

Foreign Fisheries Market Reports Available

The NMFS Branch of Foreign Fisheries Analysis continuously receives reports on fisheries from the two U.S. Regional Fishery Attachés and various U.S. diplomatic posts. The Branch sends the most interesting reports to the Department of Commerce for distribution through its National Technical Information Service (NTIS), Springfield, VA 22161.

Some of these reports, as well as materials prepared independently by the Branch and the NMFS Southeast Regional Office, are published as Foreign Fishery Leaflets or as Inter-

national Fishery Reports. Reports are currently available on over 70 countries and regions. Some of these are described below. About half of those available through NTIS (Africa-Morocco), as of 3 January 1983, were listed in the last issue; the remainder (Netherlands-Zambia) are printed here in Table 1.

Philippine Fisheries

The Philippine fishing industry is an important sector of the national economy, accounting for about 4.2 percent of the country's Gross Na-

tional Product (GNP) and supporting an estimated 5 million people. Philippine fishermen caught 1.8 million metric tons (t) in 1981, an increase of over 100,000 t, or about 10 percent over the 1980 catch. Philippine fishery exports, however, declined in 1981 to 65,700 t from 76,100 t in 1980.

The Philippine Government has formed the Philippine Fishery Development Authority (FFDA) to accelerate the development of the fishing industry in the Philippines and consolidate several fishery-related Government agencies. However, there was considerable concern over a report that tuna are being fished so heavily in Philippine waters that it could be impaired.

The U.S. Embassy in Manila has prepared a 13-page report describing recent developments in the country's fishing industry and its fisheries devel-

Recordkeeping for the Commercial Fisherman

The Washington Sea Grant Program, 3716 Brooklyn Ave., N.E., Seattle, WA 98105 has published the "Commercial Fishermen's Recordkeeping & Business Management Manual," WSG 82-3, by Pete Granger, former fisherman, industrial manager, and currently executive director of the West Coast Fisheries Development Foundation in Portland, Oregon. The manual is an outgrowth of a 12-hour business management course Granger once taught for commercial fishermen on the west coast.

Brief but thorough, the author spells out the various levels of recordkeeping in three sections. The first explains the needs for and uses of recordkeeping and checking accounts, trip logs, and fish catch records. Several blank pages for trip logs and catch records are preceded by directions on their use.

Section two, "Bookkeeping," explains and provides forms for crew settlement records, a revenue and

operating expense ledger, and an annual summary of operation. The final section gives helpful tips on managing and planning: Setting up an annual cash flow budget and a financial statement. With paper covers, the 72-page ledger-type book is available from the publisher for \$5 (make checks payable to "University of Washington").

Also published by Washington Sea Grant is "Boating & Moorage in the '80's," WSG-WO 82-1, the proceedings of a 1981 workshop edited by Robert F. Goodwin (paperbound, \$8), which deals with current marina and boating issues. This industry has faced many political and economic changes and the workshop addressed methods of coping and adaptation. Topics include demand for moorage, financing, regulations, business management, design and construction, and current legislative issues. The workshop was cosponsored by Washington Sea Grant, the Northwest Marine Trade Association, and the Washington Public Ports Association.

Minced Fish Conference Proceedings Published

The National Fisheries Institute, 1101 Connecticut Ave., N.W., Washington, DC 20036, has published the complete "Proceedings of the Third National Technical Seminar on Mechanical Recovery and Utilization of Fish Flesh" which was held in Raleigh, N.C., 1-3 December 1980.

The volume is a good review of U.S. resources for minced fish in the Northeast Pacific Ocean and Eastern Bering Sea and the South Atlantic/Gulf of Mexico/South America regions. James Keay of the Torrey Research Station reviews minced fish technology during 1970-80 while another section is devoted to current processing equipment. Other aspects examined in depth include biological and processing factors affecting functional properties, ingredients for product development, new product development for U.S. and foreign markets, and grades, standards, and quality control. A limited number of copies of the 581-page paperbound, 8½ × 11-inch volume are available from NFI at \$25 each.

opment program. U.S. companies can order this report for \$5.00 by requesting report number ITA-82-11-026 from NTIS.

The Icelandic Fisheries

Iceland's fishing industry is crucial to the country's economy. Fishery products are the country's primary export commodity. The growth of Iceland's fishing industry leveled off

in 1981 after several years of rapid expansion. A decline in the 1982 catch and a weak international market for fishery products were the primary cause for the 1982 downturn in the Icelandic economy.

The U.S. Embassy in Reykjavik has prepared a 24-page report entitled "The Icelandic Fishing Industry, 1981." The report reviews major de-

velopments in the country's fishing industry during 1981. The report covers labor, employment, catch, processing, financing, government controls, international agreements, quotas, aquaculture, and 1982 prospects. It also includes six statistical tables. U.S. companies can obtain a copy of the report (ITA-82-09-001) for \$5.00 from NTIS.

Table 1.—Foreign fishery reports available from NTIS (Netherlands-Zambia).

Country/ region	Title	Pages	Order no.	Price	Country/ region	Title	Pages	Order no.	Price
Netherlands	"Food Buyers Contacts Made at ROKA, Holland's Biennial Food Show, 1980" ⁵	25	DIB 80-07-401	\$ 7.00	Sierra Leone	"Fisheries, 1976" ¹⁴	32	DIB 77-08-008	\$ 8.50
	"Fisheries in the Netherlands, 1979"	18	DIB 80-09-003	7.00	Singapore	"Fisheries, 1976-77" ¹⁴	8	DIB 78-08-030	7.00
Netherlands	"Fisheries, 1980-81"	9	ITA 82-05-015	6.00	S. Africa	"Fishing Industry, 1975-76"	15	DIB 77-08-041	7.00
Antilles	"Lobster Fishery, 1975"	7	DIB 77-08-045	7.00		"Lobster Fisheries in South Africa and Namibia, 1975-76"	24	DIB 78-02-027	7.00
New Zealand	"Commercial Fishing Equipment: Possibilities for Sales"	1	DIB 77-08-017	7.00		"Fisheries, 1977"	7	DIB 78-04-035	7.00
Nicaragua	"Fish and Fish Products, 1977"	13	DIB 78-02-028	7.00		"Fisheries, 1979"	5	DIB 80-11-001	7.00
	"Fisheries, 1980" ¹⁴	9	ITA 81-11-044	6.00		"Fisheries, 1980"	10	ITA 81-11-035	6.00
Nigeria	"Marketing Survey: Fish"	7	DIB 78-10-027	7.00		"Fisheries, 1981"	10	ITA 82-03-011	6.00
	"Fisheries 1980"	24	ITA 81-11-033	6.00		"Fisheries, 1982"	13	ITA 82-09-004	6.00
	"Fisheries, 1981"	24	ITA 82-01-014	6.00		"Eighth South Pacific Forum Documents, 1977"	13	DIB 77-11-038	7.00
	"Fisheries, 1982"	25	ITA 82-09-003	6.00		"Fishing Industry, 1975"	3	DIB 76-02-002	7.00
Norway	"Annual Outlook: Fishing Industry, 1976"	11	DIB 77-09-021	7.00		"Fishing Industry, 1976"	7	DIB 76-09-017	7.00
	"Fishing Industry, 1979"	8	DIB 81-01-014	7.00		"Fish and Fish Products, 1974-76"	7	DIB 77-05-015	7.00
	"Fishing Industry, 1980"	7	DIB 81-03-061	7.00		"Shrimp Fishery, 1977"	8	DIB 78-11-011	7.00
	"Fishing Industry, 1981"	6	ITA 82-10-010	6.00		"Fishing Industry, 1978"	15	DIB 79-10-015	7.00
	"Fishing Industry, 1973" ³	23	PB 246-597	7.00		"Fishing Industry, 1979"	17	PB 81-226-318	7.00
	"Fishing Industry, 1975"	26	DIB 76-09-027	8.50		"Fishing Industry, 1980"	17	PB 81-08-103	6.00
	"Fishing Industry, 1976"	54	DIB 77-10-019	10.00		"Fishing Industry, 1975"	8	DIB 77-02-031	7.00
	"Fishing Industry, 1977"	7	DIB 78-09-017	7.00		"Fishing Production, 1976"	11	DIB 77-09-026	7.00
	"Fishing Industry, 1978"	16	DIB 80-03-011	7.00		"Fishing Industry, 1977"	5	DIB 78-03-012	7.00
	"Fishing Industry, 1979-80"	28	DIB 81-01-008	8.50		"Catch for Jan.-Oct. 1977 and Recent Fishery Developments"	13	DIB 78-04-036	7.00
	"Fishing Equipment and Supplies, 1980"	45	ITA 81-10-043	7.50		"Indebtedness and General Financial Situation, 1977"	3	DIB 78-09-022	7.00
	"Fishing Industry, 1981"	25	ITA 82-01-012	7.00		"Fishery Catches, January-June 1978"	10	DIB 78-12-010	7.00
	"Fishing Industry, 1982"	25	ITA 82-11-025	6.00		"Fishing Industry, 1980"	15	ITA 81-08-010	6.00
Peru	"Fisheries Expansion, 1978" ²	7	DIB 80-03-021	7.00		"Recent Developments in Fisheries, 1978"	8	DIB 79-04-012	7.00
	"Reduction Fishing Restrictions, 1979" ²	8	DIB 80-03-022	7.00		"Fishing Industry, 1980"	14	DIB 81-03-004	7.00
	"Fishery Developments, 1980" ²	5	DIB 80-07-023	7.00		"Fishing Industry, 1981"	15	ITA 81-08-010	6.00
	"Fishing Industry, 1980" ²	6	DIB 81-01-013	7.00		"Commercial Fisheries, 1976"	5	DIB 77-10-026	7.00
	"Fishing Industry, 1979-80" ²	5	DIB 80-10-007	7.00		"Commercial Fisheries, 1977"	3	DIB 78-09-021	7.00
	"Fishing Industry, 1977"	6	DIB 78-06-007	7.00		"Fisheries, 1978" ¹⁴	31	DIB 79-10-007	8.50
	"Fishing Industry, 1980"	10	DIB 80-12-013	7.00		"Fisheries, 1975" ¹⁴	30	DIB 78-01-035	8.50
	"Fishing Industry, 1982"	17	ITA 81-11-026	6.00		"Fisheries, 1980" ¹⁴	9	ITA 81-11-043	6.00
Philippines	"Fishing Industry Developments, 1976" ¹²	5	DIB 77-03-002	7.00		"Fisheries Assessment, 1977"	15	DIB 78-04-037	7.00
	"Fisheries, 1978" ¹⁴	24	DIB 79-10-006	7.00		"Fisheries, 1976" ^{13, 4}	17	DIB 78-06-010	7.00
	"Fisheries, 1979"	19	DIB 80-10-010	7.00		"Fisheries, 1975" ³	19	DIB 77-08-040	7.00
	"Fishing Industry, 1979-80"	6	DIB 80-12-012	7.00		"Fishery Developments, 1979"	3	DIB 80-03-023	6.00
	"Fishing Industry, 1982"	13	ITA 82-11-026	6.00		"The Fishing Industry, 1981"	36	ITA 82-01-007	6.00
Poland	"Current State of Polish Fishing Industry, 1980"	5	ITA 81-11-032	6.00		"Whaling Industry, 1970-77"	9	DIB 78-07-028	7.00
Portugal	"Fishing Industry, 1980"	10	DIB 81-03-056	7.00		"Fishing Industry, 1975"	13	DIB 77-11-032	7.00
Saudi Arabia	"Fishing Industry, 1978" ¹	8	DIB 79-04-011	7.00		"Fishing Industry, 1976"	16	DIB 78-01-036	7.00
Senegal	"Lobster Fishery, 1976" ²	6	DIB 77-11-037	7.00		"Fishing Industry, 1977"	8	DIB 78-08-029	7.00
	"Fisheries, 1975-76" ³	10	DIB 78-10-029	7.00		"Fishing Industry, 1978-79"	17	DIB 80-06-017	7.00
	"Industry Market Study, 1980"	29	ITA 81-08-005	6.00		"Fishery Trade Mission, 1980" ⁵	21	DIB 80-07-015	7.00
	"Fisheries, 1982"	5	ITA 82-10-013	6.00		"U.S. Food Show, 1980"	15	ITA 81-11-039	6.00
						"The Fishing Industry, 1981"	19	ITA 82-03-013	6.00
						"Fishing Industry, 1981"	8	ITA 82-03-011	6.00

¹See also regional listings for Africa, Asia, Caribbean, Latin America, and the Middle East.

²Previously released as an "International Fishery Report" by the Branch of Foreign Fisheries Analysis, NMFS.

³Previously released as a "Foreign Fishery Leaflet."

⁴Prepared by the Regional Fishery Attache.

⁵Prepared by the Commercial Development Services Branch in the NMFS Southeast Regional Office.

Note: NTIS prices are subject to change without notice. For current price information call (703) 487-4650.

Technical Memoranda From the Southwest Fisheries Center

In addition to its formal scientific publications, the National Marine Fisheries Service uses the NOAA Technical Memorandum series for informal publication of specialized reports that require multiple copies, but when complete formal review and editorial processing are not appropriate or feasible. However, documents in this series reflect sound professional work and are referenced in formal journals.

This quarter, the first 16 Technical Memoranda produced by the NMFS Southwest Fisheries Center, are listed. Copies may be purchased from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

"California's Northern Anchovy Fishery: Biological and Economic Basis for Fishery Management," by Daniel D. Huppert, Alec D. MacCall, Gary D. Stauffer, Keith R. Parker, Jane A. McMillan, and Herbert W. Frey. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-1, 134 p., April 1980.

"Estimates of the Catch and Effort by Foreign Tuna Longliners and Baitboats in the Fishery Conservation Zone of the Central and Western Pacific, 1965-77," by Marian Y. Y. Yong and Jerry A. Wetherall. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-2, 103 p., May 1980.

"The Mid-Net Zipper Ridge A Possible Cause of Unobserved Porpoise Mortality," by David B. Holts. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-3, 3 p., May 1980.

"Biology & 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. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-4, 79 p., June 1980.

"Summary Report of the Billfish Stock Assessment Workshop on Pacific Resources, Honolulu Laboratory, Southwest Fisheries Center, Honolulu, Hawaii, 5-14 December 1977," Richard S. Shomura (editor). U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-5, 58 p., July 1980.

"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. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-6, 25 p., July 1980.

"Synopsis of Biological Data on the Green Turtle in the Hawaiian Islands," by George H. Balazs. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-7, 141 p., October 1980.

"Fishing Methods and Equipment of the U.S. West Coast Albacore Fleet," by Ronald C. Dotson. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-8, 126 p., December 1980.

"An Annotated Computer Bibliography of the Use of Karyotypic Analysis in the Subspecific Taxonomy of Mammals," by Gary L. Worthen. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-9, 154 p., January 1981.

"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. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-10, 92 p., March 1981.

"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. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-11, 15 p., May 1981.

"Stock Assessment Activities Within the National Marine Fisheries Service," U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-12, 161 p., June 1981.

"Planning Double-Tagging Experiments," by Jerry A. Wetherall and Marian Y. Y. Yong. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-13, 44 p., June 1981.

"Histological Gonad Analyses of Late Summer-Early Winter Collections of Bigeye Tuna, *Thunnus obesus*, and Yellowfin Tuna, *Thunnus albacares*, From the Northwest Atlantic and Gulf of Mexico," by Stephen R. Goldberg and Hillary Herring-Dyal. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-14, 9 p., June 1981.

"Status Reports on World Tuna and Billfish Stocks," U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-15, 302 p., July 1981.

"An Evaluation of Tagging, Marking, and Tattooing Techniques for Small Delphinids," by Merrill J. White, Jr., Jacqueline J. Jennings, Walter F. Gandy, and Lanny H. Cornell. U.S. Dep. Commer., NOAA Tech. Memo NMFS SWFC-16, 142 p., November 1981.

Netting Materials Volume Revised

An updated and revised edition of Gerhard Klust's **"Netting Materials for Fishing Gear"** has been published by Fishing News Books Ltd., 1 Long Garden Walk, Farnham, Surrey, England. One in the series of FAO Fishing Manuals, the book is designed to help fishermen and netmakers select the best type and size of netting materials for various applications.

The first edition was published in 1973, and there have been a number of modifications and additions to the book, especially with regard to the standards set by the International

Organization for Standardization. The book also reflects new developments in terminology, and the tables provide revised data on the materials used in different types of nets.

The author first reviews the fibers used for netting, dealing mostly with the composition, characteristics, and identification of the modern synthetic fibers. Terms and definitions relating to the construction and physical properties of netting yarns are defined, and a description of the methods of designation of netting yarns is followed by an analysis of such properties as breaking strength, elongation, knot stability, change of length in water, diameter, flexural stiffness, and abrasive resistance.

The final chapter deals with choosing materials and includes sections on making a choice for bottom trawlnets, midwater trawlnets, purse seines, and gillnets. Well illustrated and providing detailed, practical advice, the 192-page book is available from the publisher for £8.00 plus 80 p postage and handling.

Economics of Fisheries and Aquaculture

"Economics of Ocean Resources, A Research Agenda," the proceedings of a September 1981 national workshop sponsored by NOAA's Office of Ocean Resources Coordination and Assessment, has been published by the Washington Sea Grant Program in Seattle. It was edited by Gardner M. Brown, Jr., and James A. Crutchfield.

The workshop itself addressed the need for an improved economic framework for research in the development, utilization, and management of marine resources, and attempted to identify areas for productive research into the economics of all ocean resources: Fishes, hydrocarbons, minerals, transportation, recreation, waste disposal, etc.

With chapters on living resources, deep ocean mineral resources, oil and gas resources, environmental management, and marine transportation, the

volume considers a broad realm of economic aspects. James A. Crutchfield sets the tone with an overview paper, "A perspective on ocean resources," discussing living and mineral resources and energy from the sea. Dan Huppert, of the NMFS Southwest Fisheries Center, provided a chapter on living marine resources, discussing fisheries management theory, economic research for domestic fishery management, research on international economics, resource conflicts and income distribution, and suggesting several research topics.

Economics of marine-based recreation is addressed by Gardner M. Brown, Jr., and Anthony D. Scott summarized the proceedings in a final chapter, "Capstone." Each chapter ends with a summary of suggested research topics, references, and good, well-edited discussions which provide further food for thought.

The paperbound 242-page volume is available from the University of Washington Press, Seattle, WA 98105 for \$12.00 plus \$1.75 postage.

Publication of **"Aquaculture Economics Research in Asia,"** IDRC-193e, has been announced by the International Development Research Center, P.O. Box 8500, Ottawa, Canada K1G 3H9. It is the proceedings of a workshop held in Singapore in June 1981, cosponsored by the IDRC and the International Center for Living Aquatic Resources Management. Both agencies have initiated and supported aquacultural economics research and seek a more coordinated approach to such studies, so that production can be increased economically.

Participants discussed how economics could contribute to the assessment and development of aquaculture production and marketing systems and to the better understanding of the social and economic functions aquaculture plays in a particular society. The overall objective of the workshop was to demonstrate and encourage the use of economic analysis for aquaculture research and to help increase the research capacity for aquaculture economics in Asia.

The presentations included a session on microeconomic analysis of existing production systems (basic concepts and definitions, economics of Thailand catfish farming, Taiwan's milkfish system, and Philippine milkfish aquaculture). Another session on microeconomic analysis of experimental production systems provided analyses of the economics of raft farming of green mussels in Singapore, pig-fish farming operations in the Philippines, tilapia cage culture in Sri Lanka, and Indian composite fish culture. A final session on socioeconomics of aquaculture concluded with a plea for greater interaction between biologists and economists to distinguish between the maximum points of biological production and economic profit and to produce more analytical economics studies of aquacultural systems in the future. The paperbound, 128-page volume is available from the publisher for \$12.00.

And, in the series "Mathematical Systems in Economics," the German firm Athenaum-Hain-Scriptor-Hanstein, Postfach 1220, D-6240 Königstein/Ts., has published **"Analyse und Kontrolle Fischereilicher Wirtschaftssysteme"** by Manfred Nuske (price not listed). Entirely in German, the 219-page paperbound volume reviews fisheries modeling, analysis, and regulation.

Handling and Using the Shrimp By-Catch

With global demand for fish for human food projected to double by the year 2000, utilization of the by-catch—fish thrown away at sea—is being eyed for greater use. **"Fish By-Catch . . . Bonus From The Sea,"** a book jointly sponsored by FAO and the International Development Research Centre (IDRC), examines harvest potential, what is happening to it now, how it could be utilized for food, and future developments.

First, a background to the shrimp by-catch problem, its uses, and prospects is given by Joseph Slavin, W. H. L. Allsopp, and E. R. Pariser. And,

an assessment is provided of such discarded fish resources from Guyanese waters, the southeastern United States, and the Gulf of California.

A section on processing at sea reviews the handling of mixed catches, strategies to avoid by-catch in shrimp trawling, and the handling and storage of the by-catch at sea. Discussion of shore-based by-catch processing includes industrial uses, salting of minced fish, handling recovered fish

flesh, surimi and jelly products, and several new salted and minced, canned, frozen, dried and fish silage products.

Additional aspects covered are marketing, economics, and resource management. Regional and national developments in dealing with by-catch are given for several Latin American and Caribbean nations, Malaysia, Mozambique, Sri Lanka, and Thailand.

This volume, the report of a Technical FAO Consultation on shrimp by-catch utilization in Georgetown, Guyana, in late 1981, provides a good review of the problem and prospects for utilization of this fishery resource. It concludes with an extensive bibliography on the by-catch problem and its utilization. The 163-page paperback book is available from the IDRC, P.O. Box 8500, Ottawa, Canada K1G 3H9 for \$18.00.

Bivalve Culture in Puget Sound and Asia

“A Guide to Manila Clam Aquaculture in Puget Sound” by G. J. Anderson, M. B. Miller, and K. K. Chew has been published by the Washington Sea Grant Program, 3716 Brooklyn Ave. N.E., Seattle, WA 98105. Introduced to the area 50 years ago, the Manila clam is now the second most important commercial clam in the state after the geoduck, and is important recreationally as well. However, excessive harvesting and damage to juveniles has caused it to decline, particularly on public beaches.

This report presents the results of University of Washington studies on planting and rearing the species on various Puget Sound beaches to determine its potential in supplementing in-

tertidal clam stocks and enhancing the present supply through mariculture. It discusses the best locations for seeding, types of substrate needed, plot design and construction, seed acquisition and handling, planting techniques, protection from predators, harvesting methods, economic feasibility, and recordkeeping. Despite its title, the report will probably be useful well outside the region. At 45 pages, the paperbound report is available from the publisher for \$3.50. Checks should be made out to “University of Washington.”

“Bivalve Culture in Asia and the Pacific”, edited by F. B. Davy and M. Graham, presents the proceedings of a workshop held in Singapore in early

1982. It was published by the International Development Research Centre, P.O. Box 8500, Ottawa, Canada, K1G 3H9.

Participants reviewed culture practices, postharvest handling, economics of mollusk management, and future research needs for such species as oysters, pearl oysters, clams, cockles, mussels, etc. Other brief items presented included nutritional data, processing, taxonomy, etc.

The volume provides a good review, though brief, on the status of bivalve culture in the following countries: Bangladesh, People’s Republic of China, Fiji, French Polynesia, India, Indonesia, Malaysia, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand. The 90-page paperback volume is available from the publisher for \$5.00.

Panamanian Fisheries Reports Available

Panamanian fishermen reported landings of 193,000 metric tons (t), a 35 percent increase over the 143,000 t landed in 1979. Most of the increase was due to larger catches of anchovy which are mostly reduced to fish meal. The shrimp catch totaled 5,600 t, the best year since 1973. Even so, the shrimp industry was adversely affected by the rapidly increasing price of diesel fuel and declining international shrimp prices. The country’s small shrimp culture industry, however, may become an increasingly

important part of the entire fishing industry. Government officials were pleased with the success of the new Vacamonte fishing port and were considering enlarging it. The U.S. Embassy in Panama City prepared a 24-page report describing the country’s fishing industry as of 1980. A copy of the report can be purchased for \$5.00 by ordering report number ITA-82-01-012 from NTIS.

Though it is the most important country in Central America, Panama reported landings of only 114,000 t in

1981, a 41 percent decline from the 193,000 t landed in 1980. The decline was due to smaller catches of anchovy which are reduced to fish meal. Shrimp fishermen, however, reported record landings of 7,000 t. Even so, the shrimp industry seemed adversely affected by rising diesel fuel prices and declining international shrimp prices.

The U.S. Embassy in Panama City has prepared a second 31-page report describing Panama’s 1981 fishing industry. A copy of the report can be purchased by ordering report number ITA-82-11-025 for \$5.00 from NTIS.