

KRAMER NAMED MAP ASSISTANT CHAIR

Dr. Donald E. Kramer, seafood technologist with the Alaska Marine Advisory Program, has been named assistant chair for the program. Kramer will remain in the position until September.

COUGHENOWER SETTLES IN AT HOMER MAP OFFICE

Marine Advisory Program agent Douglas Coughenower has relocated to Homer after three years as a MAP agent in Dillingham. Coughenower says he sees the newly created agent's position as "particularly challenging, since the outer Kenai Peninsula has become the first area in Alaska to experience serious conflicts between commercial and sport fishermen." His job, he says, will be to provide services "not only to commercial fishermen, but to all the user groups involved in the ever increasing demand on marine resources in that area."

Coughenower, his wife Linda, and the couple's daughter Katy, relocated to Homer in early January. Coughenower opened the Homer MAP office in December, in the Lake Street Complex housing the Cooperative Extension Service.

The agent holds master's degrees in oceanography and science education from Oregon State University. Before moving to Alaska in 1981, he held positions with the University of Massachusetts and University of Florida Sea Grant Marine Advisory Programs, and with the National Association of State Universities and Land Grant Colleges in Washington, D.C.

The Homer MAP address is P.O. Box 195, Homer, AK, 99603, telephone 235-8178.

VITAMINS HELP SALMON BROOD- STOCK

To ensure a high egg-take from net-pen salmon, vitamins are being added to fish diets in experiments being conducted by Washington Sea Grant. Some captive female cohos held in fresh water increased egg production 12 percent in response to higher levels of vitamins in the feed, according to preliminary results. Fry also had a higher survival rate.

Until now, no information was available on vitamin needs of maturing salmon and net-pen growers used arbitrary amounts of a vitamin supplement. However, maturing females probably have quite different vitamin needs from young ones because they are putting all their food energy into egg development, not growth in size. Further research will determine what vitamin levels produce an optimum level of enzyme activity in maturing female salmon. Results should help net-pen growers hold down feed costs, reduce pre-spawning losses of fish and to obtain enough eggs for their needs.

SHIRLEYS PRESENT BLUE CRAB PAPER

Susan Shirley and Dr. Tom Shirley presented the paper, "Parasitological effects of *Briarosaccus callosus* on the hemolymph of Alaskan blue king crab" at an annual meeting of the American Society of Zoologists in Denver December 26-30. The meeting was concurrent with meetings of the American Microscopical Society, the Animal Behavior Society, The Crustacean Society, the International Association of Astacology, the Western Society of Naturalists and the Society of Systematic Zoology. The meeting included 112 sessions where 835 presentations were made.

NEW EPISODE IN VIDEO SAFETY SERIES

A video sequel on frostbite is being added to an award-winning survival series coordinated by the University of Alaska Marine Advisory Program (MAP).

Production on the latest 20-minute program was begun this month by the UA Instructional Television Services, after nine months of research and development. It is cosponsored by MAP and Tanana Valley Community College, with advisory personnel from the State-wide Emergency Medical Services, Providence Hospital, Anchorage, and the U.S. Army, Ft. Greely. (Project coordinator is Grant Sims, MAP instructional media specialist; and the CCREE Program advisors are MAP agents Hank Pennington and Rick Steiner.

The program will continue a survival series including "Hypothermia," "Cold Water Near Drowning," "Sea Survival" and "Shore Survival." Designed for classroom instruction as well as network broadcast, the series is accompanied by an instructor's manual and student handbooks for each title. The programs captured more than a dozen awards in national and international film competition last year, including a blue ribbon from the American Film Festival, best videotape at the National Educational Film Festival, and a Golden Eagle award from the Council on International Nontheatrical Events (CINE).

Sims says the latest addition is designed for a broader audience than were the earlier programs, which targeted primarily fishermen.

"Frostbite does affect fishermen, usually those involved with through-the-ice fisheries in western and north-western Alaska," Sims says. "But since it is a problem that potentially involves every Alaskan, we decided to broaden the base for this one. As much as to fishermen, this finished product should appeal to snowmobilers, skiers, mushers, gas pump nozzle-

grabbers and kids tempted to touch their tongues to frozen monkey bars."

Production will continue through April, with the program to be completed by July 1. For information in its availability, contact Sims at the Marine Advisory Program, P.O. Box 103160, Anchorage, AK 99510, telephone 274-9691.

ADVISORY SERVICES LEADER NEEDED AT WASHINGTON SEA GRANT

Washington Sea Grant is hiring a program manager for Advisory Services. The manager is responsible for a combined program of technology transfer, problem solving, broad-based technical assistance, and educational programming. The duties include supervising a professional staff of ten and additional support personnel.

Qualifications include demonstrated leadership ability, commitment to the goals of Sea Grant and to the concept of university outreach programs, an advanced degree, in a marine-related discipline (preferably terminal), and ten years of work experience. The committee will also be looking for experience in outreach programming, preferably at a Sea Grant program or a land grant college. A record of publications is strongly desired. The new manager must be able to work with a range of people, manage a staff and communicate with various audiences. Starting date is September 1, 1985, but may be delayed to November, 1, 1985 if necessary. Deadline for application is March 25, 1985. Salary range is \$24,240 to \$43,848, DOE.

Send letter of interest in and goals for the program, resume, and a list of three knowledgeable references to Advisory Manager Search Committee; Washington Sea Grant Program; University of Washington; 3716 Brooklyn Ave., N.E; Seattle, WA 98105. For the latest biennial report and project summary, contact Virginia Davies at (206)543-6600, or write to the above address.

FARMERS OF THE SEA NETS AWARD

The Council on International Nontheatrical Events (CINE) recently awarded Golden Eagle prizes to two films produced by Oregon State Sea Grant. "Farmers of the Sea" a program on aquaculture produced for NOVA, the PBS science program, won an award for agricultural documentary. "Riches from the Sea", an exploration of the oceans and their resources produced for the National Geographic Society won in the educational program category.

APU SALMON COURSE OFFERED

Alaska Pacific University is offering a once-a-week course in salmon biology February 5 through April 6. The instructor is Steve Kreuger, a fisheries biologist who has been involved with salmon, trout and char management, research, and habitat impact projects in

Idaho, Washington and Alaska. The course will cover freshwater biology of salmon, habitat needs, life stages and seasonal cycles. The class will meet Tuesdays from 7 PM to 9 PM in Grant Hall on the APU campus in Anchorage. For more information contact 564-8292 /8229.

CORAL REEF ASSISTANTSHIPS

If you are interested in an assistantship in coral reef and conch ecology write to Dr. Douglas Shapiro or Richard Appeldoorn at the Department of Marine Science, University of Puerto Rico, Mayaguez, Puerto Rico. Phone (800) 899-3140.

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SMITH, PAUL AND ROYER TO PRESENT PAPERS

Two UAF papers have been selected for the U.S. section of the International North Pacific Fisheries Commission (INPFC) Groundfish Symposium. Ronald L. Smith, UAF Biology Department; A.J. Paul, Institute of Marine Science; and Thomas C. Royer, Institute of Marine Science, may travel to Tokyo in October to make their presentations at the meeting.

Smith's and Paul's paper is "Energetics of Juvenile Pollock." Royer will present his work on "Temperature fluctuations in the N.E. Pacific from 1947 to 1985 in response to El Nino/southern oscillations and longer period forcing." Both papers result from work sponsored by the Alaska Sea Grant College Program.

Smith is currently working on a pollock project for Alaska Sea Grant investigating the feeding functions of Alaska pollock. In a new project, he will also detail cod and pollock energetics, providing valuable information for use in estimating pollock and cod predation on larval and adult Alaskan shellfish.

Royer is also working on a new Sea Grant project with R. Ted Cooney of IMS to determine if it is possible to predict large-scale ocean warming in the northern Gulf of Alaska a year in advance of its occurrence.

NAME CONFERENCE SET FOR JUNE 21-23 IN SEWARD

The Northwest Association of Marine Educators (NAME) will meet in Seward June 21-23 according to NAME Alaska Director Belle Mickelson. The conference will have four goals: reviewing new marine and aquatic curricula, introducing University of Alaska educa-

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tion faculty and officials of the Alaska Department of Education, professional association among various marine science education groups active in Alaska, and encouraging participation by Canadian and U.S. Pacific northwest teachers.

Speakers for the conference include Diana Tillion (octopus ink), Nancy Munro (Sea School), Tom Albert (Eskimo whaling), and John Burns (marine mammals). So far, 18 speakers are scheduled and more are being sought. Credit courses will be offered before and after the conference. Peggy Cowan will teach a course on wildlife and marine curricula three days prior to the conference. Mary Asper will teach a course on early childhood Sea Week experience for three days after. More offerings may be added to this list.

To suggest conference topics, speakers, or course work and for more information and registration contact Jan Wallace at 262-5098/7411, P.O. Box 3265, Kenai, AK, 99611; or Carla Stanley at 262-3780/4896.

GRADUATE TEACHING ASSISTANT- SHIP OPEN AT UAJ

The University of Alaska, Juneau School of Fisheries and Science has a graduate teaching assistantship open in the M.S. Fisheries program for the 1985-86 academic year. Applicants should have a B.S. in some area of biological science suitable to fisheries, and expertise to assist in teaching courses in biology/fisheries.

The stipend is \$7500 for nine months and will start August 19, 1985, and may be renewed for another year. To apply, send a resume, a letter stating the applicants' research interests, transcripts, GRE scores, and three

letters of support. Address applications and inquiries to: Dr. Thomas C. Shirley, School of Fisheries and Science, University of Alaska, 11120 Glacier Highway, Juneau, AK, 99801; or call 789-4449. Closing date for application is March 15, 1985.

COMPUTER GAME FOR PORT MANAGERS

A Mississippi/Alabama Sea Grant engineer has designed a simulation port model for planners to use in projecting a port's future. The model lets managers look at expansion alternatives before money is invested. This model will be immediately helpful to managers affected when the \$1.8 billion Tennessee-Tombigbee waterway opened in February. This 234-mile waterway connects the two rivers, giving traffic through the Port of Mobile access to Knoxville, Nashville, Chicago, Cincinnati, and other locations accessible from the Mississippi and its tributaries.

CONTINENTAL SHELF CONFERENCE PLANNED FOR JUNE 17-19

The University of Rhode Island Center for Ocean Management Studies is sponsoring a conference focussing on resources, boundaries and management problems of the continental shelf. The conference will begin with overview presentations on the shelf's natural resources, changes in the definition of the shelf, and the role it has played in international policy decisions. Following that, management issues will be discussed from a number of perspectives. In the 40 years since the Truman Proclamation asserted control over the U.S. contiguous continental shelf, major policy and important issues remain undecided. This conference will provide guidelines toward resolution of these problems.

Pre-registration fees are \$135, increasing to \$150 after May 1. For more information and registration contact Center for Ocean Management Studies, 19 Upper College Rd., Ruggles House, Kingston, RI, 02881.

DIGITAL ACOUSTIC FISH COUNTING POSSIBLE

Digital integrators now make it possible to read sound pulses bounced off target fish digitally instead of with the analog signal. The information thus procured is more accurate and data processing is faster. Original work on this system was conducted by Washington Sea Grant and has been developed by private companies. The companies are selling hydroacoustic systems with digital integrators.

RESEARCH ASSOCIATE'S POSITION OPEN IN JUNEAU

UAJ School of Fisheries and Science is looking for a research associate. Deadline for application is March 6. The associate will be responsible for all aspects of a few grant projects including organizing the logistics of field operations, report preparation and securing project funding. Current projects under this position include one on walleye pollock in southeastern Alaska and an NSF-funded project in Bristol Bay. The associate will also work with investigators in his/her area of expertise and prior experience. For details on application contact the University of Alaska, Office of Personnel, 11120 Glacier Highway, Juneau, AK, 99801; 907-789-4536.

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TOP GRADE SURIMI MADE IN KODIAK

Alaska Pacific Seafoods surimi line has been operating about two months and workers have already produced surimi very close to the top quality Japanese grade, commonly called S.A.

The University of Alaska's Fishery Industrial Technology Center was instrumental in the technical advisory committee which oversaw the demonstration surimi manufacturing project in Kodiak. All major decisions on operation, alteration, process modification and test protocol were made by this committee which met on demand.

Approximately 500,000 lb of top-grade surimi was produced using machinery that had never been tested, run by persons who in most cases had never seen surimi before. The committee contributed to making this possible.

Under a contract from the Alaska Fisheries Development Foundation (AFDF), Alaska Pacific Seafoods has guaranteed to produce 860,000 lb of finished surimi in exchange for a \$450,000 subsidy. The company will also get to keep the surimi line installed by AFDF.

FITC Director Dr. Jong Lee says FITC participation on the committee has helped sharpen community awareness of the importance of seafood technology to the industry and local economy. The surimi success story will be incorporated into FITC workshops scheduled for Anchorage (April 8) and Juneau (April 9), "Development of Surimi-Based Seafood Products".

CHAPMAN-SCHAEFER AWARD OFFERED

Students enrolled in degree programs in marine science, technology or policy are

eligible to enter this manuscript competition. The award is publication in MTS Journal, \$150, and travel expenses to and from MTS/IEEE Oceans '85 in San Diego November 12-14. Second place winner receives publication in the journal and \$100, the third place winner receives publication of the abstract and \$50.

To apply, submit an abstract (250 word maximum) on bond paper by April 15, 1985. Finalists will be contacted and asked to submit full text by June 30, 1985. For more information contact Dr. Hal Palmer, executive secretary of MTS at (202) 462-7557. The competition is open to both graduate and undergraduate students.

FRENCH NAMED FITC SEAFOOD BIO-CHEMIST

Dr. John S. French of the University of Alaska, Anchorage chemistry department has accepted a position as seafood biochemist at the university's Fishery Industrial Technology Center. French will assume his duties July 1, 1985.

French received his Ph.D. in biochemistry from the University of Michigan in 1979, spent a year at the University of California, Berkeley, then joined the UAA faculty in 1980. French is co-principal investigator with Dr. Donald Kramer on a Sea Grant research project examining biochemical changes in salmon flesh during partially-frozen storage. He has also been responsible for planning a seafood technology degree program to be offered jointly by the University of Alaska, Anchorage and Oregon State University.

HAWAIIAN DOLPHINS BIG SCIENCE
NEWS OF 1984

Hawaii Sea Grant's dolphin language project was recognized as one of the top science news stories of 1984 by Science News. Studies of animal language have been controversial, but this one takes a new approach. Rather than teaching the animals to "talk", they are teaching them to comprehend a language and its process.

The language is made up of a series of whistles, gestures and computer generated sounds, each standing for a word. These words can be arranged into several hundred sentences. Each sentence is a command, so the scientists can check comprehension by observing whether the command is carried out. Unlike performing dolphins, the two used in this experiment do not receive rewards for doing the right thing. In this way, scientists can be more sure that they complete the command because they understand it.

Two bottlenosed dolphins, Phoenix and Akeakamai, have shown an ability to understand basic types of sentences. They have learned that whistles and gestures stand for objects, actions, or modifiers; and understand grammatical rules that make strings of these "words" into sentences. They respond correctly to new combinations and understand when objects are included that they cannot see.

Investigators do not claim that dolphins use language in their natural world. They are illustrating that the animals can be taught to understand a particular subset of language--the imperative sentence.

UNIVERSITY RECEIVES TITLE TO
LAND FOR PLANNED FITC SITE

The University of Alaska has title to the site chosen for construction of its Fishery Industrial Technology Center. The city of Kodiak transferred the title March 28, 1985 for the proposed location on Trident Basin.

The University of Alaska Board of Regents approved the site at its mid-March meeting. The city and borough of Kodiak also passed supporting resolutions.

SEA GRANT RESEARCH CHANGES
SODIUM BISULFATE ADDITIVE LEVELS
FOR SHRIMP

Based on the findings of a researcher at Texas A&M University, the U.S. Food and Drug Administration has raised the ceiling on the safe use of sodium bisulfate on shrimp.

Dr. Gunnar Finne discovered that current FDA levels were not high enough for the chemical to prevent black spotting, one of the primary reasons for treating shrimp with sodium bisulfate. Black spotting does not damage the shrimp's food quality, but does substantially affect sales.

The FDA has been keeping a closer eye on sodium bisulfate levels since the chemical was recently linked to some deaths caused when people allergic to sodium bisulfate ate food treated with it. The FDA has been impounding frozen shrimps if bisulfate residue exceeded 40 ppm. Finne's research convinced the FDA that these residue levels could safely be raised to 100 ppm. This latest ruling will free up many shipments of frozen shrimp being held by the government.

CASTOR OIL GOOD ALGICIDE

University of Southern Mississippi scientists have merged an old-fashioned remedy and high technology into a new algicide. Castor oil--at least the 90 percent of it that is ricinoleic acid--is the base for the algae-killer developed by Robert T. Canaller and George F. Pessoney.

The new product, now marked as "Solricin 135" affects blue-green algae, an expensive problem in Mississippi's 70,000 acres of commercial catfish ponds. The research originated when investigators concerned with pollution

noted that ponds with certain plant species never experienced algae bloom. Under Sea Grant funding, they isolated three compounds that were selectively active against blue-green algae.

The ricinoleic acid in castor oil is similar enough in structure to these compounds to be effective. It is already available in the volumes that would be needed for commercial application. Researchers are refining their discovery, looking for ways to use it in shrimp mariculture.

MIT ARCTIC PROJECTS CONTINUE

In 1983, Massachusetts Institute of Technology began an interdisciplinary research program to address engineering problems associated with drilling in the arctic. Funding is provided by a five-year grant from Sohio.

In one of the projects, Dr. John Germaine of MIT spent a week last April at Sohio's abandoned drilling operation on Mukluk Island in Harrison Bay, Alaska. Sohio maintains instrumentation at the site to monitor ice movement and other geological and oceanographic changes. Germaine gathered soil samples, drilling through 7.5 ft of ice, 50 ft of water and 25 ft of soil at a cost of \$10,000 per two-foot long tube of undisturbed soil sample. These samples are now being examined in the laboratory by Germaine and Ladd to measure those properties relevant to foundations for gravity platforms.

DIGITAL BATHYMETRIC DATA AVAILABLE

The National Geophysical Data Center (NGDC) has a variety of digital bathymetric data for sale, including global as well as regional data bases. The updated National Ocean Service (NOS) Hydrographic Data Base offers the most accurate and extensive digital bathymetric data available for the coastal waters of the continental United States, Hawaii, Alaska, and Puerto Rico. These data are maintained in

files covering one-degree-square areas and also as a 15-sec grid. Other grids may be prepared to a customer's specification. The data may be purchased on magnetic tapes, or in some cases as plots or print-outs.

For more information contact National Geophysical Data Center; NOAA E/GC 3; 325 Broadway; Boulder, CO; 80393; (303) 497-6338. Refer to Data Announcement 85-MGG-02 when making inquiries.

WASHINGTON EYES SQUID FISHERY

The Washington Department of Fisheries (WDF) and Oregon's Department of Fish and Wildlife are assessing offshore populations of the squid Loligo opalescens in the hopes of developing a new fishery to offset the losses caused by poor condition of other commercial fish species and the drop in California's squid harvest.

Thomas Bettinger, fish biologist at WDF's shellfish laboratory says Puget Sound squid populations may be quite variable, if landings are any indication. "While 1983 was a good year with 87,000 lb landed, only 27,000 lb were landed in 1984." Oregon fishermen did well by comparison, landing 900,000 lb of squid.

Both departments are continuing assessment of populations using hydroacoustics, collecting squid statoliths for study, and attempting to identify stocks by electrophoresis.

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MAP STAFFERS NAMED OUTSTANDING CCREE EMPLOYEES

In the annual CCREE awards, the Alaska Marine Advisory Program had several personnel named outstanding. The awards are given within each CCREE unit.

Dr. Don Kramer was named outstanding FITC faculty member, primarily for his work in bringing the annual meeting of the Pacific Fisheries Technologists (PFT) to Alaska. Kramer also served as PFT president. The meeting was the group's first in Alaska. It drew participants from PFT members in Alaska, British Columbia, Washington, Oregon, California, and Hawaii. Non-PFT attendees came from Maryland, Minnesota, Pennsylvania, Wisconsin, Washington D.C., Manitoba, Newfoundland, Nova Scotia, Ottawa, and Japan.

Chris Bublitz was named outstanding staff member. Bublitz was responsible for organizing FITC workshops and was recognized for his work in conducting the advanced trawl training workshop in Hull, England last year.

The training trip to Hull was also recognized as an outstanding program. In that seminar, fishermen from Kodiak traveled to the British Seafish Industrial Authority (BSFIA) training facility at Hull to learn about trawl behavior and modification using BSFIA's flume tank and labs. Fishermen also had an opportunity to train on the computer simulated bridges at Humberside College.

GARZA MOVES TO SITKA

Marine Advisory agent Dolly Garza has been selected for the new advisory position in Sitka. Garza has been the

Kotzebue agent, but began in Sitka May 1. After two weeks of settling in, Garza will return to Kotzebue to finish setting up the Second Annual Fisherman's Convention.

Plans now call for refilling the advisory positions left vacant by Garza in Kotzebue and former Dillingham agent Doug Coughenower who recently took the new agent's position in Homer.

1985 ARCTIC SCIENCE CONFERENCE SET

The University of Alaska's Fairbanks campus will host the 36th Alaska Science Conference, also called the 1985 Arctic Science Conference, September 27-29. Technical sessions will cover biology, physical and social sciences. Symposia and workshops will cover biological engineering, technological advances in wildlife research, technology in the earth sciences, high latitude biological climatology, ecology of the fishes of the Chena River, current research on arctic fishes, integrated pest management, fire effects in the taiga, and mental health needs in Alaska.

A call for abstracts has been issued. Abstracts should accompany registration forms and be submitted by July 1. This year's conference is highlighting the current and future scientific uses of new technologies in communication and data acquisition with particular reference to research in the North.

For information on registration and format for the abstracts contact: Dr. Robert G. White; 311 Irving Bldg.; Institute of Arctic Biology; University of Alaska; Fairbanks, AK 99801; (907) 474-7648.

ANCHORAGE MAP OFFICE ON THE MOVE

The Anchorage office of the Alaska Marine Advisory Program has taken another hike across town. Staff members moved from Northern Lights Blvd. to 10th Avenue early in May.

The phone number remains the same, and continue to address courier mail to ACC-Bldg. "H". The new street address is 620 E. 10th Ave., but address regular mail to P.O. Box 103160; Anchorage, AK; 99510.

The new office is located near Aero Volkswagen, Taco John's, and a Kentucky Fried Chicken outlet. Administrative Assistant Ellie Evans says visitors can now "grab a taco and go drool over the Porsches" at lunch time.

SURIMI SYMPOSIUM SET FOR SEATTLE, NOVEMBER 19-21

The National Fisheries Institute and the National Marine Fisheries Service are sponsoring an international meeting on surimi technology. The major goal of the conference is to look closely at the best available surimi methods and research and how to apply these methods so underused fish species can be made into products for human consumption.

The schedule calls for overview presentations from at least six nations: Japan, Korea, the United Kingdom, Australia, Canada, Norway, and the U.S. These will be followed by sessions on resource availability, technology and product development, economic considerations and studies, equipment, regulatory and institutional issues, and marketing.

Submission of a paper for presentation implies that the author plans to participate in the meeting if the paper is accepted. Papers must represent original, unpublished work. For more information on submission deadlines,

formats, and registration, contact Roy E. Martin, National Fisheries Institute; 2000 M St. NW; Washington, DC; 20036; (202) 296-5170. Questions regarding administrative matters should be directed to James R. Brooker; Office of Utilization Research; NMFS, U.S. Dept. of Commerce; 3300 Whitehaven St. NW; Washington, DC; 20235; (202) 534-7458.

HALIBUT HANDLING VIDEO READY

A 7-minute videotape showing proper onboard handling for halibut has been developed by the FITC and produced by the University of Alaska Instructional Telecommunications Service (UAITS). The two units also collaborated to create the highly successful marine survival series.

Technical consultants Don Kramer and Chuck Crapo of the FITC helped develop the script. The footage was shot aboard the K-HI-C, a training vessel used by Kodiak High School in their fisheries program. The film stars local fisherman Jeff Hankins of the F/V Fish Wish, who demonstrates the several steps from line to hold onboard commercial vessels: gaffing, stunning, butchering, removing gonads and sweetmeats, poke icing and icing in the hold. FITC marine advisory agent Hank Pennington narrates the video.

The project was requested by the International Pacific Halibut Commission, which provided funding as did the Alaska Department of Commerce and Economic Development's Office of Commercial Fisheries Development, the Alaska Seafood Marketing Institute, and the Fishing Vessel Owner's Association (Seattle).

MAP offices have a copy of the video. Additional copies are available from UAITS. For more information on borrowing or purchasing, contact Chris Bublitz at the FITC, Pouch K, Kodiak, AK 99615 (907) 486-6034.

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AFS MEETING SCHEDULED

The Alaska Chapter of the American Fisheries Society will hold its annual meeting in Kodiak November 18-22, 1985, at the Elks Lodge. A call for papers has been issued. Papers are being accepted in all fishery areas. Abstracts may be sent to Bill Wilson at AEIDC; University of Alaska; 707 A Street; Anchorage, AK 99501.

Dr. Jong Lee of the Fishery Industrial Technology Center will chair a technical session at the meeting dealing with fish harvesting, processing, and marketing technology. Other tentative sessions will cover Alaskan fisheries education, groundfish and shellfish research and management, fish habitat investigations, pollution problems in fisheries, and a miscellaneous session.

Bill Wilson, assistant professor of fisheries at AEIDC, has been named president-elect of the AFS Alaska chapter. He will assume his duties at the November meeting. Wilson will be part of a U.S. fishery research delegation traveling to Japan, China and South Korea this summer. He will visit research facilities, universities, fisheries cooperatives, fish markets, and aquaculture facilities in those countries.

SURIMI IN NORTH CAROLINA

Sea Grant seafood technologists in North Carolina have been making baby foods from surimi. The nation's first domestically produced surimi was made in Kodiak this past year.

The North Carolina team is developing a meat stick for young children. They say surimi is perfect for the project: it has acceptable nutritional, textural, and sensory qualities. It is particularly useful because of its bland taste, an important characteristic of baby foods.

NMFS STOCK IDENTIFICATION WORKSHOP SET

The Panama City Laboratory Southeast Fisheries Center of the National Marine Fisheries Service is holding a stock identification workshop November 5-6, 1985 in Panama City, Florida.

The workshop is divided into three sessions: invited papers on various methods of stock identification, contributed papers on innovative techniques and application to fishery stock problems, and a panel discussion on various approaches.

Abstracts should be sent to Dr. Herb Kumpf; NMFS Southeast Fisheries Center; Panama City Laboratory; 3500 Delwood Beach Road; Panama City, FL; 32407, by July 1, 1985. Include title, an abstract no longer than 500 words, author, affiliation and phone number.

POST-DOCTORAL POSITION IN BIOLOGICAL OCEANOGRAPHY OFFERED

Applications are invited for a position as post-doctoral research scientist in biological oceanography (specializing in the physiology or ecology of phytoplankton) at Lamont-Doherty Geological Observatory of Columbia University. The appointment will initially be made for 12 months (with option for renewal), and will start on 1 September, 1985. All candidates should have completed all requirements for the Ph.D. by that date. Candidates should have a commitment to research at sea.

The successful candidate will be expected to participate in multi-disciplinary sea-going investigations of up to six weeks per year. These investigations involve studies of primary production in the ocean: the influence of physical processes, the use of optical properties for prediction, and

the development of new techniques for measurement.

Candidates should have experience in conducting research at sea for extended periods. Experience in handling large data sets, experience with high-data rate sampling technologies, experience in interfacing instruments to computers, and ability to devise new methodologies for oceanographic sampling are all highly desirable qualities.

Interested persons should send a letter outlining research goals, a resumé, and the names and addresses of three references by 20 June 1985 to:

John Marra
c/o Irene Kateris,
Biowatt Project Office
Lamont-Doherty Geol. Obs.
Palisades, NY 10964

Columbia University is an Equal Opportunity/Affirmative Action Employer.

OMANI UNIVERSITY SEEKS FISHERIES STAFF

In 1981, Sultan Quboos bin Said decided to build the first university in Oman. Oman is bordered on the north by the Strait of Hormuz, on the west by Saudi Arabia, on the east by the Arabian Sea and on the south by South Yemen.

Its fisheries currently support a large portion of the population but are commercially underexploited. Present catches are around 70,000 tons per year. Resource surveys indicate there are 750,000 tons of demersal fish, mainly rock cod, snapper and cuttlefish. Sardines, yellowfin tuna, anchovy, kingfish, lobster, abalones, and oysters are also present in commercial numbers. Oman has imposed a 200-mile limit, has a commercial vessel licensing program and one large commercial fish processing plant.

The new university is scheduled to open in 1986. The school is recruiting for department heads and key faculty

positions. These positions are likely to be filled initially with foreigners and offered as two-year assignments.

H.F. Robinson of Western Carolina University is one of the U.S. contacts for this project. Forward questions to him at the Office of University Studies; Western Carolina University; Cullowhee, NC; 28723 (704) 227-7666. Fishlines also received position descriptions for the head of the Department of Fisheries Science and a fisheries ecologist. For more information on these, contact Fishlines editor T. Frady.

DELAWARE NEEDS MAS DIRECTOR

The University of Delaware Sea Grant College Program is seeking a Marine Advisory Service Director. The individual selected for this position will be responsible for the management of the Sea Grant Marine Advisory Service. Included is the development, documentation, and evaluation of the unit's outreach programming. In addition, the individual is charged with the budgeting and long-range planning for the unit.

Applicants should have a M.S. degree in a marine-related field plus five years of marine advisory/extension experience and demonstrated administrative ability.

Interested persons should send a resumé including the names and addresses of three references to: Mr. Andrew T. Manus, Executive Director; Delaware Sea Grant College Program; 700 Pilottown Road; Lewes, DE; 19958. The closing date for applications is July 15, 1985.

It is the policy of the University of Delaware that no person shall be subjected to discrimination on the grounds of race, color, creed, sex, age, national or ethnic origin, or handicapped or veteran status.

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SEA GRANT DIRECTOR CANDIDATES TO VISIT

The two candidates under consideration for the position of director at the Alaska Sea Grant College Program will be visiting major areas of Sea Grant activity in July to meet with staff and members of the selection committee. Scott Marshall, Chief Fisheries Scientist with the Alaska Department of Fish and Game will arrive in Juneau July 7, meet with Anchorage staff July 9, and travel to Fairbanks July 10. Ronald Dearborn, Executive Director of the Maine Sea Grant Program will arrive in Juneau July 8, travel to Anchorage on July 10, and arrive in Fairbanks July 11.

GARZA TO ATTEND U.N. TRAINING AND CONFERENCE

Sitka Marine Advisory Program Agent Dolly Garza has been selected to attend the United Nations Special Training Course on Indigenous People in International Law, a two-week session followed by a week-long conference to be held in Geneva, Switzerland July 15-August 3. Garza expects to provide information on the Alaska Native Land Claims Settlement Act and on marine mammal management in Alaska.

Garza has been a part of the Alaska Native Leadership Project, sponsored by the Alaska Native Foundation, for the past year. She and project director Paula Deedee were part of a four-person package submitted to U.S. officials selecting attendees. As of press time, only she and Deedee had received confirmation letters. The U.N. will pay travel and attendance costs.

ELSEVIER LOOKS FOR "FISHERIES RESEARCH" CONTRIBUTORS

Elsevier Science Publishers Science and Technology Division has been courting additional submissions through the National Sea Grant Program for its international journal Fisheries Research. Submissions receive peer review, and published papers have widespread international exposure. There are no page charges, and authors receive 50 free reprints per published article. Submissions from North America can be sent to Dr. Eugene S. Fritz; National Sea Grant College Program; 6010 Executive Blvd.; Rockville, MD; 20852. The journal publishes papers on fisheries biology, technology and management.

1986 SEA GRANT INTERNS SOUGHT

The National Sea Grant College Program places interns in various marine-related federal offices, agencies, and Congressional assignments each year. Interested persons must be enrolled in a master's or Ph.D. program in an appropriate field. The interns live and work in the Washington D.C. area on a stipend provided by the Sea Grant program with which they are associated. For details on application, contact the Alaska Sea Grant College Program at 474-7086.

ORTH SEEKS FOREIGN OBSERVER CANDIDATES

Frank Orth and Associates, Inc. is under contract to provide NOAA with qualified fisheries observers for the Foreign Fishing Vessel Observer Program. Graduate professionals and senior students with relevant backgrounds are eligible. There is a strong preference for those trained in

fisheries biology, marine biology, fisheries, and related fields.

Fifteen to 25 positions are available each month. Observers live on foreign vessels operating within the U.S. 200 mile FCZ for two or three months. Duties include collecting and recording biological and catch data.

Compensation ranges from \$1,525 to \$1,753.75 per month, depending on prior observer experience. Travel expenses between Seattle and port of departure are provided. For more information contact Frank Orth and Associates; Robin Hill, Project Coordinator; 110 110th Ave. N.E.; Suite 517; Bellevue, WA; 98004; (206) 455-3507.

SHARK RESEARCHERS NEEDED

The Aquatron Laboratory at Dalhousie University and Hurley Fisheries Consulting Ltd. would like to maintain a number of northern shark species in the 50 ft Aquatron pool tank for research purposes.

Sharks will be maintained in the circular pool tank that can be operated in flow-through or static modes, with temperature-controlled sea water and current generation capability. Facilities include large underwater viewing windows and a 10 m tower tank. The school's departments of biology, psychology and oceanography are also available for use.

Scholars interested in conducting shark research at the facility while the northern species are available should contact Dr. Norval Balch; Aquatron Lab; Dalhousie University; Halifax, Nova Scotia; B3H 4J1; (902) 424-3874.

RESEARCH FACULTY POSITIONS AVAILABLE AT NAVAL POSTGRADUATE SCHOOL

Research positions in physical/dynamical oceanography are available at the Naval Postgraduate School in Monterey, CA. The positions are expected to last several years. A Ph.D. in physical oceanography, meteorology, geophysical fluid dynamics, applied mathematics, physics or engineering is required. The positions are dedicated to a program in synoptic/mesoscale ocean prediction for an open domain called OPTOMA. Assets of the school include access to research vessels, free use of an IBM 3033 with excellent graphic capabilities, and proximity to the fleet numerical oceanography center and the naval environmental prediction research center. Applications are accepted continually, but the first closing date will be August 30, 1985. For more information contact Professor Christopher N.K. Mooers; Department of Oceanography; Naval Postgraduate School; Monterey, CA; 93943-5100; (408) 646-2673.

ROCK FORMATION SLIDES AVAILABLE

The National Geophysical Data Center and World Data Center have assembled a set of 25 color slides illustrating the variety of rocks and rock formations resulting from volcanism. The slides come with text that helps explain volcanism and its effects on our planet. The photographs were taken in the U.S., Australia, the Canary Islands, New Zealand and Scotland. Sets are \$31.00 each and \$25.00 for each additional set. The center also has sets on earthquake damage, tsunami, and volcanic eruptions for the same price. To order or for more information contact: National Geophysical Data Center, NOAA, Code E/GCX2; 325 Broadway; Boulder, CO; 80303.

MEETING ANNOUNCEMENTS

Ocean Optics IV will be part of the SPIE Technical Symposium Southeast '86 in Orlando Florida set for March 31-April 3, 1986. This symposium on all aspects of optic in the marine environment will be an overview of state-of-the-art developments for specialists in government, industry and academia as well as a tutorial for those from other fields. Topics so far include optical properties of the water column, the air-sea interface, dissolved and particular matter effects on optics, bioluminescence; the effects of clouds and ship's shadows on optical properties, instrumentation, imaging and visibility, remote optical mapping, optical communications. Contributed papers are being sought. For more information contact: Mr. Marvin A. Blizard; Office of Naval Research (Code 425); 800 N. Quincy St.; Arlington, VA; 22217; (202) 696-4123.

Abstracts are being solicited for papers to be presented at the Pacific Congress on Marine Technology (PACON) 86 to be held in Honolulu, HI March 24-28, 1986. Two very broad sessions are planned, one on ocean science and technology and one on marine resources management. Papers should reflect the role of marine technology in the economic development of the Pacific Basin. The Congress meets every two years, bringing together scholars and resource persons to consider key issues in marine technology from a multidisciplinary vantage point. Abstracts should be 400 words, post-marked by August 30, 1985 and sent to PACON 86; Hawaii Sea Grant College Program; University of Hawaii at Manoa; Honolulu, HI; 96822. For more information call Dr. Narendra Saxena at (808) 948-7338; or Jack Harmon at (808) 261-5213.

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DEARBORN NAMED SEA GRANT CHIEF

Ronald K. Dearborn has been named director of the Alaska Sea Grant College Program. Dearborn will assume his duties November 1, 1985, replacing retiring Sea Grant director Donald H. Rosenberg. Dearborn is currently the director of the University of Maine's Sea Grant Program and was previously their marine advisory leader. He will be in Fairbanks for the site visit in early September. Dearborn will make the final move in October, driving to Alaska from Rhode Island following the annual national meeting of Sea Grant programs.

SEA GRANT READY FOR SITE VISIT

The Alaska Sea Grant College Program will have its first site visit in three years September 4-6, 1985 at Wedgewood Manor in Fairbanks. A seven-member panel will evaluate Sea Grant's proposal for the 1986-1987 grant period. During the meeting, staff members and researchers will report on activities for the 1984-85 period and present proposals for new projects.

The site team includes three members of the National Sea Grant College Program office in Rockville, Maryland. Bill Graham is the Alaska Sea Grant Program's primary monitor. Tom Murray is the secondary monitor and a communications and education program specialist. Bud Griswold is an advisory services specialist.

Joining the three national office members on the panel are four non-Sea Grant reviewers. Earl Conrad, president of Port Clyde Foods, Inc. of Rockville, MD is also a member of the national Sea Grant advisory panel. Dave Crawford is a food technologist

with the University of Oregon. Bill Hershberger is an associate professor at the University of Washington's School of Fisheries and an aquaculture specialist. Carl Rosier is the fisheries development officer with the National Marine Fisheries Service's Alaska Region office.

SULLIVAN SPEAKS OUT ON MARINE BIOTECHNOLOGY

A "bargain basement" mentality is threatening the lead position of the United States in the development of marine biotechnology, according to Dr. James Sullivan, director of the University of California's Sea Grant College Program. Sullivan made his remarks last month in testimony before the House Subcommittee on Oceanography, Committee on Merchant Marine and Fisheries.

Sullivan said that our leadership position in biotechnology opens enormous opportunities for profitable development of both pharmaceuticals and commercial aquaculture. Today the United States ranks first in efforts to commercialize biotechnology, although most activity at this point is concentrated in research and early product development. Challenges to the U.S. position in biotechnology will be made by established companies in West Germany, the United Kingdom, Switzerland, France, and Japan.

Sullivan says there are several ways the United States can preserve its competitive edge. He emphasized the need for selective industrial targeting of new growth industries; for increased and sustained support of genetic research; and for improved public perception of biotechnology.

KRAMER DIVES FOR ABE

Alaska Marine Advisory Program seafood technologist Donald Kramer is diving for sea urchins in Kasitsna Bay until early August. The specimens will be used for research by Japanese scientist Junzo Abe, who is currently vice president of the Minamikayabe Coastal Fisheries Community College. Abe is a specialist in mollusk and seaweed culture. He is at Kasitsna Bay with Kramer and will return to Japan in mid-August. In the spring, Abe will conduct workshops on harvesting and processing sea urchin in Sitka, Ketchikan, Homer, Seldovia, and Kodiak.

In 1986, Abe will join the advisory program for one year as a visiting scientist. He will conduct demonstration projects on seaweed and mollusk culture in southeast Alaska. He will also give lectures, workshops and short courses on mollusk culture in coastal areas. Abe will serve as an advisor to state agencies on aquaculture in cold water areas.

In June, Dr. Mike Neushul will travel to Sitka to work with Abe. Neushul, of the UC Santa Barbara biology department, has successfully raised the giant kelp *Macrocystis* from sporangia collected at Sitka. This kelp is commonly a substrate where herring deposit eggs.

ELLIOT NAMED ASM SECRETARY

Elisa Elliot, FITC seafood microbiologist, has been named secretary of the Alaska branch of the American Society for Microbiology. Elliot's term began July 15 and will continue for one year. The Alaska chapter holds annual meetings, with invited speakers from the national organization and informal poster sessions describing members' research.

SEAFARE ANNOUNCES SEAFOOD SPECIALTY SHOWS

Seafare Expositions, Ltd. of Seattle has organized two seafood trade shows designed to attract seafood buyers from around the world.

The Disneyland Hotel in Anaheim, CA will be the site of Seafare '86 from Feb. 11-12, 1985. Last year 244 booths attracted more than 3,000 buyers interested in all types of seafood. A larger facility will be used this year to comfortably accommodate all interested people.

Another show has been developed to attract seafood buyers to one of the nation's fastest growing markets, the Southeastern United States. Orlando, FL will be the site of Sea Fare Southeast Nov. 21-22, 1985. Organizers expect over 200 exhibitors.

Both seafood trade shows feature comprehensive seminar programs on buying and selling seafood. The program was developed by the staff of Seafood Leader magazine, a co-sponsor of both shows. The program is accredited by the National Culinary Institute.

For more information on visiting or exhibiting contact Sea Fare Exhibitions; 3510 First Ave., NW; Seattle, WA; 98107; (206) 547-6030.

SEA GRANT ASSOCIATION STUDENT AWARDS DEADLINE SET

The Sea Grant Association will give its awards for student papers at the National Sea Grant meeting at the University of Rhode Island October 20-23. An award is given in each student category: bachelor's, master's and doctoral. There is a small cash award.

Specific guidelines for submissions have not yet been received. Generally, students submit an abstract through their local Sea Grant program. The deadline for submitting abstracts to the Alaska Sea Grant office is August 23. Winners will be announced just prior to the national Sea Grant meeting.

Previous Alaskan winners are former UAF student Sherwood Hall, for a paper resulting from his doctoral work, and UAJ student Sandro Lane

for a paper produced during his master's work. For more information, contact Brenda Melteff at the Alaska Sea Grant's Fairbanks office, 474-7086.

ALASKA FISHERIES GROUPS PLAN FISH EXPO BOOTH

Five Alaskan fisheries groups will combine forces for a mega-booth at Fish Expo held in Seattle, October 16-19. The Alaska Sea Grant College Program, United Fishermen of Alaska, the North Pacific Fishery Management Council, the Alaska Department of Fish and Game and the Alaska Seafood Marketing Institute will take up 50 ft of space in the Exhibition Hall.

Alaska Sea Grant's emphasis will be on safety and new product development. Staff members hope to take publications that will be useful in seminars planned at the trade show. If you are involved with one of these seminars and have ideas about Sea Grant publications that might be useful, please contact Teri Frady at the Fairbanks Sea Grant office, 474-6702. There is also a possibility that the booth could be a collection point for questionnaires and surveys conducted at the seminars.

ARTIFICIAL REEF CONFERENCE SET FOR SEPTEMBER 30

The University of North Carolina Sea Grant College Program is sponsoring an artificial reef conference in Wilmington, NC, September 30, 1985. Attendees will include researchers, fisheries managers, public officials and fishermen who will discuss the status of artificial reef development in the southeastern United States. The conference is free.

Other sponsors include the UNC, Wilmington department of biology, NOAA's National Undersea Research program, and the Wrightsville Beach King Mackerel Tournament Committee. For more information contact Jim Murray, UNC marine advisory leader, at Box 8605; North Carolina State University; Raleigh, NC; 27695-8605; (919) 737-2454.

TECHNOLOGY TRANSFER CONFERENCE TO BE HELD OCTOBER 7-8, 1985

Technology transfer specialists, communicators, and extension personnel are invited to attend a national technology exchange forum at Michigan State University in October. The conference and workshop will provide a forum for exchange of ideas on current technology transfer programs, to discuss new technologies available for information dissemination, and to evaluate the components of successful programs.

Sponsored by the Institute of Water Research, Michigan State University; the Michigan Sea Grant College Program; the Cooperative Extension Service; and the U.S. Geological Survey, the conference will be held October 7-8, 1985 in East Lansing, MI. Registration is \$50. For more information contact: Institute of Water Research; 334 Natural Resources Bldg.; Michigan State University; East Lansing, MI; 48824-1222; (517) 353-3742.

ROSENBERG RETIREMENT PARTY

The Alaska Sea Grant staff is planning a retirement party for outgoing director Don Rosenberg. The festivities begin at 6:00PM Thursday, September 5 at the Alaskaland Salmon Bake in Fairbanks. If you did not receive an announcement and would like to attend, contact Lorraine David at the Sea Grant Office in Fairbanks, 474-7086.

If you would like to attend but cannot, you may wish to contribute to a scrapbook being compiled for Rosenberg. Send your farewell comments on an 8½" x 11" sheet of paper (letterhead if appropriate) to the Sea Grant office. It will be bound into the book along with other mementos of Rosenberg's long and checkered career at the university. The address is: 590 University Ave., Suite 102; Fairbanks, AK; 99701.

MARINE MINERALS BIBLIOGRAPHY NEEDS REFERENCES

Increased interest in marine mineral resources and their recovery has led the National Geophysical Data Center (NGDC) and the Ocean Minerals Energy Division of the National Ocean Service to develop a computerized marine minerals bibliography and geochemicals data base.

The marine minerals bibliography contains approximately 8,200 references to manganese, polymetallic sulfide, and phosphorite studies and is growing daily. It can be searched by author, date of publication, type of mineral deposit, type of publication, date of entry and language. Citations concerning placers/heavy mineral studies are now being added.

The Marine Minerals Data Base includes the Scripps Institution of Oceanography Manganese Nodule Analysis file, with data collected up to 1981. An additional 1,000 analyses of manganese nodules/crusts has been coded. The search for new data continues.

This information can be purchased from NGDC. For more information contact: National Data Geophysical Data Center; NOAA E/GC3; 325 Broadway; Boulder, CO; 80303; (303) 497-6339. Refer to data announcement 85-MGG-06.

AVTEC FISHERIES/NAUTICAL TRAINING CLASSES

The Alaska Vocational Technical Center has announced its marine-related classes for the upcoming fall semester. The instructors are Dennis Lodge and Captain C. Locke McCann. AVTEC qualifies for both V.A. and the Alaska student loan programs. The facility is located in Seward and does have a room and board plan. For more information contact: AVTEC; Admissions Office; Box 615; Seward, AK; 99664; (907) 224-3322:

1985 AVTEC FALL FISHERIES/NAUTICAL CLASS SCHEDULE

Sept. 16-25 Oct. 2-11	Eight-day Basic Radar Observation
Oct. 7-11	Marine Hydraulics
Oct 14-18	Marine Electrical Systems
Oct. 14-Nov. 15	Master/Mates
Oct. 21-Oct. 29	Chart Navigation/Piloting
Oct. 21-Oct. 25	Marine Engines
Oct. 28-Nov.1	Marine Refrigeration
Nov. 4-Nov. 8	Loran/Radio Navigation (Homer, evenings)
Nov. 4-Nov. 11	International/Inland Rules of the Road
Nov. 11-Nov. 15	Small Boat Fish Finding Systems (Homer, evenings)
Nov. 18-Nov. 22	Tankerman
Nov. 18-Nov. 22	Small Boat Fish Finding Systems (Kenai, evenings)
Dec. 2-Dec. 6	Trawling Technology
Dec. 2-Dec. 20	Motorboat, Inland and Ocean Operator
Dec. 9-Dec. 13	Fish Finding Systems

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NORWAY SALMON POPULAR IN JAPAN

Bill Atkinson's News Report (Issue 109) says Norwegian salmon is gaining popularity in Japanese restaurants and sushi bars. Imports from the Norwegian company Mowi are particularly favored. Says Atkinson, "Mowi reportedly rears the salmon until they reach a weight of 2-4 kilos (4.4-8.8 lbs). They use a 'moist pellet' feed made from herring and capelin, and mix it with shrimp to give the flesh a uniform red color." The resulting fish are parasite free. Cold Norwegian waters result in a 20% fat content.

SPRANGER TO HEAD WASHINGTON MARINE ADVISORY SERVICE

Michael S. Spranger will take over the helm of the Washington Sea Grant program's marine advisory service in mid-October. Spranger replaces Bob Harris, who is retiring. Spranger is currently a marine resources specialist in Sea Grant's Columbia-Snake River program. Spranger is the author of many publications on land and water use issues. The most recent of these is a book published by the University of Washington Press, The Columbia River Gorge: A Unique American Treasure.

FORMEZ OFFERS 30 FELLOWSHIPS

FORMEZ, the Training Center for southern Italy, has announced a competition for 30 fellowships, open to researchers and professionals holding positions in non-Italian universities or research institutions. FORMEZ is a government agency for management training in public and private sectors in the lesser-developed southern regions of Italy, particularly for public administration, small- and medium-sized

firms, and scientific and cultural institutions.

Research projects considered for the fellowship competition should not be more than one year's duration and should relate to the cultural, economic, or social development of southern Italy in one of the following areas: agriculture and water resources; marine biology; problems of southern Italy's economic development; civil defense; information processing and telecommunications; genetic engineering and biotechnologies; epidemiology; toxicology and relevant industrial research.

For more information on the program, contact the Alaska Sea Grant Communications Office, 474-7086. Ask for Teri Frady.

CLEMSON SEEKS AQUACULTURE DEPARTMENT HEAD

Clemson University, South Carolina has an opening for head of the aquaculture, fisheries, and wildlife department. This is a 12 month, tenure track position. Qualifications include a Ph.D. in one of the subject areas or a closely related field, a strong administrative background, and some experience within a land grant college system.

Clemson is located in northwestern South Carolina, close to Charlotte, Atlanta, and Greenville on the shores of Lake Hartwell. To apply send three letters of reference, a letter of interest, resume and transcripts to: Dr. John R. Sweeny, Search Committee Chair; Department of Aquaculture, Fisheries and Wildlife; Clemson University; Clemson SC, 29634-0362. For more information phone (803)656-3117. Application deadline is November 1, 1985.

MINNESOTA SEA GRANT WANTS TOURISM AND RECREATION AGENT

University of Minnesota, Duluth has an opening in the advisory program for an agent to deal with recreation and tourism. The agent will work primarily with the tourism and recreation industries in the three coastal counties of Minnesota through extension education programs. Qualifications include a master's degree in natural resources, business management, or related tourism/recreational planning; work experience with coastal industries and extension teaching; and knowledge of the Great Lakes and its coastal area. Applications are being accepted through October 7, 1985. For more information contact: Kathy Scheffler, Coordinator; Personnel Selection; Agricultural Extension Service; 260 Coffey Hall; 1420 Eckles Ave; St. Paul, MN 55108.

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VESSEL INSURANCE SEMINAR SCHEDULED

The University of Alaska, the Alaska Division of Insurance and the Governor's Task Force on Insurance are co-sponsoring a two-day seminar in Anchorage to discuss lower vessel insurance for Alaska's fishermen.

Craig Wiese, business specialist with the university's Alaska Marine Advisory Program, says fishermen are frustrated by insurance rates that have risen 300 to 500 percent in the past three years.

The seminar, "Fishing Vessel Insurance", will be held from 9AM to 4:30PM Nov. 14 and 15 at the Anchorage International Airport Inn, 3333 W. International Airport Rd.

Speakers include government officials and insurance professionals. They will be focusing on how to deal with current insurance rates and the outlook for future rates. They will also discuss what government and fishermen can do to improve rates. Some options include insurance-pooling, changing the Jones Act (which governs vessel insurance), crew contracts, workman's compensation, safety standards, federal insurance, and statutory limits on vessel owner liability. For more information contact the Marine Advisory Program at 274-9691.

WILDLIFE INSTITUTE SETS 1986 AND 1987 NORTH AMERICAN CONFERENCE DATES

The Wildlife Management Institute has set dates and locations for its 1986 and 1987 North American Wildlife and Natural Resources Conferences. The 51st North American Wildlife and Natural Resources Conference will be held March 21-26, 1986 at the MGM Grand Hotel in Reno, Nevada.

The 52nd North American Wildlife and Natural Resources Conference will be held March 20-25, 1987 at Le Chateau Frontenac Hotel in Quebec City, Canada. For more information contact L.R. Jahn; WMI; 1101 14th St. NW, Suite 725; Washington, DC; 20005; (202)371-1808.

NEW YORK SEA GRANT INSTITUTE NEEDS DIRECTOR

The State University of New York and Cornell University needs a director for the New York Sea Grant Institute. The director leads a program of research, education, training, and extension activities; supervises a small administrative staff located in Albany, NY; and oversees the \$3 million program of the Sea Grant Institute.

Qualifications include demonstrated ability in leadership of scientific, technical and educational efforts; experience in marine-related activities; knowledge of the Sea Grant program; ability to function effectively in a multi-campus university community; ability to communicate effectively with diverse audiences, both orally and in writing; travel; and an appropriate earned graduate degree from an accredited college or university.

Nominations and applications, with a resume and cover letter, should be sent to:

Dr. Donald Behrend, Chair
Board of Governors
New York Sea Grant Institute
37 Elk Street
Albany, NY 12246
ATTN: Laura McKay,
Assistant Director

Deadline is December 15, 1985. The director's position is open for the successful candidate as early as January 1, 1986.

MARINE SAFETY CURRICULUM SPECIALIST SOUGHT

The Alaska Marine Safety Education Association (AMSEA) is looking for a curriculum specialist to develop marine safety education lesson plans and teaching materials. The position is located in Sitka, Alaska. Applicants should have writing/editing experience, two years experience in industry, and be able to work without supervision. ETT, EMT or paramedic certification would be helpful as would experience with non-profit corporations, public agencies, print media, word processors and marine safety and survival. Salary depends on experience, up to \$13.50 per hour. Interested applicants should submit resume, three written references, two examples of original or edited work, and two examples of instructional writing to: Susan Clark; SEARCH EMS; Box 4577; Sitka, AK; 99835; (907)966-2406. Deadline is October 15.

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Alaska Sea Grant has been advised by the National Sea Grant Office that its next two-year grant will total \$2,620,000. The 1986 budget is set at \$1,300,000 with an increase of \$20,000 for 1987 bringing the second year total to \$1,320,000. The following new projects have been approved for funding:

Infectivity and Pathology of <u>Chaetoceros</u> in Cultured Chinook Salmon (R/02-12)	W. W. Smoker, UAJ SFS
Economic Aspects of the Allocation of Fishery Resources (R/06-25)	D. M. Larson, UA ASG
Forecasting Catch and Abundance in the Salmon Net Fisheries of Alaska (R/06-26)	T. J. Quinn, UAJ SFS
Size at Maturity for Alaskan Red King Crab (R/06-27)	A. J. Paul, UAF IMS
Trawl Rigging for Incidental Catch Minimization (TRIM) (R/30-01)	C. G. Bublitz, CCREE FITC
North Pacific Fishery Management Options: A Short Course (E/66-03)	A. H. Gorham, UA ASG

FISH EXPO REPORT

Alaska Sea Grant participated in Fish Expo '85 held at Seattle Center October 16-19. Sea Grant, the United Fishermen of Alaska, the Alaska Seafood Marketing Institute, the North Pacific Fishery Management Council and the Alaska Department of Fish and Game occupied a 50-ft booth in the Exhibition Hall under the banner "Alaska Fisheries".

Sea Grant Marine Advisory agent Brian Paust conducted an Expo seminar on salmon shark fishing in Alaska. He came to Fish Expo directly after participating in a larger workshop in Portland, Oregon on the same topic. Sea Grant communications staff participated in a seminar that brought together various information professionals involved with the marine industries. This workshop was chaired by old Sea Grant hand John Ball, who is currently on assignment with NOAA Ocean Service Center in Seattle.

Staff at the Sea Grant booth conducted a safety survey for MAP agent Hank Pennington who is developing an education program in safety for commercial fishermen. The new MAP T-shirts and hats were also unveiled at this event, and a few were sold to collectors passing by the booth.

There was an influx of Juneau artist William Spear's work. The official Fish Expo pin for 1985 was designed by Spear as were the ASMI and UFA pins for this year. Featured on the much-sought-after Furuno coffee mugs this year was the F/V Excalibur II, a trawler used in the yellowfin sole joint ventures of the Bering Sea and owned by R. Barry Fisher, colorful commercial fisherman from Newport, Oregon.

Fisher became a Sea Grant author a few months ago by publishing a paper in the program's Sea Grant series, "Trawling in the Bering Sea: Some

Practical Guidelines for Operation and Reducing By-Catch of Prohibited Species".

Visitors to the booth expressed interest in the trawl training program being conducted by the University of Alaska's Fishery Industrial Technology Center, in underused species, and in fish smoking for small-scale commercial operations.

NFI/NMFS SPONSOR ENGINEERED
FOODS SYMPOSIUM

The National Fisheries Institute and the National Marine Fisheries Service are co-sponsoring the "International Symposium on Engineered Seafoods, Including Surimi" November 19-21 at the Seattle Sheraton and Towers.

At the symposium, various issues on the development, application and implementation of technology for engineered seafoods will be discussed. Papers will be presented in eight general sessions, including a country-by-country review of the status of such products and their development; resource availability; technology and product development; economics; regulatory and institutional issues; and marketing.

A panel will be convened to make resolutions and recommendations regarding research and development. Those wishing to attend should contact: Roy E. Martin; National Fisheries Institute; 2000 M St. NW, Suite 580; Washington, DC; 20036; (202) 296-5170.

NEW WATER-JET PORTIONER COULD
REPLACE KNIVES ON CUTTING LINES

Design Systems of Auburn, Washington has combined computers and a process for using high pressure streams of water for industrial cutting to produce a portioning machine. Used in fish plants, it eliminates wastage and significantly contributes to sanitation improvement on the cutting line.

A fillet passes under an electronic camera that reads light projected onto it by a computer. A micro-processor cal-

culates the volume and weight of the fillet and determines how to cut it so there is the least waste. A water-jet slicer then cuts the portions, which move along on endless belts. The water-jet has no blade to become contaminated. The cuts are clean, and human hands need contact the fillet only after cutting. Coupled with a Baader 185 filleter, the line can produce 1,000 lb of finished, portioned fillets in one hour. For more on this system see the September/October issue of Seafood Business Report, p. 23.

NATIONAL MARINE FINANCIAL DATA
BANK STARTED

The University of Rhode Island has opened the nation's first marine financial data bank. Two years of work by the URI Sea Grant Program and its College of Business Administration have resulted in a system that collects and stores financial data relevant to representative marine enterprises. From this information, reports on various types and sizes of businesses will be published. The cooperative effort also developed a financial ratio analysis scheme for marine businesses, the comprehensive computer programs used to run the data base, and designed the reporting system.

SEA GRANT POSITION ANNOUNCE-
MENTS

University of Maine Sea Grant Director: The University of Maine needs a director for its Sea Grant program since the Alaska program has lured away former director Ron Dearborn. The position is housed within the Center for Marine Studies. The Maine and New Hampshire programs are jointly administered. Depending on background and experience, the director may also have responsibilities within the Center for Marine Studies and have a half-time faculty appointment. For more information contact: Chairman; Sea Grant Search Committee; Center for Marine Studies; 14 Coburn Hall; University of Maine at Orono; Orono, ME; 04469.

Texas A&M Sea Grant Communicator:

After many years with Sea Grant, TAMU marine information service head Laura Colunga has taken a similar job with the university's Engineering Experiment Station. TAMU Sea Grant therefore needs a person to head its MIS, supervise the day-to-day operation of that office, develop publication, public relations, and budgetary plans, and be responsible for the overall quality and effectiveness of MIS communications activities. For more information contact: Dr. Lauriston R. King; Sea Grant Program; Texas A&M University; College Station, TX; 77843; (409) 845-3854.

URI Advisory Service Leader:

The University of Rhode Island needs a leader to administer its advisory program. Preferred backgrounds for the position are in engineering, oceanography, seafood science, biology and business administration. Five years of professional experience in administration, supervision, and program development is required. For more information contact Robert Commerford; Marine Advisory Service Search Committee; University of Rhode Island; P.O. Box 357; Kingston, RI; 02881-0357.

Washington Sea Grant Extension Marine Resources Specialist-Columbia River:

This position was held by Mike Spranger who was recently appointed head of the UWMAS. The agent works with major groups using the Columbia River, designs and implements resource education programs, and works as a field resource person with other Sea Grant staff. For more information contact; James C. Barron, WSU Cooperative Extension Service; Pullman, WA; 99164-6230.

MORE JOBS:

Aquaculture Post-Doctoral Fellowship:

The Florida Institute of Technology is seeking applicants for the J. Seward Johnson Fellowship in aquaculture. Proposals are being accepted from all areas of study in marine aquaculture. To apply, send curriculum vitae and three references with your research proposal to: Dr. Walter Nelson; Department of Oceanography and Ocean Engineering; Florida Institute of Technology; Melbourne, FL; 32901.

Physical Oceanographer:

The Great Lakes Environmental Research Lab in Ann Arbor, MI is looking for a supervisory physical oceanographer for its physical limnology and meteorology group. Qualified applicants should have a background in hydrodynamics and numerical modeling. For additional information contact: Dr. Eugene J. Aubert, GLERB director, at (313) 668-2245.

Executive Secretary, Pacific Salmon

Commission: The Commission consists of eight members, four from each country party to the Pacific Salmon Treaty. The secretary is the commission's senior employee, an impartial coordinator for the two national sections; and is responsible for management of the commission and its funds, and the scientific and technical staff for in-season management of the Fraser River. For more information contact: John R. Donaldson, director, Department of Fish and Wildlife; P.O. Box 3503; Portland, OR; 97208; (503) 229-5406.

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Alaska

DEARBORN ARRIVES

Ronald K. Dearborn arrived a week ahead of schedule, November 7, to assume duties as Alaska Sea Grant director. He brings three canoes, a tool box, a pick-up truck and greetings from the University of Maine where he directed the Sea Grant program before taking the Alaska position. Dearborn drove from Maine and took the Alaska Highway rather than the ferry. He is headquartered in the Fairbanks office. He replaces Don Rosenberg who has retired to Washington where he plans to take over the pet store industry as we know it.

NEW AGENT NAMED TO DILLINGHAM POSITION

Paula Cullenberg has been named marine advisory agent for Dillingham. That position was vacated earlier this year by Doug Coughenower who is now the Homer agent. Cullenberg will take over at the Dillingham office in January. Interviews are expected to begin this month for finalists for the Kotzebue agent position. That position was formerly held by Dolly Garza, who now heads the Sitka advisory office.

PASGCP PROJECT DIRECTORY AVAILABLE

The Pacific Sea Grant College Program has published a directory describing current projects. Sea Grant projects funded by the programs at the University of Alaska, University of Washington, University of Oregon, University of California, University of Southern California, and University of Hawaii are included. Projects are included in aquaculture, fisheries,

marine environment, marine product development, ocean engineering, and public policies. Principle investigators, advisory personnel, directors and communicators are also listed for each program. A copy of the directory is included with this issue of Fishlines. If you would like to obtain additional copies, please contact Shirley VanDermyden at the Sea Grant Communications Office, 474-7088.

ECOLOGY AND MANAGEMENT OF WETLANDS SYMPOSIUM SET FOR JUNE

Except for the Second INTELCO Wetland Conference held in Czechoslovakia in 1984, no meeting has looked at the significance of the entire world's wetlands. The International Symposium on Ecology and Management of Wetlands will explore the wetlands of the world: their inhabitants, uses, similarities and differences. Four broad sessions have been planned: the resource, wetlands ecology, uses and management, and values. Panel topics will include potential impact of global warming trends on wetlands, global impact of wetland alteration, technology transfer, and development without damage.

The meeting will be held in Charleston, S.C. June 16 to 20. Organizers also plan a poster abstract session and space for educational and commercial exhibits.

For more information contact International Symposium, Donal D. Hook, Chairman; c/o Department of Forestry; Southeastern Forest Experiment Station; 2730 Savannah Highway; Charleston, SC; 29407.

ADVISORY MINI-CONFERENCE SUCCESSFUL

Approximately 50 people attended a conference on marine insurance November 14 and 15 in Anchorage. The meeting was organized by the Alaska Marine Advisory Program and coordinated by MAP business specialist Craig Wiese. At these sessions, underwriters met with fishing industry members to discuss recent increases in marine insurance rates, especially for vessels. Participants discussed the impact of these greatly increased rates, ways to deal with them, what seems to be their cause, and how to reduce risk.

SEA GRANT CALLS FOR PAPERS FOR 1986 CONFERENCES

Alaska Sea Grant is among the sponsors of three marine conferences scheduled for 1986. Calls for papers have been issued for each. Submit abstracts for consideration to Brenda Melteff, Conference Coordinator; Alaska Sea Grant; 590 University Avenue, Suite 102; Fairbanks, AK; 99709-1046; (907) 474-7088.

The Western Groundfish Conference is set for Sitka, February 8-12 at the Sheffield Sitka. Papers can focus on any social, economic, ecological, oceanographic or analytic aspect of groundfish or groundfish fisheries. The special session at this meeting will be on allocation issues in federal fisheries management.

The International Rockfish Symposium part of the Lowell Wakefield Symposia, will be held at the Anchorage Sheraton October 20-22. Technical presentations are divided into seven categories: histories of the fisheries; life history and reproduction; aging-growth and mortality; stock assessment; management of the stocks; marketing and economics; and the role of rockfish in the continental shelf ecosystems. Deadline for abstracts is February 28, 1986. Papers should be kept to a 30 page maximum and are due at the symposium.

The International Symposium on Seafood Quality Determination will be held November 10-14 at the Anchorage Westward Hilton, also as part of the Lowell Wakefield Symposia. This will be an international forum for exchange of information, resulting in a proceeding that describes the latest techniques for objective management of seafood quality. Participants will look closely at existing standards in various countries with the idea of creating simple measurements that can be used consistently by all countries. These proceedings may be published by an international publisher in order to assure wide distribution. In that case, authors will be advised of acceptance of the paper long enough in advance to allow for refereed review and modifications.

DOYLE ARRIVES IN JAPAN

Former Alaska Marine Advisory Program Leader John Doyle has arrived in Japan for his sabbatical with Hokkaido University. Doyle will have a full lecture schedule. He reports that his new office is cold and that his apartment is nice. Doyle left Anchorage in November, following a celebrity roast held in his honor at an Anchorage hotel.

SEA GRANT ZIP CODE CHANGE

Alaska Sea Grant's zip code has changed from 99701 to 99709-1046. Fairbanks campus addresses have changed from 99701 to 99775. Various four digit add-ons have been given to departments.

BRIGHT IS NEW DIRECTOR AT TEXAS SEA GRANT

Professor of Oceanography Thomas J. Bright has been named to replace Feenan Jennings as director of the Texas A&M Sea Grant Program. Jennings is now devoting full time effort to directing the A&M Office of University Research Services. Bright has been an active A&M marine researcher and has served as chairman of the

Oceanography Senior Advisory Committee and as coordinator of the Biological Oceanography Division. He also managed the submersible research program.

Amy Broussard, formerly the education publication editor at Texas A&M Sea Grant, has been named to head the program's marine information service. That position was vacated earlier this year by Laura Colunga, who took a similar position with the university's engineering experiment station.

NMEA PLANS NATIONAL MEETING

The National Marine Educator's Association will be having their annual conference August 4-9, 1986 at John Carroll University in Cleveland, Ohio. The conference theme is the Great Lakes. Program highlights include marinated micros software review; a Sea Grant Curriculum Fair; State of the Lake Symposium; an island cruise; the Great Lake Erie children's art exhibit; a bilateral issues symposium; and a perch and pike picnic. For more information contact: Ohio Sea Grant Education Program; The Ohio State University; 059 Ramseyer Hall; Columbus, OH; 43210.

Office for Fisheries

University of
Alaska

MARKETING SEMINAR SCHEDULED

A seminar designed for commercial fishermen interested in direct marketing of their catch is scheduled Feb. 4 in Anchorage. Craig Wiese, business specialist for the sponsoring UA Marine Advisory Program (MAP), says the daylong "Direct Marketing" session will outline the pros, cons and how-tos of selling seafood directly to wholesalers, retailers or consumers.

The seminar will be from 9 a.m. to 5 p.m. at the Sheffield Anchorage Hotel. Specific topics include: locating buyers, performing credit checks and arranging payment, product quality, permits and licenses, packaging, shipping and freight forwarders, and financial feasibility. Registration information is available through MAP in Anchorage at 274-9691 or through the cosponsoring Fishery Industrial Technology Center in Kodiak at 486-6034.

CULLENBERG LEAVES FOR DILLINGHAM

The Marine Advisory Program (MAP) filled its Dillingham agent's vacancy this month with the hiring of 29-year-old Paula Cullenberg of Fairbanks. Cullenberg, who holds a master's in fisheries from the University of Washington, replaces MAP Agent Doug Coughenower, who was reassigned to the program's new Homer office. The new agent has been a National Marine Fisheries Service observer aboard a Russian trawler, a fisheries development project coordinator for the Bering Sea Fisherman's Association (BSFA), and a project coordinator for the Tanana Chiefs in Fairbanks. She also holds a Lower Yukon salmon permit, and actively fishes the king and chum drift gillnet fisheries there each summer.

"Bristol Bay is a mixture of commercial and subsistence economies," she says. "I hope to be a resource to both of those groups." Cullenberg says she will continue such ongoing MAP functions as coordinating workshops, consulting individually with fishermen, and filling MAP's extension role in the region.

INFORMATION CENTER STUDIED

A \$1,750 mini-grant to explore the possibilities of establishing a centralized information service for the university system statewide has been awarded to Grant Sims of the Marine Advisory Program (MAP) and Jim Smith of the Cooperative Extension Service (CES). Sims, a MAP instructional media specialist, and Smith, a CES editor, were awarded the grant in December by Community Colleges, Rural Education and Extension Chancellor Marvin Looney. The goal of the project is "to put together a blueprint for creating a one-stop shop for university information," says Sims. "We're doing it in hopes that eventually, anyone anywhere will be able to pick up a phone, dial a toll free number, and find out anything they always wanted to know about the university but couldn't figure out who to ask."

According to Smith, the CES' particular interest lies in the possibility of establishing a companion one-stop shop for publications generated by university units. "Again, the problem encountered by inquirers is one of getting the runaround in trying to find out what's available and where to get it," Smith says.

The creation of such a service has been listed as a top priority of UA. President Donald O'Dowd has invited the grantees to coordinate their study with his office.

THAYER LEADS CES STAFF CONFERENCE

Three Marine Advisory Program agents and support staff are scheduled to be among the attendees at a southeastern Alaska Cooperative Extension Service staff conference set for January 24-26. Dolly Garza (Sitka), Brian Paust (Petersburg), and Curt Kerns (Juneau) plan to attend. The conference was organized by Sitka Extension Agent Jill Thayer, a former contributor to the Alaska Sea Week curriculum/workshop series funded by Alaska Sea Grant. Participants in the conference will sail on the Alaska ferry system from Ketchikan to Haines and hold their meeting on board. Among the seminars presented will be one on communications led by MAP media specialist Grant Sims.

CATALOG OF SUMMER STUDIES AVAILABLE

White Pond Press of Londonderry, New Hampshire has cataloged summer marine studies/work programs around the nation for high school and college students. "Summer opportunities in Marine and Environmental Science" is available for \$8.95, including postage and handling. Each entry includes a description of the program, the names of the sponsoring organization and contact people, job descriptions and compensation, and eligibility information. Listings include summer research possibilities, courses, marine camps, expeditions and trail crews. To obtain a copy, send \$8.95 per book to: Summer Opportunities; White Pond Press; Londonderry, NH; 03053.

COASTAL SEDIMENTS CONFERENCE PLANNED FOR '87

Coastal Sediments '87 will be a multidisciplinary technical conference for coastal engineers, geologists, oceanographers, and other coastal scientists.

The conference will concentrate on shallow marine and coastal sediment processes with emphasis on recent work in engineering and physical processes. The last conference in this series was held in 1977. This conference will bring together a variety of professionals to discuss advances in fundamental research and engineering practices since that time. For more information on the conference contact: Dr. Nicholas C. Kraus; USAE Waterways Experiment Station; Coastal Engineering Research Center; P.O. Box 631, ATTN: WESCR-P; Vicksburg, MS; 39180-0631. Abstracts are due April 30, 1986.

URCHIN SCOOP DEVELOPED IN NEW ENGLAND

Researchers have developed a new scoop for use in harvesting sea urchin from kelp beds off New England. The urchin invade the beds when lobster populations drop off sufficiently. Over a three month period, two boats winched up 600 to 1800 lb of urchin per day using the 5 gal. scoop. Scientists hope that fishermen who depend on the lobsters can still turn a profit using the scoop when lobster beds are overrun by urchins. It is hoped that the method will retrieve the urchins without severe damage to the kelp beds, which would otherwise be stripped by the urchins.

IFT SEEKS NEW MEMBERS

The Institute of Food Technologists (IFT) is looking for new members. Current membership is about 22,000, including professionals in technology, research, development, engineering, science, government service, sales, marketing, packaging and production. Members can receive the periodicals Food Technology and The Journal of Food Science at half price, increase professional contacts, and participate in the annual meeting and IFT Food Expo at substantial reductions in registration fees. Membership is open to any individual with a B.S. degree in food science or related field with five years' professional experience, to

anyone active in the food industry, and to full-time students working toward a degree in food science/technology or a related field. Membership is \$45 per year. For more information contact the Institute of Food Technologists; Lockbox 97478; Chicago, IL; 60690.

REMOTE SENSING WORKSHOP NOTES
AVAILABLE

The California Sea Grant College Program has published a report on its remote sensing workshop concentrating

on using this technology in fisheries and coastal resource management. Although the workshop was held in 1983, participants updated their remarks before publication. Topics covered include the use of remote sensing in research, operational aspects of remote sensing equipment, and future applications of the technology. Copies are available free of charge from California Sea Grant; University of California, A-032; La Jolla, CA; 92093.