to migration patterns, by **G. Compeán-Jimenez and F. X. Bard**.
- 87-90 Deterministic partitioning of the catch of southern bluefin tuna, *Thunnus maccoyii*, into age classes using an age-length relationship, by **Jacek Majkowski and John Hampton**.
- 91-97 Progress of age and growth assessment of Atlantic skipjack tuna, *Euthynnus pelamis*, from dorsal fin spines, by **Loic M. Antoine, Jeremy J. Mendoza, and Patrice M. Cayré**.
- 99-103 Otolith formation and increment deposition in laboratory-reared skipjack tuna, *Euthynnus pelamis*, larvae, by **Richard L. Radtke**.
- 105-110 Estimating age and growth of little tunny, *Euthynnus alletteratus*, off the coast of Senegal, using dorsal fin spine sections, by **Patrice M. Cayré and Taib Diouf**.
- 111-115 Comparison of dorsal spines and vertebrae as ageing structures for little tunny, *Euthynnus alletteratus*, from the northeast Gulf of Mexico, by **Allyn G. Johnson**.
- 117-122 Determining age of young albacore, *Thunnus alalunga*, using dorsal spines, by **A. González-Garcés and A. C. Fariña-Perez**.
- 123-129 Istiphorid otoliths: Extraction, morphology, and possible use as ageing structures, by **Richard L. Radtke**.
- 131-135 Age and growth of sailfish, *Istiophorus platypterus*, using cross sections from the fourth dorsal fin spine, by **Marion Y. Hedgepeth and John W. Jolley, Jr.**
- 137-143 Age determination of broadbill swordfish, *Xiphias gladius*, from the Straits of Florida, using anal fin spine sections, by **Steven A. Berkeley and Edward D. Houde**.
- 145-150 Age estimation and growth of broadbill swordfish, *Xiphias gladius*, from the northwest Atlantic based on external features of otoliths, by **Richard L. Radtke and Peter C. F. Hurley**.
- 151-156 The potential use of sagittae for estimating age of Atlantic swordfish, *Xiphias gladius*, by **Charles A. Wilson and John M. Dean**.
- 157-165 Techniques for enhancing vertebral bands in age estimation of California elasmobranchs, by **Gregor M. Cailliet, Linda K. Martin, David Kusher, Patricia Wolf, and Bruce A. Welden**.
- 167-174 Shark ageing methods and age estimation of scalloped hammerhead, *Sphyrna lewini*, and dusky, *Carcharhinus obscurus*, sharks based on vertebral ring counts, by **Frank J. Schwartz**.
- 175-177 Age and growth of the shortfin mako, *Isurus oxyrinchus*, by **Harold L. Pratt, Jr. and John G. Casey**.
- 179-188 Preliminary studies on the age and growth of blue, *Prionace glauca*, common thresher, *Alopias vulpinus*, and shortfin mako, *Isurus oxyrinchus*, sharks from California waters, by **Gregor M. Cailliet, Linda K. Martin, James T. Harvey, David Kusher, and Bruce A. Welden**.

189-191 Age and growth of the sandbar shark, *Carcharhinus plumbeus*, from the western North Atlantic, by **John G. Casey, Harold L. Pratt, Jr., and Charles E. Stillwell**.

193-205 Biological materials for the study of age and growth in a tropical marine elasmobranch, the lemon shark, *Negaprion brevirostris* (Poey), by **Samuel H. Gruber and Robert G. Stout**.

9 Sampling statistics in the Atlantic menhaden fishery, by **Alexander J. Chester**. August 1984, 16 p.

10 Proceedings of the seventh U.S.-Japan meeting on aquaculture, marine finfish culture, Tokyo, Japan, October 3-4, 1978, by **Carl J. Sindermann** (editor). August 1984, 31 pages.

3-9 Development of biological characters in early stages of seed production of commercially important marine fishes, by **Osamu Fukuhara**.

11-16 Present status and future potential of yellowtail culture in Japan, by **Toshihiko Matsusato**.

17-20 Present status of red sea bream in Japan, by **Ryo Okamoto**.

21-24 Practical problems in finfish culture in Kochi Prefecture, by **Michiko Taniguchi**.

25-27 Maturation and spawning of marine finfish, by **C. R. Arnold**.

29-31 Striped bass culture in the United States, by **Bob Stevens**.

11 Taxonomy of North American fish eimeriidae, by **Steve J. Upton, David W. Reduker, William L. Current, and Donald W. Duszynski**. August 1984, 18 p.

12 Soviet-American cooperative research on marine mammals. Volume 1—Pinnipeds, by **Francis H. Fay and Gennadii A. Fedoseev** (editors). September 1984, 104 p.

1-4 The US-USSR Marine Mammal Project, by **Robert V. Miller**.

5-16 Craniological analysis of harbor and spotted seals of the North Pacific region, by **John J. Burns, Francis H. Fay, and Gennadii A. Fedoseev**.

17-24 Comparative biology of harbor seals, *Phoca vitulina* Linnaeus, 1758, of the Commander, Aleutian, and Pribilof Islands, by **John J. Burns and Vitali N. Gol'tsev.**

25-47 Habitat partitioning by ice-associated pinnipeds: Distribution and density of seals and walruses in the Bering Sea, April 1976, by **Howard W. Braham, John J. Burns, Gennadii A. Fedoseev, and Bruce D. Krogman**.

49-54 Use of nonmetrical characters of skulls of Bering Sea seals in a study of the phenotypic structure of their populations, by **Gennadii A. Fedoseev**.

55-59 New information on foods of the spotted seal, *Phoca largha*, in the Bering Sea in spring, by **Yuri A. Bukhtiyarov, Kathryn J. Frost, and Lloyd F. Lowry**.

61-65 Helminthological comparison of subpopulations of Bering Sea spotted seals, *Phoca largha* Pallas, by **Semyon L. Delyamure, Mikhail V. Yurakhno, Valentin N. Popov, Larry M. Shults, and Francis H. Fay**.

67-76 Abundance and distribution of the Pacific walrus, *Odobenus rosmarus divergens*: Results of the first Soviet-American joint aerial survey, autumn 1975, by **James A. Estes and Vitali N. Gol'tsev**.

77-80 An analysis of a hypothetical population of walruses, by **Douglas P. DeMaster**.

81-88 Foods of the Pacific walrus in winter and spring in the Bering Sea, by **Francis H. Fay, Yuri A. Bukhtiyarov, Samuel W. Stoker, and Larry M. Shults**.

89-99 Time and location of mating and associated behavior of the Pacific walrus, *Odobenus rosmarus divergens* Illiger, by **Francis H. Fay, G. Carleton Ray, and Arkadii A. Kibal'chich**.

101-104 A list of American and Soviet institutions possessing collections of osteological specimens from pinnipeds and sea otters, by **Larry J. Hansen, William F. Perrin, Anatoli S. Sokolov, and James G. Mead**.

13 Guidelines for reducing porpoise mortality in tuna purse seining, by **James M. Coe, David B. Holts, and Richard W. Butler**. September 1984, 16 p.

14 Synopsis of biological data on shortnose sturgeon, *Acipenser brevirostrum* LeSueur 1818, by **Michael J. Dadswell, Bruce D. Taubert, Thomas S. Squiers, Donald Marchette, and Jack Buckley**. October 1984, 45 p. FAO Fisheries Synopsis No. 140.

15 Chaetognatha of the Caribbean Sea and adjacent areas, by **Harding B. Michel**. October 1984, 33 p.

16 Proceedings of the ninth and tenth U.S.-Japan meetings on aquaculture, by **Carl J. Sindermann** (editor). November 1984, 92 p.

3-7 Nutritional requirements and artificial diets of Kuruma shrimp, *Penaeus japonicus*, by **Akio Kanazawa**.

17-23 Kuruma shrimp culture in Japan, by **Hiroshi Kurata, Kunihiko Shigueno, and Kenro Yatsuyanagi**.

17-23 Structure of a Kuruma shrimp culture pond, by **Toshifumi Noma**.

25-33 Major diseases encountered in controlled environment culture of penaeid shrimp at Puerto Peñasco, Soñora, Mexico, by **D. V. Lightner, R. M. Redman, D. A. Danald, R. R. Williams, and L. A. Perez**.

35-55 Research and development in freshwater prawn, *Macrobrachium rosenbergii*, culture in the United States: Current status and biological constraints with emphasis on breeding and domestication, by **Spencer Malecha**.

57-60 Research and development in maturation and production of penaeid shrimp in the Western Hemisphere, by **Robert A. Shleser and L. Frank Follett**.

61-67 An invasive fungus disease of the tanner crab and its aquacultural connotations, by **Albert K. Sparks**.

71-72 An attempt to culture the noble scallop, *Mimachlamys nobilis* Reeve, using a microparticulate diet, by **Akio Kanazawa, Shin-ichi Teshima, Mineshi Sakamoto, Hikaru Matsubara, and Takemitsu Abe**.

73-81 Recent developments in shellfish culture in southern Japan, by **Kazuhiko Nogami, Osamu Fukuhara, and Satoshi Umezawa**.

83-88 Abalone culture in Japan, by **Nagahisa Uki**.

89-92 Osmoregulation in marine bivalves, by **Koji Wada**.

17 Identification and estimation of size from the beaks of 18 species of cephalopods from the Pacific Ocean, by **Gary A. Wolff**. November 1984, 50 p.

18 A temporal and spatial study of invertebrate communities associated with hard-bottom habitats in the South Atlantic Bight, by **E. L. Wenner, P. Hinde, D. M. Knott, and R. F. Van Dolah**. November 1984, 104 p.

19 Synopsis of biological data on the spottail pinfish, *Diplodus holbrooki* (Pisces: Sparidae), by **George H. Darcy**. January 1985, 11 p. FAO Fisheries Synopsis No. 142.

20 Ichthyoplankton of the continental shelf near Kodiak Island, Alaska, by **Arthur W. Kendall, Jr., and Jean R. Dunn**. January 1985, 89 p.

21 Annotated bibliography on hypoxia and its effects on marine life, with emphasis on the Gulf of Mexico, by **Maurice L. Renaud**. February 1985, 9 p.

22 Congrid eels of the eastern Pacific and key to their leptocephali, by **Solomon N. Raju**. February 1985, 19 p.

23 Synopsis of biological data on the pinfish, *Lagodon rhomboides* (Pisces: Sparidae), by **George H. Darcy**. February 1985, 32 p. FAO Fisheries Synopsis No. 141.

24 Temperature conditions in the cold pool 1977-81: A comparison between southern New England and New York transects, by **Steven K. Cook**. February 1985, 22 p.

25 Parasitology and pathology of marine organisms of the World Ocean, by **William J. Hargis, Jr.** (editor). March 1985, 135 p.

123-127 The helminths and commensals of crustaceans of the Black Sea, by **N. N. Naidenova and T. N. Mordvinova**.

129-135 Achievements of Soviet scientists in investigations of the helminthofauna of marine mammals of the World Ocean, by **S. L. Delamure and A. S. Skriabin**.

26 Synopsis of biological data on the sand perch, *Diplectrum formosum* (Pisces: Serranidae), by **George H. Darcy**. March 1985, 21 p. FAO Fisheries Synopsis No. 143.

27 Proceedings of the eleventh U.S.-Japan meeting on aquaculture, salmon enhancement, Tokyo, Japan, October 19-20, 1982, **Carl J. Sindermann** (editor). March 1985, 102 p.

5-9 Methods of measuring and controlling the parr to smolt transformation (smoltification) of juvenile salmon, by **Walton W. Dickhoff, Craig Sullivan, and Conrad V. W. Mahnken**.

11-13 The importance of the environment, stress, and disease relationship in aquaculture, by **Alfred C. Fox**.

15-19 Seawater acclimation of premigratory (presmolt) fall chinook salmon: A possible new management strategy?, by **Rowan W. Gould, Aldo N. Palmisano, Stanley D. Smith, Conrad V. W. Mahnken, Wally S. Zaugg, and Earl F. Prentice**.

21-28 Chinook salmon fisheries and enhancement in Alaska: A 1982 overview, by **William R. Heard**.

29-32 Systematic genetic selection and breeding in salmonid culture and enhancement programs, by **William K. Hershberger and Robert N. Iwamoto**.

33-37 Advances in tagging and tracking hatchery salmonids: Coded wire tags, multiple-coded and miniature radio tags, and the passive integrated transponder tag, by **Gerald E. Monan**.

39-43 Trends in natural and hatchery production of chinook salmon, by **Donald E. Rogers and Ernest O. Salo**.

45-53 Hatchery approaches in artificial chum salmon enhancement, by **Osamu Hiroi**.

55-65 The migration and ecology of young salmon in early marine life, by **Takahiko Irie**.

67-73 Recent information on Europium marking techniques for chum salmon, by **Mamoru Kato**.

75-81 Development of seawater net-cage culture and release of chum salmon, by **Akimitsu Koganezawa and Minoru Sasaki**.

83-86 Technical innovations in chum salmon enhancement with special reference to fry condition and timing of release, by **Hiroshi Mayama**.

87-90 Nutritional studies for the development of formulated diet for salmon fry, by **Takeshi Murai, Toshio Akiyama, and Takeshi Nose**.

91-95 Strategies in salmon farming in Japan, by **Soichiro Shirahata**.

97-102 An electrophysiological approach to the olfactory recognition of homestream waters in chum salmon, by **Kazuo Ueda**.

28 Review of geographical stocks of tropical dolphins (*Stenella* spp. and *Delphinus delphis*) in the eastern Pacific, by **William F. Perrin, Michael D. Scott, G. Jay Walker, and Virginia L. Cass**. March 1985, 28 p.

29 Prevalence, intensity, longevity, and persistence of *Anisakis* sp. larvae and *Lacistorhynchus tenuis metacestodes* in San Francisco striped bass, by **Mike Moser, Judy A. Sakanari, Carol A. Reilly, and Jeannette Whipple**. April 1985, 4 p.

30 Synopsis of biological data on the pink shrimp, *Pandalus borealis* Krøyer, 1838, by **Sandra E. Shumway, Herbert C. Perkins, Daniel F. Schick, and Alden P. Stickney**. May 1985, 57 p.

31 Shark catches from selected fisheries off the U.S. East Coast. July 1985, 22 p.

1-14 Analysis of various sources of pelagic shark catches in the Northwest and Western Central Atlantic Ocean and Gulf of Mexico with comments on catches of other large pelagics, by **Emory D. Anderson**.

15-19 Estimated catches of large sharks by U.S. recreational fishermen in the Atlantic and Gulf of Mexico, by **John G. Casey and John J. Hoey**.

21-22 The incidental capture of sharks in the Atlantic United States Fishery Conservation Zone by the Japanese tuna longline fleet, by **W. N. Witzell**.

32 Nutrient distributions for Georges Bank and adjacent waters in 1979, by **A. F. J. Draxler, A. Matte, R. Waldhauer, and J. E. O'Reilly**. July 1985, 34 p.

33 Marine flora and fauna of the northeastern United States. Echinodermata: Echinoidea, by **D. Keith Serafy and F. Julian Fell**. September 1985, 27 p.

34 Additions to a revision of the shark genus *Carcharhinus*: Synonymy of *Aprionodon* and *Hypoprion*, and description of a new species of *Carcharhinus* (Carcharhinidae), by **J. A. F. Garrick**. November 1985, 26 p.

35 Synoptic review of the literature on the southern oyster drill *Thais haemastoma floridana*, by **Philip A. Butler**. November 1985, 9 p.

36 An egg production method for estimating spawning biomass of pelagic fish: Application to the northern anchovy, *Engraulis mordax*, by **Reuben Lasker** (editor). December 1985, 99 p.

1-3 Introduction: An egg production method for anchovy biomass assessment, by **Reuben Lasker**.

5-6 Biomass model for the egg production method, by **Keith Parker**.

7-15 Parameter estimation for an egg production method of northern anchovy biomass assessment, by **Susan Picquelle and Gary Stauffer**.

17-26 Sea survey design and analysis for an egg production method of anchovy biomass assessment, by **Paul E. Smith and Roger P. Hewitt**.

27-32 The CalCOFI vertical egg tow (CalVET) net, by **Paul E. Smith, William Flerx, and Roger P. Hewitt**.

33-35 Procedures for sorting, staging, and ageing eggs, by **Gary Stauffer and Susan Picquelle**.

37-41 Staging anchovy eggs, by **H. Geoffrey Moser and Elbert H. Ahlstrom**.

43-50 A model for temperature-dependent northern anchovy egg development and an automated procedure for the assignment of age to staged eggs, by **Nancy C. H. Lo**.

51-53 A protocol for designing a sea survey for anchovy biomass assessment, by **Roger P. Hewitt**.

55-57 Sampling requirements for the adult fish survey, by **Susan Picquelle**.

59-61 Spawning frequency of Peruvian anchovies taken with a purse seine, by **Jurgen Alheit**.

63-65 Preservation of northern anchovy in formaldehyde solution, by **J. Roe Hunter**.

67-77 Batch fecundity in multiple spawning fishes, by **J. Roe Hunter, Nancy C. H. Lo, and Roderick J. H. Leong**.

79-94 Measurement of spawning frequency in multiple spawning fishes, by **J. Roe Hunter and Beverly J. Macewicz**.

95-99 Comparison between egg production method and larval census method for fish biomass assessment, by **Roger P. Hewitt**.

TECHNICAL MEMORANDUM SERIES

This informal series of monographs was established in 1972 with the purpose of communicating the initial results and work-in-progress of NMFS research projects and supporting data. Each NMFS regional office and fisheries center numbers and publishes its own series of Technical Memoranda. They are listed here alphabetically by region/center and in numerical order within each group. Some publications may be available from the originating regional office or fishery center, while others are available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161; the NTIS accession number is listed for those available.

Alaska Region
P.O. Box 1668, Juneau, AK 99802

F/AKR-1 The Japanese high sea salmon mother ship fishery in the North Pacific Ocean: The economic implication of a loss of INPFC constraints, by **Louis E. Quirolo**. 1982, 29 p.

F/AKR-2 An assessment of the living marine resources of the Central Bering Sea and potential resource use conflicts between commercial fisheries and petroleum development in the Navarin Basin proposed sale number 83, by **Byron F. Morris**. 1981, 232 p.

F/AKR-3 Living marine resources of the Chukchi Sea: A resource report for the Chukchi Sea oil and gas lease sale number 85, by **Byron F. Morris**. 1981, 118 p.

F/AKR-4 Living marine resources of the Hope Basin: A resource assessment for the Hope Basin oil and gas lease sale number 86, by **Byron F. Morris**. 1981, 168 p.

F/AKR-5 Living marine resources of the Gulf of Alaska: A resource assessment for the Gulf of Alaska/Cook Inlet proposed oil and gas lease sale number 88, by **Byron F. Morris, Miles S. Alton, and Howard W. Braham**. 1983, 232 p.

Atlantic Estuarine Fisheries Center
(no longer in operation)

AEFC-1 Report of the National Marine Fisheries Service Atlantic Estuarine Fisheries Center, fiscal years 1970 and 1971, by **T. R. Rice (director) and Staff**. 1972, 16 p.

Auke Bay Laboratory
P.O. Box 21055, Auke Bay, AK 99821

ABFL-1 An improved incubator for salmonids and results of preliminary tests of its use, by **Jack E. Bailey and William R. Heard**. 1973, 7 p.

ABFL-2 A guide to the collection and identification of presmolt Pacific salmon in Alaska with an illustrated key, by **Milton B. Trautman**. 1973, 20 p.

ABFL-3 Salmon fry production in a gravel incubator hatchery, Auke Creek, Alaska, 1971-72, by **Jack E. Bailey and Sidney G. Taylor**. 1974, 13 p.

Northeast Fisheries Center
Woods Hole, MA 02543

F/NEC-1 Overview document of the northeast fishery management task force, phase I. by **Richard C. Hennemuth, Brian J. Rothschild, Lee G. Anderson, and William A. Lund, Jr.** 1980, 12 p.

F/NEC-2 History and status of the Atlantic demersal finfish fishery management plan, by **Guy D. Marchesseault, Richard P. Ruais, and Der-Hsiung Wang**. 1980, 8 p.

F/NEC-3 Definition of management units, by **Emory D. Anderson and Guy D. Marchesseault**. 1980, 4 p.

F/NEC-4 Fishery management techniques, a review, by **Michael P. Sissenwine and James E. Kirkley**. 1980, 10 p.

F/NEC-5 The status of the marine fishery resources of the northeastern United States, by **Margaret M. McBride and Bradford E. Brown**. 1980, 13 p.

F/NEC-6 Economic and biological data needs for fisheries management, with particular reference to the New England and mid-Atlantic areas, by **Guy D. Marchesseault, Joseph J. Mueller, and Ivar E. Strand, Jr.** 1980, 10 p.

F/NEC-7 Methodology for identification and analysis of fishery management options, by **Brian J. Rothschild, Richard C. Hennemuth, Jacob J. Dykstra, Leo C. Murphy, Jr., John C. Bryson, and James D. Ackert**. 1980, 10 p. NTIS Access No. PB81-200834.

F/NEC-8 Phytoplankton community structure in northeastern coastal waters of the United States. I. October 1978, by **Harold G. Marshall and Myra S. Cohn**. 1981, 14 p. NTIS Access No. PB82-124561.

F/NEC-9 Phytoplankton community structure in northeastern coastal waters of the United States. II. November 1978, by **Harold G. Marshall and Myra S. Cohn**. 1981, 14 p. NTIS Access No. PB82-124579.

F/NEC-10 Annual NEMP report on the health of the northeast coastal waters of the United States, 1980, by the **Northeast Monitoring Program**, Report No. NEMP IV 81A-H 0043. 1981, 79 p. NTIS Access No. PB82-124587.

F/NEC-11 Proceedings of the summer flounder (*Paralichthys dentatus*) age and growth workshop, 20-21 May 1980, Northeast Fisheries Center, Woods Hole, Massachusetts, by **Ronald W. Smith, Louise M. Dery, Paul G. Scarlett, and Ambrose Jerald, Jr.** 1981, 14 p. NTIS Access No. PB 82-174921.

F/NEC-12 Status of the fishery resources off the northeastern United States for 1981, by **Resource Assessment Division**, Northeast Fisheries Center. 1982, 114 p. NTIS Access No. PB82-184946.

F/NEC-13 Gulf and Atlantic survey for selected organic pollutants in finfish, by **Paul D. Boehm and Pam Hirtzer**. 1982, 111 p. NTIS Access No. PB 82-254111.

F/NEC-14 Ecosystem definition and community structure of the macrobenthos of the NEMP monitoring station at Pigeon Hill in the Gulf of Maine, by **Alan W. Hulbert, Kenneth J. Pecci, Jonathan D. Witman, Larry G. Harris, James R. Sears, and Richard A. Cooper**. 1982, 143 p. NTIS Access No. PB83-112474.

F/NEC-15 Seasonal phytoplankton assemblages in northeastern coastal waters of the United States, by **Harold G. Marshall and Myra S. Cohn**. 1982, 10 p. NTIS Access No. PB83-116715.

F/NEC-16 Contaminants in New York Bight and Long Island Sound sediments and demersal species, and contaminant effects on benthos, summer 1980, by **Robert N. Reid, John E. O'Reilly, and Vincent S. Zdanowicz** (editors). 1982, 96 p. NTIS Access. No. PB83-152116.

F/NEC-17 Summary of the physical oceanographic processes and features pertinent to pollution distribution in the coastal and offshore waters of the northeastern United States, Virginia to Maine, by **Merton C. Ingham** (editor). 1982, 166 p. NTIS Access. No. PB83-156364.

F/NEC-18 Stock discrimination of summer flounder (*Paralichthys dentatus*) in the middle and south Atlantic Bights: Results of a workshop, by **Michael J. Fogarty, Glenn DeLaney, John W. Gillikin, Jr., John C. Poole, Daniel E. Ralph, Paul G. Scarlett, Ronald W. Smith, and Stuart J. Wilk**. 1983, 14 p. NTIS Access. No. PB83-168856.

F/NEC-19 Environmental benchmark studies in Casco Bay-Portland Harbor, Maine, April 1980, by **Peter F. Larsen, Anne C. Johnson, and Lee F. Doggett**. 1983, 173 p. NTIS Access. No. PB83-184069.

F/NEC-20 Annual NEMP report on the health of the northeast coastal waters of the United States, 1981, by **Northeast Monitoring Program**, Report No. NEMP IV-82-65. 1983, 86 p. NTIS Access. No. PB83-193912.

F/NEC-21 MARMAP plankton survey manual, by **Jack W. Jossi and Robert R. Marak**. 1983, 260 p. NTIS Access. No. PB83-210203.

F/NEC-22 Status of the fishery resources off the northeastern United States for 1982, by **Resource Assessment Division**, Northeast Fisheries Center. 1983, 128 p. NTIS Access. No. PB83-236554.

F/NEC-23 Nantucket Shoals flux experiment data report I. Hydrography, by **W. Redwood Wright**. 1983, 4 p. NTIS Access. No. PB83-236562.

F/NEC-24 Residual drift and residence time of Georges Bank surface waters with reference to the distribution, transport, and survival of larval fishes, by **John B. Colton, Jr. and Jacquelyn L. Anderson**. 1983, 44 p. NTIS Access No. PB84-107820.

F/NEC-25 Gross and histological techiques for bivalve mollusks, by **Dorothy W. Howard and Cecelia S. Smith**. 1983, 107 p.

F/NEC-26 106-mile site characterization update, by **John B. Pearce, Don C. Miller, and Carl Berman** (editors). 1983, 483 p. NTIS Access. No. PB84- 118363.

F/NEC-27 Pelagic distributions of marine birds off the northeastern United States, by **K. D. Powers**. 1983, 201 p. NTIS Access. No. PB84-187871.

F/NEC-28 Food of seventeen species of northwest Atlantic fish, by **Ray E. Bowman and William L. Michaels**. 1984, 183 p. NTIS Access. No. PB84-219195.

F/NEC-29 Status of the fishery resources off the northeastern United States for 1983, by **Emory D. Anderson** (editor). 1984, 132 p. NTIS Access. No. PB85-106847.

F/NEC-30 Recent estimates of adult spawning stock biomass off the northeastern United States from MARMAP ichthyoplankton surveys, by **Peter Berrien, Wallace Morse, and Michael Pennington**. 1984, 111 p. NTIS Access. No. PB85-108991.

F/NEC-31 Evidence of nearshore summer upwelling off Atlantic City, New Jersey, by **Merton C. Ingham and James Eberwine**. 1984, 10 p.

F/NEC-32 Secondary production of benthic macrofauna at three stations of Delaware Bay and coastal Delaware, by **Stavros Howe and Wayne Leathem**. 1984, 62 p. NTIS Access. No. PB85-145753/AS.

F/NEC-33 MARMAP surveys of the continental shelf from Cape Hatteras, North Carolina, to Cape Sable, Nova Scotia (1977-1983). Atlas no. 1. Summary of operations, by **John D. Sibunka and Myron J. Silverman**. 1984, 306 p. NTIS Access. No. PB85-150985/AS.

F/NEC-34 Oceanology: Biology of the Ocean. Volume 2. Biological productivity of the Ocean, by **M. E. Vinogradov** (editor). First printed by Nauka Press, Moscow, 1977. [transl. Russ. by Albert L. Peabody. Kenneth Sherman, editor, Engl. version, 1985]. 1977, 518 p. NTIS Access. No. PB85-204683/AS.

F/NEC-35 Annual NEMP report of the health of the northeast coastal waters, 1982, by **John B. Pearce, Carl R. Berman, Jr., and Marlene R. Rosen** (editors). 1985, 68 p. NTIS Access. No. PB85-219129/AS.

F/NEC-36 Growth and survival of larval fishes in relation to the trophodynamics of Georges Bank cod and haddock, by **G. C. Laurence and R. G. Lough**. 1985, 150 p. NTIS Access. No. PB85-220093/AS.

F/NEC-37 Regional action plan: Northeast Regional Office and Northeast Fisheries Center, by **Bruce E. Higgins, Ruth Rehfus, John B. Pearce, Robert J. Pawlowski, Robert L. Lippson, Timothy Goodger, Susan M. Roe, and Douglas W. Beach**. 1985, 84 p. NTIS Access. No. PB85-219962/AS.

F/NEC-38 The shelf/slope front south of Nantucket Shoals and Georges Bank as delineated by satellite infrared imagery and shipboard hydrographic and plankton observations, by **J. B. Colton, Jr., J. L. Anderson, J. E. O'Reilly, C. A. Evans-Zetlin, and H. G. Marshall**. 1985, 22 p. NTIS Access No. PB85-221083/AS.

F/NEC-39 USA historical catch data, 1904-82, for major Georges Bank fisheries, by **Anne M. T. Lange and Joan E. Palmer**. 1985, 21 p. NTIS Access. No. PB85- 233948/AS.

F/NEC-40 Indexing the economic health of the U.S. fishing industry's harvesting sector, by **Virgil J. Norton, Morton M. Miller, and Elizabeth Kenney**. 1985, 42 p. NTIS Access. No. PB85-217958/AS.

F/NEC-41 Calculation of standing stocks and energetic requirements of the Cetaceans of the northeast United States outer continental shelf, by **Robert D. Kenney, Martin A. M. Hyman, and Howard E. Winn**. 1985, 99 p. NTIS Access. No. PB85-239937/AS.

F/NEC-42 Status of the fishery resources off the northeastern United States for 1985, by the **Conservation and Utilization Division**, Northeast Fisheries Center. 1985, 137 p. NTIS Access. No. PB86-125473/AS.

Northwest and Alaska Fisheries Center
7600 Sand Point Way N.E., Bldg. 4, Bin C15700,
Seattle, WA 98115-0070

NWFC-1 Annotated bibliography of interspecific hybridization of fishes of the subfamily Salmonidae, by **James R. Dangel, Paul T. Macy, and Fred C. Withler**. 1973, 48 p.

F/NWC-2 Food of the Pacific white-sided dolphin, *Lagenorhynchus obliquidens*, Dall's porpoise, *Phocoenoides dalli*, and northern fur seal, *Callorhinus ursinus*, off California and Washington; with appendices on size and food of Dall's porpoise from Alaskan waters, by **Hiroshi Kajimura, Clifford H. Fiscus, and Richard K. Stroud**. 1980, 30 p. NTIS Access. No. PB80-223274.

F/NWC-3 Summary of northern fur seal data and collection procedures - Vol. 1: Land data of the United States and Soviet Union, by **R. H. Lander** (editor). 1980. NTIS Access. No. PB81-106502.

F/NWC-4 Summary of northern fur seal data and collection procedures, Vol. 2: Eastern Pacific pelagic data of the United States and Canada, by **R. H. Lander** (editor). 1980. NTIS Access. No. PB81-124513.

F/NWC-5 Summary of northern fur seal data and collection procedures, Vol. 3: Western Pacific pelagic data of the Soviet Union and Japan, 1958-78 (excluding fur seals sighted), by **R. H. Lander and H. Kajimura** (editors). 1980. NTIS Access. No. PB81- 165904.

F/NWC-6 Releases of anadromous salmon and trout from U.S. and Canadian Pacific coast rearing facilities, 1960-1976, by **Robert Z. Smith and Roy J. Wahle**. 1981, 441 p. NTIS Access. No. PB82-196452.

F/NWC-7 Changes in relative abundance and size composition of sablefish in the coastal waters of southeast Alaska 1978-80, by **H. Zenger and S. E. Hughes**. 1981, 27 p. NTIS Access. No. PB81-181935.

F/NWC-8 Changes in relative abundance and size composition of sablefish in coastal waters of Washington and Oregon, 1979-80, by **N. B. Parks and S. E. Hughes**. 1981, 25 p. NTIS Access. No. PB81-202368.

F/NWC-9 Economic impacts of the Alaska shellfish fishery: An input/output analysis, by **W. Butcher, J. Buteau, K. Hassenmiller, G. Perry, and S. Staitieh**. 1981, 82 p. NTIS Access. No. PB82-169723.

F/NWC-10 Gulf of Alaska bottomfish and shellfish resources, by **Miles S. Alton**. 1981, 51 p. NTIS Access. No. PB81-224347.

F/NWC-11 A summary of foreign Pacific whiting catches and trawl positions in the Washington-California region, 1977-1980, by **Kathleen D. Edwards, Thomas A. Dark, Robert French, Russell Nelson, Jr., and Janet Wall**. 1981, 206 p. NTIS Access. No. PB82-109554.

F/NWC-12 Transplantation and homing experiments on salmon and steelhead trout in the Columbia River system: Fish of the 1939-44 broods, by **Leonard A. Fulton and Roger E. Pearson**. 1981, 97 p. NTIS Access. No. PB82-124314.

F/NWC-13 Trawl survey of groundfish resources in the Gulf of Alaska, summer 1978, by **Gene C. Feldman and Craig S. Rose**. 1981, 44 p. NTIS Access. No. PB82-124504.

F/NWC-14 All-nation removals of groundfish, herring, and shrimp from the east Bering Sea and northeast Pacific Ocean, 1964-1980, by **Sueto Murai, Harold A. Gangmark, and Robert R. French**. 1981, 40 p. NTIS Access. No. PB82-148693.

F/NWC-15 Estimation of a decreasing population size over time, by **Russell F. Kappenman**. 1981, 7 p. NTIS Access. No. PB82-161191.

F/NWC-16 Factors affecting bottom trawl behavior: results of experiments with 83/112 eastern trawls towed from the NOAA ship *Miller Freeman*, by **Charles William West**. 1981, 36 p. NTIS Access. No. PB82-150400.

F/NWC-17 Census of northern sea lions in the central Aleutian Islands, Alaska, 17 June-15 July 1979, with notes on other marine mammals and birds, by **Clifford H. Fiscus, David J. Rugh, and Thomas R. Loughlin**. 1981, 109 p. NTIS Access. No. PB82-146218.

F/NWC-18 A description of the resource survey data-base system of the NWAFC, 1981, by **Ralph J. Mintel and Gary B. Smith**. 1981, 111 p. NTIS Access. No. PB82-161159.

F/NWC-19 A numerical simulation model of the population dynamics of walleye pollock in a simplified ecosystem. Part I, Model description, by **Charles D. Knechtel and Lewis J. Bledsoe**. 1981, 212 p. NTIS Access. No. PB82-163049.

F/NWC-20 Relative abundance and size composition of sablefish in coastal waters of southeast Alaska, 1978-81, by **Harold H. Zenger, Jr.** 1981, 42 p. NTIS Access. No. PB82-174566.

F/NWC-21 Bowhead whale radio tagging feasibility study and review of large cetacean tagging, by **Larry J. Hobbs and Michael E. Goebel**. 1982, 68 p. NTIS Access. No. PB82-193145.

F/NWC-22 Differences in susceptibility among three stocks of chinook salmon to two isolates of infectious hematopoietic necrosis virus, by **Alex C. Wertheimer and James R. Winton**. 1980, 11 p. NTIS Access. No. PB82-193228.

F/NWC-23 Trawl survey of groundfish resources off the Aleutian Islands, July-August 1980, by **Lael L. Ronholt, Franklin R. Shaw, and Thomas K. Wilderbuer**. 1982, 84 p. NTIS Access. No. PB82-189986.

F/NWC-24 Cohort analysis of catch data on Pacific herring in the east Bering Sea, 1959-81, by **Vidar G. Wespestad**. 1982, 18 p. NTIS Access. No. PB82-193947.

F/NWC-25 Current abundance of Pacific cod in the east Bering Sea and expected abundance in 1982-86, by **Vidar Wespestad, Richard Bakkala, and Jeffrey June**. 1982, 26 p. NTIS Access. No. PB82-202763.

F/NWC-26 Changes in relative abundance and size composition of sablefish in coastal waters of Washington and Oregon, 1979-81, and California, 1980-81, by **Norman B. Parks**. 1982, 28 p. NTIS Access. No. PB82-202771.

F/NWC-27 Fluctuations of fish stocks and the consequences of the fluctuations to fishery and its management, by **Taivo Laevastu and Richard Marasco**. 1982, 53 p. NTIS Access. No. PB82-219965.

F/NWC-28 Squids taken in surface gillnets in the North Pacific Ocean by the Pacific Salmon Investigations Program, 1955-72, by **Clifford H. Fiscus and Roger W. Mercer**. 1982, 32 p. NTIS Access. No. PB82-230590.

F/NWC-29 Data on fish species from Bering Sea and the Gulf of Alaska—NWAFC species data for ecosystem simulation I, by **Karl Niggol**. 1982, 125 p. NTIS Access. No. PB82-230111.

F/NWC-30 Data report: 1979 demersal trawl survey of the eastern Bering Sea continental shelf and slope, by **R. G. Bakkala, T. M. Sample, M. S. Bohle, J. A. June, A. M. Shimada and Y. Umeda**. 1982. NTIS Access. No. PB82-257692.

F/NWC-31 Distribution of groundfish catches of the foreign trawl and longline fisheries in the eastern Bering Sea and Gulf of Alaska, 1977-80, by **V. G. Wespestad, R. Nelson, and B. Gibbs**. 1982. NTIS Access. No. PB83-113514.

F/NWC-32 Stomach contents of Pacific whiting off Washington and Oregon, April-July 1967, by **P. A. Livingston and M. S. Alton**. 1982. NTIS Access. No. PB83-118489.

F/NWC-33 The yellowfin sole resource of the eastern Bering Sea—its current and future potential for commercial fisheries, by **R. G. Bakkala, V. G. Wespestad, and L.-L. Low**. 1982. NTIS Access. No. PB83-115501.

F/NWC-34 Fifty years of cooperation and commitment: 1931-81, by **Rae R. Mitsuoka, Roger E. Pearson, Laura J. Rutledge, and Samuel Waterman**. 1982, 294 p. NTIS Access. No. PB83-150755.

F/NWC-35 An atlas of demersal fish and invertebrate community structure in the eastern Bering Sea: Part 1, 1978-81, by **G. E. Walters and M. J. McPhail**. 1982. NTIS Access. No. PB83-149484.

F/NWC-36 Report of the first interorganization bowhead whale research planning and technical coordination meeting, 11-12 March 1982, by **H. W. Braham**. 1982. NTIS Access. No. PB83-149492.

F/NWC-37 Fur seal investigations, 1981, by **P. Kozloff** (editor). 1982. NTIS Access. No. PB83-154658.

F/NWC-38 Quantitative relations between fishing mortality, spawning stress mortality and biomass growth rate (computed with numerical model FISHMO), by **T. Laevastu**. 1983. NTIS Access. No. PB83-169995.

F/NWC-39 Economic analysis of fishing industry energy conservation technology, by **A. N. Swartz**. 1983. NTIS Access. No. PB83-180125.

F/NWC-40 An atlas of demersal fish and invertebrate community structure in the eastern Bering Sea: Part 2, 1971-77, by **G. E. Walters**. 1983. NTIS Access. No. PB83-189498.

F/NWC-41 A single species, biomass based, time dependent model for investigating the effects of fishing on the dynamics of fish biomass, by **T. Laevastu and R. J. Marasco**. 1983. NTIS Access. No. PB83-189811.

F/NWC-42 Condition of groundfish resources of the eastern Bering Sea and Aleutian Islands region in 1982, by **R. Bakkala and L.-L. Low** (editors). 1983. NTIS Access. No. PB83-213439.

F/NWC-43 Potential use of the Andersen-Ursin multispecies Beverton and Holt model for modeling North Pacific fish interactions, by **P. A. Livingston**. 1983. NTIS Access. No. PB83-194407.

F/NWC-44 Spawning of twelve groundfish species in the Alaska and Pacific Coast regions, 1975-81, by **W. A. Hirschberger and G. B. Smith**. 1983, 83 p. NTIS Access. No. PB83-210153.

F/NWC-45 Instructions for conducting a census of bowhead whales from ice-based observation sites near Point Barrow, Alaska, by **B. D. Krogman and D. J. Rugh. 1983**, 61 p. NTIS Access. No. PB83-210187.

F/NWC-46 Report of the second interorganization bowhead whale research planning and technical coordination meeting, 15-16 December 1982, by **H. W. Braham**. 1983, 44 p. NTIS Access. No. PB83-214726.

F/NWC-47 The economics of uncertainty: A survey of the literature on uncertainty with particular reference to the fishery, by **S. S. Hanna**. 1983, 200 p. NTIS Access. No. 84-104421.

F/NWC-48 Bottom trawl survey of canary rockfish, yellowtail rockfish, bocaccio and chilipepper off Washington-California, 1980, by **T. A. Dark, M. E. Wilkins, and K. Edwards**. 1983, 47 p. NTIS Access No. PB84-122613.

F/NWC-49 Data report: 1980 demersal trawl survey of the eastern Bering Sea continental shelf, by **Y. Umeda and R. Bakkala**. 1983, 181 p. NTIS Access. No. PB84-128891.

F/NWC-50 A numerical simulation model of the population dynamics of walleye pollock in a simplified ecosystem: Part II, model calibration, validation and exercise, by **C. D. Knechtel and L. J. Bledsoe**. 1983. NTIS Access. No. PB84-132307.

F/NWC-51 Changes in relative abundance and size composition of sablefish in coastal waters of California, 1980-82, by **N. B. Parks and F. R. Shaw**. 1983, 23 p. NTIS Access. No. PB84-131440.

F/NWC-52 Condition of groundfish resources of the Gulf of Alaska in 1982, by **D. H. Ito and J. W. Balsiger** (editors). 1983. NTIS Access. No. PB84-136845.

F/NWC-53 Condition of groundfish resources of the eastern Bering Sea and Aleutian Islands region in 1983, by **R. G. Bakkala and L.-L. Low** (editors). 1984, 193 p. NTIS Access. No. PB84-182120.

F/NWC-54 Food habits literature of North Pacific marine fishes: A review and selected bibliography, by **P. A. Livingston and B. J. Goiney, Jr.** 1983, 88 p. NTIS Access. No. PB84-189398.

F/NWC-55 Data report: 1978 bottom trawl survey of eastern Bering Sea groundfish, by **M. S. Bohle and R. G. Bakkala**. 1984, 171 p. NTIS Access. No. PB84-189992.

F/NWC-56 A data analysis system for monitoring the seaward migration of juvenile salmonids in the Snake-Columbia River system, by **A. E. Giorgi, et al.** 1984. NTIS Access. No. PB84-189893.

F/NWC-57 Numerical simulation of the effect of interannual temperature fluctuations of fish distribution in the eastern Bering Sea, by **Nancy Pola Swan and W. James Ingraham, Jr.** 1984.

F/NWC-58 Recommendations for bowhead whale research in 1984, by **Howard W. Braham**. 1984.

F/NWC-59 Studies of the distribution and abundance of juvenile groundfish in the northwestern Gulf of Alaska, 1980-82: Part 1, three-year comparisons, by **Gary B. Smith, Gary E. Walters, Paul A. Raymore, Jr., and Wendy A. Hirschberger**. 1984. 106 p. NTIS Access. No. PB85-108538.

F/NWC-60 Lectures on the economics of fisheries production, by **Jon Conrad, Dale Squires, and Jim Kirkley**. 1984, 107 p. NTIS Access. No. PB85-106631.

F/NWC-61 Changes in relative abundance and size composition of sablefish in coastal waters of Washington and Oregon. 1979-83, by **Norman B. Parks**. 1984, 29 p. NTIS Access. No. PB85-108546.

F/NWC-62 Proceedings of the workshop on walleye pollock and its ecosystem in the eastern Bering Sea, by **Daniel H. Ito**. 1984, 296 p. NTIS Access. No. PB85-138055.

F/NWC-63 Bibliography on daily food ration of fishes, by **Patricia A. Livingston and Bernard J. Goiney, Jr.** 1984. NTIS Access. No. PB85-185494.

F/NWC-64 Standard analytical procedures of the NOAA national analytical facility, 1984-85: Extractable toxic organic compounds, by **William D. Macleod, Jr., Donald W. Brown, Andrew J. Friedman, Orlando Maynes, and Ronald W. Pierce**. 1984, 102 p. NTIS Access. No. PB85-126282.

F/NWC-65 Catalogue of cephalopods at the National Marine Mammal Laboratory, by **Clifford H. Fiscus**. 1984. NTIS Access. No. PB85-186039.

F/NWC-66 Hydroacoustic surveys and identification of humpback whale forage in Glacier Bay, Stephens Passage, and Frederick Sound, southeastern Alaska, summer 1983, by **Kenneth J. Krieger and Bruce L. Wing**. 1984, 60 p. NTIS Access. No. PB85-183887.

F/NWC-67 Effects of petroleum hydrocarbons on Alaskan aquatic organisms: A comprehensive review of all oil-effects research on Alaskan fish and invertebrates conducted by the Auke Bay Laboratory, 1970-81, by **Stanley D. Rice, D. Adam Moles, John F. Karinen, Sid Korn, Mark G. Carls, Christine C. Brodersen, Jessica A. Gharrett, and Malin M. Babcock**. 1984, 128 p. NTIS Access. No. PB85-185262.

F/NWC-68 Effect of diet on laboratory culture of *Pandulus platyceros* larvae (Crustacea: Decapoda), by **Earl F. Prentice, Kurt X. Gores, Conrad V. M. Mahnken, and Herman S. Groninger**. 1984, 29 p. NTIS Access. No. PB85-185510.

F/NWC-69 Data report: Results of sablefish tagging in waters off the coast of Washington, Oregon and California, 1979-83, by **Franklin R. Shaw**. 1984. NTIS Access. No. PB85-184489.

F/NWC-70 The 1983 Pacific west coast bottom trawl survey of groundfish resources: Estimates of distribution, abundance, age and length composition, by **Kenneth L. Weinberg, Mark E. Wilkins, and Thomas A. Dark**. 1984. NTIS Access. No. PB85-185726.

F/NWC-71 Fur seal investigations, 1982, by **Patrick Kozloff**. 1985. NTIS Access No. PB85-186047.

F/NWC-72 Biological and economic assessment of Pacific ocean perch (*Sebastes alutus*) in waters off Alaska, by **James W. Balsiger, Daniel H. Ito, Daniel K. Kimura, David A. Somerton, and Joseph M. Terry**. 1985. NTIS Access. No. PB86-119609.

F/NWC-73 Methods for assessing effects of timber harvest on small streams, by **S. W. Johnson and J. Heifetz**. 1985, 33 p.

F/NWC-74 Beach and purse seine sampling of juvenile salmonids in the Columbia River estuary and ocean plume, 1977-1983: Vol. 1, procedures, sampling effort, and catch data, by **Earl M. Dawley, Richard D. Ledgerwood, and Alvin Jensen**. 1985. NTIS Access. No. PB85-187730.

F/NWC-75 Beach and purse seine sampling of juvenile salmonids in the Columbia River estuary and ocean plume, 1977-1983: Vol 2, data on marked fish recoveries, by **Earl M. Dawley, Richard D. Ledgerwood, and Alvin Jensen**. 1985. NTIS Access. No. PB85-187722.

F/NWC-76 Fishing performance of rectangular and conical sablefish traps off southeastern Alaska, by **David M. Clausen and Jeffrey T. Fujioka**. 1985, 22 p. NTIS Access. No. PB86-113495.

F/NWC-77 Studies of the distribution and abundance of juvenile groundfish in the northwest Gulf of Alaska, 1980-82: Part II, Biological characteristics in the extended region, by **Gary E. Walters, Gary B. Smith, Paul A. Raymore, Jr., and Wendy Hirschberger**. 1985, 103 p. NTIS Access. No. PB86-113370.

F/NWC-78 Fur seal investigations, 1983, by **Patrick Kozloff**. 1985, 84 p. NTIS Access. No. PB86-113487.

F/NWC-79 Saffron cod (*Eligbinus gracilis*) in western Alaska: The resource and its potential, by **Robert J. Wolotira, Jr.** 1985, 126 p. NTIS Access. No. PB86-117678.

F/NWC-80 Condition of groundfish resources of the Gulf of Alaska region as assessed in 1984, by **Richard L. Major**. 1985, 219 p. NTIS Access. No. PB86-119864.

F/NWC-81 Radio-tracking studies on adult chinook salmon and steelhead trout at lower Columbia River hydroelectric dams, 1971-77, by **Kenneth L. Liscom, Gerald E. Monan, Lowell C. Steuhrenberg, and Pamela J. Wilder**. 1985. NTIS Access. No. PB86-119591.

F/NWC-82 Summaries of Japanese reported longline catches of Pacific cod and sablefish in the Gulf of Alaska, 1978-83, by **Harold H. Zenger, Jr.** 1985. NTIS Access. No. PB86-113917.

F/NWC-83 Condition of groundfish resources of the Eastern Bering Sea and Aleutian Islands region in 1984, by **Richard G. Bakkala and Loh-Lee Low** (editors). 1985. NTIS Access. No. PB86-120417.

F/NWC-84 Migrations of juvenile coho salmon, *Oncorhynchus kisutch*, into the Columbia River estuary, 1966-71, by **Joseph T. Durkin and Carl W. Sims. 1985**. NTIS Access. No. PB86-113479.

F/NWC-85 Results of the 1983 U.S. and U.S.S.R. bottom trawl surveys in the eastern Bering Sea, by **Wendy A. Hirschberger**. 1985. NTIS Access. No. PB86-117074.

F/NWC-86 Numbers, species, and maturity stages of fish captured with beach seines during spring 1981 and 1982 in some nearshore marine waters of southeastern Alaska, by **Joseph A. Orsi and Joyce H. Landingham**. 1985, 34 p. NTIS Access. No. PB86-113461.

F/NWC-87 Results of cooperative U.S.—Japan groundfish investigations in the eastern Bering Sea during June-November 1982, by **Richard G. Bakkala, Jimmie J. Traynor, Kazuyuki Teshima, Allen M. Shimada, and Hirotsune Yamaguchi**. 1985. NTIS Access. No. PB86-116472.

F/NWC-88 Report of the 1981 cooperative U.S.—Japan bottom trawl survey of the eastern Bering Sea continental shelf and slope, by **Terrance M. Sample, Kiyoshi Wakabayashi, Richard G. Bakkala, and Hirotsune Yamaguchi**. 1985. NTIS Access. No. PB86-116464.

F/NWC-89 Demersal fish and shellfish resources of Norton Sound and adjacent waters during 1979, by **Terrance M. Sample and Robert J. Wolotira, Jr.** 1985. NTIS Access. No. PB86-120755.

F/NWC-90 Optimal choice of regulatory instrument in a fishery under uncertainty and instrument adjustment constraints, by **Eric E. Anderson**. 1985. NTIS Access. No. PB86-146818.

F/NWC-91 Salmon stomach contents from the Alaska troll logbook program 1977-84, by **Bruce L. Wing**. 1985, 43 p. NTIS Access. No. PB86-145067.

F/NWC-92 Standard analytical procedures of the NOAA National Analytical Facility, 1985-1986, by **William D. MacLeod, Jr., Donald W. Brown, Andrew J. Friedman, Douglas G. Burrows, Orlando Maynes, Ronald W. Pearce, Catherine A. Wigren, and Richard G. Bogar**. 1985. NTIS Access. No. PB86-147873.

F/NWC-93 Survey Report: Cooperative U.S.—Japan Aleutian Islands groundfish trawl survey 1980, by **Thomas K. Wilderbuer, Kiyoshi Wakabayashi, Lael L. Ronholt, and Hirotsune Yamaguchi**. 1985. NTIS Access. No. PB86-147345.

F/NWC-94 Data report: 1983 bottom trawl survey of the eastern Bering Sea continental shelf, by **Wendy A. Hirschberger**. 1985. NTIS Access. No. PB86-202934.

NMFS Headquarters

1825 Connecticut Ave. NW, Washington, DC 20235

OF-1 Seafood marketing problems. Marketing orders and other alternatives for fishermen. (Other information not available at time of publication.) NTIS Access. No. PB297-066/3.

OF-2 Survey of chain store experience and attitudes concerning the marketing of fresh seafoods. (Other information not available at time of publication.) NTIS Access. No. PB297 014/3.

OF-3 Marketing bill and its cost components of U.S. food fish market. (Other information not available at time of publication.) NTIS Access. No. PB82-199944.

OF-4 No information available at time of publication.

OF-5 Marine environmental conditions off the coasts of the United States, January 1978-March 1979, by **Elizabeth D. Haynes** (editor). 1980, 130 p. NTIS Access. No. PB80-225600.

OF-6 National artificial reef plan, by **Richard B. Stone** (compiler). 1985, 39 p.

Northwest Region

7600 Sand Point Way N.E., Bldg. 1, Bin C15700, Seattle, WA 98115-0070

F/NWR-1 Columbia River fisheries development program annual report-FY 1980, by **R. Z. Smith and E. Wold**. 1981, 52 p. NTIS Access. No. PB82-127374.

F/NWR-2 Fish transportation oversight team annual report-FY 1981. Transport operations on the Snake and Columbia Rivers, by **Larry R. Basham, Michael R. Delarm, James B. Athearn, and Stephen W. Pettit**. 1982, 58 p. NTIS Access. No. PB83-114512.

F/NWR-3 Net economic values for salmon and steelhead from the Columbia River system, by **Philip A. Meyer**. 1982, 29 p. NTIS Access. No. PB83-139485.

F/NWR-4 Columbia River fisheries development program annual report-FY 1981, by **R. Z. Smith and E. Wold**. 1982, 51 p. NTIS Access. No. PB83-114520.

F/NWR-5 Fish transportation oversight team annual report-FY 1982, by **Larry R. Basham, Michael R. Delarm, Stephen W. Pettit, James B. Athearn, and 2Lt. John V. Barker**. 1983, 89 p. NTIS Access. No. PB83-172031.

F/NWR-6 Columbia River fisheries development program annual report-FY 1982, by **R. Z. Smith and E. Wold**. 1983, 46 p. NTIS Access. No. PB84-121045.

F/NWR-7 Fish transportation oversight team annual report-FY 1983. Transport operations on the Snake and Columbia Rivers, by **Michael R. Delarm, Larry R. Basham, Stephen W. Pettit, James B. Athearn, and Lt. John V. Barker**. 1984, 119 p. NTIS Access. No. PB84-165257.

F/NWR-8 Making economic information more useful for salmon and steelhead production decisions. A workshop at Seattle, Washington, July 24-26, 1984, by **Anonymous**. 1984, 305 p. NTIS Access No. PB85-155463.

F/NWR-9 Columbia River fisheries development program annual report-FY 1983, by **Michael R. Delarm and Einar Wold**. 1984, 113 p.

F/NWR-10 Economic information for habitat management decisions, by **Jack Richards**. In press.

F/NWR-11 Fish transportation oversight team annual report-FY 1984: Transport operations on the Snake and Columbia Rivers, by **Charles H. Koski, Stephen W. Pettit, James B. Athearn, and Alex L. Heindl**. 1985, 112 p.

F/NWR-12 Columbia River fisheries development program screening of irrigation diversions, by **Michael R. Delarm and Einar Wold**. 1985, 80 p.

F/NWR-13 Columbia River fisheries development program annual report, FY 1984, by **Michael R. Delarm and Einar Wold**. 1985, 94 p.

F/NWR-14 Fish transportation operations FY-84, by **Stephen Pettit and Charles Koski**. 1985.

F/NWR-15 Foreign and joint venture fishing operations off Washington, Oregon, and California, 1977-1984, by **Katherine King**. 1985, 8 p.

Southeast Fisheries Center
75 Virginia Beach Dr., Miami, FL 33149

SEFC-1 Report of the National Marine Fisheries Service Southeast Fisheries Center, Miami Laboratories, fiscal years 1970 and 1971, by **Ann Weeks and Albert C. Jones**. 1972, 21 p.

SEFC-2 Report of the National Marine Fisheries Service Southeast Fisheries Center, Pascagoula Laboratories, fiscal years 1970 and 1971, by **Edward F. Klima and Richard B. Roe**. 1972, 21 p.

SEFC-3 Configurations and relative efficiencies of shrimp trawls employed in southeastern United States waters, by **John W. Watson, Jr., Ian K. Workman, Charles W. Taylor, and Anthony F. Serra**. 1984, 12 p.

SEFC-4 How to prepare fishery management plans, by **T. J. Costello and Lynn M. Pulos**. 1979, 62 p.

SEFC-5 Survey of the recreational billfish and shark fisheries, May 1, 1977 - April 30, 1978, by **David C. Hamm and Beany M. Slater**. 1979, 190 p.

SEFC-6 Observations of temperature, current, and wind variations off the central eastern coast of Florida during 1970 and 1971, by **Thomas D. Leming**. 1979, 172 p.

SEFC-7 Biological data on pelagic fishes sampled from North Carolina charter boat landings, 1978, by **C. S. Manooch, III, and J. L. Ross**. 1979, 48 p.

SEFC-8 Annotated bibliography and subject indices for western Atlantic snappers (Family Lutjanidae), by **Joseph E. Tashiro**. 1979.

SEFC-9 Proceedings of the coastal zone color scanner workshop, by **Joan A. Browder and Joseph E. Powers** (editors). 1980, 61 p.

SEFC-10 Standardized data condensation: A systematic approach to efficient fisheries and environmental information storage and retrieval, by **Larry L. Massey and John E. Hollingsworth**. 1980, 8 p.

SEFC-11 Chemical and nutritional composition of finfishes, whales, crustaceans, mollusks, and their products, by **Virginia D. Sidwell**. 1980, 432 p.

SEFC-12 Results of a king mackerel (*Scomberomorus cavalla*) and Atlantic Spanish mackerel (*Scomberomorus maculatus*) migration study, 1975-79, by **Doyle F. Sutherland and William A. Fable, Jr.** 1980, 12 p.

SEFC-13 Evaluation of a quarterwave stub antenna for Tiros satellite application, by **Lawrence B. Stogner**. 1980, 42 p.

SEFC-14 A summarization and discussion of age and growth of spot, *Leiostomus xanthurus* Lacepede, sand seatrout, *Cynoscion areharius* Ginsburg, and silver seatrout, *Cynoscion nothus* (Holbrook), based on a literature review, by **Lyman E. Barger and Mark L. Williams**. 1980, 15 p.

SEFC-15 Comparison of ecological and life history information on gobiid fishes, with emphasis on the southeastern United States, by **George H. Darcy**. 1980, 53 p.

SEFC-16 A directory of fishery data collection activities conducted by the Statistical Surveys Division in the southeast region of the United States, by **Herbert F. Prytherch**. 1980, 91 p.

SEFC-17 Everything you always wanted to know about MSY and OY (but were afraid to ask), by **J. R. Zuboy and A. C. Jones**. 1980, 19 p.

SEFC-18 Consumer risk simulation model users guide, by **Karen Bolton, Stephen Bingham, and Peter Eldridge**. 1980.

SEFC-19 The Delphi Technique: A potential methodology for evaluating recreational fisheries, by **James R. Zuboy**. 1980, 19 p.

SEFC-20 Commercial brown, white, and pink shrimp tail size: total size conversions, by **Susan L. Brunenmeister**. 1980, 7 p.

SEFC-21 Assessment of the Florida stone crab fishery, by **James R. Zuboy and J. Ernest Snell**. 1980, 29 p.

SEFC-22 An evaluation of marks on hardparts for age determination of Atlantic croaker, spot, sand seatrout, and silver seatrout, by **Lyman E. Barger and Allyn G. Johnson**. 1980, 5 p.

SEFC-23 Big game fishing in the northern Gulf of Mexico during 1979, by **Paul J. Pristas**. 1980, 6 p.

SEFC-24 Sea turtle necropsy manual, by **R. E. Wolke and A. George**. 1981, 20 p.

SEFC-25 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-79, Vol. I - Benthos, by **R. H. Parker, A. L. Crowe, and L. S. Bohme**. 1980, 103 p.

SEFC-26 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-79, Vol. II - Zooplankton, by **L. A. Reitsema**. 1980, 133 p.

SEFC-27 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. III - Bacteria, by **J. R. Schwartz, S. K. Alexander, S. J. Schropp, and V. L. Carpenter**. 1980, 48 p.

SEFC-28 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. IV - Demersal fin fishes and macro-crustaceans, by **A. M. Landry, Jr. and H. W. Armstrong**. 1980, 180 p.

SEFC-29 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. V -Sediments, by **K. A. Hausknecht**. 1980, 56 p.

SEFC-30 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. VI - Hydrocarbons, by **P. D. Boehm and D. L. Fiest**. 1980, 138 p.

SEFC-31 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. VII - Trace metals, by **J. Tillery**. 1980, 72 p.

SEFC-32 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. VIII - Inorganic nutrients, by **J. M. Brooks**. 1980, 31 p.

SEFC-33 Biological/chemical survey of Texoma and Capline Sector salt dome brine disposal sites off Louisiana, 1978-1979, Vol. IX - Shrimp data analysis, by **F. J. Margraf**. 1980, 293 p.

SEFC-34 Planktonic processes affecting establishment and maintenance of reef fish stocks, by **William J. Richards**. 1980, 13 p.

SEFC-35 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume I - Synopsis/data management, by **K. Savastano and H. Holley**. 1980, 72 p.

SEFC-36 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume II - Sediments and particulates, by **J. Brooks, E. Estes, and W. Huang**. 1980, 261 p.

SEFC-37 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume III - Fishes and macrocrustaceans, by **B. Gallaway and L. Martin**. 1980, 49 p.

SEFC-38 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume IV - Bacteria, by **R. Sizemore and K. Olsen**. 1980, 32 p.

SEFC-39 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume V - Fouling community, by **R. Howard, G. Boland, B. Gallaway, and G. Dennis**. 1980, 60 p.

SEFC-40 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume VI - Currents and hydrography, by **L. J. Danek and M. S. Tomlinson**. 1980, 33 p.

SEFC-41 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume VII - Hydrocarbons, by **B. Middleditch and D. West**. 1980, 112 p.

SEFC-42 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979 Volume VIII - Trace metals, by **J. Tillery**. 1980, 93 p.

SEFC-43 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume IX - Fate and effects modeling, by **K. Fucik and I. Show**. 1980, 105 p.

SEFC-44 Environmental assessment of Buccaneer gas and oil field in the northwestern Gulf of Mexico 1978-1979. Volume X - Hydrodynamic modeling, by **G. Smedes, J. Calman, and J. Beebe**. 1980, 57 p.

SEFC-45 The occurrence of life stages of some recreational marine fishes in estuaries of the Gulf of Mexico, by **E. L. Nakamura, J. R. Taylor, and I. K. Workman**. 1980, 53 p.

SEFC-46 Catch composition, seasonality, and distribution of ichthyoplankton from R/V Onslow Bay monthly cruises in Onslow Bay and Newport River Estuary, North Carolina, 1972-74, by **J. Mayo**. 1982, 10 p.

SEFC-47 Environmental assessment of Buccaneer Gas and Oil Field in the northwestern Gulf of Mexico, 1976-1980. NOAA/NMFS milestone report to EPA. Volume I - Sediments, particulates, volatile hydrocarbons, by **J. Brooks, E. Estes, D. Wiesenburg, C. Schwab, and H. Abdel-Reheim**. 1980, 89 p.

SEFC-48 Environmental assessment of Buccaneer Gas and Oil Field in the northwestern Gulf of Mexico, 1976-1980. NOAA/NMFS milestone report to EPA. Volume II - Fishes and macrocrustaceans, by **B. Gallaway**. 1980, 82 p.

SEFC-49 Environmental assessment of Buccaneer Gas and Oil Field in the northwestern Gulf of Mexico, 1976-1980. NOAA/NMFS milestone report to EPA. Volume III - Bacteria, by **R. Sizemore and K. Olsen**. 1980, 21 p.

SEFC-50 Environmental assessment of Buccaneer Gas and Oil Field in the northwestern Gulf of Mexico, 1976-1980. NOAA/NMFS milestone report to EPA. Volume IV - Currents and hydrography, by **R. Armstrong**. 1980, 31 p.

SEFC-51 Environmental assessment of Buccaneer Gas and Oil Field in the northwestern Gulf of Mexico, 1976-1980. NOAA/NMFS milestone report to EPA. Volume V - Hydrocarbons, biocides, and sulfur, by **B. Middleditch**. 1980, 70 p.

SEFC-52 Environmental assessment of Buccaneer Gas and Oil Field in the northwestern Gulf of Mexico, 1976-1980. NOAA/NMFS milestone report to EPA. Volume VI - Trace metals, by **J. Tillery**. 1980, 39 p.

SEFC-53 A fishery statistics plan for the southeastern United States, by **A. C. Jones, H. E. Groess, K. Newlin, J. R. Zuboy, L. L. Massey, P. Eldridge, and D. Tidwell**. 1980, 89 p.

SEFC-54 The refrigerated shelflife of Spanish mackerel (*Scomberomorus maculatus*) and king mackerel (*Scomberomorus cavalla*) harvested from the southeastern United States, by **Melvin E. Waters**. 1982, 14 p.

SEFC-55 Bioprofiles sampling manual for oceanic pelagic fishes, by **Eric D. Prince and Dennis W. Lee**. 1980, 8 p.

SEFC-56 Temperature associated growth of white shrimp in Louisiana, by **Patricia Phares**. 1980, 16 p.

SEFC-57 Tail length to tail weight relationships for Louisiana white shrimp in 1977, by **Patricia Phares**. 1980, 10 p.

SEFC-58 Estimates of natural and fishing mortality for white shrimp in the Gulf of Mexico, by **Patricia Phares**. 1980, 21 p.

SEFC-59 1. A balanced marine aquarium. 2. The biology of marine aquarium fishes collected in Monroe County, Florida, by **Barbara J. Palko, Deb Hess, and John Stevely**. 1980, 83 p.

SEFC-60 A report of data collected and publications resulting from the research cruises of the *Geronimo* and *Undaunted*, by **Joseph Tashiro**. 1980, 166 p.

SEFC-61 Length-frequency distributions of recreationally caught reef fishes from Panama City, Florida, in 1978 and 1979, by **Carl Saloman and William A. Fable, Jr.** 1981, 22 p.

SEFC-62 Size and sex ratio of king mackerel, *Scomberomorus cavalla*, in the southeastern United States, by **Lee Trent, Roy O. Williams, Ronald Taylor, Carl H. Saloman, and Charles Manooch, III**. 1981, 59 p.

SEFC-63 Report of the workshop on the ecological interactions between shrimp and bottomfishes, April 1980, by **Peter F. Sheridan and Sammy M. Ray** (editors). 1981, 132 p.

SEFC-64 Japanese longline fishing: Comparisons between observer data and Japanese quarterly reports for 1979 in the Atlantic and Gulf of Mexico, by **Perry A. Thompson, Jr.** 1982, 38 p.

SEFC-65 Shrimp and redfish studies; Bryan Mound brine disposal site off Freeport, Texas, 1979-1981, Vol. I(A) - Shrimping success, (B) Shrimp catch-effort analysis, by **C. E. Comiskey and the Environmental Research and Aquaculture Division**, Galveston Laboratory. 1982, Vol. I(A): 449 p; Vol. 1(B): 217 p.

SEFC-66 Shrimp and redfish studies; Bryan Mound brine disposal site off Freeport, Texas, 1979-1981, Vol. II - Shrimp mark-release investigations, by **M. Johnson**. 1981, 110 p.

SEFC-67 Shrimp and redfish studies; Bryan Mound brine disposal site off Freeport, Texas, 1979-1981, Vol. III - Shrimp spawning site survey, by **B. Gallaway and L. Reitsema**. 1981, 84 p.

SEFC-68 Shrimp and redfish studies; Bryan Mound brine disposal site off Freeport, Texas, 1979-1981, Vol. IV - Interview sampling survey of shrimp catch and effort, by **M. F. Johnson**. 1981, 38 p.

SEFC-69 Shrimp and redfish studies; Bryan Mound brine disposal site off Freeport, Texas, 1979-1981, Vol. V - (A), Brine toxicity bioassays on redfish, by **J. M. Neff, M. P. Coglianese, W. McCulloch, L. A. Reitsema, and S. Anderson**. (B), Brine avoidance/attraction bioassays on redfish, by **D. W. Owens, K. A. Jones, and D. J. Gallaway**. 1982, Vol. V(A): 82 p.; Vol. V(B): 58 p.

SEFC-70 Shrimp and redfish studies; Bryan Mound brine disposal site off Freeport, Texas, 1979-1981, Vol. VI - Shrimp bioassays, by **N. R. Howe**. 1981, 60 p.

SEFC-71 Construction, installation, and handling procedure for the National Marine Fisheries Service's sea turtle excluder device, by **Pascagoula Laboratory**. 1981, 14 p.

SEFC-72 A summary of results of Louisiana white shrimp tagging experiments, 1977, by **K. N. Baxter and S. L. Hollaway**. 1981, 116 p.

SEFC-73 Mapping of submerged vegetation using remote sensing technology, by **Kenneth J. Savastano, Kenneth H. Faller, Louis W. McFadin, and Hillman Holley**. 1981, 68 p.

SEFC-74 Application of a computer simulation model to estimate dietary intake of cadmium from seafood by U.S. consumers, by **G. Malcolm Meaburn, Karen B. Bolton, Harry L. Seagran, Thomas Siewicki, Stephen M. Bingham, and Peter J. Eldridge**. 1981, 31 p.

SEFC-75 Lipid oxidation in blueback herring, *Alosa aestivalis*, during frozen and superchilled (−2°C) storage; effect of TBHQ antioxidant, by **Malcolm B. Hale, Jeanne D. Joseph, and Gloria T. Seaborn**. 1981, 17 p.

SEFC-76 Electrophoretic patterns of proteins in Spanish mackerel (*Scomberomorus maculatus*), by **Allyn G. Johnson**. 1981, 11 p.

SEFC-77 Big game fishing in the northern Gulf of Mexico during 1980, by **P. J. Pristas**. 1981, 34 p.

SEFC-78 A summary of results of Louisiana brown shrimp tagging experiments with regard to movement and migration, 1978, by **Stephen L. Hollaway and K. Neal Baxter**. 1981, 123 p.

SEFC-79 Assessment of the Florida stone crab fishery 1980-81 season, by **James R. Zuboy and J. Ernest Snell**. 1982, 21 p.

SEFC-80 The biological bases for reef fishery management - Proceedings of a workshop, by **Gene R. Huntsman, William R. Nicholson, and William W. Fox, Jr.** 1982, 216 p.

SEFC-81 Sea surface area by fishing zones off the coast of northeastern South America, by **Joseph E. Tashiro**. 1981, 11 p.

SEFC-82 Guide to sea turtle visceral anatomy, by **William E. Rainey**. 1981, 82 p.

SEFC-83 Selenium levels in yellowfin tuna (*Thunnus albacares*) and sharks from the Carolinas, by **Sylvia A. Braddon and Charles R. Sumpter**. 1981, 10 p.

SEFC-84 A report on the economic data bases for the coastal migratory pelagic resource (mackerel) management units, by **John Ward and John Poffenberger**. 1981, 42 p.

SEFC-85 Oceanic gamefish investigations: 1978, 1979, and 1980, by **Allyn Monty Lopez**. 1981, 23 p.

SEFC-86 Bureau of Commercial Fisheries economic working papers series annotated bibliography, by **John M. Ward**. 1982, 37 p.

SEFC-87 The occurrence of *Penaeus* spp. in the stomachs of trawl-caught fishes from the northwestern Gulf of Mexico, 1981, by **Mischelle Creel and Regina Divita**. 1982, 22 p.

SEFC-88 A report on the available economic data for the invertebrate fisheries (except shrimp), by **John Ward**. 1982, 6 p.

SEFC-89 A summary of 1979 Louisiana penaeid shrimp tagging experiments, with regard to movement and migration, by **S. L. Hollaway and L. F. Sullivan**. 1982, 104 p.

SEFC-90 Big game fishing in the northern Gulf of Mexico during 1981, by **Paul J. Pristas**. 1982, 34 p.

SEFC-91 Surveys of sea turtle populations and habitats in the western Atlantic, by **Archie Carr, Anne Meylan, Jeanne Mortimer, Karen Bjorndal, and Thomas Carr**. 1982, 82 p.

SEFC-92 Holding southeast groundfish (croaker, spot, and weakfish) in experimental refrigerated and chilled sea water systems, by **Robert C. Ernst, Jr.** 1982, 35 p.

SEFC-93 Radiologic evaluation of the differential absorption of diatrizoate in marine turtles, by **Garey L. McLellan and Jorge K. Leong**. 1982, 15 p.

SEFC-94 Seasonal abundance, size distribution and spawning of three shrimps (*Penaeus aztecus*, *P. setiferus* and *P. duorarum*) in the northwestern Gulf of Mexico, 1961-62, by **William C. Renfroe and Harold A. Brusher**. 1982, 24 p.

SEFC-95 Preliminary studies in lipid oxidation, by **Jeanne D. Joseph and Gloria Seaborn**. 1982, 92 p.

SEFC-96 A graphical atlas of cumulative monthly catches, cumulative monthly ex-vessel value of catches, and average monthly ex-vessel price per pound for brown shrimp from the Texas coast, Mississippi River to Texas, and Pensacola to the Mississippi River, for calendar years 1960 through 1981, by **Charles Wax Caillouet, Jr. and Dennis Brian Koi**. 1982, 79 p.

SEFC-97 Short-term mortality of tagged shrimp during field tagging experiments, by **Brian Holt**. 1982, 10 p.

SEFC-98 Interim report of the workshop on the scientific basis for the management of penaeid shrimp, by **B. Rothschild and J. A. Gulland** (conveners). 1982, 66 p.

SEFC-99 Economic status of the offshore shrimp fishery in the Gulf of Mexico, by **John R. Poffenberger**. 1982, 18 p.

SEFC-100 A report on the available economic data for the shrimp fisheries in the southeastern United States, by **John R. Poffenberger**. 1982, 19 p.

SEFC-101 An analysis of fishery economic data relating to commercial mackerel fisheries, by **John R. Poffenberger**. 1982, 35 p.

SEFC-102 Engineering and economics of RSW and CSW systems for semi-tropical waters, including an annotated bibliography, by **Robert C. Ernst, Jr. and John W. Brown**. 1982, 64 p.

SEFC-103 Bioprofiles sampling manual for oceanic pelagic fishes, 1982-83, by **Eric D. Prince and Dennis W. Lee**. 1982, 8 p.

SEFC-104 Three reports concerning the Tortugas sanctuary studies, 1981-1982: Report 1. The Tortugas Sanctuary Study, May 1981-February 1982; Report 2. A preliminary analysis of pink shrimp (*Penaeus duorarum*) size and abundance during the Tortugas shrimp sanctuary study, September 1981-February 1982; Report 3. A synopsis of the Tortugas pink shrimp fishery, 1960-1981, and the impact of the Tortugas sanctuary, by **E. F. Klima, T. Costello, T. W. Roberts, G. A. Matthews, and F. J. Patella**. 1982, 196 p.

SEFC-105 Identification of suspect sea turtle meat samples and determination of species: A law enforcement problem, by **Sylvia Braddon, Brian B. Caffrey, and Jeffrey R. Pike**. 1982, 12 p.

SEFC-106 Oceanic gamefish investigations: Statistical results of billfish data, collected 1972-81, by **Allyn Monty Lopez**. 1982, 28 p.

SEFC-107 Corrected SeaSat - A scatterometer wind data for the Gulf of Mexico region, September 1978, by **John T. Brucks, Thomas D. Leming, Samuel Burkett, Jr., S. Peteherych, P. M. Woiceshyn, and M. G. Wurtele**. 1982, 541 p.

SEFC-108 Review of the 1982 Texas closure for the shrimp fishery off Texas and Louisiana, by **Edward F. Klima, K. Neal Baxter, Frank J. Patella, and Geoffrey A. Matthews**. 1983, 21 p.

SEFC-109 Abundance and size distributions of *Penaeus* spp. shrimps in the northern and northwestern Gulf of Mexico during the 1982 closure period, by **Geoffrey A. Matthews**. 1982, 17 p.

SEFC-110 Impacts of 1981 and 1982 Texas closure on brown shrimp yields, by **Scott Nichols**. 1983, 20 p.

SEFC-111 Estimated impacts of Texas closure regulation on ex-vessel prices and value, 1981-1982, by **John Poffenberger**. 1982, 34 p.

SEFC-112 Movement and surfacing behavior patterns of loggerhead sea turtles in and near Canaveral Channel, Florida (September and October 1981), by **Andrew J. Kemmerer, Robert E. Timko, and Samuel B. Burkett**. 1983, 43 p.

SEFC-113 An annotated list of selected references on age and growth studies of bluefin tuna Thunnus spp., by **Dennis W. Lee, Eric D. Prince, and Walter C. Mann**. 1983, 29 p.

SEFC-114 A survey of brown shrimp resources in the northwestern Gulf of Mexico, by **R. A. Neal, H. Brusher, and L. F. Sullivan**. 1983, 30 p.

SEFC-115 Reef fish distributions off North Carolina and South Carolina as revealed by headboat catches, by **Patricia Tester, Cynthia Wolfe, Robert Dixon, and Gene R. Huntsman**. 1983, 12 p.

SEFC-116 Size composition of monthly catches of brown shrimp from the Texas coast, Mississippi River to Texas and Pensacola to the Mississippi River, 1960-81, by **C. W. Caillouet, Jr. and D. Koi**. 1983, 73 p.

SEFC-117 Synopsis of data on the impact of habitat alteration on sea turtles around the southeastern United States, by **Linda Coston-Clements and Donald E. Hoss**. 1983, 57 p.

SEFC-118 Shrimp vessel activity relative to the Texas closure, 1981 and 1982, by **Joan Browder**. 1983, 10 p.

SEFC-119 Selectivity of gill nets on Spanish mackerel, *Scomberomorus maculatus*, king mackerel, *S. cavalla*, and bluefish, *Pomatomus saltatrix*, by **Lee Trent, Carl H. Saloman, and Steven P. Naughton**. 1983, 28 p.

SEFC-120 Mobility patterns and characteristics of shrimp vessels fishing off Texas, 1981, by **Carolyn M. Fonyo, Joan A. Browder, and Susan L. Brunenmeister**. 1983, 37 p.

SEFC-121 Shellfish associated gastroenteritis: a case study on the impact of the hard clam associated outbreaks in New York State, May to Sept. 1982, by **John W. Brown and W. Davis Folson**. 1983, 44 p.

SEFC-122 A descriptive survey of the bottom longline fishery in the Gulf of Mexico, by **Herbert F. Prytherch**. 1983, 33 p.

SEFC-123 Metabolism of benzo(a)pyrene by fish liver microsomes: Literature review and preliminary studies, by **Gary P. Richards, Daniel Goldmintz, and John A. Wells**. 1983, 18 p.

SEFC-124 Food and gastrointestinal parasites of dolphin, *Coryphaena hippurus*, collected along the southeastern and gulf coasts of the United States, by **C. S. Manooch, III, D. L. Mason, and R. S. Nelson**. 1983, 36 p.

SEFC-125 Japanese longline fishing: Comparisons between 1980 observer and Japanese report data and between 1979 and 1980 fishing activity and catch rates for the Atlantic and Gulf of Mexico, by **Gladys B. Reese**. 1983, 82 p.

SEFC-126 Food of the king mackerel, *Scomberomorus cavalla*, from the southeastern United States, including the Gulf of Mexico, by **C. Saloman and S. Naughton**. 1983, 25 p.

SEFC-127 Report of the Southeast Fisheries Center stock assessment workshop, by **Joseph E. Powers** (editor). 1983, 229 p.

SEFC-128 Food of Spanish mackerel, *Scomberomorus maculatus*, from the Gulf of Mexico and the southeastern seaboard of the United States, by **C. Saloman and S. Naughton**. 1983, 22 p.

SEFC-129 Catch and effort data from a pilot survey of charterboat captains in the southeastern United States, 1982, by **Mark L. Williams, Harold A. Brusher, and Lee Trent**. 1984, 25 p.

SEFC-130 Station and catch data, FRS *Oregon* II cruise 85, January 1978 (west Florida shelf), by **George H. Darcy and Elmer J. Gutherz**. 1984, 149 p.

SEFC-131 Orientation characteristics of immature Kemp's ridley sea turtles, *Lepidochelys kempi*, by **Thane R. Wibbels**. 1984, 67 p.

SEFC-132 An evaluation of hard parts for age determination of pompano (*Trachinotus carolinus*), ladyfish (*Elops saurus*), crevalle jack (*Caranx hippos*), gulf flounder (*Paralichthys albigutta*), and southern flounder (*Paralichthys lethostigma*), by **Barbara Jayne Palko**. 1984, 11 p.

SEFC-133 Beach restoration with offshore dredged sand: Effects on nearshore macroinfauna, by **Carl H. Saloman and Steven P. Naughton**. 1984, 20 p.

SEFC-134 Food of crevalle jack (*Caranx hippos*) from Florida, Louisiana, and Texas, by **Carl H. Saloman and Steven P. Naughton**. 1984, 34 p.

SEFC-135 Executive summary of the 1983 Texas closure, by **Albert C. Jones and Edward F. Klima**. 1984, 14 p.

SEFC-136 Review of the 1983 Texas closure for the shrimp fishery off Texas and Louisiana, by **Edward F. Klima, K. Neal Baxter, Frank J. Patella, Geoffrey A. Matthews**. 1984, 28 p.

SEFC-137 Abundance and associations of epibenthic crustacea in the western Gulf of Mexico, by **R. T. Christian and L. James Lester**. 1984, 17 p.

SEFC-138 Catches of king mackerel and cero in the Spanish mackerel gill-net fishery, by **William A. Fable, Jr. and Lee Trent**. 1984, 12 p.

SEFC-139 Catch and effort data from a sample survey of charterboat captains in the southeastern United States, 1983, by **Mark L. Williams, Harold A. Brusher, Barbara J. Palko, and Lee Trent**. 1984, 170 p.

SEFC-140 A user's guide to the inshore shrimp and hydrographic data collected by the Texas Parks and Wildlife Department from 1963 through 1980, by **Geoffrey A. Matthews, Dennis B. Koi, and Richard L. Benefield**. 1984, 74 p.

SEFC-141 Impacts of the combined closures of the Texas territorial sea and FCZ on brown shrimp yields, by **Scott Nichols**. 1984, 7 p.

SEFC-142 Impacts on the 1982 and 1983 closure of the Texas FCZ and brown shrimp yields, by **Scott Nichols**. 1984, 15 p.

SEFC-143 Comparative tissue distribution of cadmium in mice dosed with partially purified extracts of oyster, by **Thomas Siewicki, Frances M. Van Dolah, and Jane S. Sydlowski**. 1984, 12 p.

SEFC-144 SEAMAP 1982 - Icthyoplankton larval distribution and abundance of Engraulidae, Carangidae, Clupeidae, Lutjanidae, Serranidae Coryphaenidae, Istiophoridae, Xiphiidae and Scombridae in the Gulf of Mexico, by **William J. Richards, Thomas Potthoff, Sharon Kelley, Michael McGowan, Leonard Ejsymont and James Powers**. 1984, 4 p.

SEFC-145 Growth and movements of captive-reared Kemp's ridley sea turtles, *Lepidochelys kempi*, following their release in the Gulf of Mexico, by **J. P. McVey and T. Wibbels**. 1984, 25 p.

SEFC-146 Application of a truncated Poisson model to seafood consumption frequencies, by **L. Ng**. 1984, 23 p.

SEFC-147 Bibliographies of the National Marine Fisheries Service's assessments of impacts of the Buccaneer Gas and Oil field and of brine disposal from salt domes of the strategic petroleum reserve, by **C. W. Caillouet, Jr.** 1984, 35 p.

SEFC-148 Estimated impacts of Texas Closure regulation on ex-vessel prices and value, 1982 and 1983, by **J. R. Poffenberger**. 1984, 21 p.

SEFC-149 Relative abundance and size distributions of *Penaeus* shrimps based on samples collected during the 1983 SEAMAP-Texas closure survey in the north and northwestern Gulf of Mexico, by **G. A. Matthews**. 1984, 18 p.

SEFC-150 Food of bluefish (*Pomatomus saltatrix*) from the U.S. south Atlantic and Gulf of Mexico, by **S. P. Naughton and C. H. Saloman**. 1984, 37 p.

SEFC-151 Graphics—an anthology of programs, by **L. Ng**. 1984, 125 p.

SEFC-152 The Kemp's ridley sea turtle head start research project: An annual report for fiscal year 1984, by **C. T. Fontaine and C. W. Caillouet, Jr.** 1985, 13 p.

SEFC-153 Generalized geographic mapping system for computer graphics, by **D. B. Koi**. 1985, 39 p.

SEFC-154 Report of the second Southeast Fisheries Center stock assessment workshop, by **J. E. Powers**. 1985.

SEFC-155 (Not yet published)

SEFC-156 Review of the 1984 Texas closure for the shrimp fishery off Texas and Louisiana, by **E. F. Klima, K. N. Baxter, and F. J. Patella**. 1985, 33 p.

SEFC-157 Catch and effort data from a sample survey of charter-boat captains in the southeastern United States, 1984, by **M. L. Williams, H. A. Brusher, B. J. Palko, and L. Trent**. 1985, 120 p.

SEFC-158 The husbandry of hatchling to yearling Kemp's ridley sea turtles (*Lepidochelys kempi*), by **C. T. Fontaine, et al.** 1985, 34 p.

SEFC-159 A financial profile of shrimp vessels in the southeastern United States during 1982, by **J. R. Poffenberger**. 1984, 14 p.

SEFC-160 Food of gag (*Mycteroperca microlepis*) from North Carolina and three areas of Florida, by **S. P. Naughton and C. H. Saloman**. 1985, 36 p.

SEFC-161 Distribution, seasonal abundance, and ecology of juvenile northern pink shrimp, *Penaeus duorarum*, in the Florida Bay area, by **T. J. Costello, D. M. Allen, and J. H. Hudson**. 1985.

SEFC-162 A comparison of forage fish communities in relation to habitat parameters in Faka Union Bay, Florida and eight collateral bays during the wet season, by **D. R. Colby, G. W. Thayer, W. F. Hettler, and D. S. Peters**. 1985, 87 p.

SEFC-163 SEFC oceanic pelagics program 1984, by **A. R. Bertolino, et al.** 1985, 67 p.

SEFC-164 Patterns and variability in first-year growth and weight of captive-reared Kemp's ridley sea turtle: a graphical analysis, by **C. W. Caillouet, Jr., and D. B. Koi**. 1985, 4 p.

SEFC-165 Biological implications of the closed corridor option for the Atlantic menhaden fishery, by **D. S. Vaughan**. 1985, 14 p.

SEFC-166 A selected bibliography on fish oils, by **P. E. Bauersfeld and L. F. Winemiller**. 1985, 59 p.

SEFC-167 SEAMAP 1983. Ichthyoplankton, by **S. Kelly, T. Potthoff, W. J. Richards, and L. Ejsymont**. 1985.

SEFC-168 Report of the working group on NEFC/SEFC marine mammal research, by **G. P. Scott** (editor). 1985, 27 p.

SEFC-169 A survey of potential disease-causing organisms in bait shrimp from west Galveston Bay, Texas, by **C. T. Fontaine**. 1985, 25 p.

Southeast Region
9450 Koger Blvd., St. Petersburg, FL 33702

SER-1 Report of the National Marine Fisheries Service Gulf Coastal Fisheries Center, fiscal years 1970 and 1971, by **Anonymous**. 1972, 26 p.

SER-2 Report of the National Marine Fisheries Service Biological Laboratory, St. Petersburg Beach, fiscal years 1970 and 1971, by **James E. Sykes**. 1972, 13 p.

SER-3 Report of the National Marine Fisheries Service Fishery Products Technology Laboratory, Pascagoula, fiscal years 1970 and 1971, by **Travis D. Love, Mary H. Thompson, and Melvin E. Waters**. 1972, 12 p.

Southwest Fisheries Center
P.O. Box 271, La Jolla, CA 92038

SWFC-1 California's northern anchovy fishery: Biological and economic basis for fishery management, by **Daniel D. Huppert, Alec D. MacCall, Gary D. Stauffer, Herbert W. Frey, and Jane A. McMillan**. 1980, 121 p.

SWFC-2 Estimates of the catch and effort by foreign tuna longliners and baitboats in the Fishery Conservation Zone of the central and western Pacific, 1965-1977, by **Marian Y. Y. Yong and Jerry A. Wetherall**. 1980, 103 p.

SWFC-3 The mid-net zipper ridge, a possible cause of unobserved porpoise mortality, by **David B. Holts**. 1980, 4 p.

SWFC-4 Biology and economics of the fishery for jack mackerel in the northeastern Pacific, by **Alec D. MacCall, Herbert W. Frey, Daniel D. Huppert, Eric H. Knaggs, Jane A. McMillan, and Gary D. Stauffer**. 1980, 85 p.

SWFC-5 Summary report of the billfish stock assessment workshop—Pacific resources, by **Richard S. Shomura** (editor). 1980, 80 p.

SWFC-6 Results of the chartered cruise of the M/V *Maria C. J.*, September 17 to November 22, 1979, by **James M. Coe and Richard W. Butler**. 1980, 28 p.

SWFC-7 Synopsis of biological data on the green turtle in the Hawaiian Islands, by **George H. Balazs**. 1980, 102 p.

SWFC-8 Fishing methods and equipment of the U.S. west coast albacore fleet, by **Ronald C. Dotson**. 1980.

SWFC-9 An annotated computerized bibliography of the use of karyotypic analysis in the subspecific taxonomy of mammals, by **Gary L. Worthen**. 1981, 154 p.

SWFC-10 Albacore trolling and longline exploration in eastern North Pacific waters during mid-winter 1981, by **R. Michael Laurs, Ronald J. Lynn, Robert Nishimoto, and Ronald Dotson**. 1981, 40 p.

SWFC-11 Observations of albacore (*Thunnus alalunga*) fishing off California in relation to sea surface temperature isotherms as measured by an airborne infrared radiometer, by **James L. Squire, Jr.** 1981, 7 p.

SWFC-12 Stock assessment activities within the National Marine Fisheries Service, by **Anonymous**. 1981, 130 p.

SWFC-13 Planning double-tagging experiments, by **Jerry A. Wetherall and Marian Y. Y. Yong**. 1981, 11 p.

SWFC-14 Histological gonad analyses of late summer-early winter collections of bigeye tuna, *Thunnus obesus*, and yellowfin tuna, *Thunnus albacares*, from the Northwest Atlantic and the Gulf of Mexico, by **Stephen R. Goldberg and Hillary Herring-Dyal**. 1981, 1 p.

SWFC-15 Status reports on world tuna and bullfish stocks, by **Anonymous**. 1981, 300 p.

SWFC-16 An evaluation of tagging, marking, and tatooing techniques for small delphinids, by **Merrill J. White, Jr., Jacqueline G. Jennings, Walter F. Gandy, and Lanny H. Cornell**. 1981, 142 p.

SWFC-17 Local stability and maximum net productivity levels for a simple model of porpoise population sizes, by **Tom Polacheck**. 1981, 14 p.

SWFC-18 Computer program documentation, EDMAP 2, environmental data mapping program, version 2, by **Larry E. Eber**. 1982, 55 p.

SWFC-19 The relationship between changes in gross reproductive rate and the current rate of increase for some simple age structured models, by **Tom Polacheck**. 1982, 10 p.

SWFC-20 Testing methods of estimating range and bearing to cetaceans aboard the R/V *D. S. Jordan*, by **Tim D. Smith**. 1982, 30 p.

SWFC-21 An annotated bibliography of the ecology of co-occuring tunas (*Katsuwonus pelamis*, *Thunnus albacares*) and dolphins (*Stenella attenuata*, *Stenella longirostris*, and *Delphinus delphis*) in the eastern tropical Pacific, by **Sandra D. Hawes**. 1982, 29 p.

SWFC-22 Structured flotsam as fish aggregating devices, by **Richard S. Shomura and Walter M. Matsumoto**. 1982, 8 p.

SWFC-23 Abundance estimation of dolphin stocks involved in the eastern tropical Pacific yellowfin tuna fishery determined from aerial and ship surveys to 1979, by **Rennie S. Holt and Joseph E. Powers**. 1982, 104 p.

SWFC-24 Revised update and retrieval system for the CalCOFI oceanographic data file, by **L. E. Eber and Nancy Wiley**. 1982, 33 p.

SWFC-25 A preliminary study of dolphin release procedures using model purse seines, by **David B. Holts and James M. Coe**. 1982, 23 p.

SWFC-26 Possible effects of sampling biases on reproductive rate estimates for porpoise in the eastern tropical Pacific, by **Tom Polacheck**. 1983, 27 p.

SWFC-27 Report of porpoise experiment testing detection of on-track schools (PET DOTS), March 7 - April 5, 1981, by **Rennie S. Holt**. 1983, 82 p.

SWFC-28 Two computer programs to project populations with time-varying vital rates, by **Tim Gerrodette, Daniel Goodman, and Jay Barlow**. 1983, 56 p.

SWFC-29 Report of eastern tropical Pacific research vessel marine mammal survey, May 15-August 3, 1982, by **Rennie S. Holt**. 1983, 159 p.

SWFC-30 Estimating age of spotted and spinner dolphins (*Stenella attenuata* and *Stenella longirostris*) from teeth, by **Albert C. Myrick, Jr., Aleta A. Hohn, Priscilla A. Sloan, Makota Kimura, and Drew D. Stanley**. 1983, 21 p.

SWFC-31 Re-estimation of three parameters associated with anchovy egg larval abundance: Temperature dependent incubation time, yolk-sac growth rate and egg and larval retention in mesh nets, by **Nancy C. H. Lo**. 1983, 32 p.

SWFC-32 NMFS guidelines on economic valuation of marine recreational fishing, by **Daniel D. Huppert**. 1983, 33 p.

SWFC-33 Summary of environmental and fishing information on Guam and the Northern Mariana Islands: A review of the plankton communities and fishery resources of Guam and the Commonwealth of the Northern Mariana Islands, by **Richard R. N. Uchida**. 1983, 111 p.

SWFC-34 Some data on dolphin mortalities in the eastern tropical Pacific tuna purse seine fishery prior to 1970, by **Tim D. Smith and Nancy C. H. Lo**. 1983, 30 p.

SWFC-35 Precision of age determination of northern offshore spotted dolphins, by **Stephen Reilly, Aleta A. Hohn, and Albert C. Myrick, Jr.** 1983, 31 p.

SWFC-36 Recovery of adult green turtles observed or originally tagged at French Frigate Shoals, northwestern Hawaiian Islands, by **George Balazs**. 1983, 10 p.

SWFC-37 Report of the workshop on long-range planning for the North Pacific albacore fishery, by **David J. Mackett** (editor). 1983, 53 p.

SWFC-38 Distribution of four dolphins (*Stenella* spp. and *Delphinus delphis*) in the eastern tropical Pacific, with an annotated catalog of data sources, by **W. F. Perrin, M. D. Scott, G. J. Walker, F. M. Ralston, and D. W. K. Au**. 1983, 65 p.

SWFC-39 Annotated references to techniques capable of assessing the roles of cephalopods in the eastern tropical Pacific Ocean, with emphasis on pelagic squids, by **John B. Hedgepeth**. 1983, 81 p.

SWFC-40 Summary of environmental and fishing information on Guam and the Commonwealth of the northern Mariana Islands: Historical background, description of the islands, and review of the climate, oceanography, and submarine topography, by **L. G. Eldredge**. 1983, 50 p.

SWFC-41 Diving patterns of the Hawaiian monk seal, Lisianski Island, 1982, by **Fredrick V. Schlexer**. 1984, 4 p.

SWFC-42 The Hawaiian monk seal of Laysan Island: 1982, by **Doris J. Alcorn**. 1984, 27 p.

SWFC-43 Atlas of airborne sea surface temperature observations in nearshore California waters, 1980-1983. With a note pertaining to El Niño of 1982-83, by **Paul N. Sund**. 1984, 6 p.

SWFC-44 Potential impact of deep seabed mining on the larvae of tunas and billfishes, by **Walter M. Matsumoto**. 1984, 70 p.

SWFC-45 Sampling commercial rockfish landings in California, by **A. R. Sen**. 1984, 95 p.

SWFC-46 Histopathological manual for monitoring health of striped bass in relation to pollutant burdens, by **Jeanette A. Whipple, Marvin Jung, R. Bruce MacFarlane, and Rahel Fischer**. 1984, 81 p.

SWFC-47 Hawaiian monk seal population research, Lisianski Island, 1982, by **H. Sheridan Stone**. 1984, 33 p.

SWFC-48 Interpreting spotted dolphin age distributions, by **Jay Barlow and Aleta A. Hohn**. 1984, 22 p. NTIS Access No. PB85-174555/AS.

SWFC-49 Observations of the Hawaiian monk seal on Laysan Island from 1977 through 1980, by **Brian W. Johnson and Patricia A. Johnson**. 1984, 79 p.

SWFC-50 Hawaiian monk seal observations on French Frigate Shoals, 1980, by **Patricia A. Johnson and Brian W. Johnson**. 1984, 49 p.

SWFC-51 Estimating dolphin juvenile survival rates from the proportion of calves nursing, by **Tom Polacheck**. 1984, 14 p. NTIS Access. No. PB85-174563/AS.

SWFC-52 Operational plan for NMFS Albacore Program, by **Richard H. Parrish, N. Bartoo, P. Donely, S. Herrick, P. Kleiber, R. M. Laurs, R. McInnis, and J. Wetherall**. 1985, 31 p. NTIS Access. No. PB85-217933/AS.

SWFC-53 Albacore fishing and windspeed, by **Paul N. Sund**. 1985, 11 p.

SWFC-54 Proceedings of the workshop on the fate and impact of marine debris, 27-29 November 1984, Honolulu, Hawaii, by **Richard S. Shomura and Howard O. Yoshida** (editors). 1985, 580 p.

SWFC-55 The Hawaiian monk seal and green turtles on Necker Island 1983, by **Robert J. Morrow and Elizabeth K. Buelna**. 1985, 11 p.

SWFC-56 Proportions of species of dolphins in the eastern tropical Pacific, by **J. Barlow and R. S. Holt**. 1985.

SWFC-57 A budget simulation model for West Coast albacore troller, by **S. F. Herrick, Jr., and K. L. Carlson**. 1985.

Southwest Region
300 S. Ferry St., Terminal Island, CA 90731-7415

F/SWR-OO1 An assessment of commercial fishing facilities and the potential for commercial fishing industry expansion in Santa Barbara and Ventura County harbors, by **James R. Bybee and John B. Richards**. 1979, 50 p.

F/SWR-OO2 Survey of new U. S. commercial fishing vessels delivered to the west coast in 1979, by **Wesley Silverthorne, Brian Brown, and John Sheldon**. 1979, 15 p.

F/SWR-OO3 A survey of Japan's import regulations on fish and shellfish products, by **Sunee C. Sonu**. 1980, 78 p.

F/SWR-OO4 Economic status of the California groundfish fishery in 1983, by **Charles S. Korson**. 1984, 18 p.

F/SWR-OO5 Economic status of the California salmon fishery in 1983, by **Charles S. Korson**. 1984, 19 p.

F/SWR-OO6 Economic status of the California dungeness crab fishery in 1982-1983, by **Charles S. Korson**. 1984, 8 p.

F/SWR-OO7 Economic status of the California pink shrimp fishery in 1983, by **Charles S. Korson**. 1984, 10 p.

F/SWR-OO8 Economic status of the California dungeness crab fishery in 1983-1984, by **Charles S. Korson**. 1985, 8 p.

F/SWR-OO9 Economic status of the California pink shrimp fishery in 1984, by **Charles S. Korson**. 1985, 10 p.

F/SWR-O10 Economic status of the Washington, Oregon, and California groundfish fishery in 1984, by **Charles S. Korson and Wesley Silverthorne**. 1985, 22 p.

F/SWR-011 Tuna handling and refrigeration on purse seiners, by **Frank D. Burns**. 1985, 135 p.

F/SWR-012 Annotated bibliography on impacts of gillnets on non-target species, by **H. Sheridan Stone**. 1985.

AUTHOR INDEX

The series are abbreviated as follows:

C *Circular*
FB *Fishery Bulletin*
MFR *Marine Fisheries Review*
S *Special Scientific Report—Fisheries*
TM *Technical Memorandum*
TR *Technical Report*

C

Coon, W. P., III—see Wenner et al.
Cooper, Richard A.—see Hulbert et al.; Meyer et al.
Cooper-Sheehan, Christine—see Collings et al.
Cornell, Lanny H.—see Odell et al.; White et al.
Corolla, R. T.—see Webb and Corolla
Costello, T.—see Klima et al.
Costello, T. J., D. M. Allen, and J. H Hudson, TM SEFC-161
_____, and Lynn M. Pulos, TM SEFC-4
Coston-Clements, Linda, and Donald E. Hoss, TM SEFC-117
Court, William G., MFR 42(7-8):1
Cox, J. L.—see Wiebe et al.
Coyer, James A., FB 82:55
Craddock, James E.—see Robison and Craddock
Cramer, J. L., R. M. Nakamura, A. E. Dizon, and W. N. Ikehara, MFR 43(6):12
Crapo, C.—see Kolbe et al.
Crass, Dennis W., and Robert H. Gray, FB 80:158
Creaser, Edwin P., and David A. Clifford, FB 80:735
_____, _____, Michael J. Hogan, and David B. Sampson, S 767
Creed, Robert P., Jr., FB 83:711
Creel, Mischelle—see Divita et al.
_____, and Regina Divita, TM SEFC-87
Cressey, Hillary Boyle—see Cressey and Cressey
Cressey, Roger F., Bruce B. Collette, and Joseph L. Russo, FB 81:227
_____, and Hillary Boyle Cressey, FB 78:715
Cross, Jeffrey N., FB 83:195
Crow, Michael E.—see Lee et al.
Crowe, A. L.—see Parker et al.
Crowe, Barbara J., FB 82:427
Cubbage, James C.—see Rugh and Cubbage
Current, William L.—see Upton et al.

D

Dadswell, Michael J.—see MacDonald et al.
_____, Bruce D. Taubert, Thomas S. Squiers, Donald Marchette, and Jack Buckley, TR 14
Dahlheim, Marilyn—see Ljungblad et al.
_____, Teresa Bray, and Howard W. Braham, MFR 42(9-10):51
Danald, D. A.—see Lightner et al.
Danek, L. J., and M. S. Tomlinson, TM SEFC-40
Dangel, James R., Paul T. Macy, and Fred C. Withler, TM NWFC-1 Daniels, Robert A., FB 80:575
_____, and Peter B. Moyle, FB 81:647
Darcy, George H., C 448; C 449; S 748; TM SEFC-15; TR 19; TR 23; TR 26
_____, and Elmer J. Gutherz, TM SEFC-130
Dark, T. A., M. E. Wilkins, and K. Edwards, TM F/NWC-48
Dark, Thomas A.—see Edwards et al.; Nelson and Dark; Weinberg et al.
_____, Martin O. Nelson, Jimmie J. Traynor, and Edmund P. Nunnallee, MFR 42(3-4):17
Davis, B. M.—see Wiebe et al.
Davis, Gary E., FB 78:979
Davis, J. Connor—see Browder et al.
Dawirs, Ralph R.—see Anger and Dawirs
Dawley, Earl M., Richard D. Ledgerwood, and Alvin Jensen, TM F/NWC-74, TM F/NWC-75
Dawson, Chad P., and Bruce T. Wilkins, MFR 42(12):12
Dawson, Margaret A., FB 80:389
Dean, J. M.—see Radtke and Dean
Dean, John M.—see Wilson and Dean
DeBlanc, David—see Timko and DeBlanc
DeGange, Anthony R.—see Ainley et al.
Delamure, S. L., and A. S. Skriabin, TR 25:129-135
Delaney, Glenn—see Fogarty et al.
Delarm, Michael R.—see Basham et al.
_____, Larry R. Basham, Stephen W. Pettit, James B. Athearn, and Lt. John V. Barker, TM F/NWR-7
_____, and Einar Wold, TM F/NWR-9; TM F/NWR-12; TM F/NWR-13
DeLong, Robert L.—see Antonelis et al.; Loughlin et al.
Delyamure, Semyon L., Mikhail V. Yurakhno, Valentin N. Popov, Larry M. Shults, and Francis H. Fay, TR 12:61-65
DeMartini, E. E., and Robert K. Fountain, FB 79:547
DeMartini, Edward E.—see Allen and DeMartini; Larson and DeMartini
_____, Larry G. Allen, Robert K. Fountain, and Dale Roberts, FB 83:171
DeMaster, Douglas P., TR 12:77-80
Demory, Robert L.—see Golden et al.
Dennis, G.—see Howard et al.
Dery, Louise M.—see Smith et al.
DeVries, Douglas A., and Mark E. Chittenden, Jr., FB 80:487
Dewees, C. M.—see Bronstein et al.
Dickhoff, Walton W.—see Folmar et al.
_____, Craig Sullivan, and Conrad V. W. Mahnken, TR 27:5-9
Dickinson, John J., and Roland L. Wigley, S 746
_____, _____, Richard D. Brodeur, and Susan Brown-Leger, S 741
Dimock, C. W.—see Lake et al.
Diouf, Taib—see Cayre and Diouf
Ditton, Robert B., and David K. Loomis, MFR 47(1):43
Divita, Regina—see Creel and Divita
_____, Mischelle Creel, and Peter F. Sheridan, FB 81:396
Dixon, Robert—see Tester et al.
Dizon, A. E.—see Cramer et al.
Dizon, Andrew E.—see Gooding et al.; Kaya et al.; Matsumoto et al.
_____, and George H. Balazs, MFR 44(5):13
Dodrill, Jon W.—see Gilmore et al.
Doggett, Lee F.—see Larsen et al.
Donely, P.—see Parrish et al.
Dorsey, Eleanor—see Wursig et al.
Dotson, Ronald C., TM SWFC-8
_____—see Laurs et al.
Doulman, David J., and Andrew Wright, MFR 45(10-12):47
Doyle, Willard H.—see Martin et al.
Dragovich, Alexander, MFR 43(2):9
_____, and Essie M. Coleman, MFR 45(4-6):1
Draxler, A. F. J., A. Matte, R. Waldhauer, and J. E. O'Reilly, TR 32
Dubina, V. R., TR 25:33-34
Dudley, Richard G., and T. Glenn McGahee, FB 81:420
Duedall, Iver W.—see Woodhead et al.
Duncan, Bruce P.—see Peterson et al.
Duncan, Keith L.—see Winkler et al.
Duncan, P. B.—see Peterson et al.
Dunn, Daniel W.—see Fuss et al.
Dunn, Jean R., C 450; FB 81:23
_____—see Kendall and Dunn; Matarese et al.; Richardson et al.
Dupree, Harry K., C 447:23-25
Durbin, A. G.—see Durbin et al.

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

Y

Z

A

B

C

D

E

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

XY

Z

☆ U.S. GOVERNMENT PRINTING OFFICE:1988-591-131/81005