



American Institute of Fishery Research Biologists

Promoting excellence in fishery science

... BRIEFS ...

Website: www.iattc.org/aifrb/

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President Reports Progress

Dear Associates, Members, Fellows and Emeriti:

I thought it was time to bring you up to date on progress being made by your officers and committee chairs, and to solicit your input on certain matters that need attention.

First, planning is well underway for the next meeting of your Board of Control (BOC), which will be held in Anchorage, AK, on Saturday and Sunday, September 10 & 11, 2005, in the Anchorage Hilton Hotel immediately preceding the Annual Meeting of the American Fisheries Society. If there are specific items of concern that you would like to have included on the agenda for discussion and/or action by the BOC, please inform me, Linda Jones, or Barbara Warkentine of your wishes no later than August 1 so that full consideration can be given to your item's inclusion.

Secondly, I wish to inform you of a few changes in committee leadership. After many dedicated years of service to the Institute, Jack Pearce requested of me earlier this year that he be relieved of his responsibilities and replaced as Chair of the W. F. Thompson Award Committee. I accepted his resignation with thanks and regret, and appointed Bill H. Bayliff from the Inter-American Tropical Tuna Commission in La Jolla, CA, who graciously volunteered to serve as his replacement. Similarly, because Linda Jones was recently elected as your new President-Elect, she also needed to be relieved and replaced as Chair of the Outstanding Achievement Awards Committee. In that regard, I have appointed John G. Williams from the National Marine Fisheries Service's Northwest Fisheries Science Center in Seattle, WA, who also volunteered to serve as her replacement. Jerry S. Ault, from the U. of Miami School of Marine Sciences, continues to serve as Chair of the Research Assistance Awards Committee. Please let Bill, John and Jerry have your nominations of worthy recipients for any of these awards as soon as possible.

Thirdly, although no specific dates have yet been scheduled, planning continues unabated for our 50th Anniversary Celebration in Seattle, WA, in the spring of 2006. At present, it looks like it's developing into a 3 ½ day affair. As currently planned, the first afternoon and following morning sessions will consist of a symposium focusing on "Reflections on the last 50 years of fishery research, and where it is headed in the future" with invited speakers. Beginning with the afternoon of the second day, Brian Rothschild and Dick Beamish are putting together and co-chairing a symposium on "Overfishing" which will focus largely on the theoretical issues and concepts on this subject as related to fisheries management. A steering committee is currently being organized to develop the agenda and invite speakers. We plan to use this symposium as a "fund raiser" for AIFRB, and are planning to publish the proceedings of both symposia. If you want to get involved in this effort, please let Linda Jones or Bruce Miller (U. of WA) know of your interest.

Fourthly, with respect to the Founders Fund which was established to honor the 26 founding members of the Institute and to recognize significant contributors to AIFRB, you are reminded that the Fund will accept donations of cash, stocks, bonds, and other tangible assets from members and friends of the Institute according to IRS 501 (c)(3) requirements. Contributions will be invested in an investment equity account for growth and income. The investment principal is treated as a permanent endowment with an initial target threshold of \$100,000. At this level, the Institute will be able to use the annual income, not to exceed 5%, to achieve the Fund's objectives. Income from the Fund is to be distributed as grants to fishery research scientists to support research activities, prepare manuscripts and reviews of contemporary topics, and conduct analyses of fishery policy, etc., related to the advancement of fishery science. So far in FY 2005, the Fund has received approximately \$2,500 from its membership.

Lastly, I want to thank all of you who have responded promptly to your recent dues notifications. If you remain delinquent, however, please give the matter your priority attention; the Institute needs your continuing support. Based on some recent feedback from our Membership Committee Chairman, Tom Keegan, and our Treasurer, Allen Shimada, it appears that we might be gaining some ground in our efforts to enhance our membership recruitment and bolster our treasury. But more on that at a later date.

Richard Schaefer, President

p.s.: If you plan to attend the AFS Annual Meeting in Anchorage, AK, why not plan to arrive a day or two early and attend your Institute's BOC meeting? Hope to see you there.

The AIFRB is a 501(c)(3) tax-exempt nonprofit organization (EIN 61-6050711).

Important Nominations Needed!

Your duty to your profession!

Outstanding Achievement Awards

We are soliciting your nominations for the Outstanding Achievements Awards. This is your opportunity to provide nominations and help AIFRB recognize the individuals and organizations that are making outstanding contributions to our science. Two awards are given for each year.

The Individual Achievement Award for 2006 will be given to an individual who has made significant contributions to the advancement of fishery science. This is the highest award for achievement. Candidates will be rated on the following criteria: significance of publications, exceptional service to the profession, outstanding teaching or training of students, important discoveries or inventions, and significant contributions to the advancement of fishery science. It is important that nominations address each of the criteria thoroughly.

The Group Achievement Award for 2005 will be given to a research group with outstanding records of scientific contribution to fishery science or fishery resource policy. It is the Institute's highest award for achievement and recognition of research groups that nurture excellence in fishery science. Candidates will be rated on the following criteria: sustained contribution of significant publications, exceptional service to the fishery profession, outstanding teaching or training programs, important discoveries or inventions, and significant contributions to the advancement of fishery science. Again, it is important that nominations address each of the criteria thoroughly.

The nominating letter should include name, address, telephone number and email address of nominee, a short resume of the nominee, and a letter fully describing how the nominee meets the criteria. Please include your nominator name, address, telephone number and email address.

Nominations for these two awards are due by July 8, 2005. Fishery scientists whose names were submitted and selected as runner-ups last year will also be considered. Submit nominations to: Dr. John Williams, Northwest Fisheries Science Center, 2725 Montlake Blvd. E., Seattle, WA 98112. For your information and help in considering nominees, attached are the lists of Individual Outstanding Achievement Awards 1979-2005 and Group Outstanding Achievement Awards 1982-2003.

If you have any questions, please contact: John Williams at John.G.Williams@noaa.gov, Jack Helle at Jack.Helle@noaa.gov, or Bill Taylor at Taylorw@msu.edu.

Individual Outstanding Achievement Award: 1979 – Elbert H. Ahlstrom, 1980 – James E. Sykes, 1981 – F. Heward Bell, 1982 – Richard H. Stroud, 1983 – Kenneth D. Carlander, 1984 – David W. Schindler, 1985 – Peter Larkin, 1986 – William G. Gordon, 1987 – William F. Royce, 1988 – Reuben Lasker, 1991 – Robert L. Burgner, 1992 – William W. Fox, 1993 – Arthur D. Hasler, 1994 – William E. Ricker, 1995 – Raymond J.H. Beverton, 1996 – Reeve M. Bailey, 1997 – William G. Percy, 1998 – John H.S. Blaxter, 1999 – Saul B. Saila, 2000 – John R. Hunter, 2001 – Kenneth E. Wolf, 2002 – Fred Utter, 2003 – Howard Bern, 2004 – Brian Rothschild, 2005 – John Fryer.

Group Outstanding Achievement Award: 1982 – Canadian Journal of Fisheries and Aquatic Sciences, 1983 – Great Lakes Sea Lamprey Control Program, 1984 – Harvesting Technology Division, NMFS, Pascagoula, MS, 1985 – Sport Fishing Institute, 1986 – International Pacific Halibut Commission, 1988 – Southwest Fisheries Center, NMFS, La Jolla, CA, 1992 – Cooperative Fish and Wildlife Research Units Center and Related Coop Units, 1997 – International North Pacific Fisheries Commission, 1998 – The Illinois Natural History Survey, 1999 – National Fish Health Research Laboratory, USGS, Kearneyville, WV, 2000 – International Pacific Halibut Commission, 2002 – The Great Lakes Fishery Commission, 2003 – Northwest Fisheries Science Center, Ecotoxicology Research Team.

The W.F. Thompson Award for the Best Student Paper of 2003

The W.F. Thompson Award is given to recognize the “best” paper published by a student. Nominations for papers published in 2003 will be considered during 2005. The nominations should include a brief resume (five copies) and five copies of the paper. Any student, foreign or domestic, is eligible, provided that the paper is written in English, was written while the student was a B.S., M.S., Ph.D. candidate, and the student is the first author. The evaluations of the papers are based on their overall quality including scientific content and presentation (text and graphics), and on applicability to future science and management. Nominations should be sent to Dr. William H. Bayliff, Chairman, W.F. Thompson Award Committee, Inter-American Tropical Tuna Commission, 8604 La Jolla Shores Drive, La Jolla, California 92037-1508, USA. They must be received before June 15, 2005. Copies will be sent to reviewers, after which a selection will be made. The results will be announced at the meeting of the AIFRB's Board of Control in Anchorage, AK in September 2005 and the winner will receive an appropriate certificate and a check for \$500. Students may be nominated by a mentor, professor, associate, or him- or herself. Additional information can be obtained from Bill Bayliff at <http://www.iattc.org> or (858) 546-7025.

Membership Committee Report – Tom Keegan

Here is a quick synopsis of new membership activities, before and after the Madison BOC meetings. I think we should set a goal of 50 new memberships for this fiscal year, which ends at the start of the Anchorage BOC meeting in September. We already have 21 new memberships, which already equals last year's total (in only 5.5 months).

| | July 1, 2003 to August 13, 2004 (13.5 months) | August 30, 2004 to February 14, 2005 (5.5 months) |
|------------------------|--|--|
| Initial Memberships | | |
| Associate Student | 5 | 9 |
| Associate Professional | 5 | 2 |
| Member | 7 | 8 |
| Fellow | 4 | 2 |
| Total | 21 | 21 |
| Promotions | | |
| Member | 1 | 0 |
| Fellow | 4 | 3 |
| Emeritus | 9 | 2 |
| Total | 14 | 5 |

We have a new supply of membership certificates. New and promoted members will soon receive their diplomas.

New Editorial Committee

For fiscal reasons, the BOC has directed the establishment of an Editorial and Production committee to develop guidelines for Briefs that can be included in the procedures manual. Therefore, I appoint John Merriner and Gene Huntsman to serve as co-chairs of this committee and, since they volunteered, I am also appointing Kevin Friedland and Dora Passino-Reader to serve as committee members to assist. I am requesting that the committee draft guidelines for initial presentation to the BOC at its next meeting in Anchorage, AK, next September.

Dick Schaefer

Two Interesting New Works by Members

Estuarine Indicators

Edited by

Stephen A. Bortone, Director,
Sanibel-Captiva Conservation Foundation, Florida, USA

The first truly multi-disciplinary reference for estuary assessment

Acknowledging the present inability to determine objectively the status and trends among estuarine ecosystems, the environmental research community has recently stepped up efforts to develop and evaluate meaningful estuarine indicators. This goal requires the effort of researchers from a broad spectrum of disciplines. In order to expedite this initiative, many of the world's leading estuarine scientists came together to present their views at the 2003 Estuarine Indicators Workshop.

Derived from this conference of leading estuarine scientists, *Estuarine Indicators* presents the principles, concepts, practical use, and application of indicators in estuarine research and management practices. Topics include: the theory behind environmental indicators and their presumed attributes; the methods and protocols of indicator development and evaluation; a presentation of effective and ineffective indicator examples; and discussions of the future directions in research and management practices.

This is an ideal reference for researchers, scientists, and students from any field dealing with estuaries and estuarine ecosystems. Its introductory-level chapters are accessible to novices and seasoned experts alike, and the applications and

interpretation of research data suit the needs of environmental managers. This is a truly multidisciplinary, comprehensive compendium upon which future research will undoubtedly be built.

Features: Explains the effects that natural and anthropogenic stressors have on estuarine systems and the underlying causes of these effects. Offers guidelines and recommendations for the development and use of indicators for effective environmental management of estuarine ecosystems. Integrates assessment tools and techniques, scaling and variability, temporal trends for long-term studies, and environmental factors into a holistic approach to the subject.

CRC Press

Catalog no. 2822, January 2005, 560 pp.

ISBN: 0-8493-2822-5, \$129.95/ £74.99

Indirect validation of the age-reading method for Pacific cod (*Gadus macrocephalus*) using otoliths from marked and recaptured fish

Nancy E. Roberson, Daniel K. Kimura, Doanld R. Gunderson, and Allen M. Shimada

Abstract – Two examples of indirect validation are described for age-reading methods of Pacific cod (*Gadus macrocephalus*). Aging criteria that exclude faint translucent zones (checks) in counts of annuli and criteria that include faint zones were both tested. Otoliths from marked and recaptured fish were used to back-calculate the length of each fish at the time of its release by using measurements of the area of annuli. Estimated fish size at time of release and actual observed fish size were similar, supporting the assumption that translucent zones are laid down on an annual basis. A second method for validating reading criteria used otolith age and von Bertalanffy parameters, estimated from the tagging data, to predict how much each fish grew in length after tagging. We found that otolith aging criteria applied to otoliths from tagged and recovered Pacific cod predicted quite accurately the growth increments that we observed in these specimens. These results provide further evidence that the current aging criteria are not underestimating the age of the fish and support our current interpretation of checks (i.e., as subannual marks). We expect these indirect validations to advance age determination for Pacific cod, which in turn would enhance development of stock assessment methods based on age structure for this species in the eastern Bering Sea. Fish. Bull. 103:153-160 (2005).

Northern California District Continues to Set Pace

On Thursday, March 24th, Phil Lebednik presented a talk to Northern California District Members describing the LTMS (Long Term Management Strategies) in regards to the “Dredging Windows” issues in San Francisco Bay that focused specifically on fisheries. Phil is the chair of the San Francisco Bay LTMS Environmental Windows, Science Assessment and Data Gaps Work Group.

On Thursday, April 21st, Steve Berkeley from the University of California, Santa Cruz, will be hosting an evening discussion regarding the following topic “Beyond Spawning Stock Biomass: Managing for Age Structure and Spatial Distribution”.

Submitted by: Michele Barlow

Fellows Contribute to Important NAS Committee

The National Academy of Science has established a major committee to examine the effects of fishing on the environment. The project title is: Ecosystem Effects of Fishing: Phase II – Assessments of the Extent of Change and the Implications for Policy.

Recent high profile scientific reports suggest that there have been fundamental changes in marine ecosystems as a consequence of large-scale, global fishing activities. The authors have used historical datasets, meta-analytic techniques, and population models to “hindcast” the abundance of marine species before the advent of modern fishing activities. Several conclusions from these studies have received considerable media coverage and raised public concern and controversy over the effects of fishing on marine ecosystems. Examples of these conclusions include: (1) fishing has typically reduced the abundance of large predatory fish stocks by 90%; (2) fisheries have been “fishing down the food chain” by successively depleting

stocks from top predators to grazers; and (3) focus on modern trends in abundance without regard to pre-exploitation conditions results in “shifting baselines” that set targets for recovery that are too low relative to the potential productivity of the ecosystem.

This study will review and evaluate the current literature on the impacts of modern fisheries on the composition and productivity of marine ecosystems. The report will discuss the relevance of these findings for U.S. fisheries management, identify areas for future research and analysis, and characterize the stewardship implications for living marine resources.

This project is sponsored by the National Oceanic and Atmospheric Administration.

The project was to begin on February 1, 2005

A final report will be issued at the end of the project in approximately 18 months.

Committee Membership

Dr. John J. Magnuson (AIFRB Fellow) – University of Wisconsin, Madison (Chair). John J. Magnuson is Professor Emeritus of Zoology and Limnology at the University of Wisconsin, Madison. Ms. Dorinda G. Dallmeyer, Esq. – University of Georgia, Athens, Georgia. Dorinda G. Dallmeyer is Associate Director of the Dean Rusk Center of International and Comparative Law at the University of Georgia. Dr. Richard B. Deriso (AIFRB Fellow)-Scripps – Institution of Oceanography, La Jolla, California (Member). Richard B. Deriso is currently an Associate Adjunct Professor of Biological Oceanography at the Scripps Institution of Oceanography and the Chief Scientist of the Tuna-Billfish Program at the Inter-American Tropical Tuna Commission (IATTC). Dr. James H. Cowan, Jr. – Louisiana State University, Baton Rouge, Louisiana. James H. Cowan, Jr. is a professor in both the Department of Oceanography and Coastal Sciences and the Coastal Fisheries Institute at the Louisiana State University. Dr. Larry B. Crowder – Duke University, Beaufort, North Carolina. Larry B. Crowder is Professor of Marine Ecology at the Nicholas School for the Environment at Duke University. Dr. Robert T. Paine – University of Washington, Seattle, Washington. Robert T. Paine recently retired (1998) from his position as Professor and former Chairman of the Zoology Department at the University of Washington, where he worked since 1962. Dr. Ana M. Parma – Centro Nacional Patagónico, Argentina. Ana M. Parma is a research scientist with CONICET, the Argentine Council for Science and Technology. Dr. Andrew A. Rosenberg – University of New Hampshire, Durham, New Hampshire. Andrew A. Rosenberg is a Professor of Natural Resources and Earth, Oceans, and Space at the University of New Hampshire. Dr. James E. Wilen – University of California, Davis. James E. Wilen is Director of the Center for Natural Resource Policy Analysis and Professor of Agricultural and Resource Economics at the University of California, Davis.

Submitted by: Bill Bayliff

Two Meetings of Consequence

East Coast Trout Management and Culture Workshop IV

June 6-8, 2005

Lock Haven State University, PA

This workshop provides a forum for both managers and trout culturists to share results, techniques and concerns. Since East Coast III in 2000, priorities, concerns and public demands have shifted for both management and culture staffs. This conference will emphasize presentations on the current status of native brook trout populations, brook trout management, trout and stream restoration, challenges of new hatchery effluent standards, hatchery BMPs and renovations, and the impact of any change in production on management programs. All other topics related to trout management will be considered for inclusion in the workshop program as well.

For additional meeting information contact Steve Reeser at steve.reeser@dgif.virginia.gov.

59th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies

Conference Theme: “When Practice Meets Policy”

St. Louis, Missouri October 16-19, 2005

(Reservation and hotel information available online after June 1st at <http://mdc.mo.gov/seafwa/>)

Technical sessions at the 59th SEAFWA Conference will be scheduled for Wildlife, Fisheries, Legal, Law Enforcement, Licensing, Recruitment and Retention, Aquatic Education, and Minorities in Natural Resources.

Fisheries and Wildlife technical sessions will include: Oral presentations of peer-reviewed and peer-edited manuscripts, techniques, and case studies; Oral presentations of unpublished studies (abstract-only; limited to space available on the program); and Posters – including an evening reception with the authors.

Deadline: April 29, 2005. Submit four hard copies and an electronic copy of your manuscript of comprehensive abstract to the appropriate Associate Editor. Please include the title, type of presentation (manuscript, abstract-only, or poster), author(s) name, work address, telephone number, and email address of the contact author. Written manuscripts and comprehensive abstracts for oral presentations will be reviewed and if accepted, will be published as peer-reviewed papers and comprehensive abstracts in the Proceedings of the Southeastern Association of Fish and Wildlife Agencies. Manuscripts must comply with the SEAFWA Guidelines for Authors, found at <http://www.sdafs.org/seafwa/authors.htm> or by contacting the appropriate program chair.

Presentation Awards: The best overall fisheries presentation will be awarded. An award also will be given to the student presenting the best poster and the best wildlife paper. Students wishing to participate should indicate in their submission that they wish to be considered for the student presenter (wildlife) and poster awards.

Poster presentations will be limited to a provided 8 x 4 foot background; handouts are encouraged. A one-page written abstract of the poster presentation must be submitted to Bill White, Poster Sub-Committee Chair, Missouri Department of Conservation, 2901 West Truman Blvd, Jefferson City, MO 65109; (573) 522-4115 ext. 3512, Bill.White@mdc.mo.gov. Students: Please indicate if you wish to be considered for best student poster award.

Interesting Adjunct Sessions will include:

Legal: The Legal Committee of the Southeastern Association of Fish and Wildlife Agencies invites law students to enter the Wildlife and Conservation Law Writing Contest. Participants are free to select any topic reasonably related to legal issues concerning fish, wildlife, habitat, or conservation law. Papers should be no longer than twenty-five (25) pages of text. A panel of distinguished legal scholars will judge the entries based on substantive content, clarity and style. Questions should be directed to Craig Evans, Sub-Committee Chair.

Recruitment and Retention for Natural Resource Conservation: Presentations are sought that address

marketing strategies designed to assist agencies in improving public awareness and participation in hunting and fishing. Studies of special interest include basic market research, outreach activities and marketing that target a specific market segment. Please contact Eric Kurzejeski, Sub-Committee Chair, for questions and suggestions.

Fellows Change Roles

Mike Sissenwine

I want to inform you about a difficult decision I made recently. I will retire at the end of May. My decision was a difficult one because of my respect for NMFS and its people. I am 100% supportive of Bill Hogarth's leadership of the agency, and hold all of my fellow members of the Leadership Council in the highest regard.

Nevertheless, I am convinced it is time to retire from the agency. I have always planned to retire relatively soon after I become eligible (which is actually April 4). I want the freedom to knock around on boats without tons of demands hanging over my head. I also need more time for personal aspects of my life that I have neglected too long.

It has been a wonderful experience working with all of you, sharing our careers and building friendships. You are a great group, with a wonderful mission, and lots of valuable assets (including new ships finally). I hope you will focus on these positives until it is time to move on in life (for some of you soon, for others decades away), and then do so with a positive spirit and wonderful memories. I feel fortunate to be able to approach retirement this way.

Sincerely,

Mike Sissenwine

Ken Beal

I've decided to retire on March 3, 2005. It's true that time flies when you're having fun, and I've certainly enjoyed my career, most of it spent with NMFS, and the 37 years have gone by quickly. After March 3 you may contact me as follows:

Kenneth L. Beal, 549 Washington Street, Gloucester, MA 01930; (978) 283-3671; barney@kenbeal.com

Best regards,

Ken

Losses

Professor Don Rogers

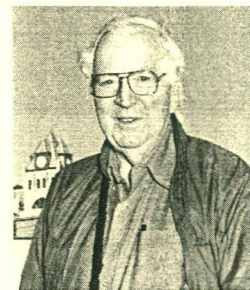
Don came to the University of Washington Fisheries program as a student in 1959 and joined the faculty in 1969, from which he retired in 1997. Even then, he continued to work on Alaskan sockeye salmon in Bristol Bay. His long-term association with and leadership of the School's Alaska Salmon Program earned him the nickname of "Emperor of the North." School of Aquatic and Fishery Science (SAFS) faculty member Tom Quinn reflected: "Before climate change, biocomplexity, and ecosystem management became topical, Don was studying them. He helped build and maintain a truly unique, ecosystem-based, long-term research program. Countless fisheries students and scientists worked with Don in Alaska, and many consider those to have been their most memorable years."



Professor Don Rogers 1932-2004

Samuel P. Felton

Sam was a Senior Research Associate at SAFS. He remained active in research well into retirement, devoting over 50 years to the pursuit of biochemistry, microbiology, and fish nutrition research. Long-time colleague, Professor Emeritus John Halver, worked with Sam for nearly a half-century, publishing papers on fish biochemistry, nutritional requirements and metabolism. His commitment to research was borne out by his last paper being published this year. Sam's accomplishments were noted in the International Biographical Centre's publication, "2000 Outstanding Scholars of the 21st Century."



Samuel P. Felton (1919-2004)

Clint Stockley – Biological Legacy Continues

Clint Stockley, 82, died at home November 14, 2004 from complications of lymphoma, which he battled valiantly for many years. He was born October 14, 1922 in Seattle, WA. After graduating from Garfield High School, he enrolled for one quarter at the University of Washington as a pre-major. He then interrupted his schooling to serve two years in the Army Signal Corps on Attu Island, westernmost of the stormy, barren Aleutians where a significant battle took place.

It was on Attu that Clint developed an interest in the biology of salmon. The small Attu streams have remnant runs of four species of Pacific salmon plus Arctic char. Clint was among the service men who fished, cooked, and smoked salmon as a fun diversion from confining military routine and the monotonous Aleutian weather. Upon discharge in 1944, he worked a couple of years including running a trap-line in the nearby Cascade Mountains of Washington State.

Clint returned to the UW in 1946, joining the many ex-servicemen on the GI Bill. He graduated in 1950 with a B.S. in Fisheries Biology. As an undergraduate in 1948-49, and as a graduate in 1950 he did summer field work on Kodiak Island with the UW Fisheries Research Institute. The Fisheries Research Institute was then under the directorship of W.F. Thompson, an internationally prominent fishery scientist and a founding member of the AIFRB. The Fisheries Research Institute, chartered in 1946, was funded entirely by the Alaska Salmon Industry. The Institute conducted research projects in all major salmon production areas of Alaska. The goal was to do basic research on salmon runs to complement and fill-in areas not under study by the then Federal Bureau of Fisheries. Accordingly, W.F. Thompson detailed Clint and an associate, Ray Willis, to back-pack in to the known falls on the Frazer River and to make an early assessment of feasibility of a fish ladder. Frazer Lake, above the falls, and 8 miles long, had the potential of supporting a substantial run of sockeye (red) salmon if access to the sea in Olga Bay, 6 miles distant, could be achieved. Clint and Ray's report indicated that the 40-foot, stepwise falls, could be ladderized but that the distance from tidewater and the steep tundra terrain would make the project too expensive for the fledgling FRI to undertake.

In June 1951, Clint joined the recently formed Alaska Territorial Dept. of Fisheries. There he headed up the Watershed Management Division. In this capacity, and with financial and material help from the salmon packers on Afognak Island, Clint and staff undertook a pilot project to test the feasibility of starting a viable sockeye salmon run in a barren lake system blocked by falls on the outlet stream. In 1951, 52, and 53, the falls on the Paul and Laura Lake systems on Afognak Island near tidewater were ladderized by engineers while salmon egg plants were made in the tributaries above the lakes. At the same time successful egg plants were introduced into tributary streams of Frazer Lake. In addition, nutrient and limnological studies were done, assuring that the lake should be capable of supporting a substantial sockeye salmon population.

Unfortunately, at this stage of the project, Clint was obliged to leave Alaska because of family issues. He returned to Washington State where he served with distinction as a salmon (and other species) Biologist with the Washington Department of Fisheries in the Skagit River and the Columbia River areas until retirement in 1982.

Clint stayed in touch with the project on Kodiak and was gratified that the Laura Lake system in some years yielded over 30,000 sockeye salmon. Further, A.D.F.&G. successfully ladderized Frazer falls in 1962, and in some subsequent years, the runs surpassed a million fish making formerly barren Frazer Lake a major contributor to Kodiak sockeye production (Blackett, R.F. 1979). In his field journal, Clint noted that these introduced runs must have also made a proportionate increase in the Kodiak brown bear habitat and food supply.

With his health declining, Clint and wife, Barbara, moved to Newberg, Oregon to be closer to family. His life was filled with hobbies and activities he loved – hunting, fishing, skiing, wood carving, cannon making, photography, sailing, traveling, reading and most importantly, gardening which truly fulfilled and sustained him. His positive outlook and great sense of humor endeared him to all who knew him.

So, Clint Stockley's early vision and pioneer work have yielded a living legacy with due regard for the many dedicated A.D.F.&G. biologists and engineers who followed and brought the projects to fruition.

Clint is survived by wife, Barbara, daughters, Laura, Rebecca, Ellie, Mary, and son, Nathan. Also step-daughters, Jan, Chris, Gail, Lynn, and five sons-in-law, Sister Barbara, and Don, eight granddaughters, seven grandsons, and seven great-grandchildren.

Submitted by: Allan Hartt

Allan also wrote:

Clint and I worked together on Kodiak Island back in 1948-50 when we were "Jr. Bio's" and we dodged our share of "Brownies" on the spawning streams and set up tent on tarps in the wet and wild Kodiak tundra and river bottoms.

Leslie W. Scattergood

8507 Sugarbush Court

Annandale, VA 22003-3540

(reported by Elizabeth S. Segall, same address)

Fishing company is fined \$500,000

Unimak Fisheries admits to deceiving federal observer on bycatch

Anchorage, Alaska – A Seattle-based commercial fishing company was ordered to pay \$500,000 in penalties after pleading guilty to illegally disposing of halibut while catching other types of fish off Alaska. The action, in U.S. District Court in Anchorage, follows jail terms issued in November to Paul Ison and Daniel Skauge, the captain and first mate of the fishing vessel *Unimak*. The operator of the boat, Unimak Fisheries of Seattle, entered a guilty plea Jan. 14, with managing partner Michael Zubko representing the company in the courtroom, according to a statement from the U.S. Attorney's Office in Anchorage.

Magistrate Judge Harry Branson fined the company \$300,000 and also ordered it to pay \$200,000 as restitution to the International Pacific Halibut Commission, a Seattle-based body that helps research and manage halibut fisheries along the U.S. and Canadian coasts. Branson banned the *Unimak* from fishing for 14 days this year and put the company on probation for 18 months. He also required the company to hire an expert to "examine and correct policies which may have led to the criminal conduct," the U.S. Attorney's Office said.

Prosecutors said the crew of the 185-foot *Unimak*, while netting sole and other types of fish during 2000 in the Bering Sea and the Gulf of Alaska, tried to hide accidental catches of halibut from a federal fisheries observer aboard the boat to log the catch. Such unintended catches are known as bycatch, and when the fishing fleet reaches the seasonal limit on halibut bycatch, regulators immediately close the fishery. Hiding halibut constitutes illegal underreporting of bycatch and could extend the fishing season to the detriment of the health of fish stocks, fishery regulators said.

In November, a judge ordered the *Unimak's* captain and first mate each to spend four months in prison, to pay fines and restitution of \$50,000 and to not work in the fishing industry for a year. Zubko, of Seattle, could not be reached for comment. Doug Fryer, an attorney for Unimak Fisheries, conceded that halibut bycatch infractions did occur on the boat, and that was why the company struck a plea agreement with prosecutors. However, he said company management, including Zubko, did not direct the unlawful activity and "had no advanced knowledge at all" that it was happening at sea.

In July, another fishing company that prosecutors say Zubko operated was ordered to pay a \$240,000 fine for underreporting halibut bycatch aboard the trawler *Rebecca Irene*. The *Unimak* and the *Rebecca Irene* are part of a fleet of about 25 factory trawlers that catch, head, gut and freeze bottomfish.

This report contains information from The Associated Press and the Anchorage Daily News.

Submitted by: Bernard Skud

From: Seattle Post Intelligencer, Jan. 22, 2005

Bern also wrote: To my knowledge, is the first time monies went directly to a research management agency – i.e., rather than central fund of enforcement, etc.

Greater Amberjack Stock Declared to be Undergoing Overfishing

In February 2001, NOAA Fisheries declared that the greater amberjack stock in the Gulf of Mexico was in an overfished state. However, overfishing was not considered to be occurring because recently implemented management measures (i.e., one fish greater amberjack recreational bag limit, March through May closed season on the commercial greater amberjack fishery, and slot limits on lesser amberjack and banded rudderfish) were believed to have reduced the fishing mortality rate sufficiently to allow the stock to rebuild. In June 2003, a rebuilding plan was formally implemented (Reef Fish Secretarial Amendment 2) which established a seven-year rebuilding plan for greater amberjack and a total allowable catch (TAC) during each of the first three years (2003-2005) of 2.9 million pounds, with an increase to 5.16 million pounds in 2006. No new management measures were implemented at that time. The 2003 landings numbers are now available, and indicate that there were 4.45 million pounds of greater amberjack landed (recreational and commercial combined), which exceeded the 2003 TAC by 53%, or more than 1.5 million pounds. Consequently, NOAA Fisheries notified the Gulf Council on January 6, 2005 that overfishing is occurring. Under the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, the Council has until January 6, 2006 to submit a plan to bring harvest back into compliance with the rebuilding plan. Although the Council will begin work on developing alternatives to reduce greater amberjack harvest to bring harvest rates back in line with the rebuilding plan, a previously scheduled stock assessment for greater amberjack is scheduled to be conducted under the SEDAR (Southeast Data, Assessment and Review) process during 2005, which could affect the TAC and management measures to be included in the plan for 2006 and beyond.

From: Gulf Fishery News, January-February 2005

The fisheries for greater amberjack in the southeastern U.S. are especially interesting because, contrary to the common pattern, fishermen were complaining of overfishing for several years before catch and size data clearly supported that view. Ed.

North Pacific: Essential Fish Habitat

The North Pacific Fishery Management Council took significant action in February to conserve essential fish habitat (EFH) from potential adverse effects of fishing. EFH is defined as those waters used by fish for spawning, breeding, feeding, and growth to maturity. A 2,500 plus page scientific analysis was prepared to evaluate the total impacts of fishing on EFH, and evaluate alternatives to describe and conserve EFH from fishing impacts. Although the analysis concluded that fisheries do have long term effects on habitat, these impacts were considered minimal and would not have detrimental effects on fish populations or their habitats. Nevertheless, continuing with its long history of precautionary, ecosystem-based management policy, the Council adopted several new and significant measures to conserve EFH.

The first action the Council took was to revise existing descriptions of EFH by incorporating the most recent scientific information and improved mapping. As such, EFH is now described as habitats within a general distribution for a life state of a species based on GIS data analysis. The second action taken by the Council was to formally adopt a new approach for identifying Habitat Areas of Particular Concern (HAPC). The new approach will allow HPAC to be designated as specific sites within EFH, thereby focusing conservation efforts in particular areas.

To minimize the effects of fishing on EFH, the Council's preferred alternative will provide significant, additional habitat conservation in the Aleutian Islands and the Gulf of Alaska. To address concerns about the impacts of bottom trawling on benthic habitat (particularly on coral communities) in the Aleutian Islands the Council took action to prohibit all bottom trawling, except in small discrete 'open' areas. Over 95% of the Aleutian Islands management area will be closed to bottom trawling (277,100nm²) and about 4% (12,423 nm²) will remain open. Additionally, six areas with especially high density coral and sponge habitat will be closed to all bottom contact fishing gear (longlines, pots, trawls, etc.). These 'coral garden' areas, which total 110 nm², are thus essentially considered marine reserves. To improve monitoring and enforcement of the Aleutian Island closures, a vessel monitoring system (VMS) will be required for all fishing vessels. Additionally, a comprehensive plan for research and monitoring is envisioned to improve scientific information about this area, and improve our understanding of the effects of fisheries and implementation of these closures.

Within the Gulf of Alaska, the Council voted to prohibit bottom trawling for all groundfish species in 10 designated areas along the continental shelf. These areas, which are thought to contain high relief bottom and coral communities, total 2,086 nm². At the time of the Council's five-year review of EFH, the Council will review available research information regarding two of the closed areas (Sanak and Albatross) to determine efficacy of continued closure.

If approved by the Secretary of Commerce, regulations will be in place by August 13, 2006. Additional information on EFH, including maps outlining the closed areas are provided on our website at http://www.fakr.noaa.gov/npfmc/current_issues/efh/efh.htm.

Also the Council took action to initiate an expanded analysis of alternatives to minimize the effects of fishing on EFH in the Bering Sea, and conduct an assessment of gear modification that tiers off of the EFH EIS. The analysis will include the existing alternative in the document, an alternative to leave the rolling closure area open, and options to the closed areas south of Nunivak Island and north of the Bogoslof Area, as well as other alternatives to be developed. Staff contact is Cathy Coon.

From: North Pacific Fishery Management Council, February 2005

New Cod War: Cod Lost!

Aggregations of large Atlantic cod – many weighing upwards of 50 pounds and thought to be spawning – moved into Massachusetts' near-shore waters in late November, providing small-boat anglers with some of the best cod fishing in years. But when the area opened to commercial fishing on December 1, 2004 30 to 35 gillnet boats converged on the major concentration just northeast of Boston. An estimated 30 miles of nets were set in an area of one square mile, and it became virtually impossible for recreational and rod-and-reel commercial fishermen to work the area without fouling their hooks and jigs in the bottom-tending nets. With no limit on the amount of nets an operator could set, and a daily commercial trip limit of 800 pounds, incidents of high amounts of dead discards – as much as 2,000 pounds from a single string of nets – were reported by fishermen on the scene. Within two weeks the cod had virtually disappeared from the area.

In response, the Massachusetts Division of Marine Fisheries (MarineFisheries) held a public meeting in Gloucester on December 29 to take comments on its proposal to implement emergency action. Their desire was to create a Cod Conservation Zone that would prohibit gillnets from the aggregation area and adjacent waters until late February, and to reduce the daily trip limit for hook and longline fishermen to 300 pounds.

On January 5, MarineFisheries announced in a press release that it would indeed take no action, stating that "recent information indicates that catch rates (have) decreased and the spawning cod aggregation appears to have dispersed." That statement and lack of action angered recreational and hook-and-line commercial fishermen, who believe the cod had simply been caught up in the nets and either discarded or sent to market. Many felt that state fishery officials had bowed to political pressure and, additionally, were uninterested in solving the gear conflict issue.

MarineFisheries did state in its release that it would not rule out emergency regulations later in the winter if spawning aggregations returned. But Massachusetts anglers are hoping that officials will implement proactive conservation and gear-conflict measures prior to the December 1, 2005 commercial opening of the area, instead of attempting to file emergency action again after damage to the concentrations of fish has taken place. –Barry Gibson

From: International Angler 62(2), March-April 2005

Yellowstone Trout May Gain Federal Protection

Judge Orders Fish and Wildlife to Reconsider Decision

Yellowstone Cutthroat Trout once thrived in the headwaters of two of our mighty rivers – the Snake and the Missouri. Today, the prized fish are found in only about ten percent of the stretches of river they once lived in. The lake-dwellers among them have fared better: up to 80 percent of historic habitat is still occupied, but that amounts to only around 100,000 acres. Habitat loss and competition from exotic species have taken a serious toll.

In 1998, a group of organizations asked the U.S. Fish and Wildlife Service to bring the trout under the protection of the Endangered Species Act. In 2001 (these things take time) the agency denied the petition, opting to rely on an informal agreement among Idaho, Montana, and Wyoming that sounded promising but was wholly voluntary and unenforceable.

Earthjustice attorney Mike Harris sued the service on behalf of the Center for Biological Diversity, Biodiversity Conservation Alliance, Pacific Rivers Council, and Ecology Center. and on December 17, 2004, federal judge Phillip Figa found that rejection of the petition was illegal. Not only had the groups presented compelling scientific evidence that the fish deserve binding federal protection, the judge ruled, but the agency had erred as well in seeking comment on the petition only from state and federal agencies and excluding independent scientists and others. The agency must go back and try again. –TT

From: In Brief, Spring 2005

First International Skate Fishing Limits Adopted

Conservationists applauded the U.S. government's leadership in securing the world's first international fishing limit for a species of skate, ray, or shark. In September, Parties to the Northwest Atlantic Fisheries Organization (NAFO) agreed to establish a total allowable catch for thorny skates in Canadian and international waters around the Grand Banks. The new catch limits will take effect in 2005. The United States proposed a quota of 11,000 tons – as recommended by NAFO's Scientific Council – but the annual catch was increased to 13,500 tons in the final agreement. The United States had unsuccessfully proposed NAFO catch limits for thorny skates in 2002 and 2003.

"We are pleased that international thorny skate fisheries in the Northwest Atlantic will no longer be completely unregulated," said Sonja Fordham, International Fish Conservation Program Manager for the Ocean Conservancy, who has served on the U.S. delegation to NAFO for seven years. "Although the new catch limit is higher than the level scientists advise, it's the first of its kind and represents a significant step toward international conservation of sharks, skates, and rays. We thank the U.S. government for their commitment to conserving this vulnerable population."

Skates, rays, and sharks are susceptible to overfishing because they grow slowly, mature late, and produce few young. The thorny skate population around the Grand Banks declined markedly from 1985 to 1994; levels have hovered near historic lows since. The U.S. and Canadian populations of thorny skates are under review for addition to the IUCN – World Conservation Union Red List of Threatened Species. The Ocean Conservancy secured a U.S. ban on possession of thorny skates in 2003.

– Sara Bennington

From: Blue Planet, Winter 2005

Dark Days for Salmon

Federal Government Moves to Remove Protections; Refuses to Improve River Conditions

As salmon runs in Idaho and parts of Washington, Oregon, and California slowly tick down toward extinction, Earthjustice continues to represent clients trying to reverse the trend. It's not too late, but we are in a dark period with virtually no help and lots of opposition coming from the current federal government.

On November 30, 2004, the government finalized its so-called Federal Salmon Plan, which dictates how Columbia and Snake river dams are to be operated in ways that minimize harm to salmon. This followed a court-ordered rewrite of a similar plan in 2003 that was too speculative to recover salmon. In early January 2005, fishermen, represented by Earthjustice attorney Todd True, filed suit in federal court challenging this new dam operation plan because it is considerably worse than the previous one.

The new federal plan abandons salmon recovery as the objective and, at best, promises to lock in the current rate of salmon decline. The government's new approach takes the federal dams, which are responsible for up to 92 percent of salmon mortality, as a given.

Science has shown that the most effective method of restoring wild salmon in the Columbia Basin is to remove the four Lower Snake River dams, or, alternatively, keep as much water in the rivers for salmon as possible especially at times of the year when baby salmon need strong flows to get to the ocean quickly and in good health. But rather than follow the science that shows these actions work, the government has put forth a plan that relies heavily on experimental, expensive, high-tech measures that cost taxpayers billions without restoring salmon.

Meanwhile, the federal government announced in November that it would deny critical habitat protection from about 80 percent of the rivers and streams formerly designated. Critical habitat is designed to promote recovery of endangered species. The government's new proposal means that projects that involve the federal government, such as building bridges or dams or even logging in national forests, may destroy habitat needed for salmon recovery. – JM

From: In Brief, Spring 2005

Ag Runoff Fuels Massive Algae Blooms in Gulf of California

Terence Chea, Associated Press
March 9, 2005

San Francisco – Agricultural runoff is triggering massive algae blooms that could harm marine life in the Gulf of California, one of Mexico's most important fishing regions, according to a study published Thursday. Stanford University researchers found a direct link between fertilizer runoff from Mexico's Yaqui River Valley and sudden bursts of marine algae in the 700-mile-long gulf, also known as the Sea of Cortez, which separates the Baja California peninsula from mainland Mexico. Their study, based on an analysis of satellite photos, will be published in Thursday's issue of the journal *Nature*.

"We saw these really big blooms following every irrigation event in the valley," said Michael Beman, the study's lead author and a doctoral student in Stanford's Department of Geological and Environmental Sciences. "It demonstrates that certain areas of the ocean are more vulnerable to agricultural runoff than previously thought." Scientists have long believed that large-scale coastal farming produces algae blooms that can disrupt marine ecosystems at sea, but Beman said the Stanford study presents the clearest direct evidence of the phenomenon.

Algal blooms, the rapid growth of marine algae known as phytoplankton, are natural events that can benefit marine life that feed on the microscopic algae. But some types of phytoplankton can generate destructive blooms, known as red or brown tides. These can poison fish and mollusks, and spark disease outbreaks that can shut down fisheries. Excess algae growth also sucks oxygen from the water, creating dead zones where few organisms can survive. Scientists believe fertilizer runoff from the Mississippi River helps explain a 5,700-square-mile dead zone that appears every summer in the Gulf of Mexico off the coasts of Louisiana and Texas.

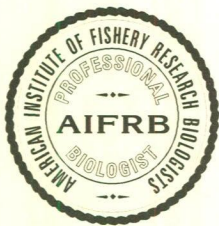
Algae blooms are fed by nitrogen, phosphorous and other nutrients naturally present in ocean water, but scientists believe they also can be fueled artificially when tons of nutrient-rich fertilizer runs into rivers that flow to the sea.

The Stanford researchers suspected that algae blooms in the Gulf of California were linked to runoff from farm fields in the Yaqui River Valley, a 556,000-acre wheat producing area that is one of Mexico's most productive farming regions. The river drains into the gulf from the mainland side. To test their hypothesis, they analyzed images taken between 1998 and 2002 from a NASA satellite that can detect phytoplankton near the sea surface. The researchers found that a massive algae bloom, covering up to 223 square miles in the gulf, was recorded within days of substantial runoff in the Yaqui River Valley. Water is released from a reservoir about four times a year to irrigate the valley's fields.

Beman attributed the size and speed of the blooms to the Gulf's relative lack of nitrogen and predicted similar experiences in the Bay of Bengal, the South China Sea and other regions that could be vulnerable to sudden infusions of nitrogen. He said Stanford researchers are working with Yaqui Valley farmers to reduce agricultural runoff. The researchers warned that algae blooms could endanger the Gulf of California's shellfish and shrimp industries. Other marine life, including fish, squid, whales and the world's smallest porpoise, the vaquita marina, also could be harmed, they said.

The Natural Resources Defense Council said the Stanford study should prompt changes that could lead to less pollution flowing into the gulf. Farmers should apply less fertilizer, use nonsynthetic fertilizer and install filters to reduce runoff, said Jonathan Kaplan, who heads the environmental group's sustainable agriculture project. "We need to do a better job of promoting more sustainable practices and encouraging producers to adopt them," Kaplan said. "It's hard to change old habits. We need more leadership from our universities, government agencies and agriculture industry organizations to help producers understand there are better ways out there."

American Institute of Fishery Research Biologists
c/o Allen Shimada
NMFS, Office of Science and Technology
1315 East West Highway
Silver Spring, MD 20910
Return Service Requested



American Institute of Fishery Research Biologists

Promoting excellence in fishery science

... BRIEFS ...

Website: www.iattc.org/aifrb/

VOL. 34, NO. 2

MARCH, APRIL 2005

Outstanding Achievement Award to Fryer Posthumously

At its August, 2004 meeting in Madison, Wisconsin, the Board of Control selected Dr. John L. Fryer to receive the Individual Outstanding Achievement Award for 2005. The Outstanding Achievement Award recognizes members who have made significant lifetime contributions to the advancement of fisheries science. It is the Institute's highest award for achievement. Dr. Fryer was recognized for his worldwide leadership in fish disease research. The long-term influence of Dr. Fryer in the field of fish health is reflected in the impressive number of high quality scientific publications written by him, and with his colleagues and students, his training and mentoring of a large number of graduate students (over 50) as well as many international scientists who worked in his lab as visiting scientists. A few of his significant achievements included development of the first cell lines from fish, isolation of the first virus from Pacific salmon, and development of the first fish vaccine. He won a number of awards for his excellence in teaching and has been recognized with a number of national and international awards for his contributions to the study of fish health and infectious diseases of fish. Sadly, Dr. Fryer passed away before the award could be presented. His wife, Mrs. Mary Fryer, accepted the award from President-elect Linda Jones during the annual Center for Fish Disease Research Colloquium meeting at Oregon State University on April 1, 2005. The Institute is proud to recognize the outstanding achievements of Dr. Fryer with this award.



Mrs. Mary Fryer (left) accepts for her late husband, Dr. John Fryer, a plaque representing the Institute's Outstanding Achievement Award (Individual) from President-elect Linda Jones at Oregon State University, April 1, 2005.

Last Notice — Nominations Needed!

Outstanding Achievement Awards

We are soliciting your nominations for the Outstanding Achievement Awards. This is your opportunity to provide nominations and help AIFRB recognize the individuals and organizations that are making outstanding contributions to our science. Two awards are given for each year.

The Individual Achievement Award for 2006 will be given to an individual who has made significant contributions to the advancement of fishery science. This is the highest award for achievement. Candidates will be rated on the following criteria: significance of publications, exceptional service to the profession, outstanding teaching or training of students, important discoveries or inventions, and significant contributions to the advancement of fishery science. It is important that nominations address each of the criteria thoroughly.

The Group Achievement Award for 2005 will be given to a research group with outstanding records of scientific contribution to fishery science or fishery resource policy. It is the Institute's highest award for achievement and recognition of research groups that nurture excellence in fishery science. Candidates will be rated on the following criteria: sustained contribution of significant publications, exceptional service to the fishery profession, outstanding teaching or training programs, important discoveries or inventions, and significant contributions to the advancement of fishery science. Again, it is important that nominations address each of the criteria thoroughly.

Cont. on page 2

The nominating letter should include name, address, telephone number and email address of nominee, a short resume of the nominee, and a letter fully describing how the nominee meets the criteria. Please include your (nominator) name, address, telephone number and email address.

Nominations for these two awards are due by July 8, 2005. Fishery scientists whose names were submitted and selected as runner-ups last year will also be considered. Submit nominations to: Dr. John Williams, Northwest Fisheries Science Center, 2725 Montlake Blvd. E., Seattle, WA 98112.

If you have any questions, please contact: John Williams at John.G.Williams@noaa.gov, Jack Helle at Jack.Helle@noaa.gov, or Bill Taylor at Taylorw@msu.edu.

Two Interesting Meetings

First Annual
INTERNATIONAL CONFERENCE
ON RESTORING THE EVERGLADES
May 2-4, 2005, PGA National, Palm Beach Gardens, Florida

Convened by the
AMERICAN WATER RESOURCES ASSOCIATION IN CONJUNCTION WITH THE
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Within the framework of the Comprehensive Everglades Restoration Plan, the South Florida Water Management District has taken the lead on an innovative process that accelerates the funding, design and construction of eight key restoration components. Known as Acceler8, this process puts large, significant projects in the ground by 2010, allowing the Everglades to experience positive benefits much sooner...and in a more cost-effective manner.

Conference participants will gain an in-depth understanding of Everglades restoration and will be actively involved in critiquing the first designs of Acceler8. This includes assessing restoration challenges, evaluating project details and contributing to problem-solving facilitated discussions. **Key topics include • rehydration of vast wetland areas • water quality issues involving advanced phosphorus removal • reservoir designs • dam standard development.**

Main issues covered include:

WATER Quality Issues in Everglades Restoration

Florida's Legal Framework for Improving Water Quality
Successes and Challenges in Phosphorus Source Control
Successes and Challenges in Phosphorus Removal
The Long-Term Plan for Achieving Water Quality Goals
Acceler8 Restoration Projects that Address Water Quality
Facilitated Discussion

Getting the WATER Right for Florida's Coastal Environment

Responding to Impacts from Development: South Florida's Challenge
Managing Freshwater Flows to the Coast: The Lake Okeechobee Story
Biological Indicators of Ecosystem Health
Acceler8 Restoration Projects that Address Coastal Challenges
Facilitated Discussion

Improving WATER Quantity in the Greater Everglades

Challenges in Restoring Everglades Hydropatterns
Monitoring Efforts and Indicators of Success
Acceler8 Restoration Projects that Address Water Quantity Issues
Facilitated Discussion

Reservoirs to the Rescue: WATER Storage and Distribution

Surface Storage for Managing Florida's Water
Overcoming Seepage Issues: Data from Reservoir Test Cells
Meeting Construction Standards for Surface Water Storage in Florida
Acceler8 Restoration Projects that Address Water Storage
Facilitated Discussion

Information at www.awra.org

This meeting will conclude before *Briefs* reaches you. For information only.

Coastal Zone 05 Balancing on the Edge

July 17 to 21, 2005

New Orleans, Louisiana

Co-chairs:

Scott Angelle: Secretary, Louisiana Department of Natural Resources

Carlton Dufrechou: Executive Director, Lake Pontchartrain Basin Foundation

Richard Spinrad, Ph.D.: Assistant Administrator for Ocean Services and Coastal Zone Management, National Ocean Service

William Walker, Ph.D.: Director, Mississippi Department of Marine Resources

Information? Call Gale Peek at (843) 740-1231 or Lynn Sellers at (843) 740-1284

Gale.Peek@noaa.gov; Lynn.Sellers@noaa.gov

Privatization of Fisheries on Both Coasts

Privatization of fisheries is proceeding gradually across the U.S. among many privatizing schemes underway is the development of a limited access program for Atlantic mackerel (*Scomber*) by the Mid-Atlantic council and in the west coast high seas long line fishery for bigeye tuna and other highly migratory species (Pacific Fishery Management Council). Additionally the Pacific Council is considering individual quotas for the "groundfish" trawl fishery.

Pacific Council Confronts Biodiversity

Over 10 working days from May 9-20, 2005 review teams for the Pacific Fishery Management Council review teams will evaluate stock assessments for: gopher rockfish, cow cod, california scorpion fish, vermillion rockfish, pacific ocean perch, dark blotched rockfish, and cabezon.

Overfishing of Red Grouper

Preliminary estimates of 2004 recreational catches of red grouper presented at the March 2005, Gulf of Mexico, Council meeting indicated that the recreational harvest was 3.06 MP, more that double the current 1.25 MP allowable recreational share of the total allowable catch (TAC). The commercial catch was held to the allowable 5.31 MP share of the TAC through a hard quota which remains in effect unless changed by the Council. Without additional regulations on recreational fishers, the 2004 harvest will likely significantly exceed the TAC and overfishing will continue. Under these conditions, the M-SFCMA (Sections 304[e] and 305[c]) requires that the Council and Secretary act to bring the total catch back within the TAC established by the red grouper rebuilding plan implemented by Secretarial Amendment 1 to the Reef Fish FMP. Therefore, the Council passed a motion "that Council give NMFS authority through emergency or interim rule to bring the recreational red grouper fishery within their target catch levels in Secretarial Amendment 1 for 2005." The Council requested that NMFS Southeast Regional Office (SERO) expedite this rule so that it will take effect in July 2005 or as soon as possible thereafter.

The Council also began development of a regulatory amendment for red grouper that would extend this emergency interim rule. The regulatory amendment will also include the commercial vessel trip limits recommended by the Gulf Fishermen's Association and those recommended by the Council. Development of the regulatory amendment will continue after the NMFS emergency, interim rule is published.

South Atlantic Council Approves Evaluation Plan for *Oculina* Reef Closed Area

Plan will aid in review of Oculina Experimental Closed Area off Florida's east coast

The South Atlantic Fishery Management Council approved the Evaluation Plan for the *Oculina* Experimental Closed Area during its recent meeting in Savannah, Georgia. The Evaluation Plan outlines approaches for outreach, research and monitoring, and law enforcement reporting for the *Oculina* Experimental Closed Area, a 92-square mile protected area located approximately 15 miles offshore between Port Canaveral and Ft. Pierce, Florida.

Named for the rare and fragile *Oculina* coral found growing there, the *Oculina* Experimental Area was designated by the Council in 1994 to allow for scientific studies in the closed area for a period of 10 years. Research conducted along the *Oculina* Bank area in the early 1980s showed a relatively high abundance of reef fish such as snappers, groupers, and amberjack. In addition, the habitat provided by the *Oculina* coral supported spawning aggregations of grouper. In 1984, the Council designated the area as a Habitat Area of Particular Concern. Unfortunately, by the late 1980s, the fish numbers in the area had been severely reduced by overfishing. As a result, fishing for snapper/grouper species was prohibited in the area and other gear restrictions, including anchoring by fishing vessels, were put into place.

In 2004, the Council approved an amendment to its Snapper Grouper Fishery Management Plan that extended the closure indefinitely, with a 3-year re-evaluation of its size and configuration and a 10-year evaluation of the *Oculina* Experimental Closed Area. The extension is intended to allow continued study of the area while protecting the fish and associated coral habitat. Designation of an area where deepwater species such as snowy grouper, golden tilefish, speckled hind, and warsaw grouper can grow and reproduce without being subjected to fishing mortality provides a unique opportunity for study.

The *Oculina* Evaluation Plan contains comprehensive research and monitoring components that include deep sea bottom mapping of the area, determination of the Experimental Closed Area's effects on fish populations including spawning aggregations and movement, monitoring of the live coral areas and associated species, and assessments of the biodiversity both inside and outside of the area. Working closely with partners, including the National Oceanographic and Atmospheric Administration's (NOAA) National Undersea Research Program, NOAA Fisheries' Southeast Science Center, Harbor Branch Oceanographic Institution, and others, research activities are expected to begin in May 2005. Research activities proposed within next year include establishing acoustical monitoring observations, video camera stations, and dive transects using remotely operated vehicles.

The plan will also focus outreach activities to increase public awareness of the area, including management, regulations, research, and law enforcement activities. This includes reprinting of fishery regulations brochures, working with chart manufacturers to improve available information, and a partnership with the Florida Fish and Wildlife Conservation Commission for distribution of information and news releases relevant to research and law enforcement activities. Working closely with partners, a web site will be established for disseminating information about *Oculina* and other deep sea corals, and media excursions will be offered during research cruises and to highlight enforcement activities.

While the Council is not directly responsible for law enforcement, it has a history of supporting increased enforcement activity in and around the area. To aid in law enforcement, the Council established a vessel monitoring program for the rock shrimp fishery in 2003. Working closely with the industry, vessel monitoring systems (VMS) are now being used by federal law enforcement agencies to track rock shrimp vessels as they trawl around the deepwater closed area. Also, NOAA Office for Law Enforcement has assigned a full-time special agent to the area. In a joint agreement with federal agencies, the Florida Fish and Wildlife Conservation Commission designated a new law enforcement vessel, the *C.T. Randall* to patrol the area. The *Oculina* Evaluation Plan contains a law enforcement component that encourages continued coordination of law enforcement activities between state and federal agencies, increased outreach activities, and requires quarterly activity reports to the Council. The Evaluation Plan also establishes an *Oculina* Evaluation Team, consisting of law enforcement representatives, scientists, fishermen, outreach experts, non-governmental agency representatives and Council staff to periodically review information on the effectiveness of the Closed Area and make recommendations to the Council.

Press Release: South Atlantic Fishing Management Council

Mid Atlantic Council to Develop Framework to Allow Multi-State Recreational Harvest Limits for Summer Flounder

The Mid-Atlantic Fishery Management Council (MAFMC) met in Kill Devil Hills, NC last week and voted to initiate Framework 6 to its Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). This framework is intended to be compatible with the Atlantic States Marine Fisheries Commission's (ASMFC) Addendum XVII to the Summer Flounder, Scup, and Black Sea Bass FMP. If adopted, this action would allow both management authorities to divide recreational harvest limits for summer flounder into two or more subregions of the east coast (Maine through North Carolina) for the 2006 fishing year and thereafter. In addition, this Framework would also make available to states the voluntary use of multi-year averaging of MRFSS harvest data for purposes of developing management measures for their summer flounder fisheries.

Head of Chilean Fisheries Commission Resigns In Protest; Flawed Fisheries Law Stopped

Oceana South America's hard work to help shape the new fisheries legislation being developed in the Chilean Congress has begun to pay off: The legislative battle took a dramatic turn as 2004 came to a close.

First, in early November, the lower house of Chile's Congress ceased issuing trawling permits in new areas, and requested scientific information about the effects of trawling on ocean habitat.

That action marked a major mentality shift for Chile's Congress, but the winter's culminating event came when Senator Jose Ruiz De Giorgio – a friend of Oceana – resigned in protest from his position as the President of the Fishing Commission of the Senate on December 14 and thwarted the government's attempts to force a pro-industry version of the fisheries law through the Chilean Congress before next year's elections. According to Ruiz De Giorgio, the Commission had been under extreme pressure to pass a version of the fisheries law that favored industry and ignored sharp declines in Chile's marine resources.

The senator's resignation was widely covered in national press and had a ripple effect in Congress, which subsequently refused to approve the flawed fisheries legislation without additional review.

Final debate over the fisheries law was scheduled for early 2005. With growing attention from policy makers, Oceana will continue to advocate for a rational fishing law as the debate unfolds in the new year.

From: Splash 4 (1) Winter 2005

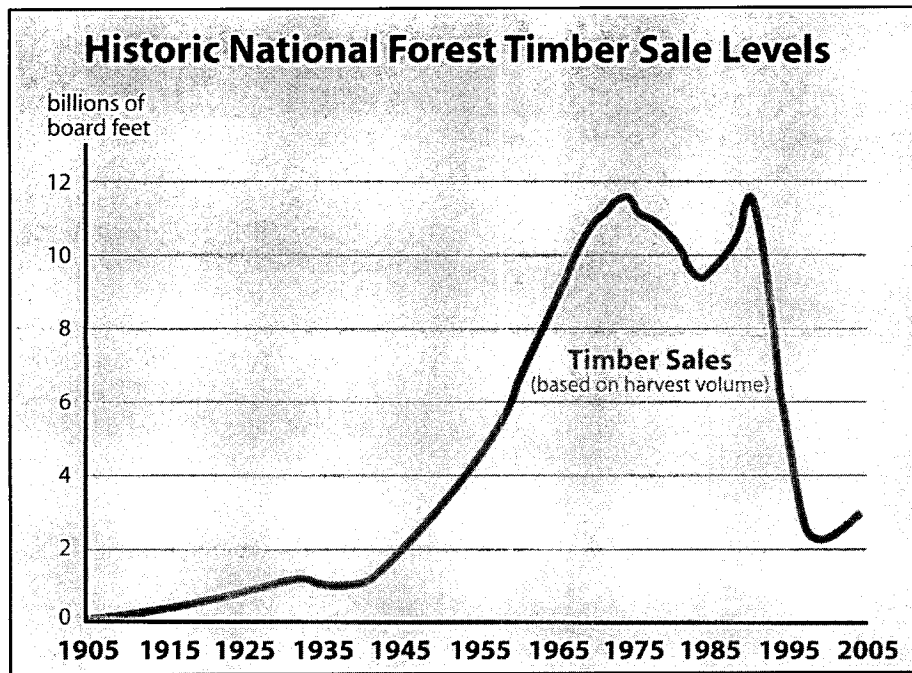
Agency Protects Important Fish Breeding Grounds

U.S. Virgin Islands

Conservationists applauded the National Marine Fisheries Service's (NOAA Fisheries) recent creation of Grammanik Bank Closed Area, a new seasonal closed area off St. Thomas in the U.S. Virgin Islands. The Ocean Conservancy and others had previously urged protection of this key site. Grammanik Bank is an important spawning aggregation site, or breeding ground, for yellowfin grouper and other fish species. In an effort to protect these populations, fishing will not be allowed in the approximately seven-square-nautical-mile area from February 1 through April 30. The closure is intended to prevent overfishing at this important location and help aid the species' recovery. Currently, the closure is only in effect for this year's spawning season. However, if pending regulations are finalized, the closure would become permanent and could extend protection year-round and over a larger area.

Sarah Bennington

From: Blueplanet, Spring 2005



*From: Forest Service Employees for Environmental Ethics, Letter
April 2005*

Ed: Forests produce fish too!

Commission proposes cap for Bay's menhaden catch

By Karl Blankenship

Regional fishery managers have taken the first step toward limiting the Chesapeake Bay's commercial catch of menhaden, a small, oily fish that plays a big role in the Chesapeake's ecology and supports hundreds of Virginia fishing jobs. At the same time, the Atlantic States Marine Fisheries Commission called for stepped-up research to determine why menhaden abundance, a key food for the Bay's booming striped bass population, has been declining for more than a decade. Once largely unknown to most people, menhaden have emerged as one of the region's most heated fishery management issues as recreational fishermen contend that the Virginia-based commercial fishery is taking too many out of the Bay, depriving striped bass and other predators of food. Besides being an important food for other fish, menhaden are one of the most important filter feeders in the Bay. Schools graze on algae, often eating undesirable types of phytoplankton that other fish won't touch. Measured by weight, menhaden have been the Bay's largest catch for decades. But scientists say it is unclear that the industry is to blame for the low numbers of small menhaden found in the Bay, noting that other factors, such as climate, may be limiting production or that the Chesapeake's increased abundance of hungry striped bass may be taking too large a bite out of the population.

The commission, which is responsible for managing migratory fish along the East Coast, in February proposed capping the total Bay menhaden catch at 110,400 metric tons – the average Bay catch during the past five years – during 2006 and 2007 while scientists step up research. The commission will review options for implementing the cap, as well as other management alternatives, at its May meeting. If approved, the measure would then be released for public comment. Final action could take place at the commission's August meeting. Proponents described the action as "precautionary," says it keeps the catch from increasing until scientists can determine the true status of menhaden in the Bay.

"We have had too many experiences where we waited too long to take action," Pete Jensen, associate deputy secretary of the

Maryland Department of Natural Resources, told the commission. He said delaying action may only magnify the severity of the management efforts ultimately required.

Larry Simms, president of the Maryland Waterman Association and a state representative on the commission, said he had agonized over whether to support restrictions on other commercial fishermen, but supported the measure because it maintains catches at recent levels. "There doesn't seem to be any economic impact that is going to affect the fishermen at this time," he said, adding that "we need to really press the scientists to get the information that we need." Critics countered there is no scientific basis for such an action, noting that ASMFC's own stock assessment considers the coastwide menhaden population to be healthy. Jack Travelstead, director of fisheries for the Virginia Marine Resources Commission, told the commission it was doing little more than "picking a number out of the hat" in proposing a catch limit and suggested that more weight was being placed on public opinion than the commission's own technical advisors.

Omega Protein, the company that operates the Reedville-based menhaden fleet, has indicated it has no plans to increase its menhaden catch in the Bay. But investors may view a cap as the first step toward closing the Bay fishery altogether, as has happened in most other East Coast states, said Toby Gascon, Omega's director of governmental affairs. "That hurts us as a company," he said. "This industry has been forced over the years to compromise itself into a box, and that box is basically Virginia and the Chesapeake Bay. We have compromised all that we can. We have nowhere else to go." Right now, only North Carolina, Virginia and federal waters more than three miles off the coast remain open to menhaden fishing along the East Coast. Gascon said action to restrict fishing in the Chesapeake should include measures that reopen other areas, allowing fishing pressure to be spread out.

Menhaden have been used for decades in animal feed, but recently the Omega-3 fatty acids found in the fish oil have found popularity as a diet supplement believed to have certain human health benefits. Coastwide menhaden landings have decreased over the past decade, but the percentage of the catch coming from the Bay has increased over what it was decades ago as other states closed their waters to menhaden boats. That has caused some to suggest that the Chesapeake may be suffering from "localized depletion" of menhaden, even as ASMFC's surveys indicate the overall menhaden stock is healthy.

Many fishermen have blamed the reduced abundance of menhaden for thin striped bass increasingly found in the Chesapeake, often with little or no body fat. Some contend the weakened fish are more susceptible to mycobacteria infections, a chronic wasting disease which infects more than half of the rockfish in the Chesapeake. Such concerns have spurred sports fishing groups and environmental organizations to wage an aggressive campaign to limit the catch. While the number of small fish, which are the primary food source for striped bass and other predators has declined, many scientists, including those on the ASMFC's Menhaden Technical Committee, said it's unclear whether the Bay's total menhaden abundance has actually declined. Schools of larger fish, which are the primary target of the fishery, freely move in and out during the year. And although their analysis of the overall stock health is conducted coastwide, the scientists say great weight is given to the Chesapeake. "The Bay is sort of like a breadbasket for menhaden," said Joe Smith, a scientist with the National Marine Fisheries Service. "We put a lot of weight on it on developing our indices."

The commission's final vote was 12 in favor of the proposal to cap the fishery, and three – Virginia, Massachusetts and the Potomac River Fisheries Commission – opposed. The National Marine Fisheries Service abstained, as it does on all allocation votes.

From: Bay Journal
March 2005

Ed: While the bylaws of AIFRB are very specific as to what is a fishery biologist, they fail to address the question: What is a fish?

In this issue I chose the menu and (somewhat) religious definition which allows me to include the fascinating saga of the Asian Oyster *Crassostrea ariakensis* and the truly wonderful forgetting of Murphy's Law by introduction proponents. By the way, tried'em, don't like them.

Only certainty about *C. ariakensis* is that more study is necessary

By the Chesapeake Bay Program's Scientific & Technical Advisory Committee

In December 2003, the Scientific and Technical Advisory Committee of the Chesapeake Bay Program convened a workshop, which was attended by more than 60 scientists and managers from throughout the United States, to identify and prioritize the research required to evaluate the ecological risks and benefits of introducing diploid (reproductive-capable) *Crassostrea ariakensis* into the Chesapeake Bay. The impetus for the workshop was the proposal by the states of Maryland and Virginia to introduce and establish reproductive populations of this nonnative oyster species.

A year after the federal Environmental Impact Statement development process was launched, and with the potential for a decision to proceed with an introduction of *C. ariakensis* late this spring, it seems important to review the major conclusions and recommendations of the workshop. Perhaps the most important conclusion was that neither the potential risks nor the potential benefits of an introduction of *C. ariakensis* to the Bay are adequately known. We do not know whether there is a greater likelihood of successful oyster restoration using the Oregon population of *C. ariakensis* or using wild or disease-tolerant strains of native oysters. The risks that *C. ariakensis* might pose to native oysters or other organisms within the Bay, and in regions outside the Chesapeake, are not well understood. Similarly, what ecosystem services – such as water filtration or fish habitat – might be provided by *C. ariakensis* relative to the native *C. virginica* and whether the Asian oyster is a suitable replacement for native oysters for fisheries are not known. Finally, we do not know whether human health risks for the consumption of *C. ariakensis* are the same as native oysters. Given the uncertainty surrounding the potential risks and benefits of an introduction, three issues on which participants determined there was already sufficient evidence to reach a conclusion without additional research are critical to highlight:

AN INTRODUCTION OF DIPLOID *C. ARIAKENSIS* IS LIKELY TO BE IRREVERSIBLE. In reaching this conclusion, the STAC workshop concurred with the National Research Council Report. Even on land, where animals can be highly visible, it can be extremely difficult, and often impossible, to eliminate non-native species that are well-adapted to grow and reproduce in the environment to which they have been introduced. The difficulty of distinguishing small *C. ariakensis* from juvenile native oysters, the low probability that all adult *C. ariakensis* could be located underwater and removed, and the ability of oysters to spread within the Bay beyond their site of introduction through larval dispersal would likely make it impossible to eliminate this nonnative species if it were introduced and thrived in the Chesapeake Bay.

THE SPREAD OF *C. ARIAKENSIS* BEYOND THE BORDERS OF THE CHESAPEAKE BAY IS INEVITABLE IF A SELF-SUSTAINING POPULATION IS ESTABLISHED. The hope of agencies proposing the introduction of *C. ariakensis* to the Chesapeake is that it will be adapted to grow, reproduce and spread beyond the specific reefs on which it is placed, thus filling the ecological and fisheries roles that native oysters once played. Substantial evidence from the patterns of spread of other nonnative estuarine species makes it a virtual certainty that *C. ariakensis*, if successful in the Bay, will spread to other estuaries. Research will therefore need to consider the risks of a *C. ariakensis* introduction outside the Chesapeake Bay.

THE 'OREGON POPULATION' OF *C. ARIAKENSIS* STEMS FROM A VERY FEW INDIVIDUALS; THE BREEDING POPULATION MAY HAVE BEEN REPRESENTED BY AS LITTLE AS SIX OR FEWER ADULTS. Therefore, the genetic diversity is very low. Low genetic diversity within a population can result in most or all of the individuals having similar susceptibility to predators and parasites, and is generally not a desirable trait for species used in ecological restoration. An extreme example of the potential problems of low genetic diversity can be seen in agricultural crops. In high intensity agriculture, new strains continually need to be developed to overcome the race between the crops and their pests and diseases. Although the genetic diversity of the initial introduction of Oregon *C. ariakensis* could be increased by a later introduction of strains from Asia, it is not clear where the best source population for such animals is located.

There is also considerable taxonomic confusion in field identifications of oysters within the native range of *C. ariakensis*, and it is not clear which population would best be suited for the physical and biological environment of the Chesapeake. It is not clear which, if any, Asian population of *C. ariakensis* forms the extensive, ecologically complex reef systems that native oysters have created in the Bay.

A fourth conclusion points to the need for disease research that extends beyond simple tests of the susceptibility of *C. ariakensis* to the two pathogens that have decimated oysters in the Chesapeake Bay. The potential for novel interactions between oyster pathogens – those resident in the Bay and others that may emerge – and *C. ariakensis* is uncertain and impacts may be unpredictable for both this oyster and other species over time. It is important to consider the potential that *C. ariakensis* might be susceptible to pathogens that do not affect native oysters, as well as to serve as a host for pathogens that are not currently problematic in the Bay.

The STAC Workshop participants estimated that 5 years will be needed to generate sufficient information to reduce the uncertainty surrounding risks and benefits of introducing *C. ariakensis*. This is in close agreement with the conclusion of the National Research Council report, and is a number arrived at with substantial restraint on the part of the research community. This time frame – considered the minimum needed – will require a massive marshaling of effort by researchers, the construction of quarantine facilities, an infrastructure to produce oysters and sufficient funding to conduct research.

Given the dismal state of the oyster fishery in the Chesapeake Bay, there is an understandable desire to complete the required research as quickly as possible so that a decision on whether an introduction should go forward can be made. There are important limits, however, to how quickly the needed data can be acquired. For instance, sufficient numbers of *C. ariakensis* must be spawned and reared for use in studies that evaluate the performance and risks of oysters that are several years old – not just juveniles. In addition, there is a wide range of environmental conditions to which oysters in the Bay are exposed, as well as a variety of ecosystem and fisheries functions considered critical by both the public and the fishery. The effect of any single nonnative species, including oysters, can range from economically beneficial to economically and ecologically harmful across the variety of locations in which it becomes established. Yet most research done to date has been extremely limited in scope, addressing only a small subset of the Chesapeake Bay environment, and an even smaller subset of the Atlantic Coast environment.

Tests of the ecological and fishery value of diploid *C. ariakensis* will require multiple age classes, and in some classes, large numbers of individuals. Tests on small numbers of juveniles are simply not adequate. It is also important to recognize that research is often a sequential process – directions are determined by early findings.

And finally, as with any venture – scientific or otherwise – experiments don't always work the first time they are attempted. Pipes break, oysters don't spawn when needed, and standard procedures can fail. The question of how much risk is acceptable, what kinds of risks are acceptable and how much benefit is required to make risks acceptable, are policy decisions, not scientific decisions. What research can do is to identify and help to quantify the risks and potential benefits so that decisions can be made based on a firm foundation of facts.

Gathering the needed information will take time, funding and commitment from all stakeholders concerned with the restoration and protection of the Chesapeake Bay.

From: Bay Journal, March 2005

Petition seeks federal 'endangered' or 'threatened' status for native oyster

The National Oceanic and Atmospheric Administration is reviewing a petition to recognize the Chesapeake Bay's native oysters as "threatened" or "endangered" under the federal Endangered Species Act, a designation that would likely halt or limit harvesting of the struggling bivalves. Fisheries experts emphasized that either designation, which would take a year, may be a long shot.

The petition was filed in January by Dieter Busch, a consultant who formerly headed an arm of the 15-state Atlantic States Marine Fisheries Commission, a regulatory authority. Busch acknowledged it's not likely that the native oyster, *Crassostrea virginica*, would meet the criteria to become an endangered species – a designation that deems an animal is on the verge of becoming extinct. Such a label would halt all harvesting of the oysters. But he thinks Bay oysters populations might be decimated enough to meet the criteria of a threatened species, a classification that would allow harvest as long as it wouldn't jeopardize the oysters' recovery.

State fishery managers and experts have been struggling for years to reverse the decline of the native oysters, which have been devastated by overharvesting and disease. Progress has been made in localized areas of certain rivers and inlets or on reserve reefs, where harvest has been limited. But harvests of the oysters, one of the strongest indicators of how populous they are, have crashed. In the late 1800s, Maryland watermen pulled out more than 2 million bushels of healthy oysters annually. The catch is now at an all-time low. Last year's harvest was 26,000 bushels, and Maryland officials have deemed the fishery "virtually nonexistent."

"Instead of spinning their wheels and talking, this really crystallizes the process," said Busch, also the former chief of the U.S. Fish and Wildlife Service's field programs in the lower Great Lakes.

Officials at the National Oceanic and Atmospheric Administration said that neither designation would block the introduction of *C. ariakensis*, the oyster native to China that Maryland and Virginia officials have proposed releasing in the Bay. Still, Busch brings up the world-be introduction of "an exotic competitor" in his petition and emphasizes the immediacy of the native oyster's situation. Asian oysters "may also hybridize with the remnants of the (native) oyster population, pushing this species over the edge," he wrote in the petition.

NOAA will take up to 90 days to review the six-page petition and 28 pages of supplemental exhibits, said Phil Williams, chief of the endangered species division at NOAA fisheries. At the end of that period, the agency may appoint a panel of private, federal and state fisheries experts (up to about a dozen members) that would take up to nine months to review the request further.

The review panel would make a recommendation to the NOAA's regional administrator in Gloucester, MA. The agency's assistant administrator for fisheries, William Hogarth, has the final say on whether Chesapeake oysters would be listed as threatened or endangered.

From: Bay Journal, March 2005

Compromise reached on restrictions for non-native oyster

A bill that would impose restrictions on (Maryland's) plans to introduce nonnative oysters into the Chesapeake Bay passed the Maryland Senate unanimously March 17 after the Ehrlich administration negotiated a compromise with legislative environmental leaders who had feared the administration would make a rash decision that could damage the Bay. Gov. Robert Ehrlich believes nonnative *Crassostrea ariakensis* oysters may be the best hope of reviving the Bay's oyster population, which has been severely depleted by disease.

But many scientists say it will take several years of study before they can predict whether the oysters will help, or hurt the Bay and other species living in it.

Bills introduced in the House and Senate originally were opposed by the administration, but Michael Slattery, assistant secretary of natural resources, said his department agreed to support the Senate bill after working out amendments that were acceptable to the Chesapeake Bay Foundation and to Sen. Brian Frosh, a sponsor of the legislation. Democratic lawmakers, who introduced bills in the Senate and House of Delegates, were alarmed by the administration's plan to finish scientific studies of the oysters by June and begin experiments in the Bay later in the year. The original bill would have required the administration to follow "as closely as possible" the recommendations of two scientific panels that had outlined a series of research issues before any decision was made.

As amended, the scientific review would focus specifically on Maryland's plan and the impact it might have on the Bay. The review would be conducted by a panel of experts that has been selected by the Department of Natural Resources, and would determine whether the state has enough information to go ahead with an introduction.

From: Bay Journal, April 2005

Seafood group seeks new tests with *ariakensis*

By Karl Blankenship

Buoyed by test results it called an "eye-opener," the Virginia Seafood Council hopes to place 1 million sterile Asian oysters in the Bay this summer to see if they can be harvested within a year. The industry trade group said results from its deployment of 800,000 oysters in the fall of 2003 were a "complete success" and offered a tantalizing hint that a profitable aquaculture industry might be based on sterile foreign oysters. The test showed that the oysters were profitable not only for the high value-through limited-half shell market, but also for use by seafood processors, which shuck larger numbers of oysters for their meat. In the study, eight growers received 100,000 oysters apiece. Participants invested between \$3,000 and \$7,500 and had returns of \$10,000 to \$20,000, according to A.J. Erskine, project manager for the council. "With 50,000 or 100,000 oysters, you can certainly make a couple of thousand dollars, but the potential exists for a more sizeable profit," Erskine said. He said the potential existed for rearing millions of sterile foreign oysters each year, providing relief for watermen who have been hard hit by the demise of the native oyster and are willing to switch to aquaculture. Those oysters would also be a boon for seafood processors who increasingly have had to import oysters from the Gulf of Mexico because of the lack of Chesapeake oysters.

The seafood council's proposal won approval from a Bay Program review panel in March. It still needed approval from the Virginia Marine Resources Commission and the Army Corps of Engineers, although participants from both agencies served on the Bay Program review panel. Exactly what role the fast-growing *Crassostrea ariakensis* will play in the Bay has been the center of debate for years. Tests conducted by the seafood council since the late 1990s have shown that the oysters grow fast and appear to resist diseases that have devastated the native *C. virginica* oysters. Further, marketing tests have shown *C. ariakensis* is well-received by consumers. That has fueled huge interest in the foreign oyster, and the states of Maryland and Virginia have proposed an outright introduction of a breeding population in the Bay. That option has been hugely controversial, and is the subject of an environmental impact study.

Meanwhile, aquaculture using sterile oysters-which initially drew intense concern because of its potential for an accidental introduction-has become more acceptable, especially as the seafood council has adopted new safeguards. "I think the aquaculture option has become more palatable to a lot of folks who were initially turned off to any nonnative species," said Jamie King, an oyster biologist with the National Oceanic and Atmospheric Administration's Chesapeake Bay Office. "The Virginia Seafood Council is gaining some ground with the very responsible approach that they've taken." A report released by the National Academy of Sciences two years ago was generally supportive of the use of sterile oysters in aquaculture, especially as a way to gain more information about how the foreign species might behave in the Bay. But the report expressed skepticism that

growing sterile oysters would be profitable except for the high-value half-shell market, which would limit their use in the Bay. In the seafood council's project, however, growers were able to make a profit, even selling *C. ariakensis* to "shucking houses" that extract the meat for resale. In part, that's because processors have been forced to rely on oysters from the Gulf of Mexico to meet their needs, Erskine said. It cost them about \$2,000 just in freight costs-plus the cost of the oysters. Beyond that, tests from the last two years showed that *C. ariakensis* oysters produce far more meat than oysters from the Gulf. A bushel of sterile *C. ariakensis* oysters grown in aquaculture produced almost two full gallons of meat, compared to less than one gallon for a bushel of Gulf oysters, the seafood council study found. In addition, *C. ariakensis* has thinner shells than *C. virginica*, which make them easier to shuck. While the thin shell of *C. ariakensis* has raised concerns about its potential in the wild-some experiments have shown they are more vulnerable to predators, as well as infestations by native worms-it is a plus for shucking houses, Erskine said. "It looks like *C. ariakensis* would be a great shucking oyster because they are very easy to get into," he said. "Shuckers report that you can shuck almost twice as many *ariakensis* as you can *C. virginica*."

That contributed to a change in the seafood council's proposal. In its 2002 request for a large-scale test, the council had envisioned aquaculture as a potential steppingstone to an outright introduction of a breeding population. In contrast, its new proposal says the scientific community should focus on repopulating the Bay with a disease-tolerant strain of the native oyster, while the industry concentrates on "self-sufficient aquaculture" with sterile *C. ariakensis* oysters. The new proposal envisions an aquaculture industry that "plants new seed every spring and harvests their crop the following spring." The spring harvest is important to minimize the risk of an accidental introduction of breeding oysters. The technique being used to produce sterile oysters is estimated to be 99.9 percent effective-but that still means that about 1 in 1,000 could be capable of reproducing. The likelihood of them reproducing during their first-year summer in the water is small, but it would increase if the oysters remained in the water second summer. The goal of the new study is to determine whether oysters placed in the water around June 1 would grow to market size within 12 months, allowing growers to take advantage of the fast-growing, disease-resistant potential of *C. ariakensis*, while reducing potential reproductive risks. The seafood council had proposed a similar project for 2003. But because of a delay in rearing sterile *C. ariakensis*, the oysters did not go into the water until October. That meant the oysters could not take advantage of the ideal summer growing season. It was clear from the study that the oyster can reach market size in moderate to high salinity water within a short amount of time, Erskine said, but it was not clear that will happen in low salinity areas. "What we really need to know is at the lower salinities, can we get 100 percent of the oysters to market size?" he said. "At the higher and moderate salinities we can probably do that." In fact, he said, in high salinities, the oysters may be ready to harvest before Christmas.

A special ad-hoc panel of state and federal officials, convened by the Bay Program to review all proposals dealing with potential introductions of nonnative species, in March recommended that the seafood council's proposal be approved. But the panel emphasized the need to pull the oysters out of the water by June 1, 2006, to reduce any spawning risk. It said information gathered during the experience should be used to better estimate the risk of reproduction in any future projects. The ad-hoc panel also encouraged expanded side-by-side testing with sterile *C. virginica* oysters in aquaculture to allow for better economic comparisons between the two species. Recent efforts have shown that sterile *C. virginica* also performs well in aquaculture, although it does not match *C. ariakensis*. But because it is a native species, it does not require the strict "biosecurity" protocols used with foreign species. Biosecurity concerns do raise costs, Erskine said. All of the oysters have to be grown in mesh bags or other containers that keep any from escaping; growing must write plans to remove oysters from the water in the event of hurricanes or other severe weather; and groups of oysters must be spaced apart to reduce the risk that eggs and sperm from any reproductive-capable oysters would mix. But Erskine said the bigger issue limiting aquaculture with *C. ariakensis*-or the native *C. virginica*-is lack of infrastructure. For large-scale production, he said, expanded hatchery facilities are needed to breed oysters as well as more nursery facilities to grow them to sizes large enough to plant for final growout. "Whether it is *C. ariakensis*, *C. virginica*, or any other species, I think there is an awful lot of potential in aquaculture," Erskine said. "It takes a different mindset, and a lot of the large oyster shucking houses are not used to aquaculture. But I think the potential scale could be several millions of oysters each year."

From: Bay Journal, April 2005

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MAY, JUNE 2005

President Seeks Volunteers, Agenda Additions

"Dear Colleagues: It is now less than three months until our annual BOC meeting, this year in Anchorage, AK, on September 10th & 11th. In that regard, I and your other officers are beginning to put together a draft agenda for the meeting. If there are any specific topics or issues you would like the BOC to address at that time, please let me know as soon as possible so we may consider them for inclusion on the agenda.

Also, although we have no "hard" data to offer at this time, we believe that the "Recruitment Table" we set up and staffed at last year's American Fisheries Society's (AFS) annual meeting paid off in positive gains in AIFRB membership and, therefore, we will be setting it up once again this year from noon on Sunday, September 11th until noon on Thursday, September 15th. To assist us in this effort, we are seeking volunteers from the ranks of AIFRB membership, who will be attending the BOC and/or AFS meetings, to staff the table for periods of time lasting as long as their schedules will permit. If you can contribute your time, and are willing to do so, please let me know before August 25th. I can be emailed at dickschaefer@aol.com, or by telephone at 301-320-5202.

Many thanks, and I look forward to seeing many of you in Anchorage.
Dick Schaefer

Board Of Control Meets By Telephone

A mid year Board of Control conference call 11 May 05 chaired by President Schaefer covered the following items:

1. The upcoming (Sept.) BOC meeting in Anchorage held in conjunction with the AFS meeting, AIFRB will have a recruitment table and needs volunteers.
2. The Institute's 50th Anniversary Celebration in Seattle 2006. Dates have not been decided on. May 15 probable, Beamish and Rothschild are symposium organizers.
3. Assembly of a set of biographies of the founding members for a "Founder's Book." Celebrating our Golden Anniversary, volunteers are needed in this process. Contact Wantenstine, Schaefer, or Huntsman.
4. Treasurer Shimada reported we currently have 674 members, 20-25 new (nationally)? About 38% older members have not paid dues, so we are \$8700 in arrears for dues. At the last BOC meeting, it was voted to lower the travel reimbursement for BOC members to \$400 to attend the meeting. \$200 is available annually for each district for recruitment purposes. Requests should be submitted to Allen Shimada.
5. Clark Hubbs has been diagnosed as having colon cancer.
6. President Schaefer proposed honorary memberships? Will be discussed further at Anchorage.

Ed. Thanks to Diana Watters for her notes on the meeting.

Membership Report:

Changes-Additions 08/04-05/05

| | |
|---------------------|----|
| INITIAL NEW MEMBERS | 17 |
| STUDENTS | 12 |
| RANK ADVANCEMENTS | 8 |

Submitted by Tom Keegan

Jack Pearce Sends Regards, News

This is a year of change; I have turned over the management of the W.F. Thompson Award to Bill Baliff and am resigning as North American Editor, Marine Pollution Bulletin (Elsevier) as of June 30, 2005. Following retirement from NOAA/NMFS in 1995, I continued editing *Fisheries Bulletin* until 1999. I started editing the MPB "full time" and have continued until now. We, Ruthie and I, plan to spend more time with grandchildren in Colorado Springs and Bellingham WA. I will remain on the editorial Boards of MPB and *Fisheries Research* and I plan to finish the tome on pinnatherid crabs and a review of liguified natural gas terminals. Hope the see you at the next AIFRB meetings in New England/Mid Atlantic.

Jack

Losses: Alvariño, Butler, Cotting

Fellow Angeles Alvariño, 88; internationally known oceanographer

By Jack Williams, Staff Writer

Angeles Alvariño's route to becoming an internationally esteemed oceanographer was as turbulent as some of the waters she explored.

First, her education was disrupted by the Spanish Civil War, which ravaged her native land from 1936 to 1939 and forced her into hiding.

Problems persisted as she pursued limited professional opportunities in Spain and when immigration quotas in the United States put her future in doubt.

But by 1958, when Dr. Alvariño secured a position with the Scripps Institution of Oceanography, there was no stopping her.

During a career that extended beyond her official retirement in 1987, she discovered 22 new species of marine zooplankton, taught internationally and contributed extensive original research to academic journals and books.

Dr. Alvariño died May 29 at her home in La Jolla of lymphosarcoma, a rare form of cancer, said her daughter, Angeles Leira-Alvariño. She was 88.

"Angeles was one of the world's authorities on chaetognaths (arrow worms)," said Ralph Lewin, a retired professor at Scripps. "Her specialty was transparent, gelatinous organisms that fall apart rapidly, which is why many scientists don't study them. She made a study of two groups, and her illustrated monograms were classics."

Dr. Alvariño, the daughter of a medical doctor, was born Oct. 3, 1916, in Ferrol, Spain.

As a child, she often explored her father's library, soaking up books on natural history.

She was studying for a master's degree in the natural sciences at the University of Madrid when the Spanish Civil War erupted. Putting her education on hold, she had one priority: survival.

"It was a time of lying low and hiding," her daughter said. "People were being persecuted and killed, and you couldn't go outside because you didn't know whether you would make it back home alive."

For all the turmoil she encountered, Dr. Alvariño had one fond memory of the civil war years. In 1939, she met her future husband, Eugenio Leira Manso, a captain in Gen. Francisco Franco's Spanish Navy, who had survived the sinking in his ship in the Mediterranean.

The couple were married in 1940. Dr. Alvariño completed her studies for a master's degree the following year, graduating the following year with honors from the University of Madrid in natural sciences.

Because she shared a love of the ocean with her husband, Dr. Alvariño decided to make oceanography her specialty. She taught for seven years, then joined the Spanish Department of Sea Fisheries in Madrid.

In 1953, Dr. Alvariño accepted a scholarship to study oceanography under Lord F.S. Russell, director of the Marine Laboratory in Plymouth, England.



Angeles Alvariño

"At first, she couldn't understand a word of English, although she had studied it in Spain," her daughter said. "Within a few weeks, she picked it up."

In 1956, Dr. Alvariño left Spain again to accept a Fulbright Fellowship for research at Woods Hole Oceanographic Institute in Massachusetts, where her mentor was the renowned Mary Sears.

Sears, considered the first Navy oceanographer in modern times, recommended Dr. Alvariño for a job with the Scripps Institution of Oceanography.

First, however, there was an immigration matter to resolve.

"She and her family were given U.S. residency through U.S. Congressional action in order to bypass the very low immigration quota from Spain," her daughter said. "This enabled her to stay at Scripps."

In 1966, Dr. Alvariño became a naturalized U.S. citizen. The following year, she received her doctorate in biological oceanography from the University of Madrid, where she had received a doctoral certificate in biological sciences in 1950.

During the 1960s, she developed a specialty in chaetognaths, which she obtained from oceans all over the world. "She was particularly attracted to the Gulf of Cortez," said Edward Briton, a former colleague. "She conducted monthly classes for enthusiastic oceanography students at La Paz."

In 1970, Dr. Alvariño began concentrating on fishery research with the Southwest Fisheries Science Center in La Jolla, a division of the newly formed a National Marine Fisheries Service.

During her career, she was credited with being the first woman to serve as a scientist on a British research vessel. She also conducted research on vessels in the United States, Mexico and Spain.

Her "Biology of the Antarctic Seas" was published in 1984. In recent years, Dr. Alvariño wrote, "Spain and the First Scientific Oceanic Expedition, 1789-1794," which she published in 2003.

"She had almost finished another book before she died," her daughter said. "It was on the early Spanish scientists and her own experiences with zooplankton."

Dr. Alvariño expressed her philosophy in an outline of her life.

"Select the profession you love, work hard with enthusiasm, observe and love Mother Nature," she wrote. "Creativity and imagination are the basic ingredients for the scientist, as in the arts, because science is an art."

Survivors include her husband, Eugenio Leira Manso; daughter, Angeles Leira-Alvariño of La Jolla; and sister, Carmen Alvariño of Ferrol, Spain.

Services and a celebration of life are scheduled in Spain, where her ashes will be scattered in the Atlantic Ocean off the beach at Doninos.

From The San Diego Union-Tribune, June 10, 2005

Thanks to Bill Bayliff for the obituary

Dr. Robert L. Butler F '71, EF '80 State College, PA

Richard Cutting

Cutting, Richard Earl, 74 of Dartmouth, NS, passed away, with his devoted wife and loving family by his side, at the QEII Health Sciences Centre, Halifax, NS on May 22, 2005, after a long illness.

Born April 17, 1931, in St. Johnsbury, Vermont, he was the son of the late Earl I. Cutting and Winnifred Rook Cutting. He graduated from St. Johnsbury Academy and received degrees from the University of Maine at Orono, a BSc in Wildlife Conservation With Highest Distinction and a MSc in Zoology with a Fisheries major.

He worked nearly fifteen years for the restoration and management program of the Maine Atlantic Sea-Run Salmon Commission. In 1968 his family emigrated to St. John's, Nfld, where he joined the then-Canada Department of Fisheries and served as Senior and Chief Biologist for inland and anadromous resources. He transferred to Halifax in 1973 and worked in senior positions in the Resource Development Branch and the Freshwater and Anadromous Division of the now-Department of Fisheries and Oceans.

He was an avid vegetable gardener and, since retirement in 1996, was especially interested in genealogy in which he was able to trace family roots many generations back through New England and to Europe.

He is survived by his beloved wife of 51 years Patricia (nee Dore), formerly of Orono, Maine, three sons, one daughter and seven grandchildren: Dean and Pauline (Roy), Rouyn-Noranda, QC; Loreen and Philip (Gilby), Shayla, Paige, Maelle, and Health, Dartmouth; Glenn and Linda (Rahal), Amanda, Lower Sackville; and Nathan and Valerie (Moulton), Brandon and Kristal, Lower Sackville, and by one sister, Natalie A. Rodd, St. Johnsbury, Vermont. He was predeceased by grandson, Alexander Brent Cutting. Cremation has taken place.

Memorial donations may be made to the Canadian Cancer Society or a medical research organization of choice.

Ed. Baum wrote:

It is with sadness that we relay the news of the death of Dick Cutting, who passed away of May 22. Dick worked for the Maine Atlantic Sea Run Salmon Commission in the 1950s and 1960s, and was one of the true "pioneers" of Atlantic salmon research, restoration and management in Maine. This writer was fortunate enough to have the opportunity to fill Dick's position in Maine following his move to employment with the Department of Fisheries and Oceans in Canada in 1968. Dick left a true legacy of dedication and devotion to the resource throughout Maine and Canada. I don't know of any other fishery scientists working in the Atlantic salmon arena who commanded any more respect and admiration than Dick Cutting. He will be missed, but never forgotten. Adieu, friend and colleagues....

Thanks to Joan Trial for the obituary.

Briefs Policy and Procedures: Draft

President Schaefer at the BOC meeting, Madison, August 2004 established a committee to review, revise, and, where necessary, create policy and procedures for the publication of Briefs. John Merriner and Gene Huntsman co-chair the committee which also includes Kevin Friedland and Dora Passino-Reader. Huntsman prepared this draft document and invites readers comments.

Draft: Editorial Policy and Procedures:

I. BRIEFS-

A. Purpose

Briefs is the newsletter of the American Institute of Fishery Research Biologists. The purpose of Briefs is to inform members of business of the Institute, of opportunities to nominate candidates for awards and grants, of additions to and losses from the membership, of significant activities of members, and, when space permits, significant developments in knowledge of fish and fisheries and in public policy, worldwide, concerning fisheries.

B. Periodicity

Briefs is published six times a year, Jan-Feb, March-April, etc.

C. Size

With the general concurrence of the Board of Control and the immediate concurrence of the Treasurer, Briefs shall be about 12 pages per issue, but depending upon the availability of newsworthy material and the state of the Institute's finances pagination may vary from ten to sixteen pages.

D. Priorities

Priority for the inclusion of material in Briefs is as follows. First, business of the Institute; second, activities of members; third, material authored by or submitted by members; fourth, news of recent developments in fishery related issues, public policy, environmental concerns as they affect fisheries, etc.

E. Deadlines

The deadline for receipt by the Editor of material to be included in Briefs shall be the twentieth day of the second month of the bimensis; e.g. Feb 20, etc. The Editor may adjust deadlines to accommodate immediate needs of the Institute, inclement weather, hunting seasons, etc.

F. Name

The name Briefs has nothing to do with underwear.

G. Editorial Policy

Briefs is a non-peer reviewed publication. Authors may espouse controversial or poorly supported opinions under their own names. The Editor may include controversial and partisan material in order to stimulate discussion and to reveal to the readership the range of opinions attaching to fishery related issues. The Editor may at his discretion author and include in Briefs articles giving his opinion on business before the Institute. All members are afforded the same access to publication in Briefs and are encouraged to use that access.

H. Editor

1. Duties

The duties of the Editor are to acquire material for inclusion in Briefs, to coordinate with officers and committee chairs of the Institute the preparation of reports for inclusion in Briefs, and to modify such materials for clarity, brevity, accuracy, etc. The Editor shall prepare a rough copy of each issue of Briefs and present it to a printing firm or other printing facility for preparation of a proof copy, and to review, correct, and approve a corrected proof copy for printing.

2. Deadlines

The Editor shall have a rough copy of Briefs prepared by the fifth day of the month following the conclusion of the nominal bimensis of publication, e.g. March 5, June 5, etc. The Editor may adjust this schedule to account for runs of migratory fish species, exceptional pheasant populations in the Great Plains, etc.

3. Electronic publication

The Editor shall make all material included in a "hard" copy of Briefs available to the Institute's Webmaster for electronic publication.

4. Remuneration

Not one damned red cent.

5. Retirement Plan

Not soon enough; or, Instituted at the onset of death or dementia, whichever comes first.

6. Attendance at Board of Control Meetings

The Editor shall attend the annual meetings of the Board of Control as a non-voting member and shall be eligible for receipt of the same travel subsidy available to voting members.

America's Most Endangered Rivers of 2005

#1 Susquehanna River (NY,PA,MD)

Threat: Enormous volumes of raw or poorly treated sewage, which eventually flow into the Chesapeake Bay. Without prevention and cleanup, the Susquehanna will remain among the nation's dirtiest rivers and more and more of Chesapeake Bay will become a dead zone.

#2 McCrystal Creek (NM)

Threat: McCrystal Creek and much of the pristine Valle Vidal area that surrounds it face the prospect of intrusive coal bed methane drilling.

#3 Fraser River (CO)

For years, the Denver Water Board has siphoned 65 percent of the Fraser River's water and piped it across the mountains to fuel development along the Front Range. Now it plans to take most of the rest. Unless the U.S. Army Corps of Engineers puts a stop to the water board's plans, there won't be much left in the river except effluent from local sewage plants.

#4 Skykomish River (WA)

Development threatens to foul the clear waters of the Skykomish River. Unless the Snohomish County Council plans responsibly for growth and acts to protect the river, the very characteristics that make the valley so attractive to its residents could be lost.

#5 Roan Creek (TN)

Threat: Factory dairy farming. Unless Tennessee officials establish and enforce stricter rules, cow manure will foul the stream, expose residents to disease, and jeopardize the region's economic prospects.

#6 Santee River (SC)

For decades, an enormous hydropower dam complex has drained one of the East Coast's largest rivers virtually dry. Unless state regulators stand up to a powerful and uncooperative utility and demand that some of that water be put back, the Santee will continue to be South Carolina's "forgotten river."

#7 Little Miami River (OH)

Proposed wastewater plant expansions and new bridge and roads are poised to pollute Ohio's Little Miami River with more sewage, stormwater, chemicals, and trash. Unless the state insists on modern sewage treatment and sensible transportation planning, the crown jewel of Cincinnati's and southwestern Ohio's outdoor destination could be sullied beyond recovery.

#8 Tuolumne River (CA)

The City of San Francisco has proposed a new pipeline that could increase the water it removes from the Tuolumne River by as much as 70 percent. Additional diversions would deplete 100 miles of productive, pristine river habitat and compound pollution problems in San Francisco Bay. Unless San Francisco invests in making its existing supplies go further, California could lose some of its best salmon and steelhead runs, world-class outdoor recreation, and the economic diversity this river now provides.

#9 Price River (UT)

Near the remote headwaters of the Price River, the Bureau of Reclamation is under pressure to build a dam and reservoir to take away one community's water and pipe it over the mountains to another. Unless the local water district comes to its senses and the Forest Service strengthens watershed protections, communities along the Price River could lose their water, and their wildlife.

#10 Santa Clara River (CA)

Until recent years, the Santa Clara River has largely escaped the intense development transforming most of Southern California, but developers are now eyeing the river and adjacent lands for a massive expanse of new condominiums and shopping centers. Unless regulators hold new development to high standards, Southern California will lose its last significant natural river.

From: American Rivers, Spring 2005

Susquehanna River, while stressed, is certainly no cesspool

By Paul O. Schwartz

Given my position with the Susquehanna River Basin Commission, it comes as no surprise that people are asking for my reaction to the recent American River report declaring the Susquehanna River the nation's number one endangered river. Many people are concerned by American Rivers' characterization of the Susquehanna River as a cesspool, while others have embraced it without question. The commission's position is one of the balance, because we are relying on the facts to guide us. And the facts tell us that, while the Susquehanna River admittedly has its share of serious water quality problems, it is by no means the most endangered.

American Rivers' efforts to raise awareness of the water quality problems in the Susquehanna may be well-intended, but the endangered designation did create confusion. Some people have even concluded that the Susquehanna is a filthy river to be avoided. And that unintended consequence troubles me. Yes, there are localized and regional water quality problems, but by and large, the water quality of the Susquehanna River is in good condition and continues to improve. In fact, there are areas in the Susquehanna basin, including the New York portion, where the water quality is exceptional. Our own monitoring data, which we collect and analyze based on sound science, show significant reductions in nutrients and sediments in the river. That reduction in the Susquehanna translates to reduced levels reaching the Chesapeake Bay.

There are many other indicators that point to the Susquehanna as being a healthy riverine system. The Susquehanna enjoys the reputation as a world-reowned smallmouth bass fishery. It's also host to recreational outfitters like Endless Mountain Outfitters, Blue Mountain Outfitters and Shank's Mare. The construction of fish passage facilities at the dams in the lower Susquehanna River, at a cost exceeding \$50 million, has enabled American shad and other migratory fish species to return to their historic spawning water in the Susquehanna and its tributaries.

There are also many local success stories of improved water quality. For example, in my own watershed, coal mining from the 1850s virtually eliminated all aquatic life in the upper reaches of the Swatara Creek Watershed in Lebanon and Schuylkill Counties. But now, because of stream improvements, native brook trout have returned and their numbers continue to increase every year. Similar success stories can be cited for other projects throughout the Susquehanna basin.

Despite all of these success, much work remains to be done to further improve water quality. Cathy Curran Myers, Pennsylvania's alternate SRBC commissioner, put it very well she recently referred to the Susquehanna River as a "crown jewel under stress." She pointed out that less than 15 percent of its included as impaired on the EPA's dirty water list. "The Susquehanna sends the cleanest water of any tributary to the Chesapeake Bay, but it is not clean enough." Nutrients, sediment and drainage from abandoned mine lands are three of the primary sources of water quality impairment in the basin. Based on 2000 estimates, Pennsylvania's portion of the Susquehanna basin requires more than \$2.8 billion just for acid mine drainage reclamation. Even more sobering are EPA's cost estimates for the overall effort to restore the Chesapeake Bay: \$27 billion in capital expenditures and an additional \$2.7 billion annually. We also agree that there are tremendous infrastructure improvement needs for combined sewer overflow systems. As of 2000, the estimated cost to solve this problem in Pennsylvania alone was \$4 billion. Incidentally, the issue is by no means unique to the Susquehanna basin or Pennsylvania.

The Susquehanna River is a tremendous resource, but it has some very real needs to ensure its long-term management and protection. Given the sheer size of the Susquehanna River Basin-with more than 31,000 miles of streams-meeting those needs in the long term will require everyone's best effort. Among other legislative remedies, the Susquehanna needs help from our elected officials to reauthorize the federal Abandoned Mine Reclamation Fund. Constituents who care about the Susquehanna need to voice their support for legislative initiatives such as the one introduced by State Sen. Ray Musto of Pennsylvania's 14th District to provide funding for upgrades to combined sewer overflow systems. Just as important, there is simply no substitute for stewardship of the Susquehanna "back home." We are grateful for all the good work being done by the 189 active watershed organizations in the basin.

American Rivers' designation of the Susquehanna River as the nation's most endangered may not be an accurate characterization of the overall water quality of the river. However, I hope that it will serve as a call to action for everyone who cares about its future.

Paul O. Swartz is the executive director of the Susquehanna River Basin Commission.

From: Bay Journal June 2005

AIFRB-Members (Current June 15, 2005)

Editorial Contest Curtailed . . .

To provide room for our most recent member listing. Back to our abnormal 12 pages in the next issue. Ed.

| NAME | CITY, STATE | STATUS | YEAR | YR ASSOC | YR MEMBER | YR FELLOW | YR EMERITUS |
|-------------------------------|-----------------------|--------|------|----------|-----------|-----------|-------------|
| Norman J. Abramson | Kentfield, CA | EF | 1960 | 1960 | 1966 | 1979 | 1993 |
| Dr. Ira R. Adelman | Saint Paul, MN | F | 1980 | 1980 | 1989 | | |
| Dr. Shawn K. Alam | Washington, DC | M | 2000 | 2000 | | | |
| Donald M. Allen | St. Helena Island, SC | EF | 1967 | 1967 | 1974 | 1984 | |
| Dr. George H. Allen | McKinleyville, CA | EF | 1959 | 1959 | 1979 | 2004 | |
| Dr. Merrill James Allen | Westminster, CA | F | 1973 | 1973 | 1977 | 2000 | |
| Frank P. Almeida | Woods Hole, MA | M | 1985 | 1985 | | | |
| Dr. Angeles Alvarino de Leira | La Jolla, CA | EF | 1971 | 1971 | 1988 | | |
| Dr. Douglas P. Anderson | Seattle, WA | F | 1970 | 1970 | 1987 | | |
| Dr. Emory D. Anderson | Silver Spring, MD | F | 1973 | 1973 | 1984 | | |
| Joyce H. Andrew | Long Beach, CA | M | 1990 | 1990 | | | |
| Allen H. Andrews | Moss Landing, CA | M | 1999 | 1999 | | | |
| Richard L. Angstrom | Rosburg, WA | EM | 1976 | 1976 | 1994 | | |
| Kim M. Anthony | Garden Grove, CA | A | 2003 | 2003 | | | |
| Dr. Vaughn C. Anthony | Boothbay, ME | F | 1980 | 1980 | | | |
| Dr. Michael P. Armstrong | Gloucester, MA | M | 1998 | 1998 | | | |
| Dr. William I. Aron | Bellevue, WA | F | 1961 | 1961 | 1982 | | |
| Susan E. Ashcraft | Belmont, CA | A | 2001 | 2001 | | | |
| Clinton E. Atkinson | Seattle, WA | F | 1956 | 1956 | | | |
| Steven M. Atran | Tampa, FL | M | 1996 | 1996 | | | |
| Dr. Jerald S. Ault | Miami, FL | F | 1984 | 1984 | 1993 | 1998 | |
| Dr. Peter J. Auster | Groton, CT | M | 1982 | 1982 | 1992 | | |
| Robert J. Ayers | Union, WA | EF | 1966 | 1966 | 1978 | 1990 | |

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|-------------------------|---------------------------|----|------|------|------|------|
| Daniel L. Ayres | Montesano, WA | A | 1989 | 1989 | | |
| Malin M. Babcock | Auke Bay, AK | M | 1973 | 1973 | | |
| Randy E. Bailey | Lincoln, CA | EF | 1977 | 1977 | 2001 | 1998 |
| Dr. Reeve M. Bailey | Ann Arbor, MI | EF | 1972 | 1972 | 2001 | |
| Dr. Ronald C. Baird | Silver Spring, MD | M | 1974 | 1974 | | |
| Timothy T. Baker | Girdwood, AK | M | 1993 | 1993 | | |
| Dr. Richard G. Bakkala | Seattle, WA | M | 1972 | 1972 | | |
| Jean Baldrige | Concord, CA | A | 1984 | 1984 | | |
| Joe L. Banks | Longview, WA | BM | 1972 | 1972 | 1995 | |
| Roy A. Banner | Olympia, WA | BM | 1974 | 1974 | 1977 | |
| Dr. Charles A. Barans | Charleston, SC | M | 1975 | 1975 | 1984 | |
| Dr. Luiz R. Barbieri | St. Petersburg | M | 1994 | 1994 | | |
| Michele Barlow | San Carlos, CA | A | 2003 | 2003 | | |
| Thomas J. Barnes | Carlsbad, CA | M | 1997 | 1997 | | |
| Dr. Izadore Barrett | San Diego, CA | EF | 1961 | 1961 | 1971 | 1993 |
| Dr. Bruce A. Barton | Calgary, CANADA | F | 1985 | 1985 | 1995 | |
| Dr. Jonathan N. Baskin | San Marino, CA | M | 2004 | 2004 | | |
| Edward Basmadjian | San Diego, CA | A | 2001 | 2001 | | |
| Dr. Billy S. Batts | Farmville, VA | EF | 1977 | 1977 | 2000 | |
| Thomas P. Baudanza | Saugerties, NY | M | 1990 | 1990 | 2001 | |
| John L. Baxter | Westminster, CA | EF | 1961 | 1961 | 1977 | 2001 |
| Dr. William H. Bayliff | La Jolla, CA | F | 1959 | 1959 | 1971 | |
| Kenneth L. Beal | Gloucester, MA | F | 1998 | 1998 | 2002 | |
| Dr. Richard J. Beamish | Nanaimo, CANADA | F | 1983 | 1983 | | |
| J. Harold Beattie | Brinnon, WA | M | 1987 | 1987 | | |
| D. Scott Becker | Bellevue, WA | A | 1984 | 1984 | | |
| Dr. C. Dale Becker | Richland, WA | EF | 1967 | 1967 | 1985 | 1994 |
| Kirk T. Beiningen | Milwaukie, OR | M | 1972 | 1972 | | |
| Evan K. Benn | Roseville, CA | A | 2003 | 2003 | | |
| Dr. David H. Bennett | Bayview, ID | F | 1973 | 1973 | 1978 | 2002 |
| Dr. Norman G. Benson | Green Valley, AZ | EF | 1961 | 1961 | 1975 | 1989 |
| Kevin Thomas Bentler | Fort Collins, CO | S | 1994 | 1994 | | |
| Dr. Harold L. Bergman | Laramie, WY | M | 1983 | 1983 | | |
| Dr. Peter K. Bergman | Tumwater, WA | F | 1967 | 1967 | 1994 | |
| Dr. Howard A. Bern | Berkeley, CA | F | 2004 | 2004 | | |
| A. H. Berst | Simco, CANADA | BM | 1972 | 1972 | 1983 | |
| Edgar A. Best | Seattle, WA | EF | 1961 | 1961 | 1975 | 1987 |
| Dr. Donald L. Beyer | Bothell, WA | M | 1973 | 1973 | 1985 | |
| Dr. Marco L. Bianchini | Rome ITALY | F | 1991 | 1991 | | |
| Traci L. Bishop | Altadena, CA | A | 1996 | 1996 | | |
| Dr. Maurice Blackburn | Friday Harbor, WA | EF | 1960 | 1960 | 1977 | |
| Gregory R. Blair | Vashon, WA | M | 1991 | 1991 | | |
| Calvin L. Blood | Seattle, WA | A | 1982 | 1982 | | |
| Dr. James A. Bohnsack | Miami, FL | M | 1983 | 1983 | | |
| Dr. Carl E. Bond | Corvallis, OR | EF | 1963 | 1963 | 1973 | 1988 |
| Edward W. Bonn | Dennison, TX | BM | 1973 | 1973 | 1981 | |
| David P. Borgeson | Grand Ledge, MI | EF | 1974 | 1974 | 1999 | |
| Dr. Stephen A. Bortone | Sanibel, FL | F | 1996 | 1996 | 1997 | |
| Wilber P. Breese | Newport, OR | BM | 1972 | 1972 | 1983 | |
| Jeffrey M. Breiwick | Seattle, WA | F | 1979 | 1979 | 2002 | |
| Ann F. Brierton-Zellers | Rolling Hills Estates, CA | A | 1980 | 1980 | | |
| Philip T. Briggs | Sayville, NY | M | 1973 | 1973 | | |
| Dr. Richard W. Brill | Gloucester Point, VA | M | 1986 | 1986 | | |
| Dr. Richard D. Brodeur | Newport, OR | F | 1988 | 1988 | 1994 | 2002 |
| Dr. Jon K.T. Brodziak | North Falmouth, MA | M | 1999 | 1999 | | |
| Dr. Iver M. Brook | Fort Myers, CA | BM | 1975 | 1975 | 1993 | |
| Dr. Joan A. Browder | Miami, FL | M | 1979 | 1979 | | |
| Dr. Larry R. Brown | Sacramento, CA | F | 2005 | 2005 | | |
| Robert J. Brown | Morganton, NC | M | 1973 | 1973 | 1996 | |
| Dr. Bradford E. Brown | Miami, FL | EF | 1980 | 1980 | 2004 | |
| Dr. Michael L. Brown | Volga, SD | M | 1999 | 1999 | | |
| Dr. William A. Brungs | Exeter, RI | EF | 1973 | 1973 | 1983 | 1992 |
| Dr. Mason D. Bryant | Juneau, AK | M | 1978 | 1978 | 1984 | |
| Wayne A. Burck | Albany, OR | BM | 1970 | 1970 | 1992 | |
| Carl V. Burger | East Orland, ME | F | 1986 | 1986 | 1996 | |
| George H. Burgess, Jr. | Gainesville, FL | F | 1989 | 1989 | 2002 | |
| Dr. Robert L. Burgner | Edmonds, WA | EF | 1959 | 1959 | 1968 | 2001 |
| Clifford J. Burner | Poulsbo, WA | EF | 1959 | 1959 | 1974 | |
| Dr. David C. Burns | McCall, ID | M | 1977 | 1977 | 1979 | |
| Erica Janis Burton | Pacific Grove, CA | A | 1999 | 2001 | | |
| Wolf-Dieter N. Busch | Crownsville, MD | F | 1972 | 1972 | 1975 | 1993 |
| Dr. John L. Butler | San Diego, CA | F | 1987 | 1987 | 1999 | |

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|---|-----------------------|----|------|------|------|------|
| I. B. Byrd | Treasure Island, FL | EF | 1973 | 1973 | 1991 | |
| Dr. Glenn F. Cada | Oak Ridge, TN | F | 1981 | 1981 | 1990 | |
| Dr. Phyllis A. Cahn | Huntington St., NY | EF | 1981 | 1981 | 1996 | |
| Dr. Gregor M. Cailliet | Moss Landing, CA | M | 1983 | 1983 | | |
| Dr. Charles W. Caillouet Jr. | Montgomery, TX | EF | 1970 | 1970 | 1976 | 1998 |
| Luis E. Calderon | San Ysidro, CA | M | 2002 | 2002 | | |
| Dr. Colleen A. Caldwell | Las Cruces, NM | M | 1995 | 1995 | | |
| Dr. Robert F. Carlisle | University Park, PA | F | 1992 | 1992 | | |
| Louis H. Carufel | Fairbanks, AK | BM | 1973 | 1973 | 2003 | |
| Lucille L. Caskey | Kanehoe, HI | A | 2001 | 2001 | | |
| Dr. Kathleen M. Castro | Saunderstown, RI | M | 2005 | 2005 | | |
| Dr. Jerome J. Cech Jr. | Davis, CA | F | 1992 | 1992 | | |
| Dr. Gary A. Chapman | Corvallis, OR | EF | 1981 | 1981 | 1990 | 2004 |
| Bruce M. Chatwin | San Diego, CA | EF | 1966 | 1966 | 1971 | 1988 |
| Randall P. Cheek | Morehead City, NC | EF | 1973 | 1973 | 1975 | 1989 |
| Dr. Kenneth K. Chew | Seattle, WA | F | 1963 | 1963 | 1972 | |
| Dr. Mark E. Chittenden Jr. | Gloucester Point, VA | EF | 1972 | 1972 | 1979 | 2003 |
| Clarence F. Clark | Bakersfield, CA | EF | 1961 | 1961 | 1979 | |
| Dr. Michael Clark | San Luis Obispo, CA | M | 2004 | 2004 | | |
| Dr. Ileana E. Clavijo | Wilmington, NC | M | 1988 | 1988 | | |
| Ms. Pamela (Dr. Frederick) Cleaver Wagner | Portland, OR | EF | 1956 | 1956 | 1985 | |
| Dr. Charles F. Cole | Worthington, OH | F | 1975 | 1975 | | |
| Dr. Richard A. Cole | Washington, DC | F | 1997 | 1997 | | |
| Essie M. Coleman-Duffie | Miami, FL | A | 1979 | 1979 | | |
| Dr. Bruce B. Collette | Washington, DC | F | 1987 | 1987 | | |
| Dr. Albert W. Collier | San Antonio, TX | EF | 1956 | 1956 | 1977 | |
| Dr. Mark Ryan Collins | Charleston, SC | M | 1990 | 1990 | | |
| Dr. Ramon J. Conser | La Jolla, CA | F | 1979 | 1979 | 1993 | |
| Dr. Steven J. Cooke | Vancouver, CANADA | S | 2000 | 2000 | | |
| John E. Cooper | Constantia, NY | F | 1972 | 1972 | 1978 | 2001 |
| Dr. Edwin L. Cooper | State College, PA | F | 1959 | 1959 | | |
| Dr. Oliver B. Cope | Asheville, NC | EF | 1963 | 1963 | 1982 | |
| Dr. Frederick A. Copes | Stevens Point, WI | BM | 1983 | 1983 | 1996 | |
| Dr. Barry A. Costa-Pierce | Narragansett, RI | F | 1997 | 1997 | | |
| Dr. Walter R. Courtenay Jr. | Gainesville, FL | EF | 1972 | 1972 | 1974 | 2000 |
| Dr. Charles C. Coutant | Oak Ridge, TN | F | 1973 | 1973 | 1978 | |
| David E. Cowley | Las Cruces, NM | M | 2002 | 2002 | | |
| Richard E. Craven | Tigard, OR | M | 1980 | 1980 | | |
| Dr. Paul R. Crone | La Jolla, CA | M | 1998 | 1998 | | |
| David Csepp | Juneau, AK | A | 2000 | 2000 | | |
| Robert Cummins, Jr. | St. Simons Island, GA | EF | 1970 | 1970 | 1978 | 1993 |
| Michael D. Curtis | Huntington Beach, CA | M | 1994 | 1994 | | |
| Wayne J. Daley | Bainbridge Island, WA | F | 1981 | 1981 | 1987 | 1996 |
| Dr. Robert J. Danehy | Springfield, OR | M | 1992 | 1992 | 1996 | |
| Louis B. Daniel, III | Newport, NC | M | 1999 | 1999 | | |
| George H. Darcy | Gloucester, MA | F | 1980 | 1980 | 2000 | |
| Dennis D. Dauble | Richland, WA | F | 1979 | 1979 | 1984 | 1989 |
| Dan J. Daugherty | West Lafayette, IN | S | 2003 | 2003 | | |
| Gary E. Davis | Ventura, CA | F | 1974 | 1974 | 1985 | |
| Dr. Nancy D. Davis | Seattle, WA | M | 1984 | 1984 | 1993 | |
| Steven K. Davis | Eagle River, AK | M | 1983 | 1983 | 1993 | |
| William S. Davis | Springfield, VA | BM | 1959 | 1959 | 1990 | |
| Dr. William P. Davis | Gonzalez, FL | M | 1972 | 1972 | | |
| Cyndi L. Dawson | Santa Cruz, CA | S | 2005 | 2005 | | |
| Gregory A. De Brosse | Swainton, NJ | M | 1989 | 1989 | 1999 | |
| Michael B. Dell | Ephrata, WA | BM | 1969 | 1969 | 1994 | |
| George D. Dennis III | Gainesville, FL | A | 1989 | 1989 | | |
| John F. Dequine | Leesburg, FL | BM | 1963 | 1963 | 1997 | |
| Dr. Richard B. Deriso | La Jolla, CA | F | 1982 | 1982 | 1993 | |
| Gene Deschamps | Tenino, WA | M | 1960 | 1960 | | |
| Dr. Christopher M. Dewees | Davis, CA | F | 1981 | 1981 | 1996 | |
| Dr. Kathryn Ann Dickson | Fullerton, CA | F | 2001 | 2001 | | |
| Dr. Paul Alan Dinnel | Anacortes, WA | M | 1984 | 1984 | | |
| Robert L. Dixon | Beaufort, NC | M | 1976 | 1976 | 1996 | |
| C. Andrew Dolloff | Blackburg, VA | A | 1984 | 1984 | | |
| Dr. Michael P. Dombeck | Stevens Point, WI | M | 1986 | 1986 | | |
| Dr. Robert F. Donnelly | Seattle, WA | A | 1974 | 1974 | | |
| Dr. Christopher J. Donohoe | Santa Cruz, CA | A | 1996 | 1996 | | |
| Dr. John A. Dorr III | Gaithersburg, MD | M | 1998 | 1998 | | |
| Joseph Michael DosSantos | Noxon, MT | M | 1990 | 1990 | 1996 | |
| Ronald C. Dotson | Jamul, CA | A | 1987 | 1987 | | |
| J. Marcus Drymon | Charleston, SC | S | 2003 | 2003 | | |

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|-------------------------|-----------------------|----|------|------|------|------|
| Norman R. Dube | Bangor, ME | A | 1982 | 1982 | | |
| Robert J. DuBey | Las Cruces, NM | S | 2003 | 2003 | | |
| Dr. Richard G. Dudley | Beaverton, OR | F | 1979 | 1979 | 1990 | |
| Gary J. Duker | Seattle, WA | M | 1993 | 1993 | | |
| Dr. Leonard Durham | Rotonda West, FL | EF | 1973 | 1973 | 1984 | 1990 |
| Dr. Douglas M. Eggers | Juneau, AK | F | 1980 | 1980 | 1988 | |
| Eric Eisenhardt | Montesano, WA | A | 2004 | 2004 | | |
| Frederick M. Eiserman | Casper, WY | EM | 1977 | 1977 | 2001 | |
| Dr. Peter J. Eldridge | Seminole, FL | F | 1970 | 1970 | 1977 | 1990 |
| Carl H. Elling | Tacoma, WA | EM | 1959 | 1959 | 1977 | |
| Dr. Joseph H. Elrod | Sparta, NC | EF | 1972 | 1972 | 1984 | 1998 |
| Dr. Ralph A. Elston | Carlsborg, WA | M | 1987 | 1987 | | |
| Mrs. Leo F. Erkkila | Ukiah, CA | EM | 1961 | 1961 | 1978 | |
| Dr. Paul H. Eschmeyer | Fort Collins, CO | EF | 1959 | 1959 | 1991 | |
| Dale R. Evans | Bend, OR | EM | 1975 | 1975 | 1993 | |
| Dr. William E. Evans | South Bend, IN | F | 1998 | 1998 | | |
| Dr. Mary C. Fabrizio | Highlands, NJ | F | 1988 | 1988 | 1999 | |
| Dr. Mark I. Farber | Miami, FL | F | 1980 | 1980 | 1991 | 2000 |
| Nicholas A. Farmer | Miami, FL | S | 2004 | 2004 | | |
| Arlo W. Fast | Grand Marais, MI | F | 1973 | 1973 | 1999 | |
| Dr. Felix Favorite | Lake Forest Park, WA | E | 1968 | 1968 | | |
| Carlos M. Fetterolf Jr. | Chelsea, MI | EF | 1973 | 1973 | 2003 | |
| Bernard D. Fink | Del Mar, CA | EM | 1966 | 1966 | 1994 | |
| Dr. John T. Finn | Amherst, MA | EM | 1978 | 1978 | 1998 | |
| Grant I. Fiscus | Olympia, WA | EA | 1972 | 1972 | 1989 | |
| George G. Fleener | Columbia, MO | EF | 1973 | 1973 | 1981 | 1990 |
| Dr. Glenn A. Flittner | Rockville, MD | EM | 1964 | 1964 | 1970 | 2000 |
| Kristy L. Forsgren | Long Beach, CA | S | 2005 | 2005 | | |
| Dr. Neal R. Foster | Ann Arbor, MI | F | 1977 | 1977 | 1987 | |
| Dr. William W. Fox, Jr. | La Jolla, CA | F | 1972 | 1972 | 1978 | 1984 |
| Joseph Foy | Elkhart, IN | M | 1998 | 1998 | 1999 | |
| Reynold A. Fredin | Seattle, WA | EF | 1958 | 1958 | 1972 | 2003 |
| Inga Fredland Potter | Portsmouth, NH | S | 2000 | 2000 | | |
| Kurt L. Fresh | Seattle, WA | M | 1995 | 1995 | | |
| Dr. James H. Fribourgh | Little Rock, AR | EF | 1980 | 1980 | 1998 | |
| Dr. Stephen M. Fried | Anchorage, AK | F | 1979 | 1979 | 1987 | 2000 |
| Dr. Kevin D. Friedland | Narragansett, RI | F | 1994 | 1994 | 2005 | |
| Alan Marc Friedlander | Waimanalo, HI | M | 1994 | 1994 | 2001 | |
| Dr. Ronald A. Fritzsche | Arcata, CA | F | 1982 | 1982 | 1988 | |
| Dr. Vincent F. Gallucci | Seattle, WA | F | 1975 | 1975 | 1993 | |
| Dr. Richard Gard | Juneau, AK | EF | 1980 | 1980 | 1988 | |
| Linda R. Garrett | Aloha, OR | A | 1987 | 1987 | | |
| Robin J. Gartman | Carlsbad, CA | A | 1999 | 1999 | | |
| Dr. Ronald R. Garton | Port Ludlow, WA | EF | 1973 | 1973 | 1990 | 1996 |
| Doyle E. Gates | San Antonio, TX | EM | 1963 | 1963 | 1993 | |
| John J. Geibel | Belmont, CA | M | 1977 | 1977 | | |
| Dr. David R. Geist | Richland, WA | F | 1997 | 1997 | 2002 | |
| Jessica A. Gharrett | Auke Bay, AK | A | 1982 | 1982 | | |
| Dr. Anthony J. Gharrett | Auke Bay, AK | M | 1979 | 1979 | | |
| Dr. R. John Gibson | St. Johns, CANADA | EF | 1985 | 1985 | 1990 | 1998 |
| Dr. Thomas C. Ginn | Sedona, AZ | M | 1980 | 1980 | 1984 | |
| Dr. Albert E. Giorgi | Redmond, WA | M | 1992 | 1992 | | |
| Martin F. Golden | Huntington Beach, CA | F | 1979 | 1979 | 1993 | |
| Allison Erin Gordon | Northridge, CA | S | 2005 | 2005 | | |
| Judith Ann Gordon | Longview, WA | M | 1996 | 1996 | | |
| Barra L. Gots | Guelph, CANADA | M | 1989 | 1989 | | |
| Daniel W. Gotshall | Monterey, CA | EF | 1972 | 1972 | 1978 | 1988 |
| Dr. John J. Govoni | Beaufort, NC | F | 1996 | 1996 | | |
| F. (Zeke) W. Grader Jr. | Sausalito, CA | M | 1999 | 1999 | | |
| Dr. Herbert W. Graham | Woods Hole, MA | EF | 1956 | 1956 | 1972 | |
| Dr. Joseph J. Graham | Grand Junction, CO | EF | 1971 | 1971 | 1986 | |
| Dr. George C. Grant | Gloucester Point, VA | EF | 1975 | 1975 | 1993 | |
| Dr. David M. Green | Richfield Springs, NY | EF | 1973 | 1973 | 1994 | 1998 |
| Edward C. Greenwood | Granite Bay, CA | EF | 1960 | 1960 | 1967 | 1985 |
| Dr. Fred Griffin | | M | 2005 | | 2005 | |
| Dr. Churchill B. Grimes | Santa Cruz, CA | F | 1975 | 1975 | 1980 | 1991 |
| Carolyn A. Griswold | Narragansett, RI | M | 1981 | 1981 | | |
| Alan B. Grove | Seattle, WA | EM | 1967 | 1967 | 1990 | |
| Cameron Guenther | West Lafayette, IN | S | 2005 | 2005 | | |
| Dr. George J. Guillen | Houston, TX | F | 1992 | 1992 | 2001 | |
| Dr. Donald R. Gunderson | Seattle, WA | F | 1979 | 1979 | 1994 | |
| Charles M. Guthrie III | Juneau, AK | A | 1993 | 1993 | | |

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|-----------------------------------|-----------------------|----|------|------|------|------|------|
| Peter L. Haaker | Los Alamitos, CA | F | 1975 | 1975 | 2001 | | |
| Loraine F. Hale | Long Beach, CA | S | 2005 | 2005 | | | |
| Dr. James D. Hall | Corvallis, OR | EM | 1965 | 1965 | 1971 | 1993 | |
| Paul E. Hamer | Absecon, NJ | EM | 1976 | 1976 | 1992 | | |
| Dr. J. A. R. Hamilton | Comox, CANADA | EF | 1956 | 1956 | 1993 | | |
| Charles J. Hanel | Medford, OR | EM | 1973 | 1973 | 1988 | | |
| Dr. David G. Hankin | Arcata, CA | F | 1982 | 1983 | 1990 | | |
| Dr. Michael J. Hansen | Custer, WI | M | 1995 | 1995 | | | |
| Dr. Charles H. Hanson | Walnut Creek, CA | M | 1985 | 1985 | | | |
| Dr. Jeffrey J. Hard | Seattle, WA | M | 1994 | 1994 | | | |
| Bradley P. Harris | Westport, MA | S | 2004 | 2004 | | | |
| Patrick John Harris | Charleston, SC | A | 1988 | 1988 | | | |
| Dr. George Y. Harry | Bellevue, WA | EM | 1959 | 1959 | 2004 | | |
| Allan C. Hartt | Snohomish, WA | EF | 1959 | 1959 | 1972 | 1982 | |
| Richard L. Hassinger | White Bear Lake, MN | M | 1973 | 1973 | | | |
| Frank Haw | Olympia, WA | M | 1969 | 1969 | | | |
| Dr. James M. Haynes | Brockport, NY | F | 1987 | 1987 | 1991 | | |
| Dr. Robert S. Hayward | Columbia, MO | M | 1994 | 1994 | | | |
| Dr. James F. Hebard | Middleburg, VA | M | 1969 | 1969 | | | |
| Richard F.G. Heilmann | Carmel Valley, CA | EM | 1967 | 1967 | 1996 | | |
| Dr. John H. Helle | Juneau, AK | F | 1968 | 1968 | 1985 | | |
| Dr. Gary Lee Hendrickson | Arcata, CA | M | 1986 | 1986 | | | |
| Dr. Sharon Hendrix Kramer | Arcata, CA | M | 1992 | 1992 | | | |
| Dr. Andrew Paul Hendry | Montreal, CANADA | S | 1996 | 1996 | | | |
| Annette E. Henry | San Diego, CA | A | 2000 | 2000 | | | |
| Stephen R. Hensler | Ann Arbor, MI | S | 2000 | 2000 | | | |
| Dr. William H. Herke | Baton Rouge, LA | EF | 1973 | 1973 | 1978 | 2003 | |
| James Meigs Herkelrath | Bellevue, WA | M | 1987 | 1987 | | | |
| Chris W. Herrala | San Francisco, CA | A | 1997 | 1997 | | | |
| Robert B. Herrmann | New Bern, NC | M | 1967 | 1967 | | | |
| Clarence R. Hickey, Jr. | Rockville, MD | A | 1975 | 1975 | | | |
| Mark T. Hill | Boise, ID | M | 1985 | 1985 | 1993 | | |
| Dr. Kevin Thomas Hill | La Jolla, CA | M | 1995 | 1995 | | | |
| Dr. Tracy W. Hillman | Eagle, ID | A | 1989 | 1989 | | | |
| Robert E. Hillman | Duxbury, MA | M | 1973 | 1973 | | | |
| Dr. Michael G. Hinton | La Jolla, CA | F | 1988 | 1988 | 2000 | | |
| Charles R. Hitz | Stanwood, WA | M | 1964 | 1964 | 1969 | | |
| Dr. Edmund S. Hobson | Novato, CA | EF | 1975 | 1975 | 2001 | | |
| John I. Hodges | Portland, OR | EM | 1959 | 1959 | 1983 | | |
| Dr. John J. Hoey | North Kingstown, RI | M | 1983 | 1983 | 1993 | | |
| Dr. Thomas B. Hoff | Quakertown, PA | M | 1985 | 1985 | | | |
| Dr. Timothy Lee Hoffnagle | La Grande, OR | M | 1997 | 1997 | | | |
| Dr. Anne Babcock Hollowed | Mercer Island, WA | M | 1998 | 1998 | | | |
| Dr. David T. Hoopes | Friday Harbor, WA | EF | 1966 | 1966 | 1970 | 1987 | 2000 |
| Michael H. Horn | Fullerton, CA | F | 2002 | 2002 | | | |
| Dr. Howard F. Horton | Corvallis, OR | EF | 1964 | 1964 | 1984 | 1992 | |
| Dr. Jonathan P. Houghton | Edmonds, WA | M | 1973 | 1973 | | | |
| Dr. Clark Hubbs | Austin, TX | EF | 1970 | 1970 | 1991 | | |
| Janice S. Hughes | Bastrop, LA | EF | 1977 | 1977 | 1983 | 1996 | |
| Peter-John Hulson | Little Egg Harbor, NJ | S | 2005 | 2005 | | | |
| Dr. Joseph B. Hunn | Columbia, MO | EM | 1976 | 1976 | 1996 | | |
| Charles J. Hunter | Bellevue, WA | EM | 1968 | 1968 | 1971 | 1981 | |
| Dr. Gene R. Huntsman | Havelock, NC | EF | 1975 | 1975 | 1984 | 1997 | |
| Dr. Tomio Iwamoto | San Francisco, CA | M | 1984 | 1984 | | | |
| Dr. Donald C. Jackson | Mississippi State, MS | F | 1998 | 1998 | | | |
| Richard Alan Jacobson | Marlborough, CT | F | 1996 | 1996 | 2002 | | |
| Dr. Andrew E. Jahn | Oakland, CA | M | 1989 | 1989 | | | |
| Erica T. Jarvis | Long Beach, CA | S | 2005 | 2005 | | | |
| Dr. Cecil A. Jennings | Athens, GA | F | 1996 | 1996 | 2005 | | |
| Dr. Mark R. Jennings | Davis, CA | M | 1985 | 1985 | 1994 | | |
| Albert C. Jensen | Inglis, FL | EF | 1970 | 1970 | 1983 | | |
| David L. Johnson | Hilliard, OH | M | 1984 | 1984 | | | |
| Mrs. Kathleen (Donald R.) Johnson | Seattle, WA | EF | 1956 | 1956 | | | |
| Dr. Frederick G. Johnson | Port Angeles, WA | M | 1987 | 1987 | | | |
| Dr. Lionel Johnson | Sidney, CANADA | EF | 1972 | 1972 | 1997 | | |
| Dr. Raymond E. Johnson | Virginia Beach, VA | EF | 1960 | 1960 | 1975 | | |
| Malcolm C. Johnson III | San Marcos, TX | M | 1983 | 1983 | 1994 | | |
| John W. Jolley, Jr. | Boynton Beach, FL | M | 1974 | 1974 | 1977 | | |
| Jesse D. Jones | Juneau, AK | M | 1983 | 1983 | | | |
| Dr. Albert C. Jones | Miami, FL | F | 1964 | 1964 | 1974 | | |
| Dr. Linda L. Jones | Kenmore, WA | F | 1994 | 1994 | | | |
| Rebecca C. Jordan | North Brunswick, NJ | S | 2001 | 2001 | | | |

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|-------------------------------------|-------------------------|----|------|------|------|------|
| Dr. James Joseph | La Jolla, CA | EF | 1985 | 1985 | 2002 | |
| Tom Jow | San Jose, CA | EF | 1970 | 1970 | 1985 | 1999 |
| Edwin A. Joyce, Jr. | Tallahassee, FL | EF | 1974 | 1974 | 1981 | 1999 |
| Dr. David J. Jude | Ann Arbor, MI | M | 1978 | 1978 | | |
| Jeffrey A. June | Seattle, WA | M | 1977 | 1977 | 1988 | |
| Dr. Frederick C. June | Bellingham, WA | EF | 1958 | 1958 | 1973 | 1986 |
| Michael D. Kaller | Baton Rouge, LA | S | 2004 | 2004 | | |
| J. M. Kapetsky | Wilmington, NC | M | 1972 | 1972 | 1983 | |
| John F. Karinen | Auke Bay, AK | M | 1974 | 1974 | | |
| Konstantin A. Karpov | Fort Bragg, CA | A | 1982 | 1982 | | |
| Mrs. Toshiko (Dr. Hiroshi) Kasahara | Seattle, WA | EF | 1970 | 1970 | 2000 | |
| Susumu Kato | Larkspur, CA | EM | 1965 | 1965 | 1968 | 1993 |
| Dr. Max Katz | Mercer Island, WA | EM | 1959 | 1959 | 1984 | |
| Donald E. Kauffman | Friday Harbor, WA | M | 1959 | 1959 | | |
| Thomas P. Keegan | Weimar, CA | M | 2001 | 2001 | | |
| Dr. Kevin M. Kelley | Long Beach, CA | M | 2005 | 2005 | | |
| William E. Kelso | Baton Rouge, LA | F | 1982 | 1982 | 1993 | 2003 |
| Dr. Arthur W. Kendall | La Conner, WA | F | 1980 | 1980 | | |
| Jonathan G. Kennen | West Trenton, NJ | S | 1992 | 1992 | | |
| Orra E. Kerns | Port Ludlow, WA | EM | 1960 | 1960 | 1992 | |
| Dr. Theodore H. Kerstetter | Hamilton, MT | EM | 1991 | 1991 | 1996 | |
| Dr. C. J. Kerswill | Ottawa, CANADA | EF | 1958 | 1958 | 1978 | |
| William M. Kier | Sausalito, CA | M | 1987 | 1987 | | |
| Young Sin Kim | Astoria, OR | S | 2002 | 2002 | | |
| John W. Kincheloe | Dallesport, WA | EM | 1977 | 1977 | 1986 | |
| Dr. James B. Kirkwood | Crystal River, FL | EF | 1965 | 1965 | 1974 | 1990 |
| Dr. Ronald J. Klauda | Prince Frederick, MD | F | 1980 | 1980 | 1993 | |
| Dr. Edward F. Klima | Stuart, FL | EF | 1971 | 1971 | 1975 | 1998 |
| Dr. John F. Kocik | Orono, ME | M | 1996 | 1996 | | |
| Dr. Patrick M. Kocovsky | University Park, PA | S | 1999 | 1999 | | |
| Lawrence Korn | Green Valley, AZ | M | 1965 | 1965 | 1971 | |
| Jarrad T. Kosa | Washington DC | S | 1996 | 1996 | | |
| Dr. K. V. Koski | Juneau, AK | F | 1970 | 1970 | 1992 | |
| Richard L. Kroger | Wood Lake, MN | EM | 1973 | 1973 | 1994 | |
| Dr. Gordon H. Kruse | Juneau, AK | M | 1989 | 1989 | | |
| Paul F. Kubicek | San Ramon, CA | M | 1977 | 1977 | 1985 | |
| Dr. Joseph H. Kutkuhn | Grayling, MI | EF | 1961 | 1961 | 1981 | 2001 |
| Dr. Thomas J. Kwak | Raleigh, NC | M | 1992 | 1992 | | |
| Dr. Robert T. Lackey | Corvallis, OR | F | 1973 | 1973 | 1990 | |
| Larry Lacunza | Redding, CA | A | 2004 | 2004 | | |
| Dexter F. Lall | Royal City, WA | M | 1970 | 1970 | | |
| Thomas R. Lambert | Sebastopol, CA | F | 1974 | 1974 | 1981 | 1991 |
| Anne M. Lange | Annapolis, MD | F | 1998 | 1998 | | |
| Dr. Scott E. LaPatra | Buhl, ID | F | 1988 | 1988 | 1994 | 2000 |
| Dr. R. Weldon Larimore | Champaign, IL | EF | 1959 | 1959 | 1979 | 1989 |
| Dr. William C. Latta | Ann Arbor, MI | EM | 1961 | 1961 | 1998 | |
| Dr. R. Michael Laurs | Pacific Grove, CA | F | 1972 | 1972 | 1987 | |
| Dr. G. H. Lawler | Winnipeg, CANADA | EF | 1964 | 1964 | 1972 | 1990 |
| Dr. Robert N. Lea | Monterey, CA | EF | 1972 | 1972 | 1974 | 1991 |
| Dr. William H. Lenarz | Kentfield, CA | M | 1984 | 1984 | | 2005 |
| Tein M. Lin | Clackamas, OR | S | 1994 | 1994 | | |
| Cedric E. Lindsay | Brinnon, WA | F | 1959 | 1959 | 1972 | |
| Kenneth L. Liscom | Shoreline, WA | EM | 1969 | 1969 | 1972 | 1991 |
| Dr. Charles R. Liston | Bedford, KY | M | 1978 | 1978 | | |
| Dr. Robert J. Livingston | Tallahassee, FL | M | 1974 | 1974 | | |
| William F. Loftus | Homestead, FL | M | 1980 | 1980 | 1991 | |
| A. C. Lopinot | Litchfield, IL | EF | 1973 | 1973 | 1988 | |
| David C. Love | Juneau, AK | M | 1996 | 1996 | 2000 | |
| Thomas J. LoVullo | Annapolis, MD | S | 1990 | 1990 | | |
| Christopher G. Lowe | Long Beach, CA | M | 2001 | 2001 | | |
| Dr. Pamela M. Mace | Wellington, NEW ZEALAND | F | 2002 | 2002 | 2002 | |
| Berton M. Maclean | Spokane, WA | EM | 1973 | 1973 | 1979 | |
| Paul Macy | Seattle, WA | EM | 1970 | 1970 | 1976 | |
| Dr. John J. Magnuson | Madison, WI | EF | 1963 | 1963 | 1969 | 1999 |
| Richard L. Major | Seattle, WA | EM | 1964 | 1964 | 1969 | 2003 |
| Michael J. Manka Jr. | Denver, CO | A | 2000 | 2000 | | |
| Dr. F. Joseph Margraf Jr. | Fairbanks, AK | F | 1984 | 1984 | 1993 | |
| Marine Research Info Center | St. Petersburg, FL | A | 1991 | 1991 | | |
| John C. Marr | Glendale, CA | EF | 1960 | 1960 | 1990 | |
| Dr. Douglas J. Martin | Seattle, WA | M | 1988 | 1988 | | |
| Dr. Karen L. Martin | Malibu, CA | F | 2004 | 2004 | | |
| Dr. W. R. Martin | Ottawa, CANADA | EF | 1959 | 1959 | 1976 | 1984 |

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|----------------------------------|-----------------------|----|------|------|------|------|------|
| John M. Mason Jr. | North Falmouth, MA | M | 1982 | 1982 | | | |
| Dr. James Masuoka | Ruckersville, VA | A | 1991 | 1991 | | | |
| Dr. Ole A. Mathisen | Friday Harbor, WA | EF | 1959 | 1959 | 1968 | 2003 | |
| Dr. Dilip Mathur | Drumore, PA | F | 1973 | 1973 | 1985 | | |
| Dr. Gary C. Matlock | Ellicott City, MD | F | 1990 | 1990 | 1994 | | |
| David L. Mayer | LaFayette, CA | S | 2003 | 2003 | | | |
| Dr. Richard S. McBride | St. Petersburg, FL | M | 2005 | 2005 | | | |
| David B. McClellan | Miami, FL | M | 1979 | 1979 | 1984 | | |
| Dr. Robert A. McConnaughey | Seattle, WA | M | 1990 | 1990 | 1992 | | |
| J. Howard McCormick | Duluth, MN | EF | 1977 | 1977 | 1987 | 1997 | |
| Ernest A. McCune III | Richmond, TX | A | 1983 | 1983 | | | |
| Dr. Michael F. McGowan | Berkeley, CA | M | 2005 | 2005 | | | |
| Dr. Katherine A. McGraw | Adelphi, MD | M | 1993 | 1993 | | | |
| Dr. William J. McNeil | Salem, OR | F | 1961 | 1961 | 1971 | | |
| Ryan R. McShane | Las Cruces, NM | S | 2005 | 2005 | | | |
| Michael R. Meador | Reston, VA | M | 1985 | 1985 | 1991 | | |
| Dr. William R. Meehan | Lynden, WA | EF | 1963 | 1963 | 1973 | 1995 | |
| Dr. Bernard A. Megrey | Seattle, WA | F | 2000 | 2000 | | | |
| William C. Melander | Sedro-Woolley, WA | EM | 1976 | 1976 | 1992 | | |
| Theodore R. Merrell Jr. | Juneau, AK | EF | 1959 | 1959 | 1971 | 2003 | |
| Dr. John V. Merriner | Beaufort, NC | M | 1972 | 1972 | 1975 | | |
| Dr. Richard D. Methot Jr. | Seattle, WA | F | 2005 | | | | |
| Dr. Fred P. Meyer | La Crescent, MN | EF | 1973 | 1973 | 1998 | | |
| Patricia J. Michael | Olympia, WA | A | 1982 | 1982 | | | |
| John H. Michael Jr. | Olympia, WA | F | 1980 | 1980 | 1988 | 2002 | |
| Dr. S. Hamar Midgley | BLI BLI, AUSTRALIA | EM | 1975 | 1975 | 1992 | | |
| Dr. Bruce S. Miller | Seattle, WA | F | 1972 | 1972 | 1989 | | |
| Dr. Robert V. Miller | Snohomish, WA | EF | 1970 | 1970 | 1994 | 2001 | |
| Charles T. Mitchell | Costa Mesa, CA | M | 1989 | 1989 | | | |
| Stanley A. Moberly | Olympia, WA | F | 1973 | 1973 | 1984 | | |
| Dr. Walter T. Momot | Ontario, CANADA | EF | 1973 | 1973 | 1982 | 2004 | |
| Donald T. Montgomery | Harbor, OR | EM | 1967 | 1967 | 1976 | 1983 | |
| Shelly L. Moore | Westminster, CA | M | 1998 | 1998 | 2003 | | |
| Thomas O. Moore, Jr. | Sebastopol, CA | A | 1982 | 1982 | | | |
| Dr. Kathleen Anne Moots | Saipan, MP | M | 2002 | 2002 | | | |
| Dr. Raymond P. Morgan II | Frostburg, MD | F | 1972 | 1972 | 1986 | | |
| Summer M. Morlock | Seattle, WA | A | 2002 | 2002 | | | |
| Robert H. Morman | Ludington, MI | EM | 1977 | 1977 | 1992 | | |
| Sandra S. Morrison | Ann Arbor, MI | S | 2004 | 2004 | | | |
| Dr. James E. Morrow | Anchorage, AK | EF | 1967 | 1967 | 1977 | | |
| Dr. H. Geoffrey Moser | Bozeman, MT | EF | 1985 | 1985 | 2003 | | |
| Dr. Lawrence L. Moulton | Lopez Island, WA | F | 1988 | 1988 | 2000 | | |
| Donald F. Mraz | Delafield, WI | EM | 1961 | 1961 | 1977 | | |
| MSU Library Acquisitions/Serials | Mississippi State, MS | A | 1991 | 1991 | | | |
| Phillip R. Mundy | Anchorage, AK | F | 1984 | 1984 | 1997 | | |
| Brian R. Murphy | Blackburg, VA | F | 1988 | 1988 | 1994 | | |
| Karen Riva Murray | Sand Lake, NY | S | 1990 | 1990 | | | |
| Dr. Katherine W. Myers | Seattle, WA | F | 1986 | 1986 | 2001 | | |
| Richard J. Myhre | Mesa, AZ | EF | 1959 | 1959 | 1969 | 1971 | 1988 |
| Eugene L. Nakamura | Panama City, FL | EF | 1963 | 1963 | 1975 | 1993 | |
| Dr. Brian S. Nakashima | St. Johns, CANADA | F | 1999 | 1999 | | | |
| Duane A. Neitzel | Richland, WA | M | 1985 | 1985 | | | |
| Gary Allen Nelson | Danvers, MA | M | 2004 | 2004 | | | |
| Philip R. Nelson | Largo, FL | EM | 1959 | 1959 | 1975 | | |
| Dr. Victor A. Nelson | Hansville, WA | M | 1976 | 1976 | | | |
| Dr. John M. Neuhold | Logan, UT | EF | 1965 | 1965 | 1971 | 1999 | |
| Raymond M. Newman Jr. | St. Paul, MN | F | 1983 | 1983 | 1990 | 2000 | |
| Dr. Scott H. Newton | Petersburg, VA | F | 1980 | 1980 | 1994 | | |
| Dr. John J. Ney | Blacksburg, VA | F | 1982 | 1982 | 1993 | | |
| William R. Nicholson | Beaufort, NC | EM | 1975 | 1975 | 1985 | | |
| David K. Nickerson, Jr. | Stuart, FL | A | 1981 | 1981 | | | |
| Jennifer L. Nielsen | Anchorage, AK | F | 2004 | 2004 | | | |
| Dr. Richard E. Noble | Eugene, OR | M | 1961 | 1961 | | | |
| Dr. David Nyquis | Boulder, CO | F | 1980 | 1980 | | | |
| Arthur L. Oakley | Milwaukie, OR | EM | 1967 | 1967 | 1968 | 1991 | |
| John O'Brien | Fairbanks, AK | S | 2005 | 2005 | | | |
| Dr. Daniel K. Odell | Orlando, FL | F | 1974 | 1974 | 1994 | | |
| Paul R. Olson | Kenmore, WA | EM | 1964 | 1964 | 1995 | | |
| Dr. Robert J. Olson | La Jolla, CA | M | 1984 | 1984 | | | |
| Craig J. Orange | San Diego, CA | EM | 1963 | 1963 | 1987 | | |
| Dr. Harold G. Orcutt | Redwood City, CA | EF | 1960 | 1960 | 1971 | 1983 | |
| Laura A. Oremland | Silver Spring, MD | A | 2004 | 2004 | | | |

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|------------------------------|-----------------------|----|------|------|------|------|
| Dr. Donald J. Orth | Blackburg, VA | F | 1982 | 1982 | 1993 | |
| Dr. Thomas L. Page | Richland, WA | M | 1977 | 1977 | | |
| Dr. Debra L. Palka | Woods Hole, MA | M | 2004 | 2004 | | |
| Dr. John F. Palmisano | Portland, OR | F | 1981 | 1981 | 2001 | |
| Dr. Frank M. Panek | Kearneysville, WV | F | 1968 | 1968 | 1982 | 2005 |
| Dr. Antonios Pappantoniou | Hartsdale, NY | M | 1987 | 1987 | | |
| Nick C. Parker | Lubbock, TX | F | 1983 | 1983 | 1989 | |
| Steven S. Parker | Toppenish, WA | A | 1983 | 1983 | | |
| William H. Parr Jr. | Port Angeles, WA | EM | 1974 | 1974 | 1977 | |
| Dr. Michael L. Parrack | Fort Lauderdale, FL | M | 1998 | 1998 | | |
| Dr. Dora R. Passino-Reader | Ann Arbor, MI | F | 1980 | 1980 | | |
| Dr. John B. Pearce | Falmouth, MA | F | 1975 | 1975 | | |
| Dr. Jerome J. Pella | Auke Bay, AK | F | 1981 | 1981 | | |
| Gordon J. Peltonen | Mukilteo, WA | EM | 1963 | 1963 | 1970 | 1996 |
| Dr. Donald L. Pereira | St. Paul, MN | A | 1983 | 1983 | | |
| Dr. Walter T. Pereyra | Seattle, WA | F | 1967 | 1967 | 1973 | |
| James A. Perry, II | St. Paul, MN | F | 2003 | 2003 | | |
| Dr. Peter W. Perschbacher | Pine Bluff, AR | A | 1985 | 1985 | | |
| Clifford L. Peterson | San Diego, CA | EF | 1960 | 1960 | 1971 | 1986 |
| Douglas C. Peterson | Morristown, TN | F | 1981 | 1981 | 2000 | |
| Dr. William C. Phoel | Toms River, NJ | F | 2000 | 2000 | | |
| Braden Pillow | Gresham, OR | EM | 1973 | 1973 | 1981 | |
| William E. Pitney | Portland, OR | EM | 1967 | 1967 | 1969 | 1986 |
| Henry A. Podoliak | Cortland, NY | EF | 1973 | 1973 | 1983 | |
| Dr. Kevin Lee Pope | Lubbock, TX | M | 1996 | 1996 | 2001 | |
| Dr. Hugh A. Poston | Dryden, NY | EF | 1974 | 1974 | 1991 | |
| Gary L. Powell | Austin, TX | F | 1998 | 1998 | | |
| J. Christopher Powell | Jamestown, RI | A | 1984 | 1984 | | |
| Dr. Michael H. Prager | Beaufort, NC | A | 1983 | 1983 | | |
| Richard T. Pressey | Lake Oswego, OR | EM | 1958 | 1958 | 1979 | |
| Dr. Eric D. Prince | Miami, FL | F | 1975 | 1975 | 1977 | 1991 |
| Dr. Terrance J. Quinn II | Auke Bay, AK | F | 1982 | 1982 | 1984 | 1994 |
| Dr. Joseph W. Rachlin | Bronx, NY | F | 1973 | 1973 | 1976 | |
| Gilbert C. Radonski | Cape Carteret, NC | F | 1973 | 1973 | 1984 | |
| Carol J. Raifsnider | Martinez, CA | A | 2003 | 2003 | | |
| Bruce H. Ransom | Seattle, WA | M | 2005 | 2005 | | |
| Jerry L. Rasmussen | Bettendorf, IA | M | 1975 | 1975 | 1978 | |
| Dr. Sammy M. Ray | Galveston, TX | F | 1958 | 1958 | 1971 | |
| Dr. H. John Rayner | San Diego, CA | EF | 1958 | 1958 | 1974 | |
| Dr. Jerry E. Reeves | Shoreline, WA | EF | 1969 | 1969 | 1994 | 2002 |
| Dr. Jeffrey M. Reutter | Westerville, OH | F | 1982 | 1982 | 1992 | |
| Dr. William J. Richards | Miami, FL | F | 1970 | 1970 | 1974 | |
| Dr. Richard L. Ridenhour | McKinleyville, CA | EF | 1963 | 1963 | 1993 | 2002 |
| Dr. Ronald G. Rinaldo | Rockville, MD | M | 1979 | 1979 | | |
| Dr. Neil H. Ringler | Syracuse, NY | F | 1991 | 1991 | | |
| William Ellis Ripley | Carmel, CA | EF | 1960 | 1960 | 1993 | |
| Douglas E. Ritchie, Jr. | Mechanicsville, MD | EF | 1972 | 1972 | 1978 | 1983 |
| Kenneth Roberson | Glennallen, AK | EM | 1971 | 1971 | | 2005 |
| Dale Roberts | Richmond, CA | M | 2004 | 2004 | | |
| lab C. Lance Robinson | Dickinson, TX | M | 1994 | 1994 | | |
| Jack G. Robinson | Astoria, OR | EM | 1973 | 1973 | 1997 | |
| Robert S. Robison | Olympia, WA | EM | 1964 | 1964 | 1970 | 1977 |
| Dr. Axayacatl Rocha-Olivares | San Diego, CA | M | 2003 | 2003 | | |
| Dr. Julius Rockwell Jr. | Anchorage, AK | EM | 1960 | 1960 | 2001 | |
| Richard B. Roe | Marshall, VA | F | 1972 | 1972 | 1978 | |
| Michael J. Roell | Columbia, MO | A | 1987 | 1987 | | |
| Phillip B. Roger | Gladstone, OR | A | 1972 | 1972 | | |
| Charles M. Roithmayr | Moss Point, MS | M | 1971 | 1971 | | |
| John F. Roos | Providence Forge, VA | EF | 1959 | 1959 | 1979 | 2001 |
| Edward Francis Roseman | Ann Arbor, MI | S | 1998 | 1998 | | |
| Dr. Rudolph A. Rosen | Tucson, AZ | F | 1983 | 1983 | 1993 | |
| Dr. Brian J. Rothschild | New Bedford, MA | F | 1995 | 1995 | | |
| Richard Ruelle | Mesa, AZ | EM | 1977 | 1977 | 1995 | |
| Carl R Ruetz III | Muskegon, MI | S | 1998 | 1998 | | |
| Lourdes M. Rugge | Roseville, CA | A | 2001 | 2001 | | |
| Dr. Gregory T. Ruggerone | Kenmore, WA | M | 1998 | 1988 | 1993 | |
| C. Paul Ruggles | Western Shore, CANADA | EF | 1969 | 1969 | 1969 | 1979 |
| Dr. D. Allen Rutherford | Baton Rouge, LA | F | 2000 | 2000 | | |
| Dr. Richard A. Ryder | Thunder Bay, CANADA | EF | 1961 | 1961 | 1979 | 1996 |
| David R. Sager | Austin, TX | F | 1982 | 1982 | 1987 | 2005 |
| Dr. Saul B. Salla | Hope Valley, RI | F | 1959 | 1959 | 1984 | |
| Dr. Gary T. Sakagawa | La Jolla, CA | F | 1970 | 1970 | 1975 | 1987 |

| | | | | | | |
|-----------------------------|-----------------------|----|------|------|------|------|
| Clyde S. Sayce | Ocean Park, WA | EF | 1967 | 1967 | 1978 | 1988 |
| Kurt M. Schaefer | La Jolla, CA | M | 1983 | 1983 | 1986 | |
| Richard H. Schaefer | Bethesda, MD | F | 1971 | 1971 | 1978 | |
| Dr. Donald Wayne Schloesser | Ann Arbor, MI | F | 1997 | 1997 | | |
| Dr. Robert E. Schmidt | Great Barrington, MA | M | 1984 | 1984 | | |
| Dr. Thomas W. Schmidt | Homestead, FL | M | 1974 | 1974 | 1994 | |
| Dr. Edward Schneberger | Madison, WI | EF | 1959 | 1959 | 1973 | |
| Robert W. Schoning | Corvallis, OR | EF | 1959 | 1959 | 1974 | 1985 |
| Dr. Martin P. Schreiber | Brooklyn, NY | EF | 1984 | 1984 | 2004 | |
| Dr. Steven L. Schroder | Olympia, WA | M | 1980 | 1980 | | |
| Howard A. Schuck | Tucson, AZ | EF | 1973 | 1973 | 1977 | |
| Larry R. Scofield | Falls City, OR | M | 1973 | 1973 | | |
| Mathew Scott | Belgrade, ME | EF | 1973 | 1973 | 1979 | 1999 |
| Dr. W. B. Scott | Kingston, CANADA | F | 1961 | 1961 | | |
| Dr. William Seaman Jr. | Gainesville, FL | F | 1975 | 1975 | 2003 | |
| Dr. George R. Sedberry | Charleston, SC | F | 1988 | 1988 | 2000 | |
| Dr. Fredric M. Serchuk | Woods Hole, MA | F | 1980 | 1980 | 1994 | |
| Paul L. Shafland | Boca Raton, FL | F | 1979 | 1979 | 1982 | 1992 |
| Dr. Kenneth Sherman | Peacedale, RI | F | 1971 | 1971 | 1984 | |
| Kyle Shertzer | Beaufort, NC | M | 2005 | 2005 | | |
| Allen M. Shimada | Bethesda, MD | M | 1995 | 1995 | | |
| J. Dale Shively | San Marcos, TX | M | 1992 | 1992 | | |
| Frank C. Shrier III | Portland, OR | A | 1989 | 1989 | | |
| Dr. John W. Sigler | Albuquerque, NM | M | 1980 | 1980 | 1987 | |
| Charles A. Simenstad | Seattle, WA | M | 1971 | 1971 | 1977 | |
| Dr. Thomas P. Simon | Bloomington, IN | M | 1998 | 1998 | | |
| Dr. Michael P. Sissenwine | Silver Spring, MD | F | 1980 | 1980 | 1994 | |
| Dr. Bernard E. Skud | Oak Harbor, WA | EF | 1959 | 1959 | 1972 | 1993 |
| Barry W. Smith | Montgomery, AL | M | 1979 | 1979 | | |
| Claris W. Smith | Colleyville, TX | EF | 1963 | 1963 | 1978 | 1984 |
| Susan E. Smith | Del Mar, CA | M | 1981 | 1981 | | |
| Dr. Clarence L. Smith | Colorado Springs, CO | EF | 1972 | 1972 | 2002 | |
| Dr. Stanford H. Smith | Livingston, TX | EF | 1960 | 1960 | 1985 | |
| Dr. William W. Smoker | Juneau, AK | F | 1979 | 1979 | 1982 | 1994 |
| Howard E. Snow | Spooner, WI | EM | 1973 | 1973 | 1993 | |
| J. R. Snow | Marion, AL | EF | 1973 | 1973 | 1984 | |
| Dr. David A. Somerton | Seattle, WA | M | 1987 | 1987 | | |
| Dr. Oscar N. Sosa-Nishizaki | San Ysidro, CA | M | 2001 | 2001 | | |
| Dr. G. Morris Southward | Las Cruces, NM | EF | 1959 | 1959 | 1972 | 1995 |
| James L. Squire | El Cajon, CA | F | 1977 | 1977 | | |
| Dr. Karen A. Steidinger | St. Petersburg, FL | F | 1982 | 1982 | | |
| Dr. David L. Stein | Philomath, OR | F | 1999 | 1999 | | |
| Dr. John S. Stephens Jr. | Arroyo Grande, CA | F | 1975 | 1975 | 2001 | |
| Dr. Robert R. Stickney | College Station, TX | F | 1973 | 1973 | 1983 | |
| Dr. Quentin J. Stober | Carrollton, GA | M | 1969 | 1969 | | |
| Stacy M. Stocker | Roseville, CA | A | 2004 | 2004 | | |
| Dr. Kevin D.E. Stokesbury | New Bedford, MA | M | 2004 | 2004 | | |
| Jennifer A. Stone | La Center, WA | A | 2004 | 2004 | | |
| Richard B. Stone | Southport, NC | F | 1973 | 1973 | 2000 | |
| Gilbert St-Pierre | Quebec, CANADA | EM | 1988 | 1988 | 1995 | |
| Dr. John A. Strand III | Richland, WA | F | 1976 | 1976 | 1993 | |
| Dr. Donald W. Strassburg | Tantallon, MD | EF | 1960 | 1960 | 1971 | 1985 |
| Dr. Richard R. Straty | Auke Bay, AK | EF | 1964 | 1964 | 1985 | 1993 |
| Michael W. Street | Morehead City, NC | M | 1975 | 1975 | | |
| Richard H. Stroud | Warrenton, VA | EF | 1960 | 1960 | 1982 | |
| Dr. P. K. Sukamaran | Bangalore, INDIA | F | 2004 | 2004 | | |
| Dr. Craig Vincent Sullivan | Raleigh, NC | M | 1987 | 1987 | 1988 | |
| Dr. Joseph R. Sullivan | Anchorage, AK | M | 1982 | 1982 | | |
| Dr. Robert C. Summerfelt | Ames, IA | F | 1972 | 1972 | 1980 | |
| Dr. Chi-Lu Sun | Taipei, TAIWAN R.O.C. | F | 1988 | 1988 | 2003 | |
| Dagmar Ruth Sundermeyer | | M | 2005 | | 2005 | |
| Dr. Trent M. Sutton | West Lafayette, IN | M | 1993 | 1993 | 2000 | |
| Donald E. Sweat | Largo, FL | F | 1974 | 1974 | 1987 | |
| James E. Sykes | Largo, FL | EF | 1959 | 1959 | 1975 | 1989 |
| Dr. Jack V. Tagart | Olympia, WA | M | 1981 | 1981 | | |
| Robert N. Tasto | Palo Alto, CA | M | 1974 | 1974 | 1978 | |
| Dr. Frieda B. Taub | Seattle, WA | EM | 1968 | 1968 | 2004 | |
| Cynthia A. Taylor | San Diego, CA | S | 1997 | 1997 | | |
| Dr. William W. Taylor | East Lansing, MI | F | 1983 | 1983 | 1991 | |
| Herbert G. Tegelberg | Montesano, WA | E | 1960 | 1960 | | |
| Donald L. Tennant | Billings, MT | EF | 1973 | 1973 | 1978 | 1984 |
| Mark R. Terwilliger | Corvallis, OR | S | 1996 | 1996 | | |

| | | | | | | |
|---------------------------------|----------------------|------|------|------|------|------|
| David Harlan Thomas | Castro Valley, CA | A | 1986 | 1986 | | |
| John A. Thompson | Nanaimo, CANADA | BM | 1972 | 1972 | 1980 | |
| William C. Thorn | Lake City, MN | M | 1977 | 1977 | | |
| Dr. John E. Thorpe | Perthshire, Scotland | UKEF | 1984 | 1984 | 1996 | |
| Frederick V. Thorsteinson | Auke Bay, AK | BM | 1959 | 1959 | 1985 | |
| Lyman K. Thorsteinson | Bainbridge, WA | A | 1985 | 1985 | | |
| Dr. Michael F. Tillman | La Jolla, CA | F | 1973 | 1973 | 1984 | |
| Athena Tiwari | Scarsdale, NY | S | 2005 | 2005 | | |
| Dr. S. Gregory Tolley | Fort Myers, FL | A | 1988 | 1988 | | |
| Darin T. Topping | Daphne, AL | A | 2003 | 2003 | | |
| Larry Travanti | Roseville, CA | M | 2003 | 2003 | | |
| Michael S. Trianni | Saipan, MP | M | 2002 | 2002 | | |
| John W. Tucker Jr. | Vero Beach, FL | F | 1985 | 1985 | 2000 | |
| Diane C. Tulipani | San Diego, CA | S | 2003 | 2003 | | |
| Dr. Harold M. Tyus | Golden, CO | EF | 1973 | 1973 | 1989 | 2000 |
| 0219 Serials UCSD - SIO Library | La Jolla, CA | A | 0 | | | |
| Edward Ueber | San Francisco, CA | F | 1980 | 1980 | 2002 | |
| Kevan A. F. Urquhart | Monterey, CA | M | 1989 | 1989 | 1993 | 2002 |
| Dr. Fred M. Utter | Seattle, WA | F | 1969 | 1969 | 1983 | |
| Ryan Utz | Morgantown, WV | S | 2005 | 2005 | | |
| Dr. Jack Van Hying | Fairbanks, AK | EF | 1960 | 1960 | 1972 | 1997 |
| Peter Vanriel | Saskatoon, CANADA | M | 1986 | 1986 | 2000 | |
| Dr. Douglas S. Vaughan | Beaufort, NC | F | 1979 | 1979 | 1987 | |
| Marija Vojkovich | Santa Barbara, CA | M | 1993 | 1993 | | |
| Roy J. Wahle | McMinnville, OR | EF | 1963 | 1963 | 1969 | 1977 |
| Charles H. Walburg | Yankton, SD | EF | 1958 | 1958 | 1973 | 1985 |
| Dr. William A. Walsh | Kailua, HI | M | 1992 | 1992 | | |
| Dr. Shizhen Wang | Mercer Island, WA | M | 2005 | 2005 | | |
| Michael B. Ward | Wauconda, WA | A | 1994 | 1994 | | |
| Dr. Gordon T. Waring | Woods Hole, MA | M | 1980 | 1980 | | |
| Dr. Barbara Ellen Warkentine | Bronx, NY | F | 1986 | 1986 | 1989 | 1998 |
| Kendall Warner | Orono, ME | EF | 1970 | 1970 | 1971 | 2003 |
| Dr. Stephen M. Waste | Lake Oswego, OR | M | 1996 | 1996 | | |
| Brian F. Waters | Orinda, CA | M | 1973 | 1973 | | |
| Dr. Thomas F. Waters | Andover, MN | EF | 1959 | 1959 | 1974 | 1997 |
| Diana L. Waters | Belmont, CA | M | 2000 | 2000 | 2002 | |
| Charles R. Weaver | Stevenson, WA | BM | 1963 | 1963 | 1970 | 1979 |
| Ronald O. Weaver | Portland, OR | EA | 1975 | 1975 | 1979 | |
| Don T. Weber | Fort Collins, CO | BM | 1973 | 1973 | 1994 | |
| Douglas D. Weber | Woodinville, WA | M | 1968 | 1968 | | |
| Kingsley G. Weber | Seattle, WA | BM | 1959 | 1959 | 1975 | |
| Dr. Gary Wedemeyer | Seattle, WA | EF | 1968 | 1968 | 1977 | 1997 |
| Donald E. Weitkamp | Seattle, WA | A | 1972 | 1972 | | |
| Henry O. Wendler | Corona, CA | EF | 1960 | 1960 | 1972 | 1987 |
| Dr. Robert G. Werner | Skaneateles, NY | EF | 1991 | 1991 | 2004 | |
| Alex C. Wertheimer | Juneau, AK | M | 1982 | 1982 | 1994 | |
| Dr. Vidar G. Wespestad | Lynnwood, WA | M | 2002 | 2002 | | |
| Sigurd J. Westrheim | Nanaimo, BC | EF | 1959 | 1959 | 1971 | 1987 |
| Leslie E. Whitesel | Traverse City, MI | BM | 1970 | 1970 | 1981 | |
| Dr. Richard R. Whitney | Leavenworth, WA | F | 1961 | 1961 | 1971 | |
| Donald A. Wickham | Reston, VA | BM | 1972 | 1972 | 2004 | |
| Dr. Mark L. Wildhaber | Columbia, MO | F | 2002 | 2002 | | |
| Mark E. Wilkins | Lynnwood, WA | M | 1979 | 1979 | 1986 | |
| Dr. Erik H. Williams | Beaufort, NC | M | 2004 | 2004 | | |
| R. Walter Williams | Bellingham, WA | EF | 1961 | 1961 | 1976 | 2001 |
| Dr. John G. Williams | Seattle, WA | M | 1995 | 1995 | | |
| Dr. J. Holt Williamson | Roswell, NM | M | 1999 | 1999 | | |
| William J. Wilson | Anchorage, AK | F | 1978 | 1978 | 1983 | 1993 |
| Dr. Charles A. Wilson III | Baton Rouge, LA | M | 1984 | 1984 | | |
| Dr. Raymond R. Wilson Jr. | Long Beach, CA | F | 2000 | 2000 | | |
| Dr. Bruce L. Wing | Auke Bay, AK | F | 1970 | 1970 | 1976 | |
| Paul J. Wingate | St. Paul, MN | F | 1980 | 1980 | 1994 | |
| Dr. James R. Winton | Seattle, WA | F | 1982 | 1982 | 1990 | |
| Dr. Charles E. Woelke | Gig Harbor, WA | EF | 1959 | 1959 | 1972 | 1993 |
| Dr. Donald E. Wohlschlag | Port Aransas, TX | EF | 1959 | 1959 | 1971 | 1992 |
| Patricia Wolf | Los Alamitos, CA | A | 1988 | 1988 | | |
| John C. Wolfe | Vancouver, WA | M | 1974 | 1974 | 1977 | |
| James C. Woodey | Aldergrove, CANADA | A | 1970 | 1970 | | |
| Arnold G. Woodward | Brunswick, GA | M | 1995 | 1995 | | |
| Donald D. Worlund | Prosser, WA | BM | 1967 | 1967 | 1989 | |
| David M. Wyanski | Charleston, SC | M | 1999 | 1999 | | |
| Marci L. Yaremko | Santa Barbara, CA | A | 1998 | 1998 | | |
| Dr. William T. Yasutake | Bothell, WA | BM | 1964 | 1964 | 1997 | |
| Mary M. Yoklavich | Santa Cruz, CA | F | 2003 | 2003 | | |
| Dr. Paul Yokley Jr. | Florence, AL | EF | 1977 | 1977 | 2002 | |
| Julie K.H. Zimmerman | Wyoming, MN | S | 2004 | 2004 | | |

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Dora R. Passino-Reader
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Gulf of Mexico, Northeast

Vacant

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Vacant

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Seabrook Marine Lab
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Dr. William H. Bayliff
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NMFS, Office of Science and Technology
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Silver Spring, MD 20910
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VOL. 34, NO. 4

JULY, AUGUST 2005

Business First! Board of Control Meets!

Tentative Agenda: Anchorage, Alaska

10-11 September 2005

Saturday, 10 September 2005 (0800-1700 hrs)

1. Registration, 0830
2. Call to Order, and determination of quorum, 0900
3. Local arrangements: Orientation and lunch arrangements; Events (Dinner, Reception, etc.); Group picture; AIFRB display.
4. Reviews and Adoption of the Agenda (Schaefer)
5. President's Report (Schaefer)
6. Secretary's Report (Warkentine): Minutes of 2004 BOC meeting (Madison, Wisconsin) and adoption
7. Treasurer's Report (Shimada): State of the Treasury; Delinquent members; Advice from Capital Management Committee (Wespestad); Founders Fund; Outlook for 2005-2006, (i) Plans for better tracking of new members dues status (ii) Review of Emeritus dues payment & comments from E-members. Adoption of authorization for Treasurer (Fiscal 05-06)
8. Report of Membership Committee (Keegan): Results for 2005; Update on press releases for new Fellows; Recommendations and plans for 2006
9. Report of W.F. Thompson Award Committee (Bayliff): Award recipient and plans for presenting the award; Review criteria for judging papers; Develop a survey for distribution to past recipients
10. Report of Research Assistance Award Committee (Ault)
11. Report of Outstanding Achievement Award Committee: Nominations (individual) for 2006; Nominations (group) for 2006; Status of Plaques
12. Distinguished Service Award (Sakagawa): 2004 award presentation to John (Jack) Helle; Committee (Sakagawa, Schaefer and Jones) to consider 2005 awards*
13. Report on *Briefs* (Huntsman in Absentia)
14. Report on Productions (Merriner)
15. Report on Web Page Project (Foster)
16. Report of the Recruitment & Marketing Committee (Radonski and Golden)
17. District Reports on District Activities (Directors)

Sunday, 11 September 2005

0900 Call to order (Schaefer)

18. Project Reports: Celebration 2006 (Jones); Biography of Founders (Warkentine); AIFRB-AFS Liaison- Write-up of Duties (Schaefer and Sakagawa); Founders Fund (Sakagawa and Shimada); Report from ad hoc committees; (i) "What qualifies a person as a fisheries scientist?" (Vaughan); (ii) Editorial and Productions guidelines; (iii) Professional Recognition
19. New Business: Controversial topics for publication on the Web page (Bayliff); Fund raising projects-Ebay; Name change for AIFRB (Schaefer); Review of reimbursement at annual BOC meetings (Schaefer); Review of committee assignments (Schaefer)
20. Induction of New President (Schaefer)
21. Comments and Plans for the future (Jones)
22. Appointments (Jones): Regional Directors; Officers and/or Interim Directors; Standing Committee Chairs; Special Committee Chairs
23. Adjournment

Ed. Not the most exciting lead article, but this work is at the heart of our institute. Stay in touch with your District Director to influence issues.

Northern California District

Student Paper and Poster Judging at AFS CalNeva Chapter Annual Meeting

For the fifth straight year, the Northern California District presided over the judging of student presentations and posters at the 2005 AFS Cal-Neva Chapter Annual Meeting, that took place March 17-19, 2005, in Sacramento, California. Organized by Tom Keegan and Lourdes Rugge, Northern California District members conducted the judging. A total of 23 student papers were in the running for the cash prize awards, including \$100 for Best Student Presentation, \$75 for Best Student Presentation - Runner-up, and \$50 for Best Student Presentation - Third Place. Student posters were also evaluated by AIFRB members for Best Student Poster (\$100 cash prize), Best Student poster - Runner-up (\$75), Best Student Poster - Third Place (\$50). All winners received a certificate signed by both organizations (CalNeva Chapter AFS, Northern California District AIFRB).

Submitted by: Tom Keegan

Foster donates, Shimada signs, Ebay sells, and Institute collects!

Neal Foster wrote:

I'm gradually selling off most of my extensive personal library of fish, fisheries, and other biological books and reprints (collected since the late 1950's), and I would like to designate the AIFRB treasury to receive some of the proceeds. There is a long list on Ebay of other nonprofit organizations that are already receiving proceeds from sales by other Ebay sellers. If and when AIFRB joins that list, I will prepare a brief article for *Briefs* urging other AIFRBers who might be interested in selling their old books (or any other items) on Ebay to do the same. It's a relatively painless way (preparing an accurate description and providing one or two digital images is the hardest part) to help AIFRB, and there are now commercial outfits in many parts of the country that will prepare the descriptions and photograph the item for you for a reasonable fee.

Treasurer Shimada made the arrangements with Ebay and Pay pal. Members divesting themselves of libraries or Bugattis may conveniently designate part of the receipts to go to AIFRB.

Losses

Dr. Gerald B. Collins (F'67, EF'75)
6602 NE 154th Street, Kenmore, WA 98028-4338

Dr. William Ellis Ripley (F '60, EF '93)
221 Hacienda Carmel
Carmel, CA 93923-7947
ON 4/27/05

Dr. George C. Grant (EF '93)

Kenneth N. Thorson 1915-2005

Kenneth Norman Thorson (89) died peacefully in his Seattle, WA home on May 30, 2005. He was born in Spokane, WA, on November 14, 1915. Ken's parents, Peter and Petra (Ekrom) Thorson, emigrated from Norway early in the 20th century.

The family lived in various locations around Washington State, including Metaline Falls and along the Skagit River. They returned to Seattle in the 1920s, and Ken graduated from Queen Anne High School in 1933.

After high school, Ken went to Alaska, where he worked proving up gold claims on the Preacher River and as a carpenter in the Matanuska Valley and Anchorage.

When WWII broke out, he enlisted in the Navy, and was assigned to one of the Construction Battalions (SeaBees), and served tours in the Aleutian Islands and the South Pacific. At war's end, he earned his Bachelor of Science degree from the University of Washington School of Fisheries. He became a Marine Research Biologist, and worked for the Territory of Alaska, the Washington State Department of Fisheries, Wake-Field King Crab Company, and the National Marine Fisheries Service. His contributions to our knowledge of marine life were many.

He retired in 1978 to LaConner, WA, where he enjoyed fishing, bird hunting, dancing and golf.

During his working years, Ken was a member of the National Association for the Advancement of Science, the Pacific Fishery Biologists, the American Fisheries Society, and American Institute of Fishery Research Biologists. He was a Life Member of the Mt. Vernon Elks' Club, a Lifetime Member of the University of Washington Alumni Association, and a member of Fisheries Old Friends.

Ken is survived by his son, Tracy Thorson, his daughter, Valerie Thorson, both of Seattle; a brother, Lloyd F. Thorson, of Mead, WA; several nieces and nephews and their children; Tracy & Valerie's mother, Leota Stanley, of Seattle; and a sister-in-law, Irene Thorson, of Bothell.

His wife, Alma (Johnson), and another brother, Theodore A. Thorson, MD, preceded him in death. At his request, there was no service. Bleitz Funeral Home was in charge of arrangements. The family suggests remembrances to the University of Washington's School of Aquatic and Fishery Sciences or the Husky Men's and Women's basketball programs.

Ken stayed level-headed and standing through a 7.6 earthquake, a freighter listing 45 degrees to port, and every other challenge life sent his way. His ashes will be scattered where they will go out to sea, among the wild things he loved most.

Sent by: Bruce Miller
From: Western Viking
June 24, 2005

Missing

Kim M. Anthony (A'03)
Last known address:
12635 Main Street, Apt 317
Garden Grove, CA 92840

Anyone know where to find Kim?
Contact the editor, Treasurer Shimada,
or Secretary Warkentine

One Research Assistance Award: 2005

The single Research Assistance Award for 2005 went to Diane C. Tulipani of the Department of Marine Science and Environmental Studies of the University of San Diego, Ms. Tulipani received \$350 to further development of her career.

*Submitted by: Jerald Ault, chair, Research Assistance
Award Committee*

Members At Work: Prestigious Federal Committee Reports on MPA'S Pereyra and Radonski Serve

**A Report of the Marine Protected Areas Federal Advisory Committee on Establishing and
Managing a National System of Marine Protected Areas - June 2005**
(Ed: Much Abridged)

Members of the Marine Protected Areas Federal Advisory Committee

Executive Committee

Dr. Daniel Bromley, Department of Agricultural and Applied Economics, University of Wisconsin (Chair)
Dr. Bonnie McCay, Department of Human Ecology, Rutgers University (Vice Chair)
Dr. Mark Hixon, Department of Zoology, Oregon State University (Subcommittee Chair: National System of MPAs)
Captain Robert Zales II, sport fishing (Subcommittee Vice Chair: National System of MPAs)
Mr. Lelei Peau, American Samoa Department of Commerce (Subcommittee Chair: Stewardship and Effectiveness)
Dr. Anthony Chatwin, The Nature Conservancy (Subcommittee Vice Chair: Stewardship and Effectiveness)
Mr. Mel Moon, Quileute Tribal Natural Resources Department (Subcommittee Chair: National Regional Coordination of MPA Efforts)
Mr. Michael Nussman, American Sportfishing Association (Subcommittee Vice Chair: National and Regional Coordination of MPA Efforts)

Other Members

Dr. Tundi Agardy, Sound Seas; Mr. Robert Bendick, The Nature Conservancy; Mr. David Benton, Marine Conservation Alliance; Dr. Michael Cruickshank, Marine Minerals Technology Center Associates; Ms. Carol Dinkins, Attorney; Dr. Rod Fujita, Environmental Defense; Dr. Dolores Garza, University of Alaska Sea Grant, Marine Advisory Program; Mr. Eric Gilman, Blue Ocean Institute; Dr. John Halsey, Michigan Department of History, Arts and Libraries; Mr. George Lapointe, Maine Department of Marine Resources; Mr. Robert Moran, American Petroleum Institute; Dr. Steven Murray, Department of Biological Science, California State University, Fullerton; Mr. Terry O'Halloran, Tourism Business Solutions, LLC; Dr. John Ogden, Florida Institute of Oceanography, University of South Florida; Dr. Walter Pereyra, commercial fishing; Mr. Max Peterson, International Association of Fish and Wildlife Agencies (retired); Mr. Gil Radonski, sport fishing; Dr. James Ray, Shell Global Solutions (US), Inc.; Ms. Barbara Stevenson, commercial fishing; Dr. Daniel Suman, University of Miami; Captain Thomas (Ted) Thompson, International Council of Cruise Lines; Ms. Kay Williams, Gulf of Mexico Fishery Management Council, commercial fishing

Overview

The Federal Advisory Committee (FCA), authorized by Executive Order 13158 (Marine Protected Areas), is charged with providing expert advice and recommendations on the development of a national system of marine protected areas (MPAs). The FCA consists of 30 people with diverse interests, backgrounds and perspectives, including non-federal scientists, resource managers, and other interested persons and organizations.

The Committee met over the course of the last two years at locations throughout the US, visited several marine areas, and received detailed presentations by representatives of local, state, tribal and national organizations and agencies as well as extensive public comment.

The Committee grappled with many complex and divisive issues yet found much common ground. We accommodated a wide variety of interests in developing this report on establishing and managing a National System of marine protected areas. The committee unanimously adopted this final report at its meeting on May 18, 2005.

The Committee adopted the following as an overall goal:

To enhance effective stewardship, lasting protection, and sustainable use of the nation's natural and cultural marine resources with due consideration of the interests of and implications for all who use and care about our marine environments.

To achieve the goal, the report:

1. Presents a statement of purpose for a National System of MPAs; 2. Outlines the benefits of such a system; 3. Describes goals and objectives; 4. Sets forth guiding principles; defines marine protected areas; 5. Outlines the importance of and mechanisms for promoting stewardship and enhancing management effectiveness; 6. Articulates processes both for assessing existing MPAs and for proposing new sites for inclusion in the National System; 7. Sets out key aspects of implementation; and 8. Defines key terms in a glossary.

The report recognizes that incentives, including adequate funding, will be essential to the success of this effort.

Finally, the report recognizes that time did not permit resolution of all significant questions and concerns. These unresolved items will need to be addressed by the future FAC or by the agencies.

II. Goal and Objectives of a National System of Marine Protected Areas

Goal

The MPA Federal Advisory Committee envisions a National System of Marine Protected Areas implemented:

To enhance effective stewardship, lasting protection, and sustainable use of the nation's natural and cultural marine resources with due consideration of the interests of and implications for all who use and care about our marine environments.

Objectives

To implement the goal of the National System of marine protected areas, the MPA Federal Advisory Committee proposes the following objectives:

1. Conserving, enhancing, and/or restoring marine biodiversity; 2. Conserving, enhancing and/or restoring representative examples of the nation's marine habitats, as well as unique biophysical and geological features; 3. Protecting areas vital to the conservation of particular species or species assemblages, such as spawning and nursery grounds, or unique habitats; 4. Providing both appropriate access to and use of marine resources within MPAs consistent with the goals and objectives of the MPA; 5. Protecting cultural resources and providing appropriate access for their enjoyment and sustainable use; 6. Raising awareness and knowledge of marine and coastal resources; and 7. Strengthening existing ocean management frameworks of the United States (i.e., international, federal, state, territorial, tribal or local laws and regulations).

While some MPAs may have multiple objectives, others may concern a sole objective. Any individual MPA in the National System must have at least one of these objectives, thereby contributing to the goal of the National System. It is acknowledged that there may be existing or new MPAs that would not become part of the National System.

These objectives should be accomplished in a way that:

A. Recognizes both on-site and off-site influences (i.e., freshwater, marine, terrestrial, and atmospheric), including linkages between watersheds and the sea; B. Is based on the participation of various interest groups and use of the best available information from natural science, social science, and customary and local knowledge; C. Considers and addresses local values and perceptions; D. Encourages cooperation and coordination among federal, state, territorial, tribal and other management entities to reduce administrative costs, promote efficiency, and effectively utilize existing management infrastructure; E. Minimizes, to the extent possible, adverse social and economic impacts on citizens and interest groups; and F. minimizes, to the extent possible, adverse impacts to the marine environment and its resources from the spatial and temporal redistribution of activities.

Appendix I. Definitions of "Lasting" Protection for Marine Protected Areas

Executive Order 13158 defines a marine protected area (MPA) as involving "lasting" protection. This table provides minimum durations 1 that define "lasting" protection for three major goals of MPAs 2, recognizing that a particular MPA may achieve more than one of these goals. Note that all MPAs have a maximum possible duration of protection that is indefinite 3. This table addresses only the issue of the duration of protection, and does not address the issue of level or type of protection, which may vary widely according to the specific goals of each MPA. Footnotes following the table are essential for understanding these definitions.

MPAs are not the only form of spatial management of coastal and ocean areas. The term “Marine Managed Areas” (MMA) was created to denote a broader set of areas under a spectrum of place-based management. MMAs are defined in the Federal Register (v. 70, no. 15, pp. 3512-3521), and include some areas that would be excluded by the narrower definition of MPAs recommended below.

| MPA CATEGORY & Sub-Category | MINIMUM DURATION OF PROTECTION | RATIONALE FOR MINIMUM DURATION OF PROTECTION |
|---|--------------------------------------|---|
| 1. MPAs WITH NATURAL HERITAGE GOALS: | | |
| Living Natural Resources (i.e., species, populations, ecological communities, and/or ecosystems, including habitats and ecological processes) | 10 Years | <i>Procedural:</i> time required for public involvement, regulatory processes, and at least 5 yr of scientific and other monitoring and analysis, including independent review in an adaptive-management framework. <i>Scientific:</i> response rate of species, populations, ecological communities, and/or ecosystems and their associated features are determined by the generation time ⁴ of focal species. |
| Large-Scale Non-Living Natural Resources⁵ (i.e., larger geological features that are well-documented and permanent from the human perspective, some examples being submarine canyons, volcanic features, seamounts, and pinnacles) | indefinite³ | Representative, unique rare, or uncommon seafloor features are irreplaceable and sufficiently valued to be preserved for present and future generations. |
| Small-Scale Non-Living Natural Resources⁵ (i.e., smaller geophysical features that may be poorly documented and/or ephemeral from the human perspective some examples being hydrothermal vents, methane seeps, submarine freshwater springs, and sand “waterfalls”) | 10 Years | <i>Procedural:</i> time required for public involvement, regulatory processes, and scientific monitoring of the persistence of geophysical feature in an adaptive-management periodic review. <i>Scientific:</i> poorly documented features may be more common than previously assumed and/or features may be ephemeral, both cases justifying occasional adaptive-management review. |
| 2. MPAs WITH CULTURAL HERITAGE GOALS: | | |
| Archaeological Resources (i.e., artifacts, shipwrecks, and other archaeological sites or objects, including human remains) | indefinite³ | Some archaeological features may degrade over time, requiring periodic survey and assessment followed by adaptive management, yet the intent is that these features are irreplaceable and sufficiently valued to be preserved for present and future generations. |
| Tribal/Indigenous Cultural Resources | indefinite³ | Continued access to and sustainable use of resources in an area may be paramount to a culture’s identity and/or survival. |
| 3. MPAs WITH SUSTAINABLE PRODUCTION GOALS: | | |
| There are multiple possible sub-categories, all of which are designed to provide for sustainable production of focal species, and may protect supporting ecological communities and ecosystems, including habitats and ecological processes. | 10 years | <i>Procedural:</i> time required for public involvement, regulatory processes, and at least 5 yr of scientific and other monitoring and analysis, including independent scientific review in an adaptive-management framework. Stringent criteria for modification (e.g. FMP amendment). <i>Scientific:</i> response rate of species, populations, ecological communities, and/or ecosystems and their associated features are determined by the generation time ⁴ of focal species. Also, large-scale oceanographic cycles (e.g., El Niño-Southern Oscillation and Pacific Decadal Oscillation) occur on multi-year time scales. |

Notes: Definitions of “Lasting” Protection for Marine Protected Areas:

1. The “duration” of protection is defined as the time period an MPA (or candidate site) has been designated to exist, regardless of how long that MPA (or MMA) has actually existed. For example, a 3-year-old MPA designated to exist for 25 years is considered to have a 25-year duration of protection. The specified minimum durations of protection are also based on the following general considerations:
 - (a) any MPA may have an indefinite 3 duration if specified by legal authority;
 - (b) MPAs with only seasonal protection must provide that protection at a fixed and regular period each year that corresponds to the timing of a predictable ecological process or anthropogenic threat (otherwise the absence or removal of such explicit periodic protection means that the site is no longer an MPA); and
 - (c) The specified minimum durations of protection incorporate the times estimated to be required for:
 - (i) the MPA to become fully functional after establishment;
 - (ii) some effect of the protection to occur, especially in the case of MPAs that protect living resources;
 - (iii) a statistically valid trend in performance to be monitored and assessed; and
 - (iv) the appropriate adaptive-management response to be taken based on the results of monitoring and analysis, which may include alterations or de-commissioning of the MPA.
2. For detailed definitions of the categories of MPA, see MPA Center publication “A Classification System for Marine Protected Areas in the United States: A Tool To Understand What We Have and What We May Need” (January 2004).
3. An “indefinite” duration of protection means that the intent at the time of designation is permanent protection. The distinction between “indefinite” and “permanent” acknowledges that MPA designation and level of protection may change for various reasons, including natural disasters that may destroy or alter resources, or change in societal values.
4. At least one full generation, at a minimum, is necessary to determine the trajectory of protected biological populations inside an MPA or regional populations ecologically linked to that MPA.
5. Non-living natural resources that are protected principally to conserve their associated marine life are, by definition, subsumed within the sub-category of living natural resources (as the habitat for those living resources).

Members at Work: Fellows Beamish and Gallucci raise alarm!

Scientists lament drop in dogfish population

By Erik Lacitis Seattle Times staff reporter

Pity the dogfish – misunderstood, reviled and sometimes maimed by sport salmon fishermen who inadvertently hook them and throw them overboard to die. Now the population of these small sharks is at historic lows in our inland waters. The Washington Department of Fish and Wildlife estimates that dogfish numbers in 2001 were one-sixth those of 1987. Overfishing is a major reason for the dramatic decline, say researchers, along with naturally occurring changes in the ocean’s food supply and dogfish predators including seals and the six-gill shark, which is three times larger than a dogfish. Also, after the 1974 Boldt decision that allocated half of the salmon catch to native Americans, non-tribal fishermen began going after species that live in the deepest parts of Puget Sound, where mature dogfish live.

Some in the commercial dogfish industry argue that there are still large numbers of dogfish. But statistics for 2001, the most recent year available, show that there were 1.75 million dogfish in Washington’s inland waters, according to the state’s estimate. That compares with more than 10 million dogfish a decade and a half earlier. Even local sport-fishing guides have noticed the decline.

Dave Morgison, owner of Possession Point Fishing Charters of Everett, has been fishing Sound waters for five decades and says 15 or 20 years ago dogfish would blanket parts of the water by the thousands. But, he says, that’s no longer true, especially this year. “To be honest with you, I’ve only caught one.”

Not that the dogfish – one of the most abundant of the some 400 shark species in the world – has become a cause for the general public. There are no “Save the Dogfish” T-shirts. Its name even connotes what we think of dogfish, harking back centuries ago in Europe – a fish thought to be garbage and unfit for human consumption. Only scientists and a handful of commercial fishermen seem to appreciate this beady-eyed animal with the pointed snout, and a mouth that appears to have what’s been described as a wry smile. It’s also known as the spiny dogfish because its sharp spines can cause painful piercing, as fishermen can attest to.

“We need to get the message out to the public. It’s an amazing animal that can live up to 100 years,” said Richard Beamish, senior scientist in Nanaimo, B.C., for Fisheries and Oceans Canada. “In their life history, there are similarities to humans.” Dogfish don’t start reproducing until they are 25 to 35 years old. “The babies are inside the mother for a long time. For dogfish it’s two years, and they give live birth. The babies themselves are quite cute, I think,” Beamish said.

Female dogfish are larger than the males – reaching 2 ½ to 3 feet in length, with an average weight of about 4 to 5 pounds – and so are more valuable commercially, he said. With the number of sexually mature females plummeting, and because of the long gestation period, it means fewer pups. If the dogfish population is decimated, said Beamish, who knows how it might affect the ecosystem in which they’ve lived. “We don’t understand all of the roles that dogfish serve,” he said. “If they’re the equivalent of scavengers, then they serve the purpose of cleaning up the environment. They are like wolves feeding on the deer

that are undernourished. They cut out the weaker and diseased fish.”

Beamish said sport fishermen may not realize that a dogfish they’ve caught might have been born in 1925. And it is those fishermen who are catching the majority of dogfish in Puget Sound. “They cut the fin off a dogfish, or cut off its nose or cut the belly open and let the entrails drag out, and throw the fish back alive to die,” he said. “People should be disgusted. No animal should be treated this way.”

Beamish was one of the participants last month at the first international conference held about dogfish, which took place at the University of Washington’s School of Aquatic and Fishery Sciences, attended by 80 researchers. A survey conducted by the state and the federal government showed that sport fishermen caught 90 percent of dogfish in Puget Sound, said Wayne Palsson, a fisheries research scientist for the state. The sport fishermen said they mostly released the dogfish alive, said Palsson. But, he added, “people are generally reluctant to admit to killing a dogfish. Technically it’s illegal to kill an animal without harvesting it.”

The small commercial fishery here is for dogfish meat sold for fish and chips in England, where dogfish is sometimes marketed as “rock salmon” and other euphemisms. Unlike in the U.S., there are no inhibitions about eating them. In Germany, they are made into smoked strips and sold in bars as “schillerlocken.” In Asia, dogfish provide the ingredient in shark-fin soup. The fish’s dried fins are thought to be sexual stimulants there.

The Puget Sound fishery began when dogfish were overfished in European waters and were beginning to be overfished off the U.S. East Coast. Professor Vincent Gallucci, a UW researcher specializing in sharks, hopes the dogfish population here will recover, as it did when it was decimated from overfishing from the late 1930s until 1950.

At one point, dogfish livers were valuable as a source of vitamin A. Livers were cut out and the carcasses thrown away. After the vitamin could be produced synthetically, that fishery ended and the dogfish population rebounded. Native Americans in the Pacific Northwest built totem poles honoring the dogfish, using the liver oil for preserving cedar canoes and waterproofing and softening clothing woven from cedar bark. A long-held belief by some that dogfish kill adult salmon is false, scientists say. A typical, mature dogfish simply can’t open its mouth big enough to eat a returning spawning salmon, said Gallucci. However, juvenile dogfish do eat salmon smolt as they enter salt water, he said. Autopsies on dogfish show they pretty much eat whatever food source happens to be around, “including shrimp, jellyfish, herring, octopus, clam shells,” said Gallucci. But, at their slow growth rate, dogfish simply don’t eat that much, said Canadian scientist Beamish. “In human terms, it’s basically unobtrusive. It minds its own business,” Beamish said about the sharks he has studied for 31 years. “I can’t imagine hating an animal. They all serve a purpose.”

Erik Lacitis: 206-464-2237 or elacitis@seattletimes.com

Members at Work: Two New Books

Friedland and Horn contribute

Stock Identification Methods

Applications in Fishery Science

Edited by: Stephen X. Cadrin, Kevin D. Friedland & John R. Waldman

This book provides a comprehensive review of the various disciplines used to study population structure of fishery resources. It represents the expertise of the International Council for the Exploration of the Sea (ICES), and fosters multidisciplinary analyses and interdisciplinary conclusions about stock structure.

Key Features:

- Describes 18 distinct approaches to stock identification grouped into sections on life history traits, environmental signals, genetic analyses, and applied marks
- Reviews benchmark case studies, protocols, and the strengths and weaknesses of each identification method
- Considers statistical techniques for exploring stock patterns and testing for differences
- Focuses on the challenges of interpreting data and managing mixed-stock fisheries

© 2004, Hardback, 719 pp., ISBN: 0-12-154351-X, List: \$64.95

Academic Press

The Ecology of Marine Fishes

California and Adjacent Waters

Larry G. Allen, Daniel J. Pondella and Michael H. Horn

This unique, authoritative, and accessible reference, compiled by 35 luminary ecologists, evolutionary biologists, and ichthyologists, provides the first-ever synthesis and interpretation of the large, often daunting, body of information on the ecology of marine fishes. The focus is on the fauna of the Eastern Pacific, especially the fishes of the California coast, a group among the most diverse and best studied of all marine ecosystems. A generously illustrated and comprehensive source of information, this volume will also be an important launching pad for future research and will shed new light on the study of marine fish ecology worldwide.

Larry G. Allen is Professor of Biology at California State University, Northridge. Daniel J. Pondella II is Director of the Vantuna Research Group at Occidental College. Michael Horn is Professor of Biology at California State University, Fullerton.

Available January 2006. 700 pp., 125 color plates, 65 b/w photos, 130 line drawings, 20 tables, \$75 cloth (£48.95), ISBN: 24653-5

University of California Press

Mraz comments on emeritus dues, history, and beer

I was glad to see the membership list included in the last issue of *Briefs*. It provided the answer to a couple of personal questions I had and also reminded of a problem you have been trying to solve.

In one of the back issues of the *Briefs* there was information on how you were trying to increase income or lessen expenditures. One put into place was to bill Emeritus Members for reasonable dues. Looking at the membership list it is obvious this is an extensive group. I am curious to know how many of us did pay the modest dues and how many did not. This would certainly indicate still interest after going Emeritus. I would suggest that after non payment of the dues for a second year would result in the end of the individual's membership and thus lessen the cost of *Briefs* distribution.

On the personal side it is well known that Wisconsin has never been noted as a fertile ground for members. I counted seven which includes Ed Schneberger who passed away many years ago. Possibly someone is keeping his membership as a memorial as Mrs. Erkkilla has done for Leo. I find two of the last three are from 1983 and 1986, the last 1995 there is a simple reason why Wisconsin is lacking but don't want to go into it here.

The other question answered is that I have the longest tenure in AIFRB of any Wisconsin member. My date is 1961 with John Magnuson a close second of 1963. My career was with the Federal Fish and Wildlife Service for two years, 16 with the Wisconsin Department of Natural Resources and 15 with the Center For Great Lakes Studies at the University of Wisconsin-Milwaukee. And now 23 years as a retiree. I enjoyed my association with AIFRB during my career and now still look forward to receiving the *Briefs*.

Finally in your report on the meeting in Madison, you mentioned that you nearly ran out of beer. This is somewhat puzzling, as everyone in Wisconsin knows that it is impossible to run out of beer at any time or place here. Best wishes,

Don Mraz

It's Over

We asked readers to tell us where they were and how they reacted to the news that World War II had ended. And what a response we got.

An AIFRB member recalls VJ Day in Smithsonian magazine

I served aboard the USS Pennsylvania from January 1942 to September 1946. This ship participated in amphibious operations from Attu to the Philippines and earned a Navy Unit Commendation for its action.

We heard rumors in early August 1945 that the Japanese Empire was near surrender, but we didn't have the slightest clue when this would occur. Much of the U.S. fleet was closing in on the Japanese mainland. On August 12, my ship, along with other warships and support vessels, was anchored in Buckner Bay, Okinawa, awaiting orders for the "Big Push." That night a lone Japanese torpedo plan hit and badly damaged our ship. Twenty officers and enlisted men lost their lives.

When the ceasefire occurred on August 15, there was not much to celebrate, since the ship's crew was still occupied repairing the damage. Certainly, we were glad the war was over, but we had lost shipmates and mourned their passing. What made it doubly sad was that we had endured much action prior to the surrender without casualty to ship or crew. Yet less than three days before the ceasefire, a last gasp effort by a lone warrior of the empire nailed us.

Henry O. Wendler, Corona, California

Submitted by: Bill Bayliff

Abridged from: Smithsonian, August 2005

ASIH Gibbs Award

Nominations are solicited for the Robert H. Gibbs Jr. Memorial Award for Excellence in Systematic Ichthyology from the American Society of Ichthyologists and Herpetologists (ASIH). The prize is awarded for "an outstanding body of published work in systematic ichthyology" to a citizen of a Western Hemisphere nation who has not been a recipient of the award. The award is offered annually and consists of a plaque and a monetary award (approximately \$5000). The award is presented during the banquet held in conjunction with the annual meeting of ASIH. Nominations may be made by an ichthyologist, including self-nominations, and should include the nominee's curriculum vitae, details of the nominee's specific contributions, and their impacts on systematic ichthyology. Nominations should be submitted by 1 February 2006 for the nominee to be eligible for that year's award. Nominations are effective for three years. Four copies of each nomination should be mailed (not faxed or e-mailed) to the Chair of the 2006 Gibbs Award Committee, Dr. Joseph S. Nelson, Department of Biological Sciences, University of Alberta, Edmonton, AB, Canada T6G 2E9, or to the ASIH Secretary, Dr. Maureen A. Donnelly, Department of Biological Sciences, Florida International University, 11200 SW 8th St., Miami, FL, USA, 33199.

US proposes changes in fishing guidelines

Environmentalists say move would impede rebuilding

By Kadesha M. Thomas

Boston Globe

June 23, 2005

A federal agency proposed far-reaching changes in guidelines protecting depleted fish species, drawing criticism from environmentalists who warned that the proposal would undercut efforts to rebuild struggling marine populations.

The changes proposed by the National Oceanic and Atmospheric Administration (NOAA) appear to give the nation's eight regional fish councils greater flexibility in establishing commercial fishing restrictions to protect beleaguered fish populations. Currently, federal rules don't take into account the biological differences between species that allow some stocks to rebuild faster than others. The changes would allow each stock of fish to be considered separately, potentially changing the time fishing restrictions are in place. "We are not changing the law," said Rebecca Lent, deputy director of the National Marine Fisheries Service under the NOAA. "We are just using past experience and more sense – common sense – in deciding time for rebuilding."

NOAA officials said the proposal published in the Federal Register was needed to eliminate confusion about how to comply with federal rules that govern fish stocks. They also said it set stricter standards for fishery managers to meet. But conservation groups said that it would roll back work to protect New England's beleaguered fish stocks, and said that it appeared to put the fishing industry's short-term commercial interests first. "This is irresponsible. It comes at a time when our oceans are in serious trouble and overfishing is the biggest threat," said Roger Fleming, senior attorney for the Conservation Law Foundation, a Boston-based advocacy group that has sued the federal government, saying it has not been rebuilding fish stocks fast enough.

Under the proposal, which is open to public comment until Aug. 22, fishery councils would end overfishing within the first year of rebuilding plan. Also, rebuilding plans would remain in effect until the stock is rebuilt. Current rules don't say what should be done if a plan reaches its end and the stock has not been rebuilt. But the proposal at the center of the changes involved the target times fishery managers set to rebuild fish stocks. The rules now set a target of 10 years when feasible. Under the proposed guidelines, fishery managers could extend the time for stocks to be replenished if they provide convincing scientific evidence for why it would take longer, NOAA officials said.

Environmentalists say shifting away from the 10-year model would allow overfishing on depleted fish stock to go on longer with less time for rebuilding. "In the long run this is going to hurt commercial and recreational fishermen and decrease the amount of fish in our oceans," said Matt Rand, director of the marine fish campaign for The National Environmental Trust. The proposal was not expected to affect current fishing restrictions on New England fishermen who fish for cod, flounder, and other bottom-dwelling fish. However, environmentalists say it could allow fishery managers to put off restrictions as other species of fish become depleted in the future.

"In New England, we have waited so long for stocks to come back, why should we take a step backward?" asked Peter Baker, of the Cape Cod Commercial Hook Fishermen's Association. His group says the new laws will hurt fishermen who largely fish one stock and need strict rebuilding schedules so they can harvest fish in the future. "This adds uncertainty." Others in the fishing industry welcomed the change. "The longer we can take to rebuild a particular fish stock, the less strain on the industry," Angela Sanfilippo, president of the Gloucester Fishermen's Wives Association. "What's the use in rebuilding a fish stock if the industry is so strained that there are no fishermen to catch them and no way to get them to the people's plates."

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Panel caps menhaden landings in Chesapeake

Staff, Wire Reports

Alexandria, Va. – Concerned about potential over-harvesting of an important fish in the Chesapeake Bay ecology, a regional commission voted Wednesday to limit the catch of menhaden in the bay despite objections that it would curtail a vital industry on Virginia's Northern Neck. Virginia's representatives on the Atlantic States Marine Fisheries Commission opposed the cap and raised the possibility that the state will defy the regulations.

The cap imposed Wednesday (Aug. 17, 2005) by the commission will limit the annual menhaden catch in the Chesapeake Bay for five years beginning in 2006 to 106,000 metric tons annually – the average catch in the Chesapeake over the last five years. Texas-based Omega Protein currently is the only significant fisher of menhaden in the Chesapeake. It employs more than 250 workers at its Reedville plant, making it the largest private employer in rural Northumberland County.

The commission – comprised of states from Maine to Florida – was created by Congress to regulate fisheries in the Atlantic. Only Virginia and North Carolina opposed the new regulations. Omega Protein had volunteered to impose a cap of 131,000 metric tons on itself, but the commission rejected that proposal.

From: The News Times, Carteret County, NC, August 19, 2005

Bill would establish study for menhaden

Small commercial fish seen as crucial to environment

By Patricia Smith

Freedom ENC

Raleigh – It's an issue that won't go away for Beaufort Fisheries owner Jule Wheatly. A state house committee voted in May against a bill to ban menhaden fishing for part of the year in the two southern-most coastal counties. Now a bill in the General Assembly would set up a study committee to address the subject again. "It's been brought up every year and defeated and I just don't know why they keep bringing it up," said Wheatly, who runs the only North Carolina-based menhaden fishing operation and one of two menhaden fish meal plants on the Atlantic Coast. His boats do not often work off New Hanover and Brunswick counties, and they have not been there at all this summer, Wheatly said. "They're making much to-do over nothing," he said.

Those who support the ban say the hubbub certainly is about something important: the tourism economy in their area. "In Brunswick County, the two big things going in the world of tourism would be golf and king mackerel fishing," said Rube McMullen, owner of the Ocean Isle Fishing Center in Ocean Isle Beach and a leader of the Save our Pogies campaign. And king mackerel feed on menhaden, which the anglers call pogies, McMullen said. "Everything that swims eats menhaden," McMullen said.

The bill establishes several study commissions on different topics, including a Legislative Commission on Menhaden. The commission would consist of five members of the Senate, appointed by the Senate president pro-tempore, and five members of the House, appointed by the Speaker of the House, and would study the management of menhaden and Atlantic thread herring, including whether it should be against the law to catch these fish with a purse seine (a type of fishing net) off the shore of Brunswick and New Hanover counties during all or part of the year. The commission would report its findings and recommendations to the General Assembly in 2006.

Preston Pate, director of the NC Division of Marine Fisheries, said the North Carolina issue is similar, but separate from one going on in Virginia. The Atlantic States Marine Fisheries Commission, an interstate fisheries management board that Pate chairs, last week voted to cap the commercial menhaden harvest in the Chesapeake Bay. Representatives from North Carolina and Virginia voted against the measure. "I did not see the scientific basis for making a determination that the harvest had to be capped at the level being posed," Pate said. In fact, the latest stock assessments show Atlantic menhaden populations are healthy. "It's not an issue that's occurring because of concern about the coast-wide stock of menhaden," Pate said.

The problem is what is being called localized depletion. "It's a conflict issue," Pate said. Supporters of the ban say that when menhaden boats harvest large quantities of the fish it affects the recreational catch of king mackerel, which feed on menhaden. Without food source, the predator fish then leave the local waters, McMullen said. "When the predator fish are gone, there is no fish for the sport fishermen to catch and when the sport fishermen don't have anything to catch they go somewhere else," McMullen said.

From: Sun Journal, New Bern, NC, August 28, 2005

Protecting unseen coral gardens in the Atlantic

In deep sea canyons thousands of feet beneath the whitecaps of the Atlantic, secret gardens are blooming. Colorful corals, growing very slowly in the cold and dark, can take centuries to reach the size of a front-yard shrub. Tragically, a single pass of a fishing trawler's bottom-dragging gear or a poorly placed fish trap can wipe them out in an instant.

Last year Environmental Defense (ED) worked with the New England Fishery Management Council to prohibit the use of destructive fishing gear in two precious deep-water coral canyons south of Cape Cod. In addition to safeguarding the fragile corals, the action helps protect commercially harvested species like tilefish, monkfish and redfish found in the canyons.

Recently, ED proposed classifying 10 more deep canyons between Massachusetts and North Carolina as areas of particular concern. Marine conservation advocate Sally McGee, chair of the fishery council's habitat committee, will work with fishermen and other allies to shepherd the new classifications through the council.

From: Environmental Defense Solutions, 36(4) July-August 2005

Pacific Corals Protected

Historic conservation move on US Pacific coast: Five years of Oceana work end in deep-sea coral protections from Baja to Bering

February 10, 2005: The North Pacific Fishery Management Council unanimously votes to close 370,000 square miles of ocean around Alaska's Aleutian Islands, where the ocean floor is cloaked in deep sea corals and sponges, to destructive bottom trawling. The action, which protects an area more than twice the size of California, is the largest such closure ever made by U.S. fisheries authorities as a precautionary measure, solely to protect critical habitat.

June 15, 2005: The Pacific Fishery Management Council votes unanimously to apply the "Oceana Approach" to the seafloor off Washington, Oregon, and California. The Council action will protect more than 250,000 square miles of seafloor, including areas of coral and sponges in Monterey Bay, from destructive bottom trawling.

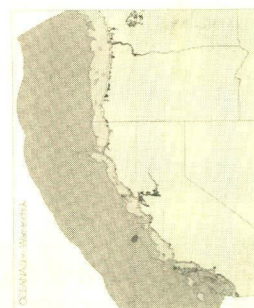
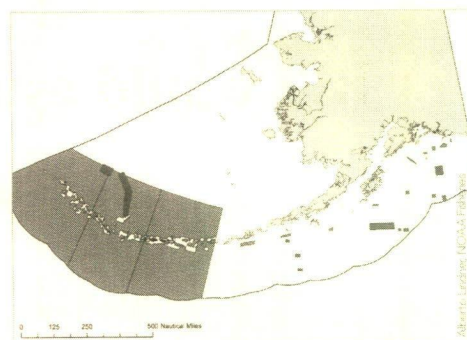
Together, the two Councils' actions mark a landmark victory in marine conservation and a new era in Pacific fisheries management.

They also represent, for Oceana, the culmination of five years of legal battle, scientific work, and public advocacy. The saga began in 1998, when, as a result of a lawsuit filed by a coalition of ocean conservation groups, NOAA (the National Oceanic and Atmospheric Administration, the federal agency charged with managing the nation's fisheries through regional Fishery Management Councils) was required to devise a plan to protect fragile seafloor habitat. Despite the lawsuit, NOAA stalled. Then, in July of 2002 two NOAA scientists slid into a tiny, capsule-shaped submersible, dropped through 12,000 feet of water to the ocean floor, and discovered the magnificent coral and sponge gardens of the remote Aleutian archipelago, a string of islands that arc westward from Alaska's tip. The discovery of the Aleutian coral gardens — under threat from encroaching trawlers — catapulted the issue of deep-sea coral protection into the arena of national and international debate.

In September of 2002, Oceana presented the North Pacific Fisheries Management Council with a plan to protect Alaska's deep-sea corals and sponges while maintaining the region's vibrant fisheries. Based on scientific, fishing and socioeconomic data that Oceana had compiled for the first time, the "Oceana Approach" proposed to 'freeze the bottom trawl footprint,' or keep trawlers from moving into new areas until it could be determined that the new areas were acceptable coral-free. Within areas already being trawled, the Approach suggested closing areas of high coral density but low fishing activity.

NOAA agreed to consider the Oceana Approach as one of several options and was deluged by 33,000 supportive public comments. The scientific community rallied in kind. More than sixty U.S. marine scientists worldwide signed a letter supporting global deep-sea coral protection in February, 2004. Along the U.S. Pacific coast, newspapers covered Oceana's proposal and fostered an energetic debate between bottom trawlers, conservation interests, and scientists. Meanwhile, in Washington DC, Oceana staff working to introduce national deep-sea coral protections helped to defeat a legislative roadblock that could have crippled any future coral protections in the North Pacific.

The work paid off. A huge swath of the American Pacific is now protected from bottom trawlers. Despite the debate around the votes, they have been hailed by conservationists, scientists, and fishermen alike, all of whom recognize that protecting deep-sea coral and sponge habitat now will ensure the continued vitality of America's fisheries and preserve healthy oceans for generations to come.



From: Splash 4(2), Spring-Summer 2005

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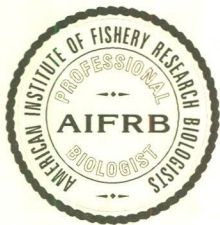
BRIEFS, the newsletter of the American Institute of Fishery Research Biologists, is published six times a year. It is intended to communicate the professional activities and accomplishments of the Institute, its District, and Members; the results of research; the effects of management; unusual biological events; matters affecting the profession; political problems; and other matters of importance to the fishery community. Comments and contributions should be sent to the Editor, Dr. Gene R. Huntsman, 205 Blades Road, Havelock NC 28532, feeshdr@starfishnet.com. Subscription \$30 a year to Institutions and Non-Members. Officers-Richard Schaefer, 6211 Madawaska Rd., Bethesda, MD 20816, dickschaefer@aol.com - President; Linda L. Jones, 14931 73rd Ave., Kenmore, WA 98028, linda.jones@noaa.gov - President-elect; Barbara Warkentine, SUNY-Maritime College, Science Dept., 6 Pennyfield Ave., Fort Schuyler, Bronx, NY 10465-4198, synodus@aol.com - Secretary; Allen Shimada, NMFS, Office of Science and Technology, 1315 East West Highway, Silver Spring, MD 20910, allen.shimada@noaa.gov - Treasurer. ISSN-8755-0075

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... BRIEFS ...

Distinguished Service Award to Jack Helle

The Board of Control at its August 2004 voted to present Dr. John "Jack" H. Helle with the Distinguished Service Award in recognition of his support and long service to AIFRB.

Jack, who holds a Ph.D. from Oregon State University, was elected as a Member to AIFRB in 1968 and promoted to Fellow in 1985. He has, and continues to maintain, an active role in AIFRB activities. He served as Alaska's District Director from 1982 to 1984 and during the second year of his term as District Director was appointed as Regional Director. In 1990 he was elected by the membership to the position of President Elect. He guided the Board of Control and AIFRB as President from 1991 to 1993. Upon completing his tenure as President, Jack continued to play an active role, in his capacity as Past President, on the Board of Control from 1993 through 2001. When asked to serve as the Chair of the Outstanding Achievement Award Committee, for the 2000 to 2001 award cycle, Jack gladly accepted. To this day Jack maintains his role as an active member of this committee. Concurrent with his involvement on this committee, Jack was also a member on the Nominations Committee for the Institute's past two Presidential Elections. In addition to Jack's involvement with AIFRB, he maintains an active research program, which clearly reflects the mission of AIFRB.

Dr. Helle's research career has been quite extensive. He has been with the



Dr. Jack Helle (center) accepts plaque symbolizing the Institute's Distinguished Service Award for 2004 from President Dick Schaefer and President-elect Linda Jones (left) in Anchorage, September 10, 2005

Auke Bay Laboratory and its predecessor since 1958. He began with chum salmon (*Oncorhynchus keta*) research in Prince William Sound his first season in Alaska and has continued working on the ecology of that species for 47 years. During that time he has worked on various aspects of chum salmon life history, with particular emphasis on the long term effects of climate variability, and genetic studies for growth characteristic and environmental responses of specific salmonid stocks. Jack is currently Program Manager for the Auke Bay Laboratory Ocean Carrying Capacity Program and Stock Identification Program. This multidisciplinary program includes 1)

BASIS (Bering-Aleutian Salmon International Survey) a cooperative program with Russian, Japanese and Canadian contributions emphasizing salmon migration routes in the Bering Sea, 2) Ocean Carrying Capacity-Gulf of Alaska, with studies on the current and past productivity of salmon in the Northeast Pacific Ocean, 3) Stock Identification Analyses, primarily genetic analyses of salmonid stocks for regional, national and international management, and 4) Transboundary studies of salmonid movement in the Yukon River drainage.

Clearly the AIFRB has made an excellent choice in selecting Dr. John "Jack" H. Helle as its 2004 Distinguished Service Award recipient.

W.F. Thompson Award – Best Student Paper Published in 2003

The five persons who reviewed papers submitted for consideration for the W.F. Thompson Award as the best student paper published in 2003 have chosen:

Radborn, Scott W., Leandro E. Miranda, and M. Todd Driscoll. 2003. Modeling predation as a source of mortality for piscivorous fishes in a southeastern U.S. reservoir. *Amer. Fish. Soc., Trans.*, 132 (3): 560-575.

It is based on the following doctoral dissertation:

Radborn, Scott W. 2000. An evaluation of feeding interactions among dominant piscivorous fishes in a southeastern reservoir. Mississippi State University, Starkville.

The paper was submitted to the American Fisheries Society on October 22, 2001, and accepted for publication on November 11, 2002.

Dr. Radborn received his B.S. degree at Louisiana College in 1992, his M.S. degree at the University of Louisiana in 1995, and his Ph.D. degree at Mississippi State University in 2000. He is currently Assistant Professor of biology at Louisiana College.

Dr. Radborn studied the predator-prey relationships of piscivorous fishes in Norris Reservoir, Tennessee. Three species of black bass were the only piscivores consumed, and they were eaten only by other black basses. The total prey consumption for the black bass populations was estimated by bioenergetics models. The effect of density-dependent survival was incorporated by modeling the survival-density relationships based on estimates of the densities in consecutive years. The survival decreased with increasing density. As a result, predation was projected to be a compensatory source of mortality that failed to reduce the overall survival, even though an estimated 85 percent of the black basses were consumed during one year. The projections from the survival-density models indicated that these species were resistant to decreases in overall survival when the densities and levels of predation varied.

This paper scored highly in originality, the work was well executed, and the results are applicable to future work. It is worthy of the W.F. Thompson Award.

Bill Bayliff

Nominations Needed!

W.F. Thompson Award for Best Student Paper Published in 2004

Nominations are open for the W.F. Thompson Award, which is given to recognize the "best" student paper in fisheries science published during the year in question. The award will consist of a certificate and \$1000. The requirements for eligibility are as follows: (1) the paper must be based on research performed while the student was a candidate for a bachelor's, master's, or PhD degree at a college or university in the Western Hemisphere; (2) the paper must be in English; (3) the student must be the senior author of the paper. Nominations may be submitted by professors or other mentors, by associates of the students, or by the students themselves. The deadline for receipt of nominations is April 15, 2006. The nominations should be sent to the Chairman of the W.F. Thompson Award Committee, Dr. William H. Bayliff, Inter-American Tropical Tuna Commission, 8604 La Jolla Shores Drive, La Jolla, California 92037-1508, (e-mail wbyliff@iattc.org). Each nomination must be accompanied by a copy of the paper (unless it is easily available on the internet) and a resume. The papers will be judged, by knowledgeable reviewers selected by the Chairman, on the basis of originality, presentation (*e.g.*, clarity, syntax, quality of the figures and tables, etc.), execution (*e.g.*, overcoming obstacles encountered during the research), and applicability to future work.

Losses:
George Grant
Details unavailable

Pay Dues Online

Treasurer Shimada reminds members that dues may be paid online via Paypal.com. He points out that the process is so easy and pleasurable that you might want to do it more than once.
Just access the website.

BOC Meets in Anchorage: Sept. 10-11, 2005 Minutes — Substantially Abridged

The 49th annual meeting of the Board of Control (BOC) of the American Institute of Fishery Research Biologists (AIFRB) was held at the Hilton Hotel in Anchorage, Alaska on 10-11 September 2005. The meeting was scheduled so that it preceded by two days the beginning of the technical sessions of the 2005 annual meeting of the American Fisheries Society (AFS). The BOC acknowledged and thanked Michelle DeLaFuente (Past President Sakagawa's assistant) for her assistance in preparing materials for the meeting.

President Schaefer called the meeting to order at 0900 on Saturday, 10 September 2005.

President, Richard Schaefer; President-Elect, Linda Jones; Past President, Gary Sakagawa; Past President, Clark Hubbs; Secretary, Barbara Warkentine; Treasurer, Allen Shimada; Membership Chair, Thomas Keegan.

Directors: Northwest Washington, Bruce Miller; Southeast Alaska, Bruce Wing; Northern California, Diana Watters; Arizona/New Mexico, G. Morris Southward; Great Lakes, Dora Passino-Reader; Keystone, Joseph Rachlin; New England, Kevin Friedland;

Capital, Shawn Alam for Frank Panek; Florida, Thomas Schmidt; **Editors/Committee Chairs/Co-Chairs:** Archives, Kate Myers; Outstanding Awards Chair, Linda Jones; **Members:** Douglas Vaughan, Stephen Bortone.

John Merriner (Production Editor), Gene Huntsman (BRIEFS Editor), Joseph Margraf, Jr. (Northern Alaska), Raymond Wilson, Jr. (Southern California), Patrick Harris (Carolinas District Director), Jerald Ault (Associate Research Award Chair), Gilbert Radonski & Martin Golden (Recruitment & Marketing Committee Co-Chair), William Bayliff (Chair of Thompson Award Committee), and Vidar Weststad (Capital Management Committee Chair) were unable to attend the meeting due to other professional commitments.

President Schaefer reported that the AIFRB display had been updated by Doug Vaughan and John Merriner. It was displayed at the recruitment table. Many members served as volunteer hosts at the display.

President's Report: President Schaefer reported that he had spent the last year following up on the recommendations and actions put forward at the last BOC meeting. During the year a number of new committee chairs were appointed as well as committee members. As this year represents President Schaefer's last year as President, he expressed his sincere appreciation to all AIFRB members for their hard work and support and for allowing him to serve as their President. He was pleased with the progress that the Institute has made towards improving member recruitment and retention as well as improving the Institute's fiscal status.

Secretary's Report: Secretary Warkentine reported that there were no costs incurred this year. Minutes were mailed to all BOC members in May of 2005 for their final review and approval at the BOC. The BOC formally recognized Michelle DeLaFuente for her long standing assistance and budgeted \$100 for a gift.

Treasurer's Report: Treasurer Shimada reported that the Institute's fiscal situation is stabilizing and we are seeing improvements. The Institute's cash revenue, at the end of this fiscal year, stands at \$4,441.85. As of 31 Aug 2005 the Smith Barney – Capital Account (market value \$75,200.38) and the FBR.Com – Founders Fund (market value \$33,346.41) yielded a combined value of \$108,546.79. This represented a \$19,500.00 increase from fiscal year-end 2004. (See related article in this issue.) Letters sent to delinquent members from the President seems to be working. Director Rachlin has had considerable success in using the personal touch in acquiring arrears dues from his membership. BRIEFS production remains as a high cost item, but remains within the budget set by the BOC.

This was the fourth year in which we did not tap reserve funds, partly because we cut some expenses (e.g. reception, award prize amounts). Shimada suggested that we might revisit our allocation to these items as our finances grow. This year we are scheduled to raise our dues. Treasurer Shimada also reminded the BOC that we can now pay our dues via credit card through a program called "Pay Pal."

The BOC commended Treasurer Shimada on during an excellent job of maintaining our treasury.

Report of Membership Committee:

Results for 2005: Chair Keegan reported that he has streamlined part of the membership process by acting unilaterally on student applications. Our recruitment table at the Madison, Wisconsin meetings resulted in increased applications. This year there were 21 new associate (20 students, 1 professional) members, the best response in student applications since 1995. We also recruited 3 new fellows and 13 new members. Keegan indicated a need to update the recruitment brochure. We should consider a new design and produce any new brochure in Spanish. Keegan will send out draft copies of this brochure to any members who wish to review it.

Press releases for new Fellows: Write-ups on new fellows should be sent to the public relations office at their place of employment. President Elect Jones suggested that write-ups and, where available, photographs, be placed on the Institute's web-site and also be published in agency newsletters. BRIEFS should be employed in acknowledging new Fellows.

Delinquent members: Shimada reported that this year we had 12 members pass away, 10 members request that they be dropped from membership, and five members for which there were no forwarding addresses. There are currently 205 Emeritus Members. Of these 36% have not paid their dues. The budget shortfall due to delinquencies stands at \$5,230. There are currently 26 members that are two years in arrears. District Directors are to contact those members in their districts that are two years in arrears requesting that they pay their dues by the end of October. For those that remain two years in arrears at the end of 2005 the President will send a letter informing them that they, by action of the Board of Control and in accordance with the Institute's bylaws (Article II section 7), have been dropped from membership in AIFRB. Shimada stressed the importance of the one to one contact particularly from the President. Shimada reported that, despite the fact that 26 members are on the verge of being dropped, the Institute had a net increase of 11 members this year.

Honorary memberships in AIFRB were discussed but there was little support by the BOC.

Report of W.F. Thompson Award Committee: President Elect Jones, reporting for Chairman Bayliff, indicated that some papers received raised the question as to what qualifies as an acceptable paper for this award. Should it be directly related to fisheries or could it be of a broader nature such as food resources that may be utilized by aquatic organisms? The BOC indicated that papers for consideration could be of a broader nature. The BOC agreed that the quality of the paper, the focus of the paper, and the interest of the author in joining AIFRB should be part of the review.

Review criteria for judging papers: The BOC reviewed the criteria for judging papers for the W.F. Thompson Award which was prepared by Chairman Bayliff. Chair Bayliff made three recommendations for the BOC to consider.

This year the committee selected Scott W. Radborn to receive the W.F. Thompson Award for his paper entitled "Modeling predation as a source of mortality for piscivorous fishes in a southeastern U.S. reservoir", published in Trans. Amer. Fish. Soc. 132 (3):560-575, (2003). Co-authoring with S. Radborn are Leandro E. Miranda and M. Todd Driscoll. This paper was based on Dr. Radborn's doctoral dissertation. (See separate article - this issue)

The first of these recommendations was addressed by the BOC and is presented in detail above. The second and third

recommendations are as follows: 2) Add to the criteria: *"If two or more papers result from a single thesis or dissertation, both or all of these will be eligible for consideration for the award. These papers will be considered separately rather than as a single entry. If multiple papers published in different years result from a single thesis or dissertation, and a paper published in an earlier year wins the award, papers published in later years will not be eligible for the award."*

A **motion**, by Director Miller, to accept this recommendation was **seconded** and unanimously **approved** by the BOC.

3) That more about the W.F. Thompson Award be added to the AIFRB web-site. This should include: (1) the "Qualifications for W.F. Thompson Award Nominations"; (2) a biography of W.F. Thompson; (3) a list of the winners and references to their papers (as in the Literature Cited section of a paper in a journal); (4) possibly short biographical sketches of winners, telling what they have done professionally since winning the award.

A **motion**, by Director Miller, to accept this recommendation was **seconded** and unanimously **approved** by the BOC.

Funding for the Thompson Award: Past President Sakagawa proposed that we fund the Thompson Award from dividends generated from the Capital Funds as these are doing quite well. He also suggested that we consider increasing the award prize to \$1,000. The BOC agreed that these were reasonable suggestions and Treasurer Shimada stated that the treasury could support this increase. A **motion**, by Past President Sakagawa, to fund the Thompson Award from dividends generated from the Capital Funds and that this year's award be set at \$1,000 was **seconded** and unanimously **approved** by the BOC. A **motion**, by Past President Sakagawa, to set the Thompson Award prize at \$1,000 for the 2006 year was **seconded** and unanimously **approved** by the BOC.

Report of Research Assistance Award Committee (Schaefer for Ault):

There was only one award recipient this year. The BOC was concerned that there was not a greater pool of applicants for this award from among its associate members. This program must be more widely advertised. A **motion**, by Director Rachlin, to have the Chair of the Research Assistance Award Committee send out fliers to all District Directors and to have this information distributed to all associate members by e-mail (if available) and hard copy, was **seconded** and unanimously **approved** by the BOC.

Report of Outstanding Achievement Awards Committee (Jones for Williams):

Nominations (individual) for 2006: Announcements for nominations were sent out and published in BRIEFS. The committee, at the time of the BOC meeting, did not have a candidate for consideration by the BOC.

Distinguished Service Award (Sakagawa): 2004 award presentation to John (Jack) Helle: (See article this issue.)

2005 Distinguished Service award: The 2005 Distinguished Service Award is to Treasurer Allen Shimada

Report on Briefs: The annual six issues of BRIEFS constitutes the report. Directors were encouraged to forward material to Editor Huntsman for publication. The past practice of publishing the "Who's Who" section should be brought back.

Report on Web Page Project: Kim Anthony at California State at Long Beach is interested in working on our web-page. She will develop a design for the page within the next 2 to 3 months.

Recruitment & Marketing Committee:

The BOC suggested 1) Allocate more money to support districts so that they can attract speakers or conduct workshops; 2) Increase the number of Research Assistance Awards to increase student membership; 3) Focus on the web-site as a major recruiting and marketing tool; 4) Make sure that all BOC members play an active role in reviewing, updating, and contributing to the web-site; 5) Post information about AIFRB awards in graduate student resource guides; 6) Post information in the Community of Science (COS) publication; 7) Following the model of Sigma Xi, prepare a list of Fellow members willing to give seminars along with their presentation topics.

Project Reports:

Celebration 2006 (Jones): President Elect Jones has agreed to take over the Chairmanship of this project and work with Director Miller and the "Overfishing Symposium Steering Executive Committee" members, Brian Rothschild, Dick Beamish, and Steve Murowski, to formalize the dates for the celebration 2006. The recommended dates for the 50th Anniversary of AIFRB and Symposium are October 24-26, 2006. The symposium is to have three parts: 1) The state of contemporary understanding of fishery management; 2) The challenges of ecosystem management; 3) Innovations and required resources. The bulk of the symposium would be committed to item 2.

Fund Raising: The BOC explored fund raising options to support celebration 2006. Some possible sources mentioned were Sea Grant and Marine Technology.

The BOC considered publishing the proceedings from this meeting possibly as an e-journal. Director Friedland will look into this. Shawn Alam will look into possible funding from various Dept of Interior groups and will talk to Director Panek regarding possible funding from USGS.

Biography of Founders (Warkentine): Secretary Warkentine reported that she has been compiling biographies and photos of AIFRB Founding Members and has eight complete write-ups with photos for four 16 write-ups are needed.

AIFRB-AFS Liaison – Description of Duties: A document highlighting the responsibilities and duties of the AIFRB-AFS Liaison was approved upon a motion, by Director Southward.

Founders Fund & advice from Capital Management Committee: The Founders Fund currently has a market value of \$33,346.41. This year 45 members donated to the Founders Fund for a total of \$3,840.00. The Capital Management Committee suggested that Treasurer Shimada continue to maintain his current strategies regarding investments.

Reports from ad hoc Committees:

"What qualifies a person as a fisheries scientist?": Chairman Vaughan and his committee reviewed the Founders' intention as to the mission of AIFRB. The AIFRB bylaws and Articles of Incorporation were reviewed. The committee agreed with the Founders' policy statement with emphases on the following points:

Selection for membership should emphasize that the applicant is doing active research on issues relevant to fishery science.

Educational background should be of secondary relevance, and that a career in fisheries research is central to deciding membership qualifications.

Many disciplines can contribute to fisheries science, and therefore detailed educational curricula should not be specified.

Our society should err on the side of inclusion rather than exclusion.

Director Friedland was concerned that the first point would exclude managers as they many not be doing active research. Chairman Vaughan stated that because most managers are directing research projects they would not necessarily be excluded.

BOC members discussed the role of conservation biologists and whether or not the language stated in the recommendations would exclude them from membership. The Committee stated that conservation biologists would not necessarily be excluded.

A **motion**, by Director Southward, to accept the report from the *ad hoc* committee on "What qualifies a person as a 'fishery research biologist'?" was **seconded**.

The BOC discussed changing the language of the first point so as not to exclude individuals that may not be doing the research themselves but are involved in a peripheral way, such as directing or managing research activities.

Motions by Southward, Watters, and Jones resulted in changing the first point to read "Selection for membership should emphasize that the applicant is involved in research on issues relevant to fishery science." and **approved** by the BOC. (See Full Report this issue.)

Briefs Editorial and Production Guidelines (Published in Briefs May-June, 05): The BOC agreed that the purpose and priorities, as stated in the guidelines, are to be placed into the procedures manual. President Elect Jones established an *ad hoc* committee, consisting of Directors Friedland and Passino-Reader, Editors Merriner and Huntsman, and Web-page designer Kim Anthony. The committee was charged to consider frequency of publication, design, format, new columns (*i.e.* letters to the editor, op/ed), and general content.

Professional Recognition: President Schaefer established an *ad hoc* committee, chaired by Ann Lange, to draft "Guidelines for recognition of employee membership in AIFRB." Her committee submitted their report which was presented to the BOC for its review and discussion. The intent of the document is: 1) to inform the member's employer that their membership in AIFRB speaks to their professionalism, and 2) that their association with AIFRB be recognized as important for their professional development.

The BOC agreed that a letter from the President be sent to the member's employer however, this should only be done at the request of the individual, supported the intent of the document, and commended the committee on a job well done.

New Business:

Web-page : The web-page is currently receiving a major face lift. Items will be welcomed for publication on it. There is a committee in place to work with the web-page designer and to oversee items for publication on it.

Fund raising projects – ebay: Individuals selling items on ebay can donate proceeds to AIFRB and can declare those donations as a tax deductible donation since the Institute has 501(c)3 status.

Name change for AIFRB: Director Friedland suggested that we consider the name "Institute of Fisheries and Aquatic Scientists." Past President Hubbs stated that when institutes change names there is usually a reduction in membership by 20%. Secretary Warkentine reminded the BOC that changing the name of the Institute will require that the Institute reincorporate. President-elect Jones saw the need for a clear mission statement. Keegan will chair a committee to develop this statement.

Reimbursement of attendees at annual BOC meeting: The reimbursement policy as stated in the by-laws and the reimbursement cap of \$400 will remain in effect for the 2006 BOC meeting.

Induction of New President: President Schaefer presented the gavel of the Office of the President of AIFRB to President Elect Jones. President Jones assumed her official role as President at the close of the meeting and will preside over BOC meetings and activities for the next three years.

Comments and Plans for the Future: President Jones extended her thanks to Past President Schaefer for his recruitment and financial efforts. She stated that she is honored to serve as the President. "This is an exciting time for the Institute in that it will be celebrating its 50th anniversary in 2006." President Jones highlighted some of her goals. : 1) She will continue the work set forth by Past President Schaefer in the area of recruiting. This is of prime importance. 2) Improving outreach particularly through the Institute's web-page. She will be reaching out to members for their assistance and input. 3) Reinvent BRIEFS. By setting up an *ad hoc* committee to look at BRIEFS she has begun the process of exploring ways to improve its design, content information, *etc.* to make it more attractive and interesting to our members and for recruiting new members. 4) She will be working closely with Treasurer Shimada and the Capital Management Committee to help continue the upward trend that the treasury is currently experiencing. Her goal in this venue is to increase award offerings and to improve the Institute's infrastructure.

Appointments (Jones):

Regional/Director rotation: For the 2005-2006 year the following Directors are to advance to the position of Regional Director: Kate Myers for Northwestern States, Bruce Wing for Alaska & Western Canada, Dora Passino-Reader for Central States & Middle Canada, Ray Wilson for Southwest States & Western Mexico, Frank Panek for Northeast States & Eastern Canada, and Thomas Schmidt for Southeast States & Eastern Canada.

Officers and/or Interim Directors: President Jones made the following appointments: Secretary - Barbara Warkentine, Treasurer - Allen Shimada, Membership Chair - Thomas Keegan, BRIEFS Editor – Gene Huntsman, and Production Editor – John Merriner.

Standing Committee Chairs: President Jones asked all other current committee chairs to continue to serve for the 2005-

2006 year.

Special Committee Chairs: President Jones established two *ad hoc* committees which are as follows: Committee to reevaluate the mission statement for AIFRB – Chair Thomas Keegan

Committee to evaluate the look of BRIEFS – Chair Huntsman

Adjournment:

A *motion*, by Secretary Warkentine, to adjourn the meeting was **seconded** and unanimously **approved** by the BOC. President Jones adjourned the meeting at 1630 on Sunday 11 September 2005



*Outgoing President Schaefer dolefully presents gavel of office to new President Linda Jones, Anchorage, September 11, 2005.
Photo by Dora Passino-Reader*

Phil Mundy is New Auke Bay Laboratory Director (M'84, F'97)

The AFSC Office of Science and Research announced the appointment of Dr. Phillip Mundy as Director of the Auke Bay Laboratory (ABL), replacing longtime former ABL Director Mike Dahlberg. "Phil has extensive experience and publications in marine science in Alaska and will bring strong science leadership to ABL and the Center management team," said AFSC Deputy Director Jim Coe.

Mundy's career in fisheries science spans many years. From 2001 to 2005 he served as science director of the Gulf of Alaska Ecosystem Monitoring Program (GEM) for the Exxon Valdez Oil Spill Trustee Council, where he was responsible for implementing long-term marine and freshwater environmental monitoring for the northern Gulf of Alaska in cooperation with state, federal and academic agencies. For 2 years previously he served as GEM science coordinator developing the program. Mundy worked as manager and lead scientist in producing reports on fishery issues in the Columbia River basin, Puget Sound, and Alaska for both the public and private sectors from 1994 to 1999.

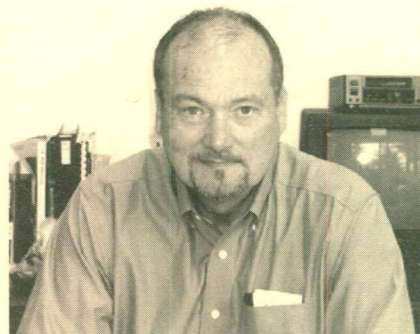
From 1987 to 1994 Mundy worked for the Columbia River Inter-Tribal Fish Commission, first as a senior research scientist responsible for developing and implementing a fishery research program in support of biological aspect of treaty fishing rights in the Columbia River basin (1987-89) and then as manager of the Commission's fisheries science department where he was responsible for fisheries research in support of fish stock assessment, harvest management, and Endangered Species Act implementation (1989-94). During 1985-87 he was employed as chief fisheries scientist with the Division of Commercial Fisheries, Alaska Department of Fish and Game, where he was responsible for a statewide program of fisheries research in support of stock assessment and harvest regulation and also served as scientific representative on the Pacific Salmon Commission. At that same time he worked with the University of Alaska as part of an effort to establish the North Pacific Marine Science Organization (PICES).

Mundy's professional accomplishments and contributions are many, including membership on the PICES technical committee on monitoring (2004), vice chair of the implementation committee of the Coastal Alaska Observing System (2003), membership of the Integrated Ocean Observing System (IOOS) steering committee (2002), membership on North Pacific Research Board of Directors (2001), membership on the U.S. Global Ocean Observing System (USGOOS) steering committee (2000), and the list goes on. He received his Ph. D. in fisheries from the University of Washington (UW), his M.S. in biology from the University of Alabama, and his B.S. in zoology from the University of Maryland.

Mundy said he was attracted to the Auke Bay position because the laboratory is ideally located geographically and has some of the best long-term data on Alaska's marine environment in existence. "Auke Bay (Laboratory) has what I call legacy data sets that are important in understanding effects of climate change on natural resources and in developing an ecosystem approach to resource management," said Mundy. He said he would like to see ABL be principally involved in the acquisition and interpretation of long-term data sets that contribute to meeting NOAA's goals.

Mundy lived in Juneau in the 1980s. He said he likes Juneau's small-town Alaska atmosphere and excellent boat access and, coming from Anchorage, looks forward to getting back to the water. Throughout the years, Mundy has regularly worked with AFSC scientists and says that the Center is like second home to him. His new position as Director of ABL became effective 7 August, 2005.

By Susan Calderón and Neal Muirhead



Shimada Reports Good Budget News

| | 9/1/03 to 8/30/2000 | 9/01/04 to 8/31/2005 | Amount Difference |
|--|--------------------------|-------------------------|-----------------------|
| Cash Receipts | | | |
| AIFRB Service Contract | 0.00 | 0.00 | 0.00 |
| Founders/Capital/Unrestricted Funds | 2,592.00 | 3,840.00 | 1,248.00 |
| Member Dues | 13,060.00 | 15,585.02 | 2,525.02 |
| Capital Gains (Reinvested '04-'05) | 236.96 | 625.06 | 388.10 |
| Investment Income (Reinvested '04-'05) | 2,3347.46 | 3,840.27 | 1,492.81 |
| Supplemental Funds (CAS Refund-'04, NE Dist-'05) | 430.00 | 300.00 | -130.00 |
| United Bank/PaPal Interest | 2.21 | 12.68 | 10.47 |
| Total Cash Receipts | 18,668.63 | 24,203.03 | 5,534.40 |
| Cash Disbursements | | | |
| AIFRB Meeting Service | 0.00 | 0.00 | 0.00 |
| AIFRB Reception | 0.00 | 0.00 | 0.00 |
| AIFRB Awards | | | |
| Achievement Award Expense | 149.90 | 154.90 | 5.00 |
| Research Assistance Award | 350.00 | 350.00 | 0.00 |
| W. F. Thompson Award/Expense | 750.00 | 0 | -750.00 |
| Service Charges (Checking/Equity Accounts) | 305.00 | 51.17 | -253.83 |
| Board of Control | 3,012.57 | 2,800.00 | -212.57 |
| Bridge Loan | 0.00 | 0.00 | 0.00 |
| BRIEFS Newsletter | 8,115.54 | 6,795.46 | -1,320.08 |
| Collection | 0.00 | 0.00 | 0.00 |
| District Donation | 0.00 | 0.00 | 0.00 |
| District Recruitment (Return NE Distric Funds '05) | 150.00 | 500.00 | 350.00 |
| Foreign Check Collection | 0.00 | 193.48 | 193.48 |
| Honorarium/Memorial (John Glude) | 0.00 | 100.00 | 100.00 |
| License Fees | 0.00 | 0.00 | 0.00 |
| Membership Expense (300 Diplomas) | 0.00 | 957.00 | 957.00 |
| Other (Table Drape) | 786.10 | 0.00 | -786.10 |
| President's Expense | 731.30 | 92.90 | -638.40 |
| Production Editor | 0.00 | 300.00 | 300.00 |
| Reinvestments (CapGains/Div/Int) | 2,483.71 | 4,438.56 | 1,954.85 |
| Reimbursement | 0.00 | 0.00 | 0.00 |
| Service Contract Advance | 0.00 | 0.00 | 0.00 |
| Secretary's Expense | 0.00 | 111.50 | 111.50 |
| Transfer Funds (FBRDirect) | 2,592.00 | 3,840.00 | 1,248.00 |
| Travel Display | 0.00 | 0.00 | 0.00 |
| Treasurer's Expense | 270.73 | 2,179.84 | 1,909.11 |
| Total Cash Disbursements | 19,696.85 | 22,864.81 | 3,176.96 |
| Net Change | -1,028.22 | 1,338.22 | 2,366.44 |
| Beginning Cash Balance | 3,014.83 | 1,986.61 | -1,028.22 |
| Estimated Cash at End of Year | 1,986.61 | 3,324.83 | 1,338.22 |
| Combined Equity Accounts | Market Value (\$) | Total Cost (\$) | Gain/Loss (\$) |
| SMITH BARNEY - Capital Account | 75,200.38 | 54,559.91 | 20,640.47 |
| FBRDirect - Founders Fund | 33,346.41 | 35,495.94 | -2,589.62 |
| Unrealized Gain/Loss Total | 108,546.79 | 90,495.94 | 18,050.85 |
| Realized Gain/Loss Total | 8,783.69 | 13,235.27 | -4,092.79 |

Report: Ad Hoc Committee on what qualifies a person as a fishery research biologist?

Our charge from President Schaefer was to review the issue of what qualifies a person for acceptance into American Institute of Fishery Research Biologist (AIFRB) as a “fishery research biologist”. He suggested that there are a variety of opinions among the membership, ranging from narrow traditional *in vivo* field investigations to a broader view that encompasses *in vitro* laboratory food scientists, microbiologists, etc., so long as they are working on fish. The question posed is whether AIFRB should be more liberal in its acceptance of new members, or should it stick to its conservative roots.

We began by investigating what our founders actually say about this issue. Within the **Institute Charter Bylaws & Policy Statements (August 2001)**, relevant sections describing membership qualifications can be found in several places. Article II of the **By Laws of the American Institute of Fishery Biologists** contains sections 1 (Election of Fellows), 2 (Election of Members), and 3 (Election of Associates). The qualification listed as (a) under these sections refers to “actively engaged in research concerned with the fishery listed as (d) considers publications and growth in duties and responsibilities. We consider qualification (a) central to the charge of our committee. We emphasize the concept that the applicant is doing active research on issues relevant to fishery science as broadly conceived.

Two relevant sections also can be found under **Policy Statements**. Section II (Criteria for Membership) provides general criteria based on development of scientific professionalism that could be applied to any scientific endeavor. More importantly, Section III (Educational Standards) suggests that membership should reflect professional work in basic research, management, and related fields relevant to fisheries. Concern was raised as to whether inclusion of fisheries management was appropriate. It is suggested that if a manager is engaged in documented (peer-reviewed) management research that would qualify the manager for membership. Guidance from the AIFRB founders can be found in the first paragraph of Section III (our emphasis in bold):

“Fishery management includes everything which is done to maintain or improve fishery resources and their utilization. There are sociological, economic, biological, political, legislative and technological aspects. Specialists and special knowledge in all these areas are required in proper management of a fishery. Although fishery biology is not independent from the other aspects, it is concerned with the biological aspects of a fishery and with maintaining and improving the production of usable fishery resources. It may be distinguished from fish biology and ichthyology by its emphasis upon the resource and its fishery rather than upon the organism. Fishery biology must involve knowledge of the taxonomy, biology and environment of the fish. However, a fishery biologist puts more emphasis upon the factors affecting production rates and population dynamics which relate to fisheries exploitation.”

The **Policy Statement** explicitly defines “fishery research biologist” in paragraph 2 of this section:

“A fishery research biologist is a scientist who works to provide more information on and more understanding of fishery resources and their production. He/She also develops and improves research and management techniques.”

As suggested in the penultimate paragraph in Section III (following paragraph in italics), educational programs should be flexible for undergraduate curricula. This is important not just for the explicit reason given, but because one can not always predict the direction that future research relevant to fishery science may go. As a consequence, we believe that educational background should be secondary relevance, and that the career in fisheries research becomes central for deciding membership qualifications.

“Special undergraduate curricula in fishery biology and fishery management have been developed at many universities. While these are not specifically designed for fishery research biologists they are of concern to our Institute, in our goals to manage fishery resources properly. They serve to attract young people to the field and to inform them of opportunities for careers. The programs should be flexible enough so that students planning to go on to graduate work leading to a career in fishery research need not drop basic science courses because of too many required fishery courses. These undergraduate curricula, again, should be strong in the sciences and statistics and particularly in communication skills. Failure to communicate is a major cause of failure of many biologists in fishery management or research.”

The final paragraph in Section III acknowledges that many disciplines can contribute to fisheries science, and based on this suggests not trying to specify details of a curriculum.

“Fishery biology and management involve so many scientific disciplines and are concerned with the interrelationship of so many aquatic organisms and their environment that a comprehensive program to manage the resources wisely requires a variety of specialists. The program must be directed by scientists with the breadth of training to recognize the complexity of the problems. We, therefore, do not specify in detail the curriculum to be followed. We do claim that the management of our fishery resources for commercial and recreational benefits is a goal worthy of the most imaginative and most industrious scientists and presents a challenge to capable young people preparing for a career of service.”

Conclusions and Recommendations:

In general, we agree with the founders’ statements as given in italics above, and in particular we emphasize the following points:

- Selection for membership should emphasize that the applicant is doing active research on issues relevant to fishery science.
- Educational background should be of secondary relevance, and that a career in fisheries research is central to deciding membership qualifications.
- Many disciplines can contribute to fisheries science, and therefore detailed educational curricula should not be specified.
- Our society should err on the side of inclusion rather than exclusion.

There was some debate concerning the founders’ statement: *“It may be distinguished from fish biology and ichthyology by its emphasis upon the resource and its fishery rather than upon the organism.”* We concur with the point made by the founders that research needs to be relevant at some level to the wise management and utilization of the resource and fishery.

We suggest the rewording of paragraph 2 in Section III (Educational Standards) of the **Policy Statement** to include scientists working on fishery products as follows (*in italics*):

“A fishery research biologist is a scientist who works to provide more information on and more understanding of fishery resources, their production and utilization. He/She also develops and improves research and management techniques.”

Based on these statements, it is our recommendation that admission to our Institute, and promotion within it, should be given with the broadest latitude possible, provided that the research deals with any aspect of commercial, and/or recreational fisheries and their resource. What we hold sacred is that the individual is professional, that the work meets the standards of peer review, and that the individual endorses the society’s statements of professionalism in the field.

Committee Membership: Doug Vaughan, Chair, Jeff Govoni, Tom Keegan, Carlos Fetterolf, Linda Jones, Joe Margraf, Joe Rachlin, G. Morris Southward

Asked if food technologists merited membership committee chair Vaughan responded with an unqualified.... “maybe”. –Ed.

Books A' Plenty – Members Crank them Out

Estuarine Indicators

Edited by Stephen A. Bortone

Director, Sanibel-Captiva Conservation Foundation, Florida, USA

The first truly multi-disciplinary reference for estuary assessment

Acknowledging the present inability to determine objectively the status and trends among estuarine ecosystems, the environmental research community has recently stepped up efforts to develop and evaluate meaningful estuarine indicators. This goal requires the effort of researchers from a broad spectrum of disciplines. In order to expedite this initiative, many of the world's leading estuarine scientists came together to present their views at the 2003 Estuarine Indicators Workshop.

Features:

- Explains the effects that natural and anthropogenic stressors have on estuarine systems and the underlying causes of these effects
- Offers guidelines and recommendations for the development and use of indicators for effective environmental management of estuarine ecosystems
- Integrates assessment tools and techniques, scaling and variability, temporal trends for long-term studies, and environmental factors into a holistic approach to the subject
- Includes more than 200 illustrations, some in full color

CRC Press, Catalog no. 2822, January 2005, 560 pp. ISBN: 0-8493-2822-5, \$129.95/ £74.99

Restoration of Aquatic Systems

Robert J. Livingston, Florida State University, Tallahassee, USA

A Revealing Portrait of Aquatic Restoration Efforts

Simplistic thinking would have us believe that by eliminating the loading of a given pollutant, an aquatic system will revert to its previous pristine state. This premise is without scientific verification. Besides the fact that typically very little documentation exists defining what exactly that previous pristine state was, it should be noted that biological processes are non-linear. They reflect adaptations by populations and corresponding responses of trophic organization that are not predictable by linear models of recovery.

Features:

- Integrates the author's original work and continuous analyses of various river-estuarine and coastal systems in the southeastern United States conducted since 1970 with findings from the scientific literature
- Utilizes a combination of field descriptive and experimental approaches
- Involves the contribution of chemists, taxonomists, biologists, oceanographers, engineers, statisticians, computer programmers, and modelers
- Presents in-depth coverage of the restoration of industrial impacted sites
- Discusses the recent analyses of restoration work undertaken along the Rhine

CRC Press, Catalog no. 1966, July 2005, 296 pp.

ISBN: 0-8493-1966-8 \$119.95/ £68.99

Early Stages of Atlantic Fishes

An Identification Guide for the Western Central North Atlantic (Two Volume Set)

William Richards, NOAA, Miami, Florida, USA

The Early Life History (ELH) of marine fishes in Fishing Area 31, which includes the western central North Atlantic, Caribbean Sea and the Gulf of Mexico, has remained somewhat incomplete over the years. This certainly was not because of any lack of interest, but rather because of the lack of a comprehensive merging of studies that would provide us with a broad understanding, as well as identify any gaps in the literature.

Over 2600 pages, this two-volume masterwork covers the eggs, larvae, and juveniles of all families known to inhabit this area. It brings together all of the published information of merit plus original research results, providing information designed to identify these ELH stages generally collected by plankton nets. Chapters in the volume are devoted to each of the 214 families. All of them include a brief synopsis of the family, early life-stage identification, meristic data tables, and significant accounts of lower taxa, with one page giving detailed information and the facing page devoted to illustrations.

Features Unique to Early Stages of Atlantic Fishes

- Provides researchers with an exhaustive bibliography of more than 2,000 literature citations
- Defines all basic and advanced terminology in a lengthy glossary
- Contains a complete list of species inhabiting the region and their ELH Status

- Includes more than 600 original illustrations
- Discusses methodology and techniques for conducting larval studies, including the handling of specimens, throughout the world

CRC Press, Catalog no. 1916, July 2005, 2652 pp.

ISBN: 0-8493-1916-1, \$395.00/ £226.00

Reproductive Biology and Early Life History of Fishes in the Ohio River Drainage

Ictaluridae – Catfish and Madtoms, Volume III

Percidae – Perch, Pikeperch, and Darters, Volume IV

Thomas P. Simon, Indiana Biological Survey, Aquatic Research Center, Bloomington, Indiana, USA

Robert Wallus, Aquatic Biology Consultant, Murphy, North Carolina, USA

Reproductive Biology and Early Life History of Fishes in the Ohio River Drainage fills immense gaps in knowledge of issues related to early life development of fishes in the Ohio basin. Volume III addresses the developmental and morphological issues of catfish and madtoms; Volume IV addresses these same issues for perch, pikeperch, and darters. These volumes describe the characteristics of the Ictaluridae and Percidae families, and provides detailed pictorial guides. Subtopics within each species description include range, distribution, occurrence, spawning, eggs, development, ecology of early life phases, and more.

Features:

- Present the most comprehensive coverage on the early life histories, ecology, and early growth of catfish, madtoms, perch, pikeperch, and darters of North America
- Contains distinguishing characteristics and a pictorial guide to numerous species in the Ohio River Drainage
- Provides critical information on how to identify larval fishes collected in sampling programs
- Includes numerous original illustrations of larval fish with morphological descriptions

CRC Press, Volume III, Catalog no. 1919, 2004, 232 pp.

ISBN: 0-8493-1919-6 \$129.95/ £74.00

Volume IV, Catalog no. 1920, July 2005, C. 296 pp.

ISBN: 0-8493-1920-X \$119.95/ £68.99

Aquaculture: An Introductory Text

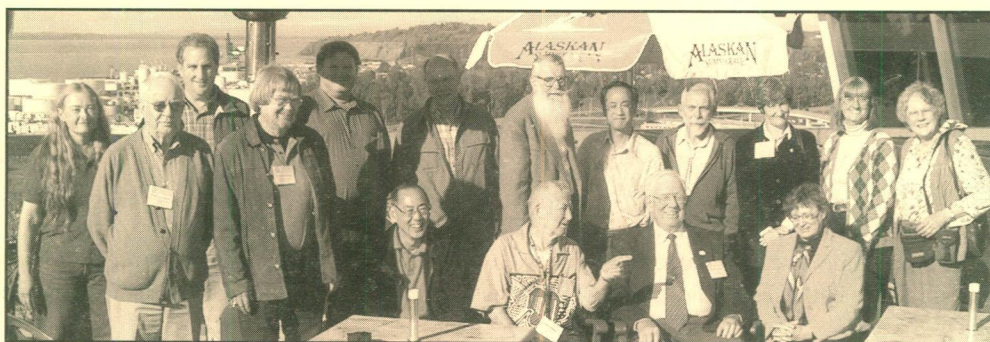
R.R. Stickney, Texas Sea Grant College Program, Texas A&M University, USA

There are now many introductory courses in aquaculture given at colleges and universities, but there is a lack of appropriate general textbooks for such courses. This book fills that gap by providing a broad and readable overview of the subject. The focus is on aquatic animal production, mainly of finfish and shellfish, but aquatic plants are also mentioned. Both fresh and salt water, warm and cool water, production are covered. The author concentrates on presenting principles, rather than providing detail on how to produce particular organisms, such as shrimp or salmon. He describes all aspects of the subject, from business planning, through site and water systems selection, to management of the system once it is in operation. The interests of both developed and developing countries are covered, as is the current debate about the environmental impact of aquaculture. With extensive lists of references and further reading, this book should serve as an ideal text for introductory courses.

CABI Publishing, Paperback, September 2005, 288 pp.

ISBN: 0-85199-081-9 \$55.00/ £27.50

Congratulations to all the authors, especially longtime friend Bill Richards who has completed a monumental labor. - Ed



The Board of Control gathers informally in Anchorage, September 2005.

L-R. Maurice Southward, Kevin Friedland, Tom Schmidt, Tom Keegan, Gara Sakagawa, Bruce Miller, Clark Hubbs, Bruce Wing, Allen Shimada, Dick Schaefer, Joe Rachlin, Diana Watters, Linda Jones, Barbara Warkentine, Dora Passino-Reader.

Photo by Kate Myers

Members Drop Anchor!

(or at least luff the mainsail)

Jerry Pella Retires after 36 Years (F'81)

Dr. Jerry Pella retired from federal service in April 2005 after 36 years as a mathematical statistician at Auke Bay Laboratory (ABL).

Pella, along with P.K. Tomlinson, is known for developing the Pella-Tomlinson surplus production model. The Pella-Tomlinson model is a standard model used in fishery stock assessment and is taught in fish population dynamics courses. Pella also developed statistical methodology used in population mixture analysis, or PMA, including classification rules, finite mixture and maximum likelihood estimation, and Bayesian and clustering methods. The PMA methods developed by Pella are applied throughout the world for managing fish as well as wildlife and marine mammals.

For 23 years, Pella was a member of an International Pacific Salmon Commission Northern Boundary Technical Committee, working and consulting on numerous treaty issues. His pursuit of challenging problems is reflected in his work on research projects such as artificial incubation systems for salmon, effects of logging on salmon production, effects of climate on fisheries monitoring for oil pollution, estimating salmon interceptions between the United States and Canada, bycatch of salmon in high seas driftnet fisheries, fitting biomass dynamic fishery models to time series, forecasting abundance in the Chinook salmon troll fishery in Southeast Alaska, and estimating salmon abundance from radio telemetry data. Many of Pella's achievements would singly be notable, but collectively his achievements constitute an extraordinary and distinguished career dedicated not only to advancing the mission of NMFS but also to advancing science.

By Michele Masuda and Neal Muirhead

K. Koski Retires after 30 Years (A'70, F'92)

Dr. K. Koski retired in July 2005 after 30 years as a fisheries scientist at Auke Bay Laboratory (ABL). Koski worked for the U.S. Forest Service in Alaska before joining ABL in 1975. His work on the effects of logging on salmon helped lead to major revisions in 1990 to the Alaska Forest Resources and Practices Act and passage of the Tongass Timber Reform Act, which mandated buffer zones on Alaska streams. Other work by Koski included studies on the effects of sedimentation on chum salmon, the potential effects of Hubbard Glacier flooding in the Situk River, and the life history of age-0 sockeye salmon that migrate directly to the ocean. Koski also worked on the Taku River transboundary project studying the importance of the lower Taku River to rearing salmonids.

Koski said one of the highlights of his work was his involvement in developing the Duck Creek Restoration Project in Juneau. The ongoing project, which he worked on for 10 years, includes several agencies and the community and has won three national awards. Koski said what he will miss most in retirement is the camaraderie of working with the people at the laboratory.

By Neal Muirhead

Pella and Koski notes from Quarterly Report, Alaska Fisheries Science Center Quarterly Report, April-May-June 2005.

Dr. Robert C. Summerfelt

After serving almost 30 years in the Departments of Animal Ecology and Natural Resource Ecology and Management, Dr. Robert C. Summerfelt will officially "retire" from Iowa State University in August 2005. Robert and his wife, Deanne, will continue to live in Ames with periodic Alaska fishing trips and to visit their sons and families.

Bob received his B.S. degree at the University of Wisconsin – Stevens Point in 1957. He then enrolled at Southern Illinois University – Carbondale where he earned an M.S. degree in 1959 and a PhD in 1964 under Dr. Bill Lewis (a former graduate student of Dr. Ken Carlander at ISU). Bob then worked as an assistant professor at Kansas State University (2 years) and as unit leader for the Oklahoma Cooperative Fishery Research Unit at Oklahoma State University (10 years).

In 1976, Bob became the first chair of the newly created Department of Animal Ecology at ISU. Under his leadership, the department became a national leader in fisheries, wildlife, and ecology education and research. After serving 9 years as chair, Bob stepped down and continued to work in teaching and research. Bob was a major professor for almost 40 graduate students during his career and undergraduate academic adviser to hundreds of students. Bob has conducted research in many fields of fishery biology. His contributions to coolwater fish culture, especially walleye culture, have been instrumental; he earned induction into the Fish Culture Hall of Fame in 2001. Bob has also been quite successful in publishing his research findings. He has authored more than 90 peer-reviewed articles, 16 book chapters and has been co-editor of two books.

Beyond his dedication to the research and teaching missions of ISU, Bob has inspired numerous students and associates with his dedication, sincerity, enthusiasm and humor. On behalf of all his students and colleagues, we thank him for his commitment to ISU, to the state of Iowa as well as the fisheries profession.

By Joe Morris

Science First – A Valuable Symposium Sponsored by the Institute

Ecological Significance of Marine Forage Species
held at the American Fisheries Society Annual Meeting, Anchorage, AK,
September 2005

Organizers: Nancy Wallace, Doug Vaughn, Matt Cieri, Steve Meyers, Erik Williams

Can cormorants cause significant changes in coastal fish populations?

Niels Jepsen

The 300 km² estuary; Rinkobing Fjord once supported a very productive fishery. During the last decade, this fishing has almost been terminated due to dwindling catches, now only a handful of fishers make a living on the Fjord. The predation from cormorants has been pointed out as one of the main reasons for this development. In 1992 a cormorant colony was established in the estuary and now up to 5500 cormorants forage in the estuary. We tagged fish (CW-tags) and collected pellets to be scanned for tags and for otolith-analyses. The preliminary results show that a high proportion of the juvenile salmon (smolts), flounder and eel are being eaten by the cormorants. The estimates of predation on salmon smolts range from 40%-100% and estimates showed that all of 4000 CW-tagged flounders were eaten shortly after release. The estimates for eel showed a 40%-50% predation through the entire season. The results of the otolith analyses supported these findings. It is now an issue of main interest whether the cormorants can have a detrimental effect on wild fish stocks. It seems that a high number of cormorants, possess the potential to damage local fish stocks and to keep these at a low level.

Examining the influence of spatial and temporal diet variability on estimates of predator consumption in a dynamic estuary.

Christopher Bonzek

Attempts to quantify consumption of top predators in estuarine and near-coastal oceanic waters often rely on diet composition data derived from sampling that has occurred within a limited area, time-period, or habitat. Although these investigations provide valuable insights into the feeding ecology of these predators, the spatial and temporal variability inherent to systems require a broader sampling regime to fully capture diet composition and consumption. In an effort to illustrate this point, we provide diet and minimum consumption estimates for weakfish (*Cynoscion regalis*) collected from Chesapeake Bay from 2002 to 2004. Weakfish were sampled throughout their estuarine residency each year from the mainstem Chesapeake Bay as well as from three tributaries and select seagrass habitats in Virginia. Weakfish overall diet and minimum consumption were then compared to estimates using samples collected from specific regions, seasons, and habitats. These comparisons highlight the deficiencies of using a limited sampling design when attempting to estimate the diet and consumption of a predator in a dynamic system.

Do the stomach contents of striped bass and weakfish suggest 'localized depletion' of Atlantic menhaden in Chesapeake Bay?

Robert Latour

In the Chesapeake Bay, the topic of ecosystem-based fisheries management (EBFM) has recently generated considerable interest among policy makers. A central theme of EBFM involves characterizing predator-prey relationships among interaction populations, and over the past 50 years, numerous investigators have documented the diet compositions of commercially and recreationally important finfish species in Chesapeake Bay. Although the diet of these fishes varies with time and space, Atlantic menhaden (*Brevoortia tyrannus*) consistently comprise large proportions of the diets of striped bass (*Morone saxatilis*) and weakfish (*Cynoscion regalis*) both within mid-Atlantic estuaries and near-coastal oceanic waters of the eastern seaboard. From 2002 to 2004, we re-examined the predatory role of striped bass and weakfish as part of a multispecies finfish survey in the mainstem of Chesapeake Bay and found that bay anchovy (*Anchoa mitchilli*) and macrozooplankton, rather than Atlantic menhaden, were the dominant prey types of these predators. Our results conflict with the historical significance of Atlantic menhaden in the diets of striped bass and weakfish. This inconsistency, coupled with poor menhaden recruitment within Chesapeake Bay in recent years, led us to explore the issue of 'localized depletion' of Atlantic menhaden in Chesapeake Bay.

Implementing a Plan for Multi-Jurisdictional Ecosystem-Based Fisheries Management in Chesapeake Bay.

Steven Giordano

Fisheries Ecosystem Planning for Chesapeake Bay (FEP) is designed to guide more effective and holistic fishery management planning, which includes improved coordination between fisheries management agencies and other agencies influencing water and habitat quality. In the Chesapeake Bay, implementation is an incremental process requiring the cooperation of Federal, State, and local organizations with relevant jurisdictions and authorities. The first steps at the Bay-wide level must be endorsement and adoption by appropriate Chesapeake Bay agencies charged with fisheries and environmental management. Parallel with endorsement and adoption processes, FEP guides conversion of existing single-species Fisheries management Plans (FMPs), and the development of new ecosystem-based multispecies FMPs. Initially, multispecies FMPs will be developed

for five Chesapeake Bay species (blue crab, eastern oyster, striped bass, menhaden, and alosids) to demonstrate proof-of-concept. Sustainable bay fisheries are a critical driver for other restoration and protection efforts, increasing the visibility of key species as indicators of ecosystem health, and promoting the need for effective management of fisheries for trophically interdependent species, and water quality as viable fish habitat. Finally, endorsement and adoption of the Chesapeake Bay FEP concept, by regional fisheries management institutions will support the process of coordinating ecosystem-based management of coastal and estuarine natural resources.

Developing a Comprehensive Approach for Ecosystem-based Fisheries Research & Management in Chesapeake Bay. **Derek Orner**

A broader application of ecosystem principles to be used in fisheries management and research has been reviewed in Chesapeake Bay with recommendations on how such principles can be further implemented to improve our management of living marine resources. The design and intent of Fisheries Ecosystem Planning for Chesapeake Bay was to guide more effective and holistic fishery management planning, which includes monitoring, modeling and research activities. Fisheries Ecosystem Planning for Chesapeake Bay supports ecosystem-based approaches in individual fishery management plans and recommends specific research to enhance knowledge of the Chesapeake Bay ecosystem to support management objectives. Baywide fisheries monitoring has been initiated for both juvenile and adult species in Chesapeake Bay to address gaps in current ecosystem modeling approaches. The Ecopath with Ecosim modeling approach is being developed to investigate various management scenarios in Chesapeake Bay. Atlantic menhaden, as a principle forage species, is a prime example of how ecosystem approaches to fisheries management can benefit from the multiple aspects of a holistic management and research program. Questions exist as to the appropriate allocation of this forage species to sustainability, fishing, and ecological processes.

Effect of recruitment strength on mean size at age and migration of Atlantic menhaden. **Douglas Vaughan**

Atlantic menhaden are euryhaline, marine migrants that stratify by size and age in summer along the Atlantic coast from northern Florida to the Gulf of Maine. Chesapeake Bay is the center of their distribution. Not surprisingly, the Virginia portion of Chesapeake Bay is also the center of the extant reduction purse-seine fishery for Atlantic menhaden. A recent stock assessment indicates that reproductive output (measured as production of maturing ova) is relatively high, while fishing mortality has declined to near target level. Areal recruitment of age-0 menhaden along the U.S. East Coast has been uneven, and has been particularly low in Chesapeake Bay for most of the past decade. Size at age appears to inversely related to recruitment strength of the cohort. Moreover, recent increasing size at age appears to be related to these recent poor recruitments, particularly in Chesapeake Bay. Furthermore, it is observed that subsequent to a strong year class, the mean age of catch declines in the more northerly regions as that cohort ages (e.g., increasing numbers of age 2 menhaden caught in southern New England). We investigate the relationship of size at age by geographic areas with cohort strength (age 1) and population abundance (age 1+).

Using a modified MSVPA to evaluate interactions between Atlantic menhaden and its predators. **Matthew Cieri**

Atlantic menhaden is a valuable commercially exploited species and also plays significant ecological roles as a major forage species and consumer of primary production in estuarine and coastal ecosystems of the U.S. Atlantic coast. It is a significant prey item for coastal piscivores that are themselves heavily exploited, including bluefish, weakfish, and striped bass. The abundance of these predators has changed dramatically over the last decade resulting in changes in predation mortality experience by menhaden. In addition, recent declines in the abundance of early age classes of menhaden may represent a significant decline in the forage base for its predators. The dynamics of this system and the potential interactions between exploited predator and prey species highlight the need to explicitly consider trophic interactions when assessing and managing fish stocks. We have developed an extension of the MSVPA approach and applied this model to evaluate the trophic interactions between menhaden and its important fish predators. We discuss the application of this approach as a tool to evaluate the multispecies implications of management actions. This model is one component of a developing framework for multispecies and ecosystem approaches to fisheries management within the Atlantic States Marine Fisheries Commission.

Bridging the Gap between Predator and Prey Species: An Atlantic Menhaden Case Study. **Nancy Meyers/Stephen Wallace**

Atlantic menhaden serve a major ecological role as both forage fish for predators and have, since colonial times, supported one of the United States largest fisheries. There has been a growing concern that there are insufficient menhaden to satisfy the nutritional needs of predator species, especially striped bass. States from Maine through Florida manage Atlantic menhaden through the Atlantic States Marine Fisheries Commissions (ASMFC) process. Although effort and landings in the reduction fishery have declined in recent years, they have become more concentrated in the Chesapeake Bay. Currently, on a coastwide basis, the Atlantic menhaden is considered healthy. However, menhaden status in Chesapeake Bay is unknown. The ASMFC held a workshop in October 2004 to examine the status of Atlantic menhaden with respect to its ecological role. The status of weakfish, bluefish and striped bass was also examined to determine if localized depletion of menhaden is affecting the health of the predator stocks. The ASMFC's technical committee has developed a list of research priorities to answer questions on localized stock status. We review the history of the management actions, while providing an overview on policy options to better address the sustainability of multi-species fisheries within an ecosystem approach to management.

Trends in demersal and pelagic species biomasses in the northeast USA continental shelf.

Jon Brodziak

Trophic models can quantify the constraints on production within an ecosystem. Such models require estimates of biomass across the spectrum of species assemblages, along with detailed knowledge of trophic interactions. In order to construct a food web model for the northeast USA continental shelf ecosystem, we estimated time series of demersal and pelagic species biomasses for four areas (Mid-Atlantic Bight, Southern New England, Georges Bank, Gulf of Maine) using spring and autumn research survey data. Species were grouped based on food habits and taxonomic relationships. Survey catchabilities were assumed to be similar within each group. We used a Bayesian estimation framework to characterize uncertainty in our results. An informative prior distribution for survey catchability was derived from published studies. Observed survey catchability data were taken from published studies and derived from stock assessments of individual species by season. Our results show that biomass production differed among regions, ranging from roughly 13 g/m² in the Mid-Atlantic Bight to less than 10 g/m² in the Gulf of Maine. Dramatic changes have occurred in the biomasses of major demersal and pelagic species groups across areas. Demersal groundfish biomass decreased substantially from the 1960s to the early 1990s but has since increased. Pelagic biomass was low and relatively stable during the 1970s to early 1980s but has remained high since the early 1990s. Determining whether pelagic forage species will decrease if demersal predators continue to increase will be important for implementing an ecosystem approach to fisheries management in this region.

Application of a mass balance model exploring ecosystem impact of harvesting small pelagic species of the west Florida shelf.

Behzad Mahmoudi

Baitfish are stock complexes comprised of small pelagic fish like sardines, herring, menhaden, scads, ballyhoo, Atlantic bumper, and anchovies. They represent important fisheries in Florida. Evaluating future bait-fish management strategies in Florida hinges on the significance of baitfish in relation to (i) their critical role as the prey of other species (ii) their significance to fisheries and, (iii) the tenet that their vitality is an indicator of the health and productivity of the marine environment. We have constructed a trophic dynamic model for the west Florida shelf (WFS) with the following objectives: 1) to describe the present ecological and spatial structure of species assemblages of the WFS, 2) to characterize the role of baitfish within the WFS marine ecosystem, and 3) to explore the consequences of certain harvest management decisions on baitfish and other biotic components of the ecosystem (i.e., predict changes in biomass of pelagic components and large groupers with the increase in fishing mortality for sardine/herring and various prey vulnerability setting; run dynamic simulations where mackerel and grouper stocks are fished at variable fishing mortality rates; and explore effects of both long and short term oceanographic changes, i.e., regime shifts in the ecosystem.

Ecological significance of seasonal aggregations of marine forage species for Steller sea lions.

Michael Sigler

Ecosystems tend to develop components that maximize utilization of seasonally available energy pulses. A seasonal study of Steller sea lion abundance, diet, movement and available prey in southeast Alaska during 2001-2004 indicated that seasonal aggregations of marine forage species are ecologically significant for sea lions. A plausible annual foraging strategy for sea lions is to concentrate on herring during November to February, eulachon and herring (and possibly capelin and northern lampfish) during March to May, salmon intermittently during summer and fall, and pollock and hake during the intervening periods. The timing of the energy pulses may affect the success of sea lion lactation, pregnancy, and breeding (a fasting period). This strategy depends on sea lions remembering prey locations and these locations being predictable from year to year. These energy pulses may be crucial for sea lions not just in southeast Alaska where sea lion abundance is increasing, but also in western Alaska where Steller sea lions are classified as endangered and their decline has substantially affected major fisheries in the Bering Sea and Gulf of Alaska. This study was conducted cooperatively by NMFS Alaska Fisheries Science Center, Auke Bay Laboratory and National Marine Mammal Laboratory; University of British Columbia; Alaska Department of Fish and Game; and University of Alaska.

Complexity of Forage Fish Population Dynamics and Management.

Kenneth Rose

Understanding the population dynamics and ecological role of forage fish species is critical for effective fisheries management. Forage fish may appear to have relatively simple life styles compared to long-lived predatory fishes, but their middle position in the food web complicates their dynamics and sparse data limits their analysis. I will use the results from several of the models I have been involved with to illustrate how forage fish population dynamics can be viewed as complex systems. Examples include the effect of food web arrangement on yellow perch responses to global warming, climate regime effects on Pacific herring growth and recruitment, and northern anchovy population dynamics under presumed global warming in the California Current. I will also discuss how advancement of our understanding of forage fish dynamics involves another complex system, namely the people doing harvesting, research, and management. Given the complexity of fish and people, my optimism about the future is wavering.

Billfish – A voice for restraint?

Longtime Institute member Jolley speaks!

A Time for Change

By West Palm Beach Fishing Club president John Jolley (former senior fishery scientist & billfish biologist) In 1982 I authored an article in the second-ever issue of *Marlin* magazine entitled, "Can the Angling Public do a Better Job Conserving Billfish?" At that time I suggested one area needing reform was the practice of landing large specimens in big money billfish tournaments. Noted was a need for U.S. recreational anglers to serve as good examples to the rest of the world. Many in the recreational community back then deplored the deadly practice and continue to voice their displeasure. Also, many today believe that the rest of the world is still watching, and we must demonstrate every conservation ethic possible to further plead a credible case for better billfish management before the International Commission for the Conservation of Atlantic Tuna's (ICCAT).

On this issue, however, I believe not enough progress has been made since 1982. Most recently author and captain Ted Barta again entered into this discussion in the October 2004 issue of *Sport Fishing* magazine in an article entitled "Shame On You". According to Barta, 55 blues nearing 500 pounds or more were killed in the 2004 Bahamas tournament season. His disdain was highly evident, and he further noted, "wealth, status and education empower those lucky enough to participate in billfish tournaments. That empowerment requires that they lead by example."

In addition, Dr. Grant Beardsley, former supervisor and senior billfish scientist with NOAA Fisheries, now retired, spoke out against this kind of killing in *Sport Fishing* magazine (January 2004). In his letter to the editor, Grant credibly criticized the landing of large specimens for record keeping. He said, "In our world today it doesn't make any sense to promote the killing of any large animal for record book purposes." It should be noted that 14 years ago, your West Palm Beach Fishing Club changed its Beinecke Blue Marlin Trophy to an all-release format. Also, the club closed categories for blue and white marlin and sailfish in its All Time Record Book and no longer accepts potential record entries for these species. The use of circle hooks is also promoted.

Since I agree with both Barta and Beardsley, I offer this further hypothesis in support. For example, large blue marlin in the northwestern Atlantic (in excess of 500lbs) are all females representing a major spawning portion for their remaining population. If, as NOAA Fisheries claims, blue marlin now are considered biologically stressed (their stock reduced by 60-80%)(and white marlin even more so) isn't it careless not to reduce killing of the most prolific spawners (remembering that the largest individuals have the greatest fecundity/number of eggs)? In fisheries theory, it takes only a few highly successful spawners to support a population, although this is seldom the reality. Also, by targeting large specimens for landing, the record keeping process and blue marlin tournaments appear to be pre-selecting, a larger process that promotes killing of larger animals faster while favoring release of smaller specimens. In a stressed population, this practice maybe counter-productive because their more rapid removal may lessen the gene pool for larger specimens.

Are we now at or near some important inflection point where even low landings of blue marlin in the recreational fishery jeopardize recovery and/or affect sex/size distribution and abundance? No one can say for sure. Scientists simply can't be that precise about blue marlin. And of course continued commercial longline pressures throughout the Atlantic represent the single most significant threat to blue marlin recovery. But for me, and I am confident many others, maybe we should be, "erring on the side of the resource," a philosophy the WPBFC postulated in 1985 at a joint session of the Gulf of Mexico & South Atlantic Fishery Management Councils. If that means killing fewer large blues in the recreational fishery, do it now and let the whole world know why! Leading by example won't hurt the resource.

*From: Tight Lines Bulletin, Volume 70(3), November 2004
Apologies to John Jolley. Space limitations in Briefs delayed the reprinting of his editorial. -Ed.*

Important Salmon Powwow!

Salmon 2100 Project: Alternative Futures for Wild Pacific Salmon in Western North America

Portland, Oregon – January 25, 2006

The Salmon 2100 Project was founded on the premise that wild salmon in California, Oregon, Washington, Idaho, and southern British Columbia are struggling to hang on as remnants of once flourishing species in small portions of their original range. Given current policy drivers and foreseeable trends, the long-term trajectory for wild salmon is downward. The Project has assembled 33 salmon scientists, policy analysts, and salmon advocates to answer the question: What is it really going to take policy-wise to have wild salmon populations in significant, sustainable numbers through 2100 in California, Oregon, Washington, Idaho, and southern British Columbia?

The main purpose of the Salmon 2100 Project is to raise the overall rigor and reality of the dialogue, not to argue for or against saving wild salmon, nor for or against any particular policy prescription. The Salmon 2100 project leaders asked authors to develop realistic, effective, and straightforward policy prescriptions that allow policy makers and society to assess available and viable options. Some of them are radical, many of them are uncomfortable, all of them are still options that would only become policies if people explicitly choose to pursue them.

The conference will be a venue for presenting publicly a cross section of the policy for prescriptions (the morning session) and an opportunity for government and non-governmental salmon recovery leaders to respond to those policy prescriptions (the afternoon session). William Ruckelshaus, chairman of the Salmon Recovery Funding Board for the State of Washington, will be the conference keynote speaker. For more information contact: Robert T. Lackey, lackey.robert@epa.gov or (541) 754-4607; Denise H. Lach, denise.lach@oregonstate.edu or (541) 737-5471; Sally L. Duncan, duncan.sally@epa.gov or (541) 754-4862. To receive registration materials and the program, contact: Tyler G. Mintkeski, mintkeski.tyler@epa.gov or (541) 754-4350.

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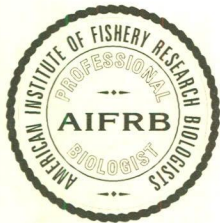
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NOVEMBER, DECEMBER 2005

... BRIEFS ...

Presidents Message

Happy New Year, AIFRBers! This is an important year for our organization because 2006 marks the 50th anniversary of AIFRB. To celebrate our anniversary, we are planning a major symposium to be held in Seattle, WA. Brian Rothschild and Dick Beamish are the co-conveners of the three-day symposium which is entitled, "The Future of Fisheries Science and Management in North America". The Steering Committee will be meeting soon to develop the program and the Fund Raising Committee chaired by Vidar Weststad is raising funds to support the symposium and publication of the papers. Announcements on the symposium will be coming out soon.

At the August Board of Control meeting, Dick Schaeffer completed his term as President. On behalf of all of us, I want to thank Dick for his leadership and dedicated efforts for AIFRB over the past three years. Under Dick's leadership recruitment of new members and the financial basis of the organization both critical to the success of the organization, were improved. Many thanks to you, Dick!

Congratulations to Dr. Geoffrey Moser, this year's winner of the Individual Outstanding Achievement Award. Some of Dr. Moser's many accomplishments are detailed in the announcement of the award in this issue of BRIEFS. The announcement for nominations for the Individual and Group Outstanding Achievement Awards will be in the next BRIEFS so please take the time to nominate colleagues and give them the recognition for their outstanding accomplishments. Dr. John G. Williams is the Chair and you can submit nominations to him.

Congratulations to Dr. Scott Raborn, from Mississippi State University, the winner of the W.F. Thompson award for best student paper. Dr. William Bayliff is the Chair of this committee so contact him if you know of excellent student papers that should be considered this year.

A reminder: you can pay your dues online. Allen Shimada, Treasurer, set up the process through Pay Pal, to make it easier to pay your dues. Which I am sure you have all paid by now. Members three years in arrears will be dropped from membership in January so if you have forgotten to send in your dues please do so quickly. We would hate to lose you as a member.

The web page is undergoing renovation. AIFRB member, Kim Anthony offered to redesign our web page and has been working diligently to make it more attractive, easy to use, and up to date. Once the web page is completed, it will become an important source of information on upcoming events, awards and regional news.

AIFRB is a non profit 503C organization. This means you can make tax-free donations to help support our programs. I hope you will consider including AIFRB on your donation list and help support new efforts such as symposia.

As the new President, I am looking forward to continuing Dick's efforts in recruiting new members and increasing the funding for AIFRB. At the 50 year mark in our organization, it is a time to consider where we go in the next 50 years. I would welcome your ideas about how AIFRB can move forward and build a more vibrant organization.

Best wishes for 2006 to you all.
Linda

The AIFRB is a 501(c)(3) tax-exempt nonprofit organization (EIN 61-6050711).

More Significant Retirements

President Linda Jones

New Address:
14931 73rd Ave NE
Kenmore, WA 98028
(425) 488-1446
ljones.wa@verizon.com

Linda wrote:

I have been in federal government just about 30 years. I felt it was time to do new things and spend more time on AIFRB work.

Happy New Year to all

Linda

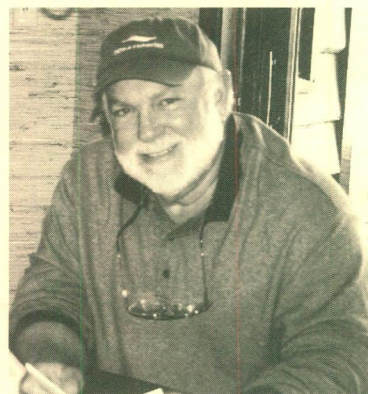
Production Editor John Merriner (leaving NOAA Fisheries)

January 3, 2006

John reported on January 1, 2006 that he plans increased attention to kohlrabi, garlic, blue crabs and speckled trout (Cynoscion)

Outstanding Achievement Award - 2006

At the 2005 meeting, the Board of Control (BOC) selected Dr. H. Geoffrey Moser as the recipient of the Individual Outstanding Achievement Award for 2006. The Outstanding Achievement Award recognizes members who have made significant contributions to fisheries science. Dr. Moser was recognized for his studies on the early life history of fishes. During his long career, he published over 210 papers and wrote two extremely important books: *Ontogeny and Systematics of Fishes* and the CalCOFI Atlas No. 33 - *The Early Stages of Fishes of the California Current Region*. These works build upon years of exhaustive research on the identification of the early life history stages of fishes. They have become critical reference works for anyone working on the early stages of fish, whether for taxonomic, ecological or fisheries studies. Besides these two treatises, Dr. Moser has authored many internationally recognized publications on fish larval ecology. Although best known for his work on larval fish identification, as a member of the SWFSC brain trust, Dr. Moser played an important role in the development of the egg production method of estimating spawning biomass in the northern anchovy. Dr. Moser's PhD dissertation on the reproduction of bocaccio had the key elements of the maturation of oocytes and decay of ovarian follicles that enabled the estimation of spawning fraction of adults. In addition to these outstanding academic achievements for which he was awarded a silver and two bronze medals from the Department of Commerce, and possibly more importantly to the long-term continuation of the field, Dr. Moser has provided unselfish mentoring of junior scientists and students, as well as help to colleagues around the world for decades. Letters in support of his nomination came from around the world. Simply put, he has served as a world-class resource to the international community of fishery scientists.

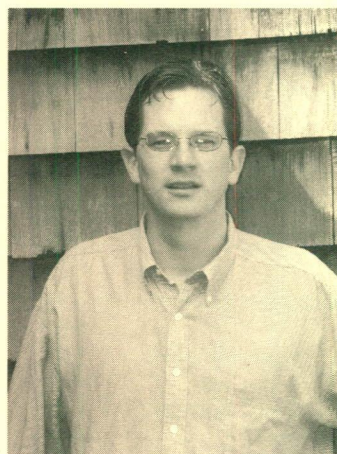


Geoff Moser, Recipient of the Outstanding Achievement Award (individual) for 2005

W.F. Thompson Award - 2004 Second Call for Nominations

The Thompson Award for the best student accomplished-published research is one of the Institute's most important efforts. Please make sure that any candidate papers of which you are aware are nominated. Papers nominally published in 2004 are eligible.

The award will consist of a certificate and \$1000. The requirements for eligibility are as follows: (1) the paper must be based on research performed while the student was a candidate for a bachelor's, master's, or PhD degree at a college or university in the western hemisphere; (2) the paper must be in English; (3) the student must be the senior author of the paper. Nominations may be submitted by professors or other mentors, by associates of the students, or by the students themselves. The deadline for receipt of nominations is April 15, 2006. The nominations should be sent to the Chairman of the W.F. Thompson Award Committee, Dr. William H. Bayliff, Inter-American Tropical Tuna Commission, 8604 La Jolla Shores Drive, La Jolla, California 92037-1508, (e-mail wbayliff@iattc.org). Each nomination must be accompanied by a copy of the paper (unless it is easily available on the internet) and a resumé. The papers will be judged, by knowledgeable reviewers selected by the Chairman, on the basis of originality, presentation (e.g., clarity, syntax, quality of the figures and tables, etc.), execution (e.g., overcoming obstacles encountered during the research), and applicability to future work.



Scott Raborn, recipient of W.F. Thompson Award for 2003. Apologies to Scott for misspelling his surname as Radborn in the previous issue of Briefs. Ed.

Winners of the W.F. Thompson Award for the Best Student Paper of the Year

| Year | Student and collaborators | Paper |
|------|---|---|
| 1963 | Edmund S. Hobson | Feeding behavior in the three species of sharks. <i>Pacif. Sci.</i> , 17 (2): 171-194. |
| 1964 | Paul N. Sund | The chaetognaths of the waters of the Peru region. <i>Inter. Amer. Trop. Tuna Comm., Bull.</i> , 9 (3): 113-216. |
| 1965 | Kenneth J. Fischler | The use of catch-effort, catch-sampling and tagging data to estimate a population of blue crabs. <i>Amer. Fish. Soc., Trans.</i> , 94 (4): 287-310. |
| 1966 | William H. Bayliff | Population dynamics of the anchoveta, <i>Cetengraulis mysticetus</i> , in the Gulf of Panama, as determined by tagging experiments. <i>Inter-Amer. Trop. Tuna Comm., Bull.</i> , 11 (4): 173-352. |
| 1969 | Quentin J. Stober | Underwater noise spectra, fish sounds and response to low frequencies of cutthroat trout (<i>Salmo clarki</i>) with reference to orientation and homing in Yellowstone Lake. <i>Amer. Fish. Soc., Trans.</i> , 98 (4): 652-663. |
| 1970 | William W. Fox, Jr. | An exponential surplus-yield model for optimizing exploited fish populations. <i>Amer. Fish. Soc., Trans.</i> , 99 (1): 80-88. |
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William A. Smoker, Founding Fellow

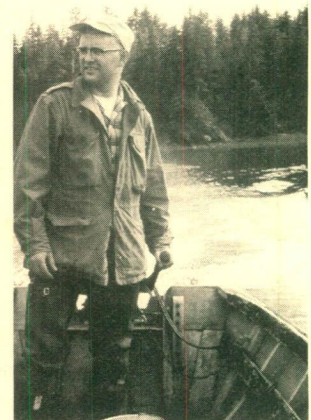
by William W. Smoker

William A. Smoker was a founding fellow of AIFRB, one of many biologists who were concerned about the state of Washington's treatment of their professional appointments as political patronage during the 1950's and who formed AIFRB in their effort to improve the standing of fishery biologists. He was born in 1915 in Ishpeming, Michigan; his parents operated a dairy on their nearby homestead. They abandoned their farm in the agricultural depression of the mid 1920's and migrated to California where they settled near San Jose. My dad helped support the family as a farm worker, finished high school and entered community college there. He earned his BS in Forestry at the University of California Berkeley in 1928 and entered graduate school in Fisheries at the University of Washington the next year. He met my mother while he was a patient at the University hospital where she was his nurse.

He was drafted into the army in the summer of 1941. His unit was deployed on the southern coast of Washington immediately after the attack on Pearl Harbor. Family lore has it that he went AWOL to marry my mother because their rings already had been inscribed with December 20th and that she drove the blackout from her parents' home in Renton to Grays Harbor to meet him at the church. He served as a combat rifleman in the 41st Division, the Jungleers, during the Papuan campaign in New Guinea where he was awarded the Bronze Star for valor. He was commissioned an officer in Australia in 1944, assigned to the Corps of Engineers Map Service and transferred to Washington, DC where he served until the end of the war.

He immediately resumed his graduate studies at the University of Washington where he earned his PhD under W.F. Thompson in 1955, by which time he was employed as a fishery biologist in the Washington Department of Fisheries. In his dissertation he demonstrated a statistical relationship between historical records of coho salmon production in western Washington and records of streamflow and rainfall. It's gratifying to me that his dissertation continues to be read and that I'm sometimes asked if I'm its author even though it is nearly as old as I am.

He was recruited by Clarence Anderson into the Alaska Territorial Department of Fisheries in 1956 and was serving as Chief Scientist when the State of Alaska Department of Fish and Game was formed in 1960. He joined Director George Y. Harry in the new US Bureau of Commercial Fisheries Auke Bay Laboratory in Juneau, Alaska, in 1960 and served as Assistant Director during the 1960's and Director during the 1970's. He retired in 1981 and enjoyed his retirement at Auke Bay until his death, a couple of weeks after my mother's, 1997. Our family name has propagated at least locally in fisheries science and management; my brother and I and both our wives are active in the profession in Alaska.



William A. Smoker, this photo was taken in 1957 at Kitoi Bay, Afognak Island. During the late 1950's the Territorial Department of Fisheries established a research station there for the study of salmon freshwater ecology

Northern California District Elections

Select New Officers

For the period 2005-2007 District Officers will be:

Director: Michael McGowan

Vice-Director: Michele Barlow

Secretary/Treasurer: Allison Gordon

The new officers extend thanks to Diana Watters and Dan Howard for their efforts over the last few years.

A LOSS:

Gerald Bradford Collins

Dr. Gerald Bradford Collins, a long time researcher and administrator at Northwest Fisheries Center in Seattle, Washington, passed away on May 21, 2005.

Jerry was born in Springfield, Massachusetts on October 18, 1918 where he spent his early youth tending family properties in the area. As a young man he wandered south, and began undergraduate studies at the University of Texas. He was in Washington, D.C. attending classes at George Washington University working for the Federal Government when our country entered WWII. Shortly thereafter he enlisted in the Army Air Corps and began pilot training in early 1942. He was married on April 8, 1942 to Ellen (Sue) NeuBeck, and they were together for 63 years. His career as a pilot was a bit briefer. While in primary flight training his trainer lost its prop and Jerry was forced to make a dead-stick landing. Although he was unscathed, he decided forthwith that being a pilot was not his forte and began training as an aerial navigator. He completed navigator training and served in that capacity for the balance of the war, making numerous flights to the North African theater.

Early in 1946, after his discharge from four years military service, he sought and was granted admission to Harvard University. He completed all requirements in five years, obtaining his doctorate in February 1951. On May 4, on the advice of his mentor, Dr. Lionel Walford, he accepted a position with the Columbia River investigations in the staid old quarters of the Montlake Laboratory on Lake Union, Seattle Washington. Within a few years he was immersed in planning for and directing a unique series of studies on the performance and physiology of salmon in a specially constructed fishways laboratory at Bonneville Dam on the Columbia River, under the sponsorship of the U.S. Army Corps of Engineers. The studies eventually lead to the design of more efficient and less costly fishways at new dams which were under construction by the Corps on the Columbia and Snake Rivers.

Collins' studies at Bonneville lead to basin-wide investigations on virtually every aspect of adult and fingerling salmon migrations in a hydropower environment. New techniques (sonic and radio) were developed for tracking adult salmon at and around dams and through reservoirs. Atmospheric gas supersaturation was widely monitored and damaging effects on salmon documented. Studies on fingerling migrations were initiated and carried out from headwater areas to the Columbia River estuary. A system for collection and transportation of juvenile salmonids around dams in the Columbia and Snake Rivers were based on studies by Collins and staff and is still in use today.

To his staff and most others who knew him, Dr. Collins was just plain Jerry whatever the relationship. There was a universal feeling of pride and kinship for having served with this man. He encouraged imagination, initiative and innovation and had the knack of getting the most from his staff and gave back in many ways to help them in their careers.

Jerry also served briefly as director of the Seattle Biological Laboratory when extensive oceanographic investigations were being launched in the North Pacific. He completed his career in 1977 as director of Coastal Zone and Estuarine studies at the Northwest Fisheries Center. In 1975 he was awarded the Gold Medal for Distinguished Achievement in Federal Service.

Jerry was predeceased by his daughter Cathleen and is survived by his wife Sue, a daughter Eileen Deane and her husband Edward and two grandchildren.

Jerry was truly a man for all seasons; he was an accomplished wood carver, an enthusiastic sail boater, a novice rafter of the Salmon River in Idaho, and one with a keen interest in space exploration and the planets. And, finally, he dearly loved a party especially those he and Sue gave on July 4th and New Year Eve. Happy Times, Old Friend and Comrade.

Carl Elling and Wes Ebel

Fellow Daniel Chairs South Atlantic Council

Dr. Louis Daniel was elected to serve a second term as chairman of the South Atlantic Fishery Management Council during the Council's September meeting in Charleston, SC. Dr. Daniel serves as a representative for the N.C. Department of Environment and Natural Resources, Division of Marine Fisheries. George Gieger of Sebastian, Florida was reelected as vice-chair.

As a Council member, Dr. Daniel has long been an advocate of sound science for management. Dr. Daniel has a strong background in stock assessment biology and recognizes the problems that exist with current data gaps and the resulting consequences. As chairman, he has led the Council in the past year as difficult management decisions have been made.

Chairman Daniel recently testified on behalf of the Council before the U.S. House of Representative's Committee on Resources regarding the South Atlantic Council's management activities and recommendations regarding the upcoming reauthorization of the Magnuson Stevens Fishery Conservation and management Act. While acknowledging the Council's accomplishments, he also provided frank testimony regarding current data problems and impacts of management decisions sometimes based on inadequate or incomplete data.

From: The South Atlantic Update, Fall 2005

Chief biologist Daniel plans to dispute federal data

By Brad Rich, News Times

Morehead City - N.C. Division of Marine Fisheries Chief Biologist Dr. Louis Daniel says he will take a strong stand for charter boat operators and other snapper-grouper fishermen next week in his role as chairman of the South Atlantic Marine Fisheries Commission (SAFMC). Dr. Daniel said Thursday that in an upcoming SAMFC snapper-grouper committee meeting Wednesday in Carolina Beach, and again during the full SAFMC meeting Thursday, he'll argue that federal data on the offshore North Carolina deepwater fishery is extremely sketchy at best, certainly "inadequate" to justify drastic actions proposed by the commission in Amendment 13C to the regional panel's snapper-grouper management plan. Dr. Daniel has only one vote on the committee and none on the commission unless there is a tie among the other voting members from North Carolina, South Carolina, Georgia and the east coast of Florida.

Fishermen have expressed outrage about the plan amendment - in a public hearing last month in Morehead City and again in a petition they have sent to the SAFMC - and will certainly have their fingers crossed in hopes Dr. Daniel's arguments will be persuasive. The amendment, after all, could result in an astounding reduction in the state's legal harvest of several deep water fish that are considered crucial to the state's charter and head boat fleets, especially here, in Onslow and New Hanover counties and in Hatteras. Specifically, the preferred alternative in the amendment would require the reduction of the North Carolina snowy grouper catch by 66 percent, the vermilion snapper catch by 32 percent and the black sea bass by a like amount.

The alternative would impose recreational fishing limits as low as one fish per person per day in some cases, and for the first time would establish commercial quotas on the harvest of black sea bass, vermilion snapper, snowy grouper and golden tilefish. North Carolina last year caught 877,000 pounds of black sea bass, and under the alternative, the entire quota next year for North Carolina, South Carolina, Georgia and the east coast of Florida would be only 347,000 pounds. Those numbers and ideas drew not just opposition but downright ridicule in the Morehead City hearing, which Dr. Daniel conducted Nov. 10 in the Leon Mann Jr. Enrichment Center. In what most people present noted was one of the most emotional fisheries hearings in recent memory, one fisherman and his wife challenged the data the National Marine Fisheries Service (NMFS) used to generate the proposed harvest reductions, while others suggested the federal officials simply "buy us out."

Dr. Daniel said the comments voiced by the fishermen, combined with information he got from them in follow-up meetings, helped convince him to take a strong stand. "Basically, I feel like the data used to develop the preferred alternative...are of such limited nature off North Carolina that I have serious concerns about the (stock) assessment results," he said. The biologist added that in order for him to vote for proposals that would have such "significant social and economic consequences," he would "require a much greater level of confidence in the data." That statement dovetails with the comments of the fishermen at the hearing. Several said they had never had their catches sampled by federal agents or biologists and contended that the major snapper-grouper species are present in far greater numbers in the waters off North Carolina than elsewhere.

Dr. Daniel said the lack of adequate federal data looks even more dramatic when compared to the data generated by the state through its decade-old trip ticket program, which requires that watermen and seafood dealers submit to the division monthly statements of what they catch and what they sell. "My hope is to be able to discuss taking a more moderate approach ... in order to try to minimize the impacts of (new rules) on the fishing community," he said. "I also want to urge the federal government to

develop and implement an adequate and representative data collection program for this fishery, in cooperation with the states, and the Atlantic Coast Cooperative Statistics Program (ACCS) before we do another stock assessment. "This issue comes down to 'the best available data,'" added Dr. Daniel, who in recent years has earned the respect of the state's commercial fishermen by arguing for their interests on local, state and federal levels. "North Carolina works very hard to produce top-quality data for our own fishery management plans (FMPs), and I think we've been successful.

"So when the best available information used in the assessment hardly even samples North Carolina, and when the biological information and the data we (the division) have collected in the state are contrary to the results of the assessment, I don't think I have any choice but stand up for better information," Dr. Daniel said. "I think the National Marine Fisheries Service really agrees with us," he continued. "It's just a matter of priorities, and a matter of them deciding that developing the necessary baseline data is the primary task." In other words, Dr. Daniel said, NMFS, which provides most of the statistics and studies used by the SAFMC and other regional fisheries management councils in the United States, should put more money into data collection so its information will truly be, as it is supposed to be, "the best available data."

Dr. Daniel had indicated during the Morehead City hearing that he understood the feelings of the fishermen and conceded, publicly, that he, too, was seriously concerned, because the proposed catch reductions - 31 percent for vermilion snapper, 62 percent for black sea bass, 34 percent for golden tilefish and 66-69 percent for snowy grouper - would affect North Carolina fishermen far more than they would affect watermen in Florida, Georgia and South Carolina. For snowy grouper, the SAFMC preferred alternative is to set a one-fish recreational bag limit and a reduction in the annual commercial quota for the four states from 406,519 to 99,000 pounds with a 10-fish trip limit. The SAFMC is also considering an 821,000-pound commercial quota on vermilion snapper for the south Atlantic.

Commercial fishermen from North Carolina to Florida harvested 1.1 million pounds of the fish in 2004, with 325,908 pounds of that total landed in North Carolina. "What you're looking at, most likely, is a September closure in the vermilion snapper fishery," Dr. Daniel said. He added, also, that he didn't disagree with watermen Robert "Bobby" Freeman, who had stressed earlier in the hearing that during his decades of taking fishermen offshore to seek snapper and grouper, no one had ever sampled his catch for data purposes.

The final public hearing on the draft plan will be Dec. 5 during a SAFMC meeting at the Courtyard Marriott in Carolina Beach. During the official SAFMC meeting that week, the snapper-grouper committee will meet on Dec. 7 to make its recommendation to the full council, which is expected to vote on the proposals on Dec. 8. The plan would then go to the U.S. Secretary of Commerce for approval and most likely would become law between April and July 2006. Dr. Daniel emphasized that he has only one vote on the committee. "I'll make my argument as a committee member," he said. "When it comes to the final vote of the commission, I'll be chairman, and whatever the commission decides is what will go forward."

From: The News Times (Carteret County, NC) December 2, 2005

Council Approves Snapper Grouper Amendment 13C

Public input plays role in final management measures

The South Atlantic Fishery Management Council voted to approve Amendment 13C to its Snapper grouper Fishery Management Plan to address overfishing for snowy grouper, golden tilefish, vermilion snapper, and black sea bass during its recent meeting in Carolina Beach, North Carolina. Management measures include reductions in commercial quotas and recreational bag limits, increases in recreational size limits, and changes to the fishing year for black sea bass. The amendment allows for a moderate increase in the harvest of red porgy as the stock continues to rebuild. Public comment received via letters, email, and through a series of 11 public hearings helped determine the final management measures included in the amendment. The Council also received recommendations from its Snapper Grouper Advisory Panel during the meeting regarding proposed measures.

The majority of public comment focused on the negative social and economic impacts of management options originally included in the document that would end overfishing immediately. Substantial decrease in harvest, ranging from a 66% reduction for snowy grouper to a 31% reduction for vermilion snapper, affected both commercial and recreational fisheries. Collectively, snowy grouper, golden tilefish, vermilion snapper and black sea bass are also important to recreational fishermen and the charter/headboat industry. Council members heard reports from fishermen of healthy catches of vermilion snapper and black sea bass and received comments regarding the uncertainty of data being used for stock assessments, including recommendations from its Scientific and Statistical Committee.

After considering all of the recommendations and public comment, the Council modified measures contained in Amendment 13C to help minimize impacts to the fishery and address bycatch concerns, while continuing to meet mandates to end overfishing. These include using a "step-down" approach for reductions in quotas and for newly established Total Allowable Catches (TACs) for black sea bass. In all cases, after the commercial quota is met, purchase and sale is prohibited and harvest and/or possession

is limited to the bag limit.

Snowy Grouper: For example, the current annual quota for snowy grouper of 344,508 pounds (gutted weight) would be reduced to 151,000 pounds in year 1, to 118,000 pounds in year 2, and to 84,000 pounds in year 3 onwards until modified. The step-down approach is also used for reducing commercial trip limits, reducing the current trip limit of 2,500 pounds when the season is opened to 275 pounds in year 1, and to 100 pounds by year 3 onwards until modified. The Council had initially-proposed reducing the quota to 84,000 pounds with a 10 fish trip limit in the public hearing draft of the amendment. A recreational bag limit of 1 fish per person/day within the 5-grouper aggregate bag limit is included.

Black Sea Bass: Amendment 13C establishes an initial TAC of 1,110,000 pounds (gutted weight) for black sea bass in year 1, with a commercial quota of 477,000 pounds and a recreational allocation of 633,000 pounds. By year 3, the TAC is reduced to 718,000 pounds, the commercial quota reduced to 309,000 pounds, and the recreational allocation to 409,000 pounds. Recreational landings are limited by increasing the recreational minimum size limit from 10" total length to 11" in year 1, and to 12" in year 2 onwards until modified. The recreational bag limit is reduced from 20 to 15 black sea bass per person/day. The amendment also changes the fishing year to June 1 - May 21 and requires at least a 2 inch mesh for the back panel of sea bass pots and removal of all black sea bass pots from the water once the quota is met.

Vermilion Snapper: The Council also modified its initial preferred alternatives for vermilion snapper, allowing an increase from the newly proposed commercial quota of 821,000 pounds to 1,100,000 pounds (gutted weight) and eliminating a proposed recreational closure in January and February. The amendment would increase the vermilion snapper recreation size limit from 11" total length to 12" total length.

Golden Tilefish: Other measures include a reduction in the commercial golden tilefish quota from 1,001,633 pounds (gutted weight) to 295,000 pounds, with a commercial trip limit of 4,000 pounds until 75% of the quota is taken, when the trip limit is reduced to 300 pounds. The trip limit would not be adjusted downward unless 75% is harvested on or before September 1. The recreational bag limit will be reduced to 1 per person/day within the current 5 grouper/day aggregate bag limit.

Red Porgy: Red porgy harvests have been under strict restrictions since 1999 and stocks are rebuilding. As a result, the commercial trip limit for red porgy will increase from 50 pounds to 120 red porgy (210 pounds gutted weight) during May through December with a commercial quota of 127,000 pounds. The recreational bag limit will increase from 1 fish to 3 red porgy per person/day.

The Council is submitting Amendment 13C for Secretarial review with the intent that regulations will be in place by mid-summer of 2006 in order to begin addressing overfishing as quickly as possible. The Council is also developing Amendment 14 to establish marine protected areas for deepwater snapper/grouper species and Amendment 15 to address rebuilding schedules for snowy grouper, golden tilefish, and black sea bass. A complete listing of final preferred management alternatives contained in amendment 13C can be found on the Council's website at www.safmc.net.

Press Release: South Atlantic Fishery Management Council, December 13, 2005

Turning Point in Campaign for Endangered Porpoise

Following an overwhelming outpouring of concern from our Members and online activists, Mexico's fishing industry has signed a groundbreaking agreement with the Natural Resources Defense Council (NRDC) and our environmental partners to protect the vaquita marina, a small endangered porpoise found only in the Upper Gulf of California, Mexico. The accord aims to prevent the accidental catch of vaquitas and more than 400 other species in fishing nets and to eliminate illegal fishing in the Upper Gulf.

Last spring, NRDC BioGems Defenders sent more than 35,000 messages to San Diego-based Ocean Garden, the chief importer of Mexican shrimp to the United States, urging the company to help protect the fewer than 500 remaining vaquitas by promoting sustainable fishing in the Upper Gulf. Soon after, Ocean Garden agreed to begin negotiations with NRDC and ProNatura, Mexico's largest environmental organization, as well as local fishermen. We reached an agreement in July - only five months after NRDC added the Upper Gulf of California to our BioGems list of endangered wild places and just before the start of this year's shrimp season. Nestled at the crossroads of the Americas, the calm, nutrient-rich waters of this region provide a refuge for humpback and blue whales, dolphins, sea turtles and hundreds of fish species.

As part of the deal, the fishing industry will take steps beginning this fall to limit its use of gill nets (which can entangle and drown vaquitas), monitor the shrimp harvest and put an end to illegal fishing. "This accord is a huge turning point in a decades-long fight to save the vaquita marina from extinction, while assuring a strong, sustainable future for the fishing communities of the Upper Gulf of California," says Ari Hershowitz, an NRDC scientist who took part in the negotiations.

From: Nature's Voice, Nov-Dec 2005

Good News on Both Coasts

Pacific Fishery management Council Announces Good News on Rebuilding of Lingcod, Some Rockfish

The Pacific Fishery Management Council is pleased to announce that the West Coast lingcod stock has been successfully rebuilt after being designated "overfished" by the federal government in 1999. The rebuilding was accomplished while avoiding a complete closure of lingcod or groundfish fisheries. In addition, the status of other key overfished stocks has improved. "At a time when the public often hears negative things about marine fishery management, it is refreshing to see things improving off the West Coast," said Council Chairman Don Hansen.

In addition to meeting the rebuilding target for lingcod, the population threshold was exceeded and rebuilding was accomplished much earlier than expected. Lingcod was scheduled to be rebuilt by 2009, but a new assessment shows that the lingcod population is already 60% greater than the rebuilding target. Lingcod are voracious, non-migratory predators that inhabit rocky areas and reefs. Executive Director Donald McIsaac noted, "Rebuilding so quickly is a great success story that shows how the Council's cutbacks on fishing can work. But even with the increased numbers, fishing for lingcod will still be restricted due to curtailments on fishing to allow rebuilding of canary and yelloweye rockfish, which live in similar habitat."

In November 2005, the Council considered the results of stock assessments for 23 groundfish species conducted by scientists from federal and state government agencies. The assessments were then subjected to a thorough, two-stage peer review process. An initial evaluation by a specialized panel that included reviewers from the Center for Independent Experts was conducted first, followed by a review for scientific validity by the Council's Scientific and Statistical Committee (SSC). The Council's SSC is composed of scientists from tribal, state and federal agencies, academic institutions, and other sources. The Council approval of the SSC's recommendations triggers the use of the stock assessments in decision making.

Assessment for other overfished stocks showed good improvement, with a few showing mixed results. Assessments for widow rockfish and darkblotched rockfish showed significant improvements. The widow rockfish stock increased by 25% between 2003 and 2005 and is now at 78% of its rebuilding target. The darkblotched rockfish stock increased by 25% between 2001 and 2005, and is now at 40% of its target; in addition, three strong year classes of juveniles are soon to recruit to the adult phase. The assessments for cowcod rockfish showed modest improvement, while assessments for Pacific ocean perch, canary, and bocaccio rockfish showed no significant change between 2003 and 2005. An assessment for yelloweye rockfish showed the population in slightly worse shape.

In all, the Council has adopted rebuilding plans for eight overfished species. Lingcod, Pacific ocean perch, and bocaccio were designated overfished in 1999; canary rockfish and cowcod in 2000; darkblotched rockfish and widow rockfish in 2001; and yelloweye rockfish in 2002. Pacific whiting were declared overfished in 2002, but were rebuilt to the target level and removed from the list overfished species in 2004.

The Council and National Marine Fisheries Service have implemented management policies to reduce the catch of overfished species to a level that will allow their populations to rebuild to a healthy size. Rebuilding strategies limit fishing so that a stock can grow to a legally-mandated target level. To reduce catch of these stocks, the Council has closed large areas to certain types of fishing, enacted regulations that discourage fishing in rocky habitat, curtailed quotas and bag limits, and implemented other measures.

The Pacific Council is responsible for fisheries off the coasts of California, Oregon, and Washington. Management measures are embodied in fishery management plans (FMPs) for salmon, groundfish, highly migratory species, and coastal pelagic species. The groundfish FMP covers more than 82 species.

Press Release FMC, November 28, 2005

And Georges Bank Haddock, too!

At the request of the New England Fishery Management Council, NOAA Fisheries Service Northeast Region coordinated the development of emergency regulations to authorize the Atlantic herring fishery to proceed on Georges Bank while retaining small amounts of haddock. Without the action, these vessels would likely not fish on Georges Bank this year, risking about \$3 million in revenues and bait supply for the region's top-valued fishery, American lobster.

The emergency action is in place for 6 months and can be extended for an additional 6 months. It changes a long-standing provision in the Northeast Region's groundfish rules that prohibited Atlantic herring vessels, which use mid-water trawl and purse seine gear, from retaining any groundfish such as haddock.

Last year, haddock bycatch was detected in the Atlantic herring landings data. At the same time, record numbers of young

haddock, born in 2003, were reportedly rising into mid-water depths where herring nets could inadvertently catch them. Usually, groundfish like haddock stay near the ocean bottom, below herring schools.

The Georges Bank haddock stock dipped to record low levels in the 1990s, but has seen rapid rebuilding in the past few years, owing to both reduced fishing rates and good reproductive success in the stock.

The new regulations apply to vessels permitted to land more than 500 metric tons of Atlantic herring, regardless of where they fish. Haddock bycatch will be reported for each trip, culled from the landings, and set aside for fishery enforcement agents to inspect. There will be no haddock size limit, and no purchase or sale for human consumption. There is an overall haddock bycatch limit, equal to 1 percent of the Georges Bank haddock total allowable catch. If reported haddock bycatch in the fishery exceeds that limit, the Georges Bank herring fishery will close, and the zero haddock possession limit for herring vessels will be reinstated.

From: Changing Tides, 2(2), Summer/Fall 2005

Does this mean we can once again get scrod? Ed.

Cod Tagging Program

The Northeast Regional Cod Tagging Program (NRCTP) is the largest tagging program on the east coast of the U.S. and Canada. Administered and funded by the Cooperative Research Partners Program (CRPP) since 2002, the program is coordinated by the Gulf of Maine Research Institute (GMRI). This program, a collaboration of five tagging organizations along the New England and Maritime coastline, is intended to:

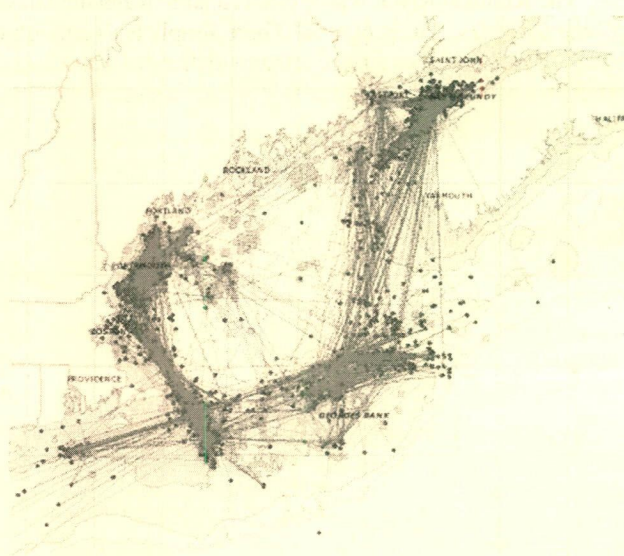
- 1) Identify movement patterns of Atlantic cod throughout the Gulf of Maine and neighboring waters and provide information on growth and spawning grounds;
- 2) Develop a large-scale, collaborative cod tagging program (fishermen and scientists to tag ~ 100,000 Atlantic cod throughout the study area);
- 3) Make data available to the public through an online database with a GIZ mapping interface; and
- 4) Identify future research questions.

The NRCTP has successfully focused its tagging efforts, conducted by trained fishermen and scientists, on key tagging areas spread throughout the Gulf of Maine, southern New England, and Canadian waters. The total number of taggers involved in this program exceeds 130 (84 fishermen and 45 scientists). By July 2005, the total number of tagged cod released was 116,000, 3,000 of which were tagged with high-reward tags (blue tags, worth \$100). Recapture reports are mailed to tag returnees and also emailed to the original released vessel. Feedback from fishermen who have received these reports has been very positive. A total of 3.5 percent of the tagged cod released have been reported as recaptures. The NRCTP monthly lottery has resulted in 110 winners since it began in September 2003. In order to qualify for the lottery, the tag return must include tag number, date, location and fish length.

Analysis has determined the key movement patterns of Atlantic cod in the Gulf of Maine and neighboring waters. Data on growth and spawning grounds will become available once long-term recapture information becomes available. Data has been made available to the public since the program was initiated (via www.gmrimapping.org/codmapping). The general public can use the interactive tools to sort data (e.g., by season, location, gear type, fish size, etc.)

Future research priorities include: smart tagging (using data storage tags or acoustic tags); assimilation of historic tagging data from the region; tagging on spawning aggregations; and genetic studies. All are dependent on future funding opportunities. The NRCTP is a prime example of highly successful collaborative research project. By the end of the project, movement and growth findings will be available to the Northeast Fishery Science Center staff for consideration during the upcoming 2008 Groundfish Benchmark stock assessments. In order to maximize the accuracy of growth and movement trends observed, fishermen and processors are urged to continue to return tagged cod information to GMRI. This important information can be reported via the toll-free number (1-866-447-2111), or by mailing the tag (along with recapture information of date, location, fish length and tag number) to the Northeast Regional Cod Tagging Program at Gulf of Maine Research Institute, P.O. Box 7549, Portland, ME 04112.

From: Changing Tides, 2(2), Summer/Fall 2005



Beautiful Document Available

A gloriously illustrated and scientifically rigorous pamphlet on marine ecosystem management has been produced by and is available from the Northeast Fisheries Science Center and the Northeast Regional office of the National Marine Fisheries Service. "Ecology of the Northeast Continental Shelf, Towards an ecosystem approach to fisheries management" was assembled by Mike Fogarty and offers 23 pages of text and richly colored illustrations covering topics from oceanography to management planning with a whole bunch of biology in between. I could easily envisage the document as the basis for a continuing education short course or for a university seminar course. *Ed.*

Two Rays of Hope For the Klamath Courts Turn Aside Takings Claim, Order New Plan

The Klamath River, which drains a large watershed in southwest Oregon and northwest California, has been the site of a tug-of-war for years. The problem? There simply isn't enough water in the river most years to nourish several wildlife refuges in the basin, sustain what was once a major fishery of coho and chinook salmon, and water thousands of acres of potatoes, hay, and other crops, most of which are low-value and often in surplus.

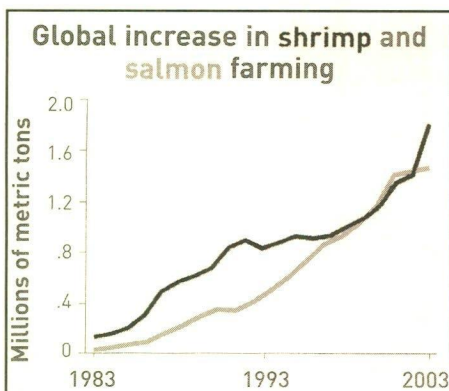
The decline in the fishery has had a devastating impact on Native Americans in the region and on commercial fishing communities along the California and Oregon coasts. The salmon fishing season was drastically shortened this past summer in an attempt to restore salmon populations.

Two recent legal rulings, however, have gently tipped the table in favor of the natural river and provide reason to hope that restoration may succeed. First, farming interests tried to persuade a federal court that the government's refusal to provide every drop of water they want during an almost record drought year amounted to an illegal confiscation of their private property, called a "taking" in the trade. The court, in unusually pungent language, found that argument unpersuasive, calling it "rootless," "unrealistic," and "a fantasy."

Meanwhile, in October 2005, the Ninth Circuit Court of Appeals agreed with a challenge mounted by fishermen and several conservation organizations against the Bureau of Reclamation's management plan for the river. The now discredited federal plan conceded that insufficient water would be provided for coho salmon for the first eight years of its ten-year span, which prompted another colorful freshet from the judges: "Five full generations of coho will complete their three-year life cycles - hatch, rear, and spawn - during those eight years. Or, if there is insufficient water to sustain the coho during this period, they will not complete their life cycle, with the consequence that there will be no coho at the end of the eight years. If that happens, all the water in the world in 2010 and 2011 will not protect the coho, for there will be none to protect." The agency was ordered to try again.

In the appeals court decision, Earthjustice attorney Kristen Boyles represented Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, The Wilderness Society, WaterWatch of Oregon, Northcoast Environmental Center, Oregon Natural Resources Council, Defenders of Wildlife, Klamath Forest Alliance, and Headwaters. The takings case was handled by Earthjustice attorneys Todd True and Robert Wiygul on behalf of Pacific Coast Federation of Fishermen's Associations.

From: In Brief, Tom Turner & John McManus, Winter 2005/2006



Farming of shrimp and salmon has grown explosively. For example, it accounts for 75% of Safeway's seafood revenues.

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