



Website: [www.aifrb.org](http://www.aifrb.org)

# American Institute of Fishery Research Biologists

Promoting excellence in fishery science

## ... BRIEFS ...

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## President's Message

The new year will have a new look for AIFRB *Briefs*. After several years of serving as the editor, John Butler resigned in October. Shortly after retiring from the National Marine Fisheries Service, a medical exam revealed that he needed major surgery. John is now recuperating from surgery. John has our best wishes and gratitude for his efforts and contributions to the Institute. We are excited to welcome Sarah Fox as the new editor. As the managing editor of AFS *Fisheries*, Sarah brings wonderful experience and skills to the position. The new year will also include a third Sustainability Forum (March 7-9 in Boston, MA) and a symposium on "*Piloting Big Rivers for the Challenges Ahead*," which will investigate topics ranging from habitat to climate change in big rivers (September 9-12 in Little Rock, AK). The Sustainability Forum includes presentations from several prominent AIFRB members, and is being held in conjunction with the International Seafood Show to help communicate sustainability issues to seafood buyers. The Friday session is free to AIFRB members (please contact me for details: [scadrin@umassd.edu](mailto:scadrin@umassd.edu)). The Big Rivers symposium is intended to expand AIFRB membership and activities in freshwater fisheries. If you have ideas, please contact the organizers: Jeff Schaeffer ([jschaeffer@usgs.gov](mailto:jschaeffer@usgs.gov)), Sean Lucey ([sean.lucey@noaa.gov](mailto:sean.lucey@noaa.gov)), or Tom Keegan ([tkeegan@ecorpconsulting.com](mailto:tkeegan@ecorpconsulting.com)). The forum, symposium, District meetings, and other activities offer opportunities to get involved and promise to help us achieve our goals to promote conservation and proper utilization of fishery resources, as well as professional development.

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



# From the Editor

*Briefs* is your publication. What you're doing is important and should be noticed. I'm looking for any of the following:

- Discussions—have a question?
- Essays & pictorials
- History—the early days of AIFRB (photos, stories, etc.)
- How To articles—a unique slant on research
- Research—in the making, in conclusion, etc.
- Member blogs or blog mentions
- Member videos
- Policy & News bites
- Recognition—awards, citations, certificates, degrees earned, promotions, etc.
- Testimonials: Why did you become a Member?

Thank you! Sarah Fox – [sgfeditor@gmail.com](mailto:sgfeditor@gmail.com)

## Needed!

1. We need members to post on, and like, our Facebook page. [facebook.com/pages/American-Institute-of-Fishery-Research-Biologists-AIFRB-Florida-District/219000618118468](https://facebook.com/pages/American-Institute-of-Fishery-Research-Biologists-AIFRB-Florida-District/219000618118468)
2. Why did you join AIFRB? People want to know. Tell others the importance of why being a member matters. Send your testimonials to [sgfeditor@gmail.com](mailto:sgfeditor@gmail.com). [aifrb.org/membership/why-join](http://aifrb.org/membership/why-join)
3. We can help you with newsletter article preparation and submission. Please send your articles in one Word Doc, and any photos in a High Resolution to [sgfox@gmail.com](mailto:sgfox@gmail.com).
4. Some members prefer electronic newsletters; some prefer traditional print mailings. We would like to minimize the number of print mailings for economic and ecological reasons. If you're receiving a print version, please make sure we have your email address so you can try an electronic version.

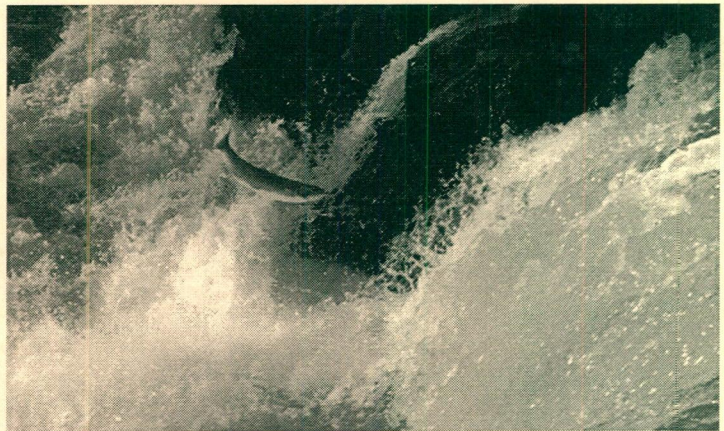
## Seeking

The Executive Board is seeking nominations for an Associate member to represent young professionals at the 2013 Board meeting (Little Rock AR, September 7-8 2013; the weekend before the Annual AFS meeting). Up to \$600 in travel support is available to attend the meeting and participate in Board discussions. Associate members can nominate themselves or other members can nominate Associate Members who are willing to attend the meeting. Nominations and CVs should be sent to the Membership Committee Chair, Tom Keegan ([tkeegan@ecorpc consulting.com](mailto:tkeegan@ecorpc consulting.com)).

# Policy and News

## Policy Approved to Revamp Columbia River Fisheries

*New policy designed to support conservation of wild salmon and expand the economic benefits the state derives from sport and commercial fisheries.*



OLYMPIA – January 2013 – The Washington Fish and Wildlife Commission today unanimously adopted a policy that establishes a new management framework for salmon fisheries on the lower Columbia River. The policies adopted by both Washington and Oregon include:

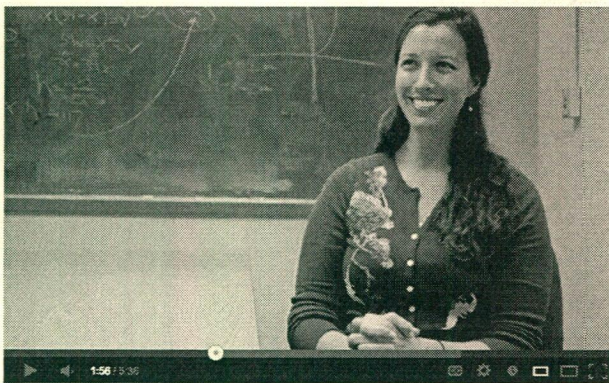
- allocate more salmon and steelhead to recreational fisheries, but will not necessarily reduce the incidental catch of wild salmon and steelhead protected under the federal Endangered Species Act (ESA)
- gradually shift non-tribal commercial gillnets to off-channel areas stocked with more hatchery salmon
- spur development and use of new selective gear for commercial fisheries on the mainstem Columbia River
- require anglers to use barbless hooks when fishing for salmon and steelhead in the Columbia River

## O'Malley Menhaden Statement

Annapolis, Md. (December 2012) – In regards to the Atlantic States Marine Fisheries Commission's (ASMFC) decision to reduce the future harvest of menhaden, Governor Martin O'Malley stated that "the most important fish in the sea – the Atlantic menhaden – received the recognition it deserves. I want to commend the Atlantic States Marine Fisheries Commission for agreeing to reduce the harvest of Atlantic menhaden by 20 percent in 2013. After overfishing Atlantic menhaden for 52 of the past 54 years, resulting in historical low levels of abundance, overfishing will end and Atlantic menhaden will be given an opportunity to rebuild its population. Today's actions by ASMFC goes beyond menhaden. Maryland's many other fish and marine mammals - the striped bass, bluefish, weakfish, dolphins, ospreys and bald eagles - will also benefit as they use Atlantic menhaden as a primary food source. Please join me in congratulating our State and Federal partners on ASMFC, Maryland's members of ASMFC, fisheries scientists and managers at the Department of Natural Resources, and the many organizations and citizens who were active participants in the ASMFC management process."



# Members in the Spotlight



On Video

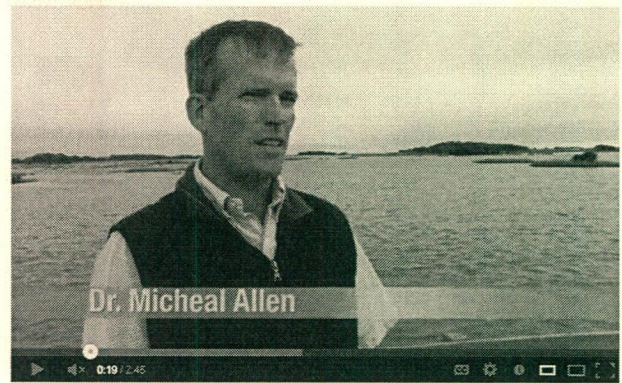
**Member – Abigail Lynch**

**UDF & FAST Fellow Discussion**

*"My research is in linking climate variables, specifically, ice cover, water temperature, and wind and storm events to recruitment to the fishery, so seeing how the climate variables effect how many fish are available to harvest and from that designing decisions for a tool to help the managers and fishers use science in the way they manage the fishery and hopefully in the future it will be a corrective approach in looking at adoptive management to maintaining the profitably and the ecological viability of the fish for the future."* Abigail Lynch

Credit: MSUGradSchool

Link: [youtube.com/watch?v=DSiU0kRcfsI](https://youtube.com/watch?v=DSiU0kRcfsI)



On Video

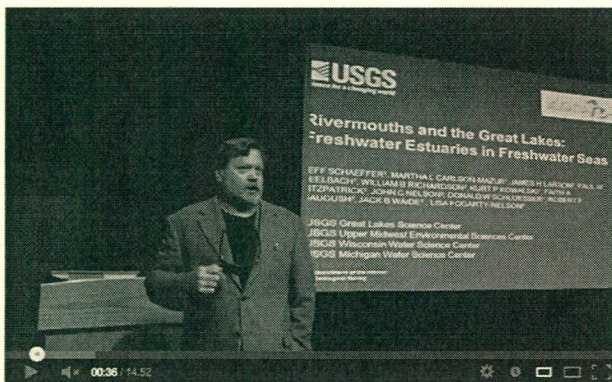
**Member – Michael Allen**

**UF/IFAS Research: Gulf Fisheries Study**

*"We're bringing stakeholders in to the fold to explore the policies with them.... we could put it in a simulation and run it and say, well, okay here's what we expect the catches would be, here's what the economic value of the fishery would be, here's what the fish community would be after those policies, so it's trying to explore those tradeoffs and let the stakeholders have input in what we try."* Michael Allen

Credit: IFASVideo

Link: [youtube.com/watch?v=vrTrIbgcijs](https://youtube.com/watch?v=vrTrIbgcijs)



On Video

**Member – Jeff Schaeffer**

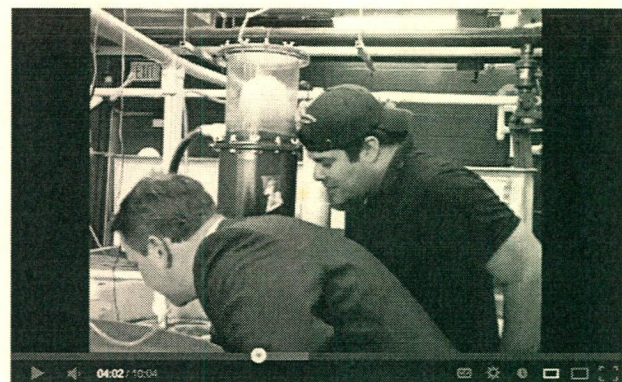
**Rivermouths and the Great Lakes:**

**Freshwater Estuaries in Freshwater Seas**

*"We believe that rivermouths maybe one of the last places where traditional food webs are still operating in the Great Lakes."* Jeff Schaeffer

Credit: Michigan Sea Grant

Link: [youtube.com/watch?v=8qxMerN7-NI](https://youtube.com/watch?v=8qxMerN7-NI)



On Video

**Member – Steve Cadrin (President)**

**Lt. Governor Tim Murray pays a visit to SMAST in New Bedford's South End**

**Apr 24, 2012**

*"These guys here, we've giving them a bath in tetracycline, which is an antibiotic... we've actually marked their bones already...now these guys are going to be in here for one or two years...eventually they'll take them out and look at those vertebrae and they'll be able to really age them properly."* Steve Cadrin, speaking to the Lt. Governor.

Credit: City of New Bedford, MA

Link: [youtube.com/watch?v=RqpNBlaM5xo](https://youtube.com/watch?v=RqpNBlaM5xo)

Members in Spotlight continued on following page





On Video

**Member - Joseph Rachlin**

**Alewife in the Bronx River**

*"If you see popping, you're golden. It means you had a successful spawn."* Joseph Rachlin

Credit: CUNYMedia

Link: [youtube.com/watch?v=SA-etzyj2U](https://youtube.com/watch?v=SA-etzyj2U)



On Video

**Member - Mike Sissenwine**

**Presentation of Fisheries Best Management Report**

*"I can envision if one pursued the issue of the reversal of the burden of proof that those rights to opportunities in the fishery would be clearly tied to the demonstration that one can deliver on the obligations that go with them, which clearly has not been the case in the implementation of the common fisheries policy today."* Mike Sissenwine

Credit: Stockholm Resilience Centre

Link: [stockholmresilience.org](http://stockholmresilience.org)

## Become a Member!

"The AIFRB was started to promote excellence in fishery research in North America. The founders represented the spirit of excellence and the importance of asking the right questions. They have passed the baton to us to maintain the highest standards in science, conservation and management of fish stocks."

- Brian Rothschild, UMass Dartmouth

To join, visit: [aifrb.org](http://aifrb.org)

## In The News

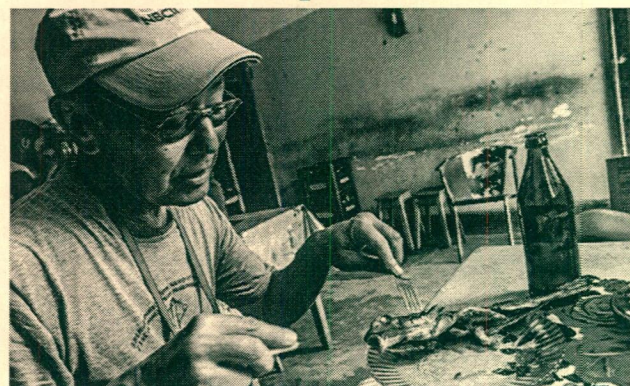
### New Walleye Limits on Mille Lacs Make Dead Fish a Bigger Deal



"Concerned about the lake's declining walleye population, state officials have slashed its 2013 walleye allocation to 178,750 pounds — half of last year's allotment... The problem for anglers: If hooking mortality is 130,000 pounds again this year, and winter anglers keep 20,000 pounds, as expected, that would leave sport anglers only 29,000 pounds of walleyes in their yearly allotment, beginning with the open-water fishing season. It would take Draconian fishing regulations — maybe even catch-and-release only — to prevent over harvest.... 'Even if it's a total catch-and-release fishery, it's possible we would still go over the quota,' said **Don Pereira**, DNR fisheries research manager." Part of a longer article written by Doug Smith from the Minneapolis Star Tribune - January 29, 2013

## In Blogs

### Gulf of Guinea Expeditions



"Soon after **Dr. Tomio Iwamoto**, our marine ichthyologist and veteran of GGI and GG II returned home to the Academy a few weeks before the last of us, he left for Africa again. And, once again, he is aboard the Norwegian research vessel, the R.V. Nansen, as a senior scientist... trawling for deep water fish off the coast of Guinea Conakry."

Link: [calacademy.org/medialibrary/blogs/gulfofguinea/?p=539](http://calacademy.org/medialibrary/blogs/gulfofguinea/?p=539)



## Meet You in Boston!

**Science & Sustainability Forum 2013**  
Advancing Science and Management for  
Sustainable Ocean Resources

**Global Review:**  
**Status & Sustainability of Fisheries**  
**March 7-9, 2013**  
**Boston Seaport Hotel & World Trade Center**

Key scientists gather at Science & Sustainability Forum to provide global review on status of stocks and address misconceptions on seafood sustainability for seafood and public audience. Ocean Trust's third Science & Sustainability Forum will bring top fishery scientists from major fish producing nations and management organizations for direct dialog with seafood buyers and a global review on the sustainability of the fishery and seafood products from around the world.

### Forum Objectives:

1. Provide global science review on stock status and fisheries management/sustainability
2. Enhance public access to competent science on the sustainable management of seafood
3. Address misconceptions on the sustainability and management of seafood species

### Want to learn more?

Contact Thor Lassen at [tjlassen@oceantrust.org](mailto:tjlassen@oceantrust.org)  
By Fax: 703-450-9853  
Visit: [www.oceantrust.org](http://www.oceantrust.org)

## Selected

**Traci Larinto**, CDFG, was selected as the next Chairperson for the Technical Subcommittee of the Canada-United States Groundfish Commission's 2013 TSC meeting, which will be held in Seattle, WA—hosted by AFSC at the NOAA facility on Sandpoint Way, April 30-May 1, 2013.

Link: [psmf.org/tsc2/2012\\_TSC\\_Final\\_Report.pdf](http://psmf.org/tsc2/2012_TSC_Final_Report.pdf)

## AIFRB Referenced

Fishes of the Du Chaillu Massif, Niari Depression, and Mayombe Massif (Republic of Congo, west-central Africa): A list of species collected in tributaries of the upper Ogowe and middle and upper Kouilou-Niari River basins. *Victor Mamonekene and Melanie L.J. Stiassny*

Fishes were collected and euthanized prior to preservation in accordance with recommended guidelines for the use of fishes in research (AFS/AIFRB/ASIH, 2003).

Link: [checklist.org.br/getpdf?SL072-12](http://checklist.org.br/getpdf?SL072-12)

## Recently Published

### Member- Mark J. Wuenschel

Mark Wuenschel's manuscript "Relations between total gonad energy and physiological measures of condition in the period leading up to spawning: Results of a laboratory experiment on black sea bass (*Centropristis striata*)" can be found in the FISHERIES RESEARCH Journal.

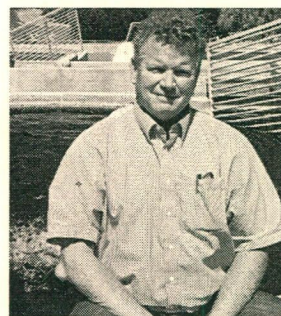
*Fisheries Research*, Vol. 138 (February 2013), pp. 110-119, doi:10.1016/j.fishres.2012.05.012

by M. J. Wuenschel, R. S. McBride, G. R. Fitzhugh

## Projects in the Works

### Member Scott LaPatra

LaPatra is involved with a research project concerning integrated approaches for improving aquatic animal health in cool and cold water aquaculture.



Title: *Flavobacterium*  
Columnare studies in  
rainbow trout  
(*Oncorhynchus mykiss*)  
Link: [ars.usda.gov](http://ars.usda.gov)  
Project Number: 1930-  
32000-005-00

## Certified

Congratulations to **Joe Dos Santos** for earning the American Fisheries Society (AFS) three-tiered certification program for fisheries biologists. Since the inception of the certification program in 1963, several thousand individuals have been awarded Associate Fisheries Professional, Certified Fisheries Professional, or Emeritus Fisheries Professional status. Fisheries professionals in academia, government, and private industry have used these designations as a means of establishing themselves within their profession and advancing the field as a whole. For a more complete description of certification requirements, visit [fisheries.org](http://fisheries.org) and click on "Certification."

## In Court

Northwest Sportfishing Industry Association, Association of Northwest Steelheaders, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, and Idaho Rivers United (Northwest Sportfishing) appeal the State of Washington's Department of Ecology's refusal to initiate rulemaking to modify water quality standards for Total Dissolved Gas (TDG). **Joe Dos Santos** was a contributor:

Don E. Weitkamp, Robert D. Sullivan, Tim Swant & Joe DosSantos, *Gas Bubble Disease in Resident Fish of the Lower Clark Fork River*, 132 Transactions Am. Fisheries Soc'y 865 (2003). Link: [courts.wa.gov/opinions/index.cfm?fa=opinions.showOpinion&filename=423642MAJ](http://courts.wa.gov/opinions/index.cfm?fa=opinions.showOpinion&filename=423642MAJ)



# Recognition

## Award Winners

### Distinguished Service Award for 2013 Presented to William Bayliff

October 2012

The American Institute of Fishery Research Biologists (AIFRB) Distinguished Service Award for 2013 was presented to Dr. William (Bill) Bayliff, of the InterAmerican Tropical Tuna Commission, on October 21, 2012, at the annual barbecue of the AIFRB Southern California and Baja California, Mexico, District, held at Scripps Institution of Oceanography. The AIFRB Distinguished Service Award was established in 1994 to recognize members who have performed outstanding and sustained service to the Institute. The Past Presidents of the Institute and the Board of Control selected Bill Bayliff for the 2013 award, primarily for his work on the Founding Fellows' Biographies, which have been appearing in the AIFRB Newsletter, *Briefs*, and on the web site ([aifrb.org/wp-content/uploads/2011/05/AIFRB-Biographies-web.pdf](http://aifrb.org/wp-content/uploads/2011/05/AIFRB-Biographies-web.pdf)), but also for his service for several years as Committee Chair for the W. F. Thompson Award for best student paper in fishery biology. The committee chair who succeeded Bill in 2010 provided this special thanks:

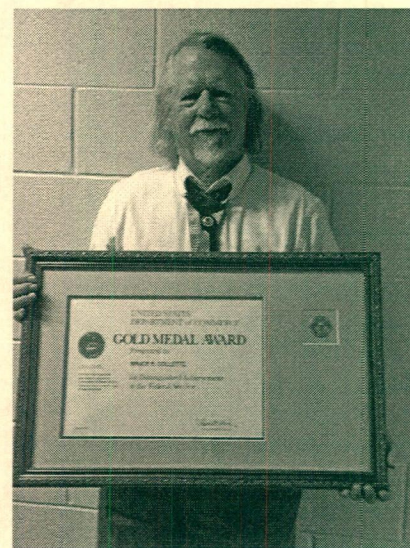
"The previous chair of this committee, Dr. William Bayliff, has been an enormous help and support to me as I struggled to fill his shoes. I cannot thank him enough for his time in helping me. It appears to me that the conduct of the committee's affairs in soliciting nominations, obtaining reviewers, and carrying the process through has been a substantially one-man effort for which AIFRB's Board of Control should be thankful." – G. Morris Southward

Bill has been a member of AIFRB since 1959 and a Fellow since 1971, and is very deserving of this honor. AIFRB thanks him for his many contributions, and congratulates him on the award.



*The AIFRB Distinguished Service Award for 2013 was presented by AIFRB Secretary Kathy Dickson, on behalf of AIFRB President Steve Cadrin, to Dr. Bill Bayliff, an AIFRB Fellow in the Southern California and Baja California, Mexico, District. Bill works at the InterAmerican Tropical Tuna Commission and was honored for his outstanding and sustained service to the Institute as Committee Chair for the W. F. Thompson Award for best student paper in fishery biology for several years, and for his work on the Founding Fellows' Biographies.*

### Secretary of Commerce Awards Dr. Bruce Collette Gold Medal for Leadership



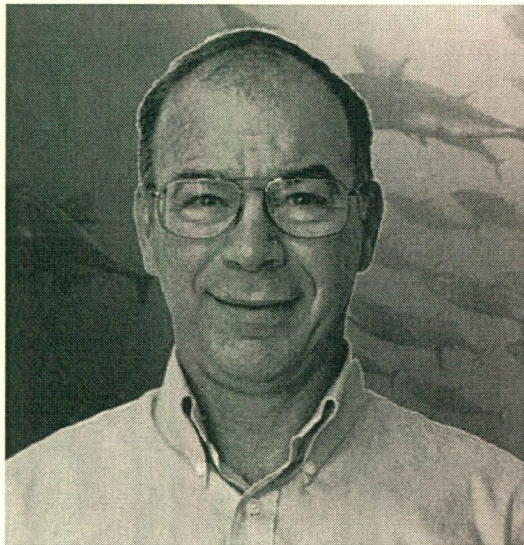
Dr. Bruce B. Collette, Senior Research Scientist at NOAA's National Marine Fisheries Service (NMFS) Systematics Laboratory and longtime Smithsonian colleague, was awarded an individual Gold Medal for Leadership by the Secretary of Commerce for establishing the first use of the International Union for the Conservation of Nature's Red List Criteria on commercial marine species. Bruce's exceptional efforts in this regard have led to better conservation and management measures for endangered and at risk tuna and marlin species. The award was presented on January 8th at the Ronald Reagan Building and International Trade Center. The Gold Medal is the highest honor awarded by the Secretary of Commerce. Congratulations to Bruce!

Credit: News from Smithsonian National Museum of Natural History - The Backbone News from the Department of Vertebrate Zoology 1/22/2013



## Promoted

### Dr. Richard Methot Accepts New Position at NOAA



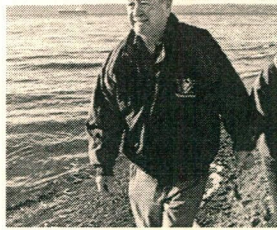
Dr. Richard (Rick) Methot has accepted a new position as the first Senior Scientist for Stock Assessments at NOAA. In this new role, he will be the agency's senior-most authority in the field of stock assessment science. This announcement is the first for three new scientific positions at Fisheries, including a new Senior Research Scientist for Ecosystem-Based Management and a Senior Research Scientist for Fisheries Economics. These latter two positions are still in process.

Many of you know Rick. He has been with NOAA Fisheries for over 30 years. Most recently, he was the National Stock Assessment Coordinator for the agency in the Office of Science and Technology. There, he led several national committees related to scientific guidance on marine fish stock assessment and provided scientific advice to fishery managers across the Nation. Those include the Marine Fisheries Stock Assessment Improvement Plan and the Working Group for Revision of National Standards regarding optimum fishery yield, prevention of overfishing, and rebuilding overfished stocks.

In his new role, Rick's priorities will be to facilitate a national approach to stock assessments across the agency and to conduct research to improve fish stock assessments nationally and internationally. A key aspect of his work will be to develop methods for incorporating ecosystem considerations into stock assessments, such as predator and prey relationships, habitat and oceanographic impacts, and multi-species and multi-fisheries interactions.

## In Memoriam

### Dayton Lee Alverson, Ph.D.



Dayton Lee Alverson—known by those close to him as Lee—was born in the San Diego Naval Hospital to George and Edith Alverson on October 7, 1924. George, a Naval Officer, was posted to Tatoosh Island off Neah Bay, WA in 1930, where Lee, his older brother Frank, and his mother lived for a year. The family was transferred to Bremerton WA, then San Diego, and eventually to Hilo and then Honolulu. It was in Hawaii where both boys grew to love the sea that would guide their careers.

In 1936, the family returned to San Diego where Lee joined the Navy just after graduating from high school shortly after the start of the WW II. Lee met his wife Ruby in 1943 during his service in San Diego. In 1944 at age 19, Lee was sent on a mission to China to support the Chinese resistance against the Japanese. He sailed across the Atlantic and Indian Oceans, landed in Calcutta, India, and flew over the Himalayas to fight behind enemy lines for the next two years until the Japanese surrendered. Lee's insurgents operated the coastal watch program, disrupted the Japanese forces and rescued a number of downed Allied flyers while gaining the appreciation and admiration of many Chinese officers that would last all of Lee's life.

Upon returning to San Diego, Lee married Ruby, his life long love, and started college at San Diego State College. In 1947, Lee and Ruby moved to Seattle, where Lee studied fisheries at the University of Washington. Lee and Rudy had their first child, Robert (Bob) Alverson in 1948, and later a daughter Susan (Sue).

Lee's first introduction to the west coast commercial fishing industry was in 1949 when he conducting fish sampling on board bottom trawlers operating out of Astoria, Oregon. He was hooked and remained dedicated to the promotion of sustainable fishing the rest of his life. After graduation from the UW in 1950, Lee joined the Exploratory Fishing and Gear Research Base under the U.S. Bureau of Commercial Fisheries in Seattle (which later become the National Marine Fisheries Service in NOAA). Lee explored the resources of the North Pacific from California to Alaska and developed many of the fishery stock assessment techniques essential to successful fishery management—many of which are still in use today. Lee worked his way up in the federal agency while completing his Doctorate degree at the UW in 1967.

Lee became involved in the International North Pacific Fisheries Commission and traveled the world representing the U.S. in fishery matters. He was appointed director of the Northwest and Alaska Fisheries Center in Seattle and became responsible for research and management of some of the world's most important and valuable marine resources off the Northwest and Alaska. He was also an important contributor to the Magnuson Fishery Conservation and Management Act that in 1976 led the way to Americanize U.S. fisheries that previously were dominated by foreign companies from Japan, Russia and Korea.

Lee was a chief negotiator for the Pacific Salmon Treaty with Canada. He was a technical advisor for the Marine Stewardship Council that certifies sustainable seafood. As affiliate faculty at the UW, he promoted the recruitment of foreign fishery students and mentor many of them. Many of these students have gone on to head

*Memoriam continued on following page*



their national fisheries management organizations.

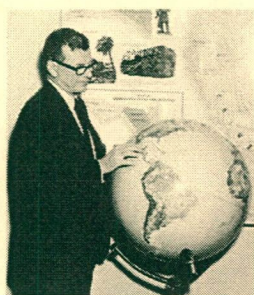
With all of that, Lee still managed to publish over 150 scientific papers, and an autobiography titled "Race to the Sea: The Autobiography of a Marine Biologist." He went on to receive the prestigious Gold Metal—the highest award by the Secretary of Commerce. He was a full member of both the Phi Sigma Biological Society and the Sigma Xi Science Society.

In 1980, Lee left government service and started Natural Resources Consultants, Inc., (NRC), in Seattle with the specific mission to assist U.S. fishermen in taking a greater role in U.S. North Pacific fisheries. His small company negotiated joint venture agreements between U.S. catcher boats supplying foreign processing ships and eventually arranged U.S. government backed loans that support U.S. fishermen building their own catcher/processors and shore-based processing plants. Much of the billion dollar fishing industry in Alaska and the Northwest owes its success to Lee and his early NRC partners. While at NRC, he organized some of the prominent leaders in the fishing industry to form the Highliner's Association, which promoted small-scale sustainable fisheries development in the U.S. and abroad.

Lee retired from NRC in 2001, but his company remains an important part of the Northwest and international fisheries scene. Lee remained active on a number of commissions and advisory panels including the Marine Board of the National Academy of Science. Lee is survived by his beloved wife, Ruby, son Bob, daughter Sue, and his adoring grandchildren. He leaves behind a legacy of one of the most valuable and best-managed commercial fisheries in the world. — Jeff June

Dr. Alverson, a friend and colleague of many in AIFRB, was awarded the Institute's Individual Distinguished Achievement Award in 2010.

\**Race to the Sea: The Autobiography of a Marine Biologist*: [amazon.com/Race-Sea-Autobiography-Marine-Biologist/dp/0595486800](http://amazon.com/Race-Sea-Autobiography-Marine-Biologist/dp/0595486800)



### Albert W. Collier

W. Collier was born in Nowata, Oklahoma, on December 12, 1910. He earned his B.A. degree in biology from Rice Institute, Houston, Texas, in 1933. He began graduate studies at the same university, but the Great Depression caused him to halt those studies to provide family support by going to work.

Albert's amazing and varied professional career began in 1935 as a marine biologist with the Texas Game, Fish and Oyster Commission (TGFOC) in Rockport, Texas. In 1939, he left Rockport to accept a position with the U.S. Fish and Wildlife Service (FWS) in Alaska, where he studied salmon until 1942. With the outbreak of U.S. involvement in World War II, Albert was transferred to New Orleans,

Louisiana, where he became a member of a team studying the Gulf of Mexico shrimp industry. After only a short time in New Orleans, Albert transferred his civil service position to the Naval Air Station in Corpus Christi, Texas, which he served until 1944. In that position, he served in the Gyro Instruments and Graphic Arts Divisions. This experience accounts for Albert's extensive knowledge of scientific instrumentation – that and his natural talents explain his ability to design and modify instruments for research.

Again, Albert deferred his scientific interests to assist his family's mercantile business in Rockport, Texas, as manager of the seafood portion of the enterprise. He leased 100 acres of submerged land in Aransas Bay, and worked with the TGFOC as he transferred oysters from nearby overcrowded reefs to his reef. At that time, he was the largest commercial oyster farmer in the area. During that period, he served as mayor of Rockport. However, his absence from the scientific research did not last long.

In mid-1946, Gulf Oil Corporation sought Albert's assistance in conducting its investigation of allegations that petroleum activities in coastal Louisiana were responsible for massive oyster mortality in that state. While working on the Louisiana oyster problem, Albert was the leader in two landmark biological discoveries. He was one of three investigators who independently discovered that a previously-unknown protistan parasite was the cause of the abnormal oyster mortality (Mackin, J.G., H. Malcolm Owen, and Albert Collier, 1950, Preliminary note on the occurrence of a new protistan parasite, *Dermocystidium marinum* n. sp. [now known as *Perkinsus marinus*] in *Crassostrea virginica* (Gmelin), *Science*, 111 (2883): 328-329). Another significant contribution during this period was the elucidation of the role of "dissolved organic matter" in the nutrition and other activities of marine organisms.

In late 1950, Albert joined the newly-established U.S. FWS laboratory in Galveston, Texas. In a short time, he became the Director of that laboratory. As Chief of the U.S. FWS Gulf Fishery Investigations, he provided the leadership and stimulus for another important scientific discovery—this time for providing indisputable evidence that the marine dinoflagellate, *Gymnodinium breve*, was the cause of the fish-killing phenomenon in the Gulf of Mexico known as Florida Red Tide.

In 1956, when Texas A&M University decided to increase its presence in Galveston, Texas, the Oceanography Department recruited Albert to launch the A&M Marine Laboratory. At that time, Building 311, Fort Crockett, was a long-neglected facility infested with rats, roaches, and pigeons. Despite a poor level of institutional funding, he was able to obtain U.S. National Science Foundation (NSF) funding to transform the World War II building into a respectable research and educational facility. There was no money for office furniture—the maintenance man built Albert's desk from plywood—and the building was not air-conditioned until he obtained building renovation funds from the NSF.

Albert's reputation as a "can do" builder of marine facilities led Florida State University (FSU) in Tallahassee, Florida, to invite him to become Director of its



Oceanographic Institute. Thus, in October 1962, Albert took his several research projects and his research team, except for Sammy Ray, to FSU. Until his retirement in 1976, as Emeritus Professor of Biology, Albert was heavily involved in teaching and research in marine biology and oceanography at both the undergraduate and graduate levels. He also directed the work of graduate students, many whom were awarded M.S. and Ph.D. degrees, respectively. During that period, he was also heavily involved in research related to underwater warfare for the U.S. Navy. In addition, he served as Chairmen of the Committee for Naval Research that reviewed and evaluated research proposals.

Following retirement from FSU, Albert served as Visiting Scholar at the University of Arizona in Tucson, for three years. He was active in research in marine biology centered in the Gulf of California. His most notable achievement during that period was the publication of a manual of sea animals of the Gulf of California, which was illustrated with 150 of Albert's pen and ink drawings. In 1982, he retired to Green Valley, Arizona, to enjoy his numerous hobbies, including painting, writing, music, and billiards.

Albert was fellow of the American Association for the Advancement of Science, a Founding Fellow of the American Institute of Fishery Research Biologists, and a member of the American Chemical Society, the American Fisheries Society, the American Geophysical Union, the American Society of Limnology and Oceanography, the Biological Photographic Association, the Ecological Society of America, the Marine Biological Association of the United Kingdom, the National Shellfisheries Association, the Scottish Marine Biological Association, and the Texas Hall of Fame for Science, Mathematics and Technology.

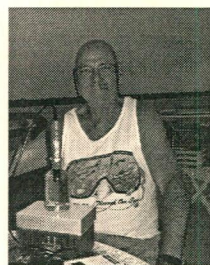
Albert had a passion for education, and he deeply appreciated the role that good teaching plays in one's life. An example of his passion for education, in regard to AIFRB (provided by Bernard E. Skud): in a letter dated July 1, 1956, to W. F. Thompson, after reviewing the draft articles of incorporation, Collier noted, "In the case of education standards I would like to see the requirement for schooling in the liberal arts spelled out. If our profession is to rise above the technician category, and its members are to represent themselves and their organizations as they should, a broad and solid academic background is essential."

Another indication of Albert's love of education is noted in his acceptance speech on the occasion of his induction into the Texas Hall of Fame for Science, Mathematics and Technology on January 20, 2003. Albert Collier: "As I ponder the course of the professional career that brings me here, I am awed by the ups and downs, the sharp rights and lefts, and more u-turns than I care to recall. I wonder what carried me through all of that. The answer is good teachers." Then Albert proceeded to name specific teachers at each level of education and their specific contributions to his development from elementary school through college at Rice University.

Albert is a rare example of an individual who was successful in an academic situation without the benefit of an "academic union card" – a Ph.D. degree. Unfortunately,

the lack of this academic credential made him vulnerable to academics with Ph.D. degrees who were ready to take over his creations. Fortunately for Albert, however, there were always new scientific and academic endeavors in need of his perseverance and creativity into which to "breathe life," whether it be an infant or struggling project. Albert was willing to accept the challenge of difficult projects that most seasoned or high-profile scientists would reject because of either low personal compensation or inadequate support to successfully achieve the proposed objectives. Because of his successful scientific and academic accomplishments, he was often addressed as "Dr. Collier," which always resulted in the quick response, "I don't have a Ph.D. degree." The recipients of this denial were often shocked to learn that a person lacking a Ph.D. degree could make scientific contributions as significant as those of Albert Collier.

Albert W. Collier died in San Antonio, Texas, on November 28, 2009, at the age of 98.



## William Conrad Phoel, Ph.D.

William Conrad Phoel—Bill, as friends new him—devoted his life to the study of fish and shellfish, fisheries oceanography, and the application of undersea technology—principally the physiology of manned diving. At the time of his death he was President of

Phoel Associates, Inc., a private consulting company specializing in marine fisheries research, deep diving science, hyperbaric oxygen therapy, and fisheries research vessel operations; President and Director of Marine Science, Undersea Research Foundation International, Inc., a non-profit corporation, with diving and marine science research operations and diver training, and; an Adjunct Professor of Marine Science at The Richard Stockton College of New Jersey, teaching classes in ichthyology, fisheries ecology, and underwater archaeology.

Bill served four years in the US Navy as a LTJG Gunnery Officer, and later as a Diving and Salvage Officer—he most notably participated in the 1966 deep-sea recovery of a USAF hydrogen bomb lost off Palomares, Spain. Following his stint in the Navy, he worked as an aquaculture technician, hyperbaric research scientist, and commercial diver. Bill also held a US Coast Guard 100 Ton Master's license and (as Second Mate of a chartered salvage vessel) participated in recovery operations of TWA Flight 800 off Long Island, NY in 1996.

Beginning his federal career in 1971 as a new research oceanographer at Northeast Fisheries Science Center, J.J. Howard Marine Sciences Laboratory in Sandy Hook NJ, Bill finally retired in 1996 from NOAA Fisheries Headquarters, Silver Spring MD, as the agency's Dive Officer and National Research Vessel Coordinator. In his last years at headquarters, Bill was a member of the original NOAA team that designed the *Oscar Dyson* (FSV-40) class

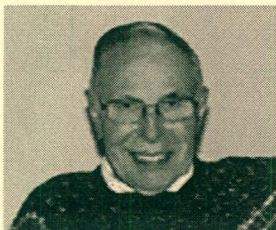


of new NOAA Fishery Survey Vessels.

In retirement, Bill's private contracts and research grants included going to sea on commercial fishing vessels as the principal investigator in two New England scallop research sites that had contracted and employed underwater vehicles. As a qualified NMFS fisheries observer, he participated on commercial fishing trips to monitor catches, fishing practices, and compliance with regulations. Bill remained active with numerous planning and coordinating committees, while maintaining active marine science collaborations regionally, nationally, and internationally. His publication record includes more than 100 peer-reviewed papers and book chapters.

Bill was awarded his Ph.D. in 1985 from the College of William and Mary in Marine Science (Fisheries Biology), a M.Sc. in Marine Science from Long Island University (Ocean Engineering) in 1970, and a B.Sc. from C.W. Post College (Biology) in 1963.

An AIFRB Emeritus Fellow ('00), Bill was also a Fellow ('85) of the Marine Technology Society and chair of its Committee on Diving, and a Fellow ('85) of the Explorers Club in NYC. In 2006 Bill carried the Explorers Club Flag to the Amazon Rain Forest returning to his 2002-2004 field research supported by the Universidade do Amazonas, Brazil and Bio-Amazônia Conservation International USA. This last research endeavor brought him back to Brazil in early 2012 where his work came to an untimely end on 29 January 2012. Bill is survived by his wife of 46 years, Dolores Schulze Phoel. — *Allen Shimada, Tom Hoff and Jack Musick*



### **Richard (Dick) Straty**

Richard R. (Dick) Straty was a pioneer Alaska fishery biologist who passed away at age 83 at his home in Tee Harbor, Alaska, north of Juneau, on September 19, 2012. Dick was born June 21, 1929 in Milwaukee,

Wisconsin. He was an accomplished scientist, bush pilot, friend of late Alaska Governor Jay Hammond, and AIFRB emeritus fellow.

Dick became enamored with the grandeur and beauty of Alaska at an early age when attending a lecture in high school about a traveler's experience in the then Territory of Alaska. After graduating from high school, he and a friend saved enough money to purchase an old bakery truck, which they retrofitted into a camper and set out for the Alaska Highway. A month later the pair reached Fairbanks where they worked at a mining camp for five months and spent much of their free time hunting and fishing.

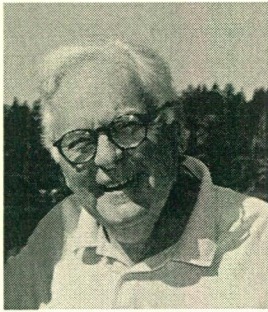
After returning home from Alaska, Dick began his college degree at the University Wisconsin, but soon transferred to Oregon State University to pursue a B.S. in Fish and Game Management. After graduating from Oregon State in 1954, he took a job with the Bureau of Commercial

Fisheries research laboratory in Seattle, WA, which required him to spend summers in Bristol Bay, Alaska studying sockeye salmon stocks in the region. In 1956 the Bureau of Commercial fisheries decided to move all of their personnel involved in Alaskan research to Juneau, and Dick was one of the first biologists to move with his family, making his new home in Auke Bay in early May 1956. Dick would spend many morning fishing for salmon in Auke Bay before commuting to downtown Juneau for work.

The Auke Bay Laboratory was opened in 1960 and Fisheries personnel were relocated to the more spacious facility. Initially Dick served as project lead and station manager of the Bureau of Commercial Fisheries sockeye salmon research facility at Brooks Lake in Katmai National Monument, and then later served as investigation chief of sockeye salmon studies in Bristol Bay where he was responsible for a number of field camps. In the 1960s and early 1970s Dick helped coordinate research activities at Egegik, Ugashik, and several field camps on the Naknek River system including those at Brooks Lake and at Grosvenor and Coville Lakes. His work in Bristol Bay defined the migratory routes of adult and juvenile sockeye salmon in the region. Dick took educational leave from 1962-1964 to attend the University of Hawaii to earn a Masters Degree in Marine Biology. In 1969 he earned a PhD in Fisheries at Oregon State University. His dissertation was titled "The Migratory Pattern of Adult Sockeye Salmon (*Oncorhynchus nerka*) in Bristol Bay as Related to the Distribution of Their Home-River Waters." Dick was author or co-author on several legacy papers on Bristol Bay sockeye salmon including some of the first marine research conducted on juveniles as smolts emigrated from the many regional lake systems and entered the bay. From 1974 until his retirement in 1986 he served as Investigation Chief for Auke Bay Laboratory's Marine Investigation Program. Dick was an active diver and in 1959 was one of the first Auke Bay Laboratory divers to be certified. In 1978 Dick was among the first to ever use a manned submersible for scientific research in Alaska, when he studied habitat and nursery grounds of rockfish (*Sebastes* spp.) off the coast of Southeast Alaska.

Dick was a true Alaska pioneer whose hunting and fishing skills were legendary. He owned a cabin on Lake Telaquana in what is now Lake Clark National Park and Preserve and flew his plane there every autumn for annual moose hunts. In 1976, he was the grand prize winner of Juneau's Golden North Salmon Derby with a Chinook salmon weighing 50 lb, 5 oz. Dick had a larger-than-life personality, and his passing represents the end of an era for Alaska and for fishery science in the state. Dick is survived by his wife Geraldine and daughters Jill and Joy.





## Charles Yentsch

The Woods Hole Oceanographic Institution announces with great sorrow the death of retiree Charles Yentsch on September 19. He was 85.

Charlie was born September 13, 1927, in Louisville, KY. He received a BS in Biology from University of Louisville in 1951, an MS in Oceanography from Florida State University in 1953, and attended University of Washington. He began his career at WHOI in 1956 as a research associate in Marine Biology. In 1963, he became an associate scientist. He left in 1967.

"Charlie made significant contributions in many areas of bio-optical oceanography, including modeling of primary production. He was one of the first to promote the idea that phytoplankton biomass could be measured from satellites and then served on the NASA science team that made this a reality. Charlie was a gracious, kind and good-humored person who will be missed by many," said Jim Yoder.

Charlie founded the Bigelow Laboratory for Ocean Sciences in 1974 with his wife Dr. Clarice Yentsch. He was Bigelow Laboratory's executive director from 1974 to 1987.

A distinguished ocean scientist with a career that spanned nearly half a century, he was internationally known for his pioneering work on phytoplankton pigments, which spurred the development and advancement of the field of ocean color remote sensing. Charlie was on the original NASA NIMBUS team, the group responsible for launching the first ocean color sensor into space, the "Coastal Zone Color Scanner." Thereafter, he was directly involved in promoting the use of satellite sensors for ocean research and was an active advocate for space-based oceanography. ((Working with equal grace in both scientific and administrative realms, he founded three oceanographic laboratories over his career and published an average of three scientific papers every year. He received numerous awards, including a Lifetime Achievement Award from the American Society of Limnology and Oceanography (ASLO) in 1999, the prestigious Nils Gunnar Jerlov Award for "advancement of knowledge of the nature and consequences of light in the ocean," and designation as a Fellow of The Oceanography Society in 2010. The Bigelow Laboratory is accepting gifts to the newly established Yentsch Scholarship Fund. Contributions may be made online ([bigelow.org/support/information\\_for\\_donors/](http://bigelow.org/support/information_for_donors/)), or sent to the fund at Bigelow Laboratory for Ocean Sciences, 60 Bigelow Drive, East Boothbay, ME 04544.

# Start Considering

Nominations are needed for the following upcoming awards

## Kasahara Early Career

The Kasahara Award is intended to recognize the Institute's most promising young associates and members early in their research careers. The 2007 award is \$2,500, and subsequent awards will be granted biennially with the amount to be established by the Institute.

**Candidates must:** (1) be accomplished researchers in fisheries science, with competence in conservation and proper utilization of fishery resources; (2) demonstrate potential for leadership in scientific frontiers; (3) have received a PhD in the last seven years (exceptional scientists who do not have a PhD should have received their BS within the last fifteen years); (4) be a professional associate or member of in the Institute in good standing; and (5) be nominated by a professional associate, member or fellow of the Institute.

Nominations due June 1

For more info: [aifrb.org/awards/kasahara-early-career](http://aifrb.org/awards/kasahara-early-career)

## Outstanding Achievement Awards (Group & Individual)

The American Institute of Fishery Research Biologists makes two awards for outstanding achievement: an Individual and a Group Award.

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

Nominations due June 1

For more info: [aifrb.org/awards/outstanding-achievement-award-group](http://aifrb.org/awards/outstanding-achievement-award-group)

**b.) The Individual Achievement Award** is given to an individual who has made significant contributions to the advancement of fishery science. This is the highest AIFRB award for achievement. Candidates are 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.

Nominations due June 1

For more info: [aifrb.org/awards/outstanding-achievement-award](http://aifrb.org/awards/outstanding-achievement-award)

## Clark Hubbs Associate Research

The Hubbs Associate Research Award is granted to cover travel expenses associated with presenting results of an original research paper or research project of merit at scientific meetings or to conduct research at distant study sites.

**Criteria for Evaluating Candidates:** (1) Associate member in good standing; (2) original paper or project of scientific merit; (3) travel expenses not paid by study grants; and (4) not more than two RA awards received in a lifetime.

Nominations due June 15

For more info: [aifrb.org/awards/clark-hubbs-associate-research](http://aifrb.org/awards/clark-hubbs-associate-research)

*Thank You, Again, John Butler!*



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Vacant

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Vacant

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Vacant

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Vacant

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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, Sarah Fox, Washington, D.C., sgfoxeditor@gmail.com. Subscription \$40 a year to Institutions and Non-Members. Officers- Steve Cadrin, Department of Fisheries Oceanography, School for Marine Science & Technology, UMass Dartmouth. (508) 910-6358, scadrin@umassd.edu-President; Kathryn A. Dickson, Dept. of Biological Science, California State University Fullerton, Fullerton, CA 92834-6850, kdickson@exchange.fullerton.edu - 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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# American Institute of Fishery Research Biologists

Promoting excellence in fishery science

## ... BRIEFS ...

VOL. 42-2

SPRING 2013

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## President's Message

Our new BRIEFS editor recently asked the Board if we can include controversial topics in the newsletter, and I was happy to hear a resoundingly positive reply. The Institute not only allows the submission of articles dealing with controversial topics to BRIEFS, it encourages discourse on controversial issues.

Our Institute was founded by leading scientists in our field who recognized the need for a professional organization that would allow them to voice their individual and independent opinions, free from the constraints of their employers or the groups in control of other organizations. We are compelled to view ourselves as research scientists in order to achieve our mission of "*promoting conservation and proper utilization of fishery resources through the use of fishery and related sciences*" and doing so encourages scientific debate and consideration of controversial issues. There is value in the development of best practices, standardized approaches, and scientific conventions, but we cannot fall into the trap of becoming practitioners in a stagnated science. If you have ideas that contradict convention, see systematic problems in our field, or if you question some current practices, we urge you to submit your professional opinions so that we can consider your perspectives. Such submissions will increase the interest in BRIEFS and demonstrate the advantage of being a member of AIFRB.

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



## Important

What if we could have saved a fishery, but didn't?

Please renew your membership so we can continue to unite and share our good work:

[www.aifrb.org/2013/04/7-very-good-benefits](http://www.aifrb.org/2013/04/7-very-good-benefits)

## From the Editor

Please keep sending in material for *Briefs* to [sgfeditor@gmail.com](mailto:sgfeditor@gmail.com). If it's about fisheries and you're interested in it, then your fellow members will be, too:

- Start a discussion or ask a question
- Share your photos
- Share your research
- Share some How-To's

But whatever you do.... Share!

## Still Seeking

The Executive Board is seeking nominations for an Associate member to represent young professionals at the 2013 Board meeting (Little Rock AR, September 7-8 2013; the weekend before the Annual AFS meeting). Up to \$600 in travel support is available to attend the meeting and participate in Board discussions. Associate members can nominate themselves or other members can nominate Associate Members who are willing to attend the meeting. Nominations and CVs should be sent to the Membership Committee Chair, Tom Keegan

([tkeegan@ecorpc consulting.com](mailto:tkeegan@ecorpc consulting.com)).

## The AIFRB Impact Making a Difference

AIFRB is a sponsor of the World Conference on Stock Assessment Methods for Sustainable Fisheries, which will take place in Boston, Massachusetts from July 15-19 2013. The conference will provide a forum for presentations on the application and future of stock assessment methods.



It will consider single stock approaches for data rich and poor stocks, and also multispecies and ecosystem based approaches. It is being organized by researchers from a range of scientific institutions and RFMO across the world. The conference will be preceded by a 2 day workshop (July 15-16 2013) where studies on the application of stock assessment methods to predefined data sets will be reviewed.

READ MORE:

[www.ices.dk/news-and-events/symposia/WCSAM-2013](http://www.ices.dk/news-and-events/symposia/WCSAM-2013)

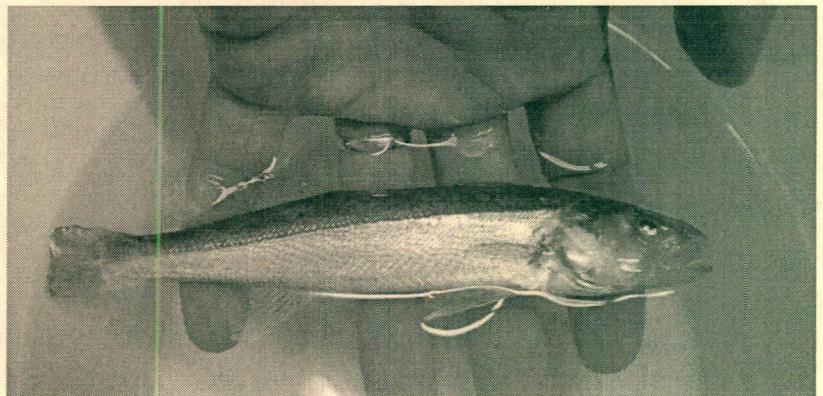
REQUEST INFO ABOUT THE AIFRB ABSTRACT:

[scadrin@umassd.edu](mailto:scadrin@umassd.edu)

## Take Action

### Proposed Cut to Critical Fish and Wildlife Service Program—*What AIFRB Members Can Do Now*

by AIFRB member, Jesse Trushenski



*Take Action continued on following page*



The President's FY 2014 Budget has been released, and proposes a withering cut to the U.S. Fish and Wildlife Service (USFWS)'s Aquatic Animal Drug Approval Partnership (AADAP) program. The AADAP program provides critical and unduplicated services to the fisheries community, and efforts are underway to encourage decision-makers to reconsider the proposed cuts in light of the negative effects they would have on fisheries science and management.

Fisheries professionals use a suite of drugs to accomplish fisheries management objectives and deliver public and tribal trust responsibilities. Field biologists need to use sedatives to protect themselves and the fish they handle when collecting data and completing fisheries management objectives. Hatchery biologists need therapeutic drugs to combat disease outbreaks, spawning aids to encourage fish to reproduce in captivity, and marking agents to allow hatchery fish to be differentiated from wild fish after stocking. Whether to maintain health and fitness of fish or facilitate laboratory or field-based research and management activities, as described in a recent American Fisheries Society Policy Statement, the absence of suitable drugs, "jeopardizes fishes, fisheries, fish culture, research, and poses considerable risk to those involved in these activities" (AFS 2011).

Fish drugs include commonplace chemicals such as hydrogen peroxide, but it is illegal to use such products in the U.S. unless they have passed the rigorous Food and Drug Administration (FDA) animal drug approval process. The AADAP program is the only program in the U.S. fully dedicated to fish drug approval research and ensuring critically needed drugs are available to fisheries professionals. **USFWS leadership in this area is critical because the Service itself is a major end-user of aquatic animal drugs, the need for safe and effective drugs is nationwide, and without public-sector assistance economic incentives are insufficient to encourage drug sponsors to pursue aquatic animal drug approvals in the U.S.**

The President's FY 2014 Budget proposes \$400,000 in funding cuts and reducing the AADAP program's size by 3 FTEs (view the budget here: [www.doi.gov/budget/appropriations/2014/upload/FY2014\\_FWS\\_Greenbook.pdf](http://www.doi.gov/budget/appropriations/2014/upload/FY2014_FWS_Greenbook.pdf)). The proposed cuts would effectively terminate the AADAP research program, and with it, the drug approval process in the U.S. Although the AADAP program works with many partners to generate data in support of drug approvals, without the leadership and wide-ranging expertise of the AADAP program, the availability of safe and effective aquatic animal drugs will continue to be a limiting factor in the fisheries disciplines.

Efforts are currently underway to communicate the importance of the AADAP program and its many services and deliverables to decision-makers. Interested AIFRB members may wish to join this effort, and tell decision-makers just how important AADAP is to the fisheries community. For more information on how to assist, please contact fellow AIFRB member, Jesse Trushenski at [saluski@siu.edu](mailto:saluski@siu.edu) for guidance. **NOTE: IF YOU ARE A FEDERAL EMPLOYEE, YOU CANNOT COMMENT ON THE PRESIDENT'S BUDGET, EXCEPT IN A STRICTLY PERSONAL CAPACITY (I.E., AS A PRIVATE CITIZEN).**

AFS (American Fisheries Society) 2011. Policy Statement on the Need for Immediate-release Sedatives in the Fisheries Disciplines. Can be found here: [fisheries.org/docs/policy\\_statements/policy\\_34f.pdf](http://fisheries.org/docs/policy_statements/policy_34f.pdf).

*Photo description: Juvenile walleye sedated prior to weighing and measuring*

## The Changing Face of Global Fisheries: A Geopolitical View

by Carmel Finley

Reg Watson and Daniel Pauly have a great paper in the most recent issue of *Marine Policy*<sup>1</sup>. They look at how fisheries have developed between 1950 and the 2000s, and how fishing has shifted from Northern European to Asian waters. It's a very interesting analysis, but one sentence really leapt off the page at me: "Trying to see the big picture has therefore been extremely difficult...."

This is because scientists aren't working with historians. Watson and Pauly have an interesting analysis but they are starting in the middle of this story. The development of fishing during the last 70 years didn't happen because a few boats were running around looking for tuna. Who built the boats? Why were they built? And, most importantly, who paid for them?

Fishing expanded dramatically after World War II because of deliberate government policies that created subsidies to build boats. The post-war expansion of fishing was directed at specific political and economic goals. Some goals were domestic, such as providing employment in coastal areas (Spain), or providing fish for export (Canada). Other goals were linked to foreign policy. For Japan, the recreation of its fishing fleet was a critical step in rebuilding its shattered economy. For the Soviet Union, fishing provided a vital source of protein, but it also represented a pre-emptive territorial claim throughout the world's oceans during the Cold War.

American foreign policy goals are especially important where fishing is concerned. The United States is not generally thought as having a leading role in the expansion of fishing,<sup>2</sup> but that view changes if you look at how fishing was embedded in post-war American foreign policy.

The Americans intended to dominate both the Pacific and the Atlantic Oceans, with an extensive network of military bases to project American power, maintain transit rights, access to resources and markets, and, most importantly, to deny all of these assets to any prospective enemy.<sup>3</sup> The Americans wanted "control of every wave in the Pacific Ocean."<sup>4</sup> The Joint Chiefs of Staff in 1945 proposed a string of military bases in the Aleutians, at Midway, Hawaii, Christmas Island, Canton, American Samoa, Bora Bora, Clipperton, and in the Galapagos.<sup>5</sup> While the plans were scaled back due to budgetary constraints, the policy had specific impact on the expansion of fishing after World War II. Three of the policy goals were:

1) The rebuilding of the Japanese economy as a bulwark against communism in Asia. That led to the rebuilding of the world's largest fleet during the American Occupation of Japan, and to opening

*Take Action continued on following page*



Americans markets to Japanese goods—especially canned and frozen tuna.

2) Strengthening the American presence in the Western Pacific by developing its Pacific possessions, including American Samoa and the newly acquired Caroline, Marshall, and Mariana Islands. Developing these resources included using the islands for nuclear testing, but also building a fish processing plant that officials hoped would create American-style employment. The fish plants were exempted from paying American wages after 1956, opening the door to the establishment of textile manufacturing—an industry with a subsequent history of abusing its workers.

3) Strengthening of the Icelandic (and also Norwegian) economy and attempting to re-direct the sale of fish away from the Soviet Union. Through the Marshall Plan and other development grants, the Americans grew the Icelandic fishing industry, encouraging exports to the United States and hurting the New England fishing industry. Why was the U.S. so interested in Icelandic fish? They wanted to maintain the air base they had built at Keflavik during the war.

There were two specific sets of legislation to achieve these goals:

1) A 1943 trade agreement with Iceland that created a loophole that allowed the Japanese, after 1948, to export canned and frozen tuna into the world's largest tuna market, the United States.

2) A series of U.S. Tariff Schedule decisions in 1952 to allow products from American Samoa into the United States without paying a tariff, and exempting the territory from the Nicolson Act, which prohibited the landing of fish by foreign flagged vessels in U.S. ports.<sup>6</sup> Fish caught by non-American vessels could land their catch at Pago Pago, where it would be processed, then exported to the United States with no tariff.<sup>7</sup>

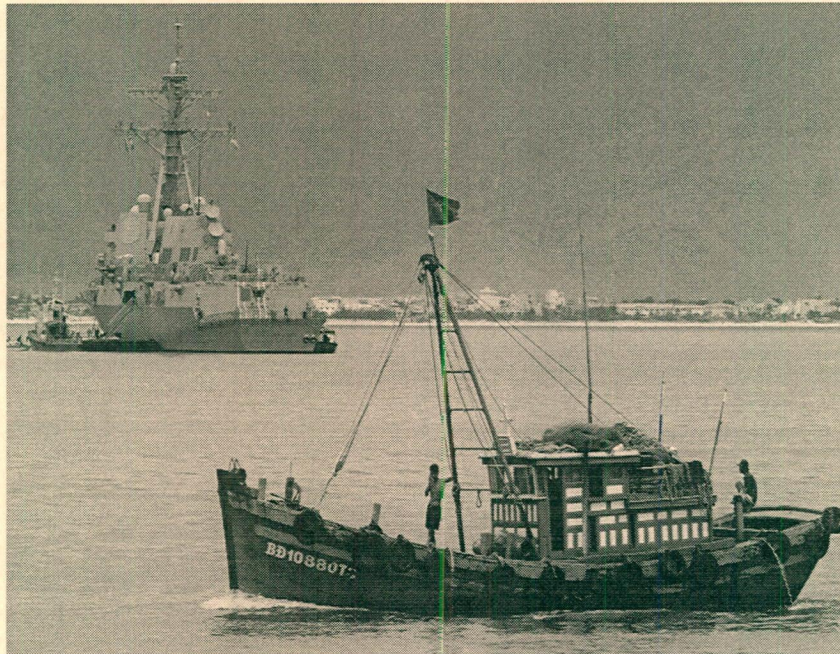
These trade decisions resulted in the destabilization of the southern California tuna processing industry. They also created the conditions that allowed boats to move into the Atlantic and Indian Oceans in the late 1950s, with devastating impacts on bluefish tuna stocks.

We generally think of the expansion of fishing as coming from Northern Europe and sweeping westward to the United States and south into the Southern Hemisphere. But there was a second great movement in the development

of global fishing, a sweep during the late 1950s that moves from the Pacific into the Atlantic and the Indian Oceans. It is a post-war sweep, led first by the Japanese, then the Americans.

Japanese boats began delivering tuna to American Samoa in 1954. Decisions in 1956 allowed fish plants in American Samoa (and later Puerto Rico) to pay wages substantially below American fish processing plants. By 1958, boats were catching tuna in the Pacific, passing through the Panama Canal to deliver in Puerto Rico, then moving into the Atlantic to fish off Brazil and Western Africa. With the development of nylon nets for purse seining, fishing of tunas greatly expanded, as did the catch of the now critically endangered bluefin tuna.

It's great that scientists are reconstructing the story of the development of global fisheries. But this story has to be embedded in a wider story, about the development of global trade, and how foreign policy decisions can lead to the destruction of local fish stocks. If we're truly interested in understanding the collapse of fish stocks, scientists and historians need to work together to understand why so many boats were built in the first place.



<sup>1</sup> Watson, R.A., and D. Pauly. 2013. The changing face of global fisheries —The 1950s vs. the 2000s. *Marine Policy* 42:1-4.

<sup>2</sup> Ann Hollick, *U.S. Foreign Policy and the Law of the Sea*, (Princeton: Princeton University Press) 1981.

<sup>3</sup> M.P. Leffler, "National Security and U.S. Foreign Policy," in *Origins of the Cold War: An International History*, (New York and London: Rutledge, 1994), M.P. Leffler and D.S. Painter, Eds, 15-53, 37.

<sup>4</sup> R.L. McGlothlen, *Controlling the Waves: Dean Acheson and U.S. Foreign Policy in Asia*, (New York and London: W.W. Norton & Company) 5 Leffler, 20.

<sup>6</sup> Michael P. Hamnett and William Sam Pintz, "The Contribution of Tuna Fishing and Transshipment to the Economics of American Samoa, the Commonwealth of the Northern Mariana Islands, and Guam," *Pelagic Fisheries Research Program, SOEST 96-05, JIMAR Contribution 96-303*. 3.

<sup>7</sup> Food and Agricultural Organization of the United Nations Corporate document repository.



# Policy and News

## New Protections for White Shark

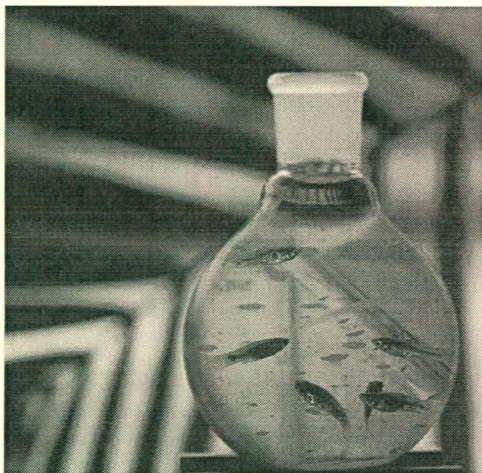
**AIFRB member, Traci Latino**, an environmental scientist for the state of California, explained the new policy for protecting white sharks off California's coast. Pursuant to the California Endangered Species Act (CESA), the California Fish and Game Commission (FGC) designated the species as a candidate for threatened or endangered status, entitling them to the full legal protection afforded to a listed species. Targeted sport and commercial fishing for white shark has been banned in waters off California since the mid- 1990s, with some exceptions that allowed for incidental take associated with research activities. Now the Commission will consider exceptions only on a case-by-case basis, and will authorize take only under permits issued pursuant to CESA. Now that the species is either a threatened or endangered candidate, an in-depth status review will be provided to the Commission with information to aid in its decision (slated for early next year) on whether or not to list the species.

WHITE SHARK AND CESA CANDIDACY: [www.dfg.ca.gov/marine/whiteshark.asp](http://www.dfg.ca.gov/marine/whiteshark.asp).

TO MAKE A COMMENT, VISIT: [www.aifrb.org/2013/04/new-protections-for-white-shark](http://www.aifrb.org/2013/04/new-protections-for-white-shark)

To call Traci Latino for more information: (562) 342-7111

## Big Fish Catches Mean Smaller Fish



Research conducted at Bangor University (and published in March by *Frontiers in Ecology and the Environment*) examined molecular in the genes of Trinidadian guppies and documented that the fish became fewer and smaller. Serinde van Wijk, a Bangor University-funded doctoral student, who lead the study said, "Our attempts to conserve fish communities by regulating the size of fish that can be fished for, and by removing specifically the larger fish, may have had opposite effects to those intended. The loss of these genetic 'types' may mean that populations may not be able to recover completely or at all." The research pointed out that this genetically based shift also has repercussions for the wider marine community and environment.

NEWS SOURCE: [www.bbc.co.uk/news/uk-wales-21813736](http://www.bbc.co.uk/news/uk-wales-21813736)

## ELA Research Station Is Being Dismantled

The 45-year-old Experimental Lakes Area (ELA) in Ontario- a research station that has made Canada a world leader in the science of fresh water for decades – is being partly dismantled by the government as it waits to be sold. The one-of-a-kind outdoor laboratory has informed the world about the effects of contaminants such as mercury, acid rain and phosphorus. As of April 1st, scientists have been prevented from



entering the ELA, ending several long-term experiments – not yet completed - aimed at keeping fresh water clean:

### 1. ELA Climate Study

Scientists will lose the ability to quantify and predict the consequences of climate warming, since they will no longer be able to examine the drying of downstream wetlands, conduct a hydro-acoustic assessment of fish communities, and assess the habitat changes and health of lake trout.

### 2. METAALICUS (Mercury Experiment to Assess Atmospheric Loading in the United States and Canada)

Scientists will no longer be able to determine how much mercury

*Policy & News continued on following page*



concentrations (from coal combustion) in rainfall needs to be lowered so that the concentrations in fish are low enough for safe consumption by humans and wildlife.

### 3. Eutrophication

To test detergent companies' claims that carbon, not the phosphorus in their products, was responsible for algae blooms and the related problems of reduced oxygen, toxins, and fish kills, a lake shaped like an hourglass was partitioned at the narrows with a curtain. Nitrogen and carbon were added to one side and phosphorus to the other. The picture of the algae bloom that emerged on the phosphorus side convinced policy makers around the world that phosphorus was the culprit. This was the only area in the world where inputs of nutrients, other chemicals, and food chains could be closely controlled in a watershed, and now present and future studies have been halted.

### 4. Silver Nanoparticles

Silver nanoparticles are an emerging contaminant found in hundreds of products, especially textiles, because of their anti-bacterial properties (some washing machines are built to put silver nanoparticles into the load). A whole lake was being prepared to have silver nanoparticles dripped from the side of the lake in order to monitor the effect.

As of late April, Toronto's Premier Kathleen Wynne said the ELA does "extremely important work" and that she is "working with our partners to make sure that work can continue." However, it remains unclear what precisely her government's commitment is. Provincial officials declined to elaborate, citing ongoing negotiations with Ottawa, the province of Manitoba, and the International Institute for Sustainable Development, which is the only group known to be interested in taking over the site. The closure has been portrayed by critics of the federal government as part of a broader attack on environmental science research.

#### READ MORE:

[www.aifrb.org](http://www.aifrb.org) > News & Policy  
News Source: [theglobeandmail.com](http://theglobeandmail.com)

## Members in the Spotlight



#### On Video

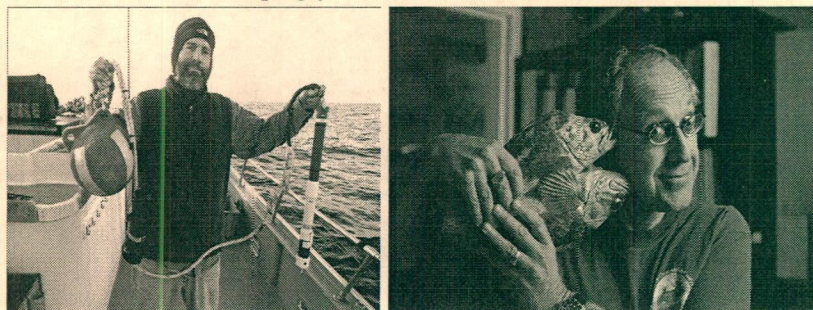
#### Members – Alena Pribyl, John Hyde, and Milton Love

Alena Pribyl has co-starred in a unique video that she also helped to write (along with Milton Love, Merit McCrea, and John Hyde) that educates viewers as to how the long-lived rockfish (many live to be 100 years or more) get barotrauma. The video begins with Alena talking to a large red rockfish puppet, but adult viewers would sorely miss out if they clicked the stop button thinking this was a video for little kids. There's good knowledge here, and fisheries professionals and homegrown fishermen, alike, can benefit from the explanation of the different devices used to recompress a rockfish by returning it to its depth of capture. Seven species of rockfish are considered overfished and several states require these species to be discarded if captured. However, just throwing these fish overboard often leads to their demise because of pressure-related injuries from barotrauma.

Here's a peek at just a few of the lyrics for the song written and performed by Ray Troll and Russell Wodehouse:

*"The genus is Sebastes and we like it a lot,  
It means magnificent in language of the Greeks  
Some cool fish effluvia for ichthyo geeks  
Yellow eye, Vermillion and Canary are a few  
Get to know your rockfish and what you should do  
Have a rig and a plan how to get them to the bottom  
Have a heart, do your part, send them down  
to where you caught 'em"*

WATCH THE FULL VIDEO HERE: <http://sea-media.org/mediaitems/201302/barotrauma-keeping-you-tr>

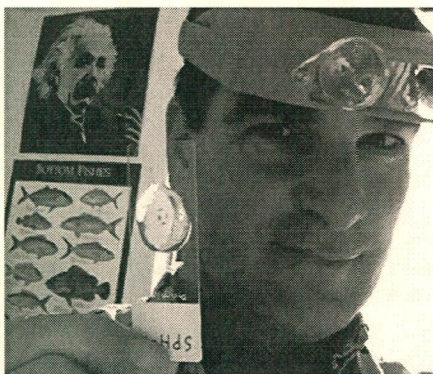




## In Blogs

### Dr. Allen Hia Andrews

"The findings of opakapaka lead-radium dating led to the conclusion that numerous fish in the existing population would exceed 30 or 40 years of age. It was therefore concluded that an application of a more precise age validation technique was possible, called bomb radiocarbon dating. The method could be applied to otoliths of opakapaka because birth years would be great enough for the



requirements of its use. Bomb radiocarbon dating is a technique that uses a marker created by the rapid increase in radiocarbon from atmospheric testing of nuclear devices. The initial uptake of bomb-produced radiocarbon by the marine environment was virtually synchronous in the mixed layer of mid-latitude oceans. This time-specific signal provides a reference period that can be used to determine fish age and can either corroborate age estimates from growth zone counting in otoliths or provide age estimates where little or no other information was available."

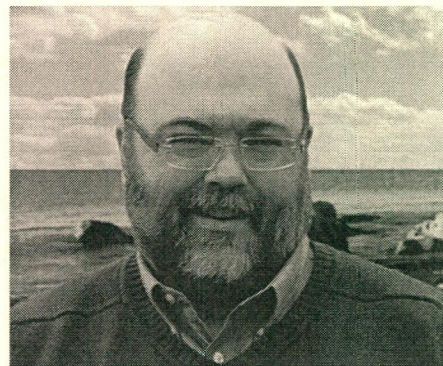
From **Dr. Allen Hia Andrews's** blog: [www.astrofish.me](http://www.astrofish.me).  
READ MORE: [www.aifrb.org/2013/04/dr-allen-hia-andrews](http://www.aifrb.org/2013/04/dr-allen-hia-andrews)

## Recognition

### NOAA Names Link New Senior Scientist for Ecosystem Management

NOAA has named **Jason Link, PhD**, as its first-ever Senior Scientist for Ecosystem Management.

In this new role, Dr. Link will be the agency's senior-most authority on ecosystem science, conducting research and coordinating activities of NOAA Fisheries' science



support for effective ecosystem-based management. His priorities will be to lead approaches and models to support development of ecosystem-based management

plans throughout the agency. A key element of Jason's work will be the development of the tools and approaches that will allow us to deal with the impacts of climate change on our marine trust species.

READ MORE: [www.aifrb.org/category/news-now](http://www.aifrb.org/category/news-now)

PHOTO TITLE: AIFRB\_mar-apr-MEM\_Link.jpg

## Award Winners

### Brian Rothschild Honored by National Fisherman

**Brian J. Rothschild**, a member of the faculty of the University of Massachusetts and an AIFRB fellow since 1995, was recently given a Lifetime Achievement Award by the highly-respected trade journal National Fisherman.

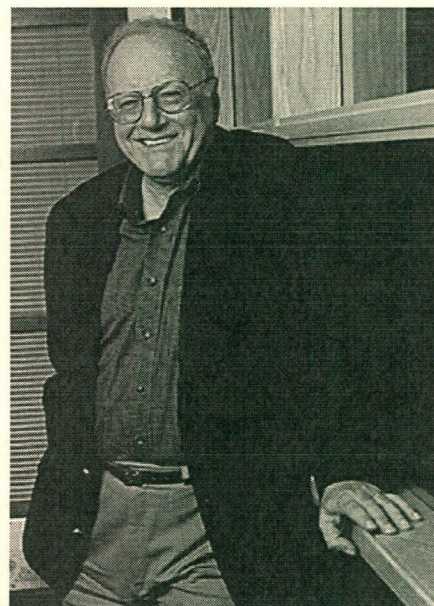
Some of Brian's recent achievements are described in the November 2012 issue of National Fisherman, such as:

1. At 78... Brian J. Rothschild continues to serve as the Montgomery Charter Professor of Marine Science at the University of Massachusetts, Dartmouth, School for Marine Science and Technology (which he established, then served as its first dean).
2. Rothschild has a career that has spanned many aspects of marine science and management, beginning in 1953.
3. Talks with fishermen led Rothschild and UMass Dartmouth professor Kevin Stokesbury to develop the system of counting scallops via underwater cameras that photographed their abundance in areas that had been closed to scalloping, leading to the industry revival.
4. He's working with Rep. Bill Keating (D-Mass.) to develop a task force to review stock assessments.
5. He has plans to update [his book] "Dynamics of Marine Fish Populations."

Simply put, he enjoys his work. "The satisfaction is multifaceted," Rothschild says. "You're discovering something nobody's discovered before, and at the same time you're helping people. You're walking where nobody's walked before."

Brian won the AIFRB Outstanding Achievement Award: Individual for 2004, and his achievements for that can be found in Briefs, Vol. 33, No. 1: [www.aifrb.org/publications/briefs-issues](http://www.aifrb.org/publications/briefs-issues)

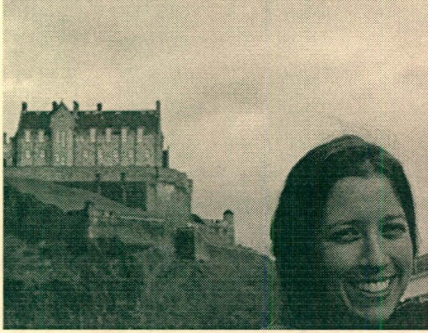
PHOTO CREDIT: [smast.umassd.edu](http://smast.umassd.edu)



*Awards continued on the following page*



## Abigail Lynch Wins AFS 2013 Best Student Paper Award



The American Fisheries Society (AFS) recognizes students for excellence in the communication of fisheries research to the general public, and this year the award goes to AIFRB member, Abigail Lynch, for her paper: *"One Fish, Two Fish, Where Fish for Whitefish? Designing a climate change decision-support tool for Great Lakes lake whitefish."* The paper will be published in the August issue of Fisheries magazine, but for a little preview:

Imagine you are playing a game of Monopoly and are investing wisely for the future. You have numerous hotels on "Boardwalk" and are raking in the dough any time another player lands on your valuable property. Then, the rules of the game unexpectedly change. "Baltic Place" is the hot commodity and all of your painstaking investments in "Boardwalk" are for naught. Now, imagine this is not a game and your actual livelihood and family depend on your success. Currently, the Great Lakes lake whitefish fishery is the most economically valuable commercial fishery in the upper Great Lakes. But, like the modified Monopoly, this fishery could face new "rules of the game" from climate change. (*Read the rest of Lynch's paper in the August issue of Fisheries magazine.*)

Photo Description: AIFRB member - Abigail Lynch

Photo Title: AIFRB\_Mar\_Apr\_Abigail-Lynch-writing-award.jpg

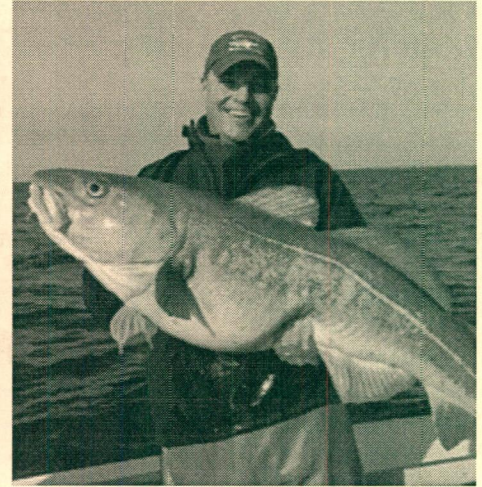
## Meet Two of Our Newest Members

### William Hoffman

Description: William Hoffman (right), an Aquatic Biologist III for Massachusetts Department of Fish and Game, is interviewed about the herring fishery in Gloucester:

"The herring fishery is a relatively new fishery to this area. Before, all the herring boats were fishing – and all these captains were fishing – over in Europe and they'd depleted their resources and actually moved over here. So as you can imagine, people were very nervous about these boats, of the capacity, and the size that were coming over. And when they did come over, they were targeting a species as identified by the Federal Government as an under-utilized they actually promoted this. But as time went on, and as all fish stocks fluctuate, there's been some localized depletion in certain areas. It's a combination of misinformation and some mismanagement."

To see the entire video, please visit [AIFRB.org](http://AIFRB.org)



### Lisa Kerr

Lisa Kerr recently joined the GMRI's (Gulf of Maine Research Institute) science team. Her expertise includes a number of methods for gaining insight into fishes' life history by analyzing their ear bones and vertebrae, as well as the use of mathematical models



to better understand fish populations. "Once we understand the complex nature of fish populations, we can better envision the methods of assessment and management that support their long-term success," Kerr said. She is currently leading a project on the stock structure of Maine alewife populations. These fish spawn in different rivers and then move into the ocean, where little is known about their distribution and the impact that fishing has on individual populations. "Protecting population diversity promotes the stability of our fish resources," Kerr said. "Much like diversifying a financial stock portfolio, it allows us to hedge our bets against potential losses."

For more on Kerr's work, watch her presentation of the Impact of Alternative Stock Structure Assumptions on the Perception of Stock Status and Yield of Atlantic Cod, which can be viewed in its entirety on the AIFRB website.

[www.screencast.com/t/gCwWWUyIu](http://www.screencast.com/t/gCwWWUyIu)



## Past Meetings

### New England District's Spatial Mapping and Statistical Models in R Workshop

The *AIFRB NE District* held a workshop on spatial mapping and statistical models in R at the Massachusetts Division of Marine Fisheries (MADMF) in Gloucester, MA this March. Twenty-three researchers from the Massachusetts Division of Marine Fisheries,



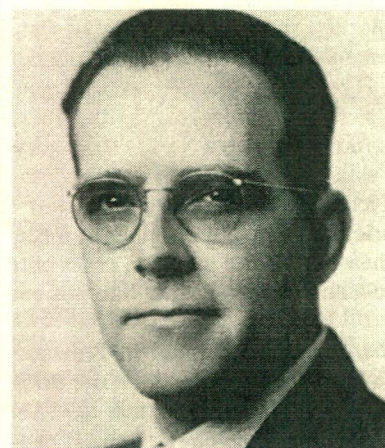
National Marine Fisheries Service in Woods Hole and Narragansett, RI, University of Massachusetts in Dartmouth and Amherst, and Applied Science Services of Kingstown, RI participated in the one-day workshop that focused on using program R to map and model geo-referenced fisheries data. Brant McAfee, Micah Dean, and Gary Nelson of MADMF co-taught the workshop. Brant McAfee reviewed basic concepts of cartography and showed participants how to use R to import GIS shapefiles and create basic maps. Micah Dean focused on annotating maps, importing and manipulating raster images, and animating time series of spatial data. Gary Nelson reviewed the use of generalized additive models to model spatial fisheries data and how to plot model predictions as contours and color scales on maps and as 3-D images. All participants were provided R scripts of all examples shown during the workshop.

**READ ABOUT MORE PAST EVENTS:**  
A look back at the 2012 AIFRB Board Meeting: [www.aifrb.org/events/past-events/2012-bod-mtg](http://www.aifrb.org/events/past-events/2012-bod-mtg)

## Founding Fellow

### Henry A. Dunlop

Henry A. Dunlop, also known as Harry, was born in Dunrea, Manitoba, Canada, on July 8, 1898. He earned a Bachelor of Arts degree in Zoology at the University of British Columbia in 1919 and a Master of Arts degree in Zoology in 1922, under the advisement of Dr. McLean Fraser, a prominent fishery-oriented marine biologist, at the same university. He continued his graduate studies at the University of Toronto during 1924-1925 and at the University of Washington School of Fisheries between 1931 and 1936.



Harry joined the staff of the International Fisheries Commission, known today as the International Pacific Halibut Commission, in July 1925 as Assistant Director. He held that position until May 1939. He was appointed Acting Director of the Halibut Commission for the period of June 1939 to September 1940, at which time he was appointed Director of Investigations, a position that he held until his retirement in 1963. During his tenure, the rehabilitation of Pacific halibut resources continued, and by the early 1960s they were close to their optimum levels.

These accomplishments were achieved despite adverse and trying circumstances, most notably the challenge of maintaining a research program during World War II. At one time, the Commission's scientific staff was one time reduced to three persons, including the Director. Also, funds allotted for research and management were steadily eroded by inflation. During the postwar period, prolonged and frustrating effort over a period of seven years were required to secure treaty authority that would permit measures to alleviate the drastic reduction that had occurred during the fishing seasons. During the 1950s, further demands were placed on the staff to "prove in" certain commitments made by Canada and the United States with Japan, culminating in the eastern Bering Sea debacle in 1962, when the two countries abdicated their valid exclusive claims to the halibut stocks in that region. Mr. Dunlop was deeply concerned over the threat that the fishing fleets of Japan and the USSR posed for the Pacific halibut stocks, and he feared for the survival of the halibut fisheries of Canada and the United States.

Harry Dunlop was a member of the American Fisheries Society, the American Society of Ichthyologists and Herpetologists, and the American Association for the Advancement of Science. He was a charter member of the Pacific Fishery Biologists. In 1953, he received the Elizabeth II Coronation Medal for meritorious public service to Canada. He was also a Founding Fellow of the American Institute of Fishery Research Biologists. Early ideas and discussions that led to the formation of the AIFRB took place in the Halibut Commission's offices. Strength between the members of the fishing industry and the regulating agency was crucial to the recovery of the halibut resource and in many ways influenced the formation of the AIFRB.

Harry Dunlop returned to Vancouver when he retired in 1963. He passed away on May 3, 1966, at the age of 68.

**READ MORE ABOUT OUR FOUNDING FELLOWS:** [www.aifrb.org/publications/the-founding-fellow](http://www.aifrb.org/publications/the-founding-fellow)



## Acknowledged

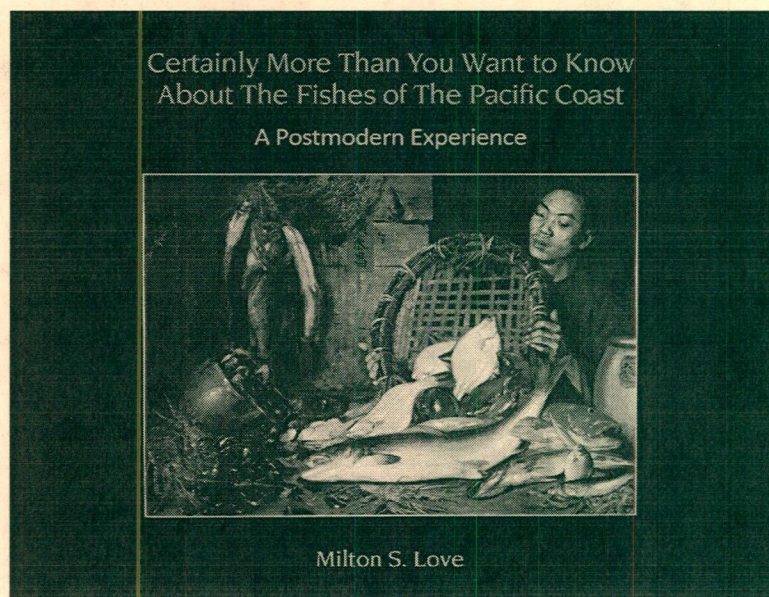
### New reports highlight rebuilding and conservation of marine stocks, AIFRB members' contributions

Two new reports were released this month addressing the status of marine fisheries in the U.S. and ongoing efforts to protect these critical resources. The first is the NOAA Fisheries' annual report to Congress, Status of Stocks 2012. The report highlights considerable progress made towards rebuilding U.S. fisheries resources, including delisting of ten stocked previously on the overfishing list and four stocked previously on the overfished list. In the past year, the number of rebuilt stocks has also increased from 27 to 32. The report acknowledges that these accomplishments are the result of "science-based management", including the work of many AIFRB members and fisheries professionals. The full report may be accessed here: [http://www.nmfs.noaa.gov/stories/2013/05/05\\_02\\_13status\\_of\\_stocks\\_2012.html](http://www.nmfs.noaa.gov/stories/2013/05/05_02_13status_of_stocks_2012.html).

Several AIFRB members are directly acknowledged in the second report, Pew Charitable Trusts' **The Law That's Saving American Fisheries - The Magnuson-Stevens Fishery Conservation and Management Act**. The report describes the roles of sensible regulation and cooperation between fishermen and other stakeholders and regulatory authorities in achieving the progress detailed in the Status of Stocks 2012 report. AIFRB members Carmel Finley, Tom Ihde, and Wally Pereyra are each acknowledged in the report for their contributions to the report and management of marine stocks. The full report may be accessed here: <http://www.pewenvironment.org/news-room/reports/the-law-thats-saving-american-fisheries-the-magnuson-stevens-fishery-conservation-and-management-act-85899472108>.

## Book Review

Love, Milton S. 2011. *Certainly more than you want to know about the fishes of the Pacific Coast: a postmodern experience*. Really Big Press, Santa Barbara CA. \$29.95.



If you have any interest in fish and ocean life, you should own this book. When you are in the dumps, you can open it up for a laugh, for a tidbit of odd information, for a wonderful picture of an interesting fish or two, for a story about a great (or not-so-great) ichthyologist, or even for useful and accurate information. Much of the information is contained in accounts of 490 species, each with at least one color photo or other artwork.

Most accounts have sections on "Etymology and Colloquial Names," "The Basics" (size and distribution), "Life History," "Fishery," "Origins," and "Miscellany." The *Origins* section provides background on the fossil record, if any, and evolution, while the *Miscellany* section covers interesting topics that do not fit in elsewhere, such as the possible effects of a pathogen on Pacific herring populations. Each account is written in a concise but easy-to-read fashion, and provides the facts you are likely looking for and jokes you are not. The facts include von Bertalanffy parameters, in case you are thinking of building fisheries models for, say, shortfin mako. But it is also a book for browsing, with dozens of boxes devoted to old newspaper accounts or subjects like "James Swan" (an anthropologist who recorded Indian fisheries), "On the aesthetics of shark liver oil," "Captain Fish Blood," and "A dab by any other name." One of the longest sections in the book (30 pages) is about salmon, mostly because Love has found lots of diverting stories to include, such as the behavior of spawning salmon during an eclipse of the moon, and why crow flesh was regarded as prime salmon bait.

This is one of the most interesting and entertaining fish books you will ever own, even if you don't live on the Pacific Coast. For those who do live there—especially in California—you will also find it a useful reference work. It's the only book that provides summaries of the biology of marine fishes south of British Columbia, as well as some to the north. It has a glossary and a fairly extensive list of references. At 672 pages, most with well-chosen color plates, it is a bargain. ~Peter Moyle, University of California, Davis.

Photo Description: Milton Love's book on fishes of the Pacific Coast.



## Tiddly Bits

### Member Don Jackson Asks The Ultimate Researcher Question: Why?

Alone on an icy tailwater river, twilight reminded me that I still had miles yet to travel and several challenging rapids to shoot to get to my takeout point... and still I worked, hands red, raw, bleeding, and numb from the cold, trying to get plankton samples, yet pouring out the samples, one after another, because the plankton net kept freezing and the samples just were not coming "right." I could hear the rapids roaring downstream as darkness fell. Finally, the samples came well and I was on my way, shooting those rapids under starlight, warmed by the fire in my heart, knowing that these samples were not just good, they were treasures. Why? (To read the rest of Don Jackson's article, please visit [www.aifrb.org](http://www.aifrb.org).)



Nominations for AIFRB's W.F. Thompson  
**Best Student Paper Award** are now closed.  
We have a suite of 15 very good papers to  
review and score. If any of you would like  
to volunteer your time, the committee will be  
looking for 3 reviewers for each paper. If you  
have the time, please contact Frank  
Panek ([Fpanek@aol.com](mailto:Fpanek@aol.com))





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Vacant

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Vacant

### **Washington, NW**

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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, Sarah Fox, Washington, D.C., sgfoxeditor@gmail.com. Subscription \$40 a year to Institutions and Non-Members. Officers- Steve Cadrin, Department of Fisheries Oceanography, School for Marine Science & Technology, UMass Dartmouth. (508) 910-6358, scadrin@umassd.edu-President; Kathryn A. Dickson, Dept. of Biological Science, California State University Fullerton, Fullerton, CA 92834-6850, kdickson@exchange.fullerton.edu - 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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# *American Institute of Fishery Research Biologists*

*Promoting excellence in fishery science*

## ... BRIEFS ...

VOL. 42-3

SUMMER 2013

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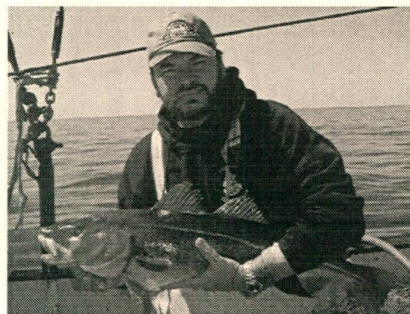
The AIFRB is a 501(c)(3) tax-exempt nonprofit organization (EIN 61-6050711).

## President's Message

AIFRB was an important sponsor for the World Conference on Stock Assessment Methods for Sustainable Fisheries (July 15-19, 2013, Boston MA) where 230 stock assessment scientists from 27 countries met to explore the merits of available assessment methods for providing fisheries management advice. My concluding comments at the conference focused on research and practice, a global perspective and a bright future. We should recognize that most of the major regional and national fishery management organizations provided sponsorship to the conference, because those organizations rely on informative stock assessments. In the context of increasingly variable environments, and with the opportunity of new technologies and methods, the practice of fishery stock assessment should evolve to meet changing needs and conditions. The advancement of stock assessment science requires investments in strategic research as well as investments in training and communication of best practices to those providing information to fishery managers. Pure research without application, or resistance to improve operational stock assessments, will not meet the needs of our profession. The need for active feedback loops between research, application, and management decisions was demonstrated by many case studies from around the world. We saw many common problems as well as the potential for common solutions and among-region collaborations to solve problems. We tend to focus on our regional problems, and in our well-developed North American research

programs, we tend to forget that many of the major challenges for fisheries management are in developing countries. We should feel compelled to share our expertise and tools with other regions where they are desperately needed. Finally, I was struck by the contributions of young scientists to the World Conference on Stock Assessment Methods. There is obviously a strong demographic wave of talented stock assessment scientists joining our professional community, which promises to rise to the challenges before us in fisheries science.

*Steve Cadrin, President*



## It's Time to VOTE

### Elect the 2013 AIFRB President

President Steve Cadrin and Past-President Dick Beamish are pleased to nominate the following candidates for President-Elect:

- ☐ Thomas F. Ihde, Ph.D.
- ☐ Thomas Keegan

Each is exceptional in their professional career and both share a history of active participation in the affairs of the Institute. Please submit your voting ballot by **September 1, 2013** (either mail tear-off attached ballot or vote online) to ensure the new President-Elect is able to assume his duties at the AIFRB Annual Meeting September 7th-8th in Little Rock, AR.

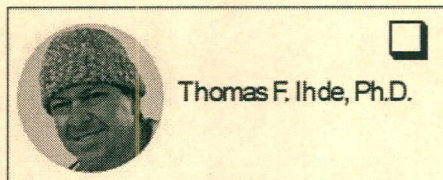
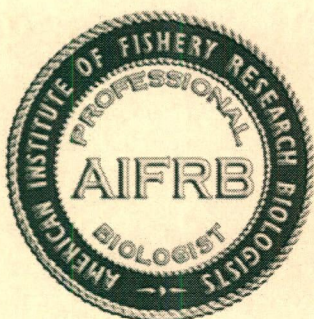


# VOTE! VOTE! VOTE!

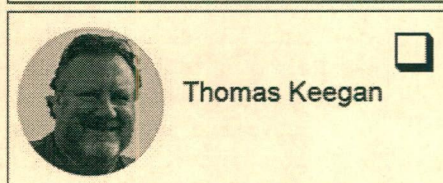
## American Institute of Fishery Research Biologists OFFICIAL BALLOT FOR PRESIDENT-ELECT

SEPTEMBER 2013 – SEPTEMBER 2014

(President's Term: September 2014 – September 2017)



Thomas F. Ihde, Ph.D.



Thomas Keegan

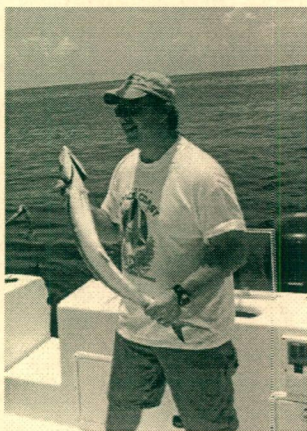
### Return Ballot to:

Steven X. Cadrin, Ph.D.,  
Department of Fisheries Oceanography  
School for Marine Science & Technology  
200 Mill Road, Suite 325  
Fairhaven, MA 02719

### Or Cast Electronic Ballot at:

[www.aifrb.org/2013/07/candidate-statements-president-elect](http://www.aifrb.org/2013/07/candidate-statements-president-elect)

## Candidate Bios



**Thomas F. Ihde, Ph.D.** All professional organizations are in a tight race to engage new and current members and to remain relevant to their career development. AIFRB has an amazing resource in its current membership. Our challenge is to effectively mobilize this collective experience to mentor the new cohort of fisheries professionals (students, new professionals looking for work, as well as those that already have jobs). However, this cohort has somewhat different expectations than many of us had when we began our careers – they are a technological-savvy group raised in an environment of texting, social media, and instant information. They rarely depend on written texts or printed media, alone, to garner information; they have hard drives brimming with pdf's of the most current science, and sometimes 'field' experience and training courtesy of YouTube.

Where do we come in? AIFRB is the embodiment of experience that can ensure these new scientists are exposed to quality information, however it is obtained. What are the pitfalls of the methods they are using? What statistical tests are appropriate in their situation and why? What experimental design is most appropriate, and how can they control the variability of the results? What analyses are needed? How can existing data be used if not collected under ideal

circumstances, or collected without a sampling design? New fisheries professionals can gain insights from our members for these examples, and more.

New professionals may also be challenged by underemployment, and can benefit from our professional connections. Our membership is a rich local, national, and international resource for new professionals. We must engage our members with quality learning opportunities and strong networking possibilities. I will work hard to continue existing – and establish new – efforts to get the word out more effectively over the next several years and into the future, whatever the future holds for our expanding profession. You have, no doubt, noticed my repeated use of 'our' and 'we' throughout my message. I firmly believe that no single person as president will be able to improve our Institute's ability to reach out to new members or maximize our use of our collective experience and talents. Together, however, we can ensure AIFRB continues to be *the* professional organization that every new fisheries professional *should* join.



As for my background in fisheries science, I have worked in marine fisheries on a wide variety of subjects including:

- estimation of age, growth, and reproduction of spotted seatrout
- evaluation of a marine reserve using a novel tagging study of grouper and snapper in the Caribbean
- development and evaluation of an abundance estimator applied to the southern rock lobster in Tasmania; design and implementation of a field experiment to describe seasonal trap inhibition of young lobster, needed to develop an effective pre-recruit survey for the same fishery
- development of an alternative stakeholder advisory process to better inform management of stakeholder knowledge and preference
- the development and application of a full ecosystem simulation model (Atlantis) for the Chesapeake Bay to provide a quantitative link between inshore habitat and forage species production to offshore fisheries production

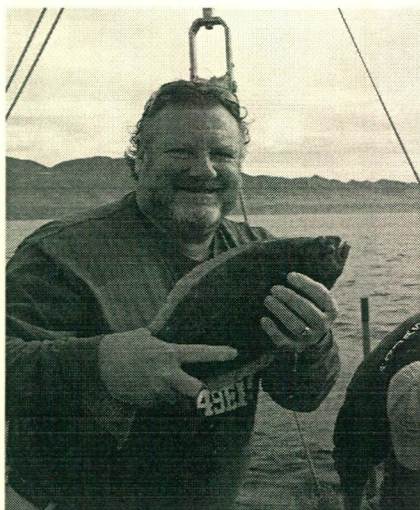
The common thread amongst this diversity is my underlying interest and excitement for developing and applying the tools needed to advance fisheries science, assessment, and management.

I received my Master's and PhD studying at the Virginia Institute of Marine Science. For my PhD, I studied crustacean behavior and catchability, and applied a working knowledge of mathematical statistics for the development and evaluation of a family of abundance estimation models. I learned the critical "nuts & guts" fisheries science working on my Master's on commercial and recreational fisheries of the Chesapeake. Later, I worked on a project called "FishSmart," working closely with the various stakeholders of the Atlantic king mackerel fishery, I learned how critically important it is to work collaboratively and transparently, to build a science-based stock assessment that all had buy-in for, even stakeholders who previously refused to work together. This is a lesson that has been important to the success of my current ecosystem modeling work, which incorporates the concerns of many different scientists and policy-makers, and integrates data from a wide variety of disciplines. I have also worked in freshwater, teaching aquatic science at the Shedd Aquarium in Chicago, and sampling in the tributaries of the Mississippi for the Aquarium of the Americas in New Orleans. It was in New Orleans that I also developed some skills in aquaculture.

A graduate advisor told me that AIFRB was the one professional organization that I *should* be part of, so I joined. Eventually, I showed up at the annual Board of Directors meeting and volunteered to help with the AIFRB webpage. Working with our new *Briefs* editor (Sarah Fox), I've been able to make the needed changes on our ever-evolving website, enhanced with current information on Institute happenings, member accomplishments, fisheries science news, job postings, and more. You now have the chance to vote online in this election because we have jumped on board to embrace and implement the important changes needed for this new digital age.

I am honored to be nominated for President. Thank you for the opportunity!

**Vote now! Either mail the attached tear-off ballot or vote online: [www.aifrb.org/2013/07/candidate-statements-president-elect](http://www.aifrb.org/2013/07/candidate-statements-president-elect) (password: votefortom), by September 1, 2013.**



**Mr. Thomas Keegan** graduated from Humboldt State University (HSU) with a Bachelor of Science degree in Fisheries Science in 1979. Per his curriculum, he attended Moss Landing Marine Laboratory for undergraduate course work in marine fisheries and later, Pacific Marine Station for in depth study of marine invertebrates. His major interest while at HSU was his study of the early life histories of local marine fishes, especially smelts and cottids, in association with the Cooperative Fishery Research Unit. He spent time at sea with Dr. Sally Richardson (in association with Oregon State University); conducting ichthyoplankton hauls for a multi-year Northern anchovy population study offshore from the Columbia River. After working for ecological consulting firms for five years, he recognized the need for continued education, especially with advanced statistics, and attended the University of Washington from 1984-1986, conducting post-graduate work on the early life history of Pacific herring in the Strait of Georgia (SeaGrant funding).

Mr. Keegan has been employed as a private fishery scientist/consultant since 1979. His professional career began with assessing entrainment of larval/juvenile fishes and impingement of all life stages of fishes on traveling screens at several power plant cooling water intake facilities in San Francisco Bay and Delta (Clean Water Act Section 316 a and b evaluations). He worked with Dr. Johnson Wang

identifying and documenting the early life stages of San Francisco Bay and Delta fishes, many of which were largely undescribed. This work naturally followed his interests while at HSU. He also conducted seasonal ichthyoplankton surveys over two years in Southeast Alaska fjords in what is now the Misty Fjords National Monument, again assisting in the description of the early life histories of numerous marine cottids and rockfish.

Over the next 20 years, Mr. Keegan worked as an ecological consultant, primarily conducting research on the fisheries and benthos of San Francisco Bay and Delta, but also building his expertise as a freshwater fisheries/aquatic scientist, with expertise focused on evaluation of the effects of altered streamflows on stream and estuarine biota, including native freshwater and estuarine fish and Sierran trout populations, benthic macroinvertebrate (BMI) and estuarine epibenthic communities, special-



status amphibians and aquatic reptiles, and their habitats.

Then in 1999 he joined a private consulting firm (ECORP Consulting, Inc.) near Sacramento, California, where he successfully set up the firm's aquatic sciences practice. Over the next 14 years, he built the practice to include freshwater and marine science capabilities at the firm's multiple offices in Southern and Northern California. Mr. Keegan is currently the firm's Principal Fisheries Scientist and lead's the firm's statewide Aquatic Resources Group.

Mr. Keegan is active in San Francisco Bay fishery research, management, and policy, especially relative to anadromous salmonids and green sturgeon. He is a member of the Long Term Management Strategy (LTMS) Science Group, providing expertise to the Corps of Engineers (COE) and other state/federal agencies regarding effects of dredging and dredge material placement and maritime construction on fisheries and benthos of San Francisco Bay and Delta. He is a founding member of the California Fish Tagging Consortium (CFTC), initiated in 2007, which in collaboration with the COE (San Francisco District), UC Davis Biotelemetry Lab, NOAA NMFS Santa Cruz Laboratory, USFWS (Bay-Delta), Bay Planning Coalition, California Department of Fish and Wildlife, Department of Water Resources, and several water districts and maritime industries, funded and deployed the San Francisco Bay and Delta hydroacoustic receiver array, consisting of hundreds of acoustic tag receivers and annually releasing thousands of acoustic tagged fish.

Mr. Keegan became a member of the AIFRB in 1998. He was elected Secretary of the Northern California District in 2000, and District Director in 2002. He became more actively involved in the AIFRB Board of Control in 2004, when he was appointed by then President Gary Sakagawa (NOAA, La Jolla, California) to be Membership Committee Chair, a position that he continues to hold. Mr. Keegan attended his first Board of Control meeting in Phoenix, Arizona in 2001. He has since attended every annual BOC meeting (13 meetings!), as either the Northern California District Director or AIFRB Membership Chair. In 2006, he was elected a Fellow of the Institute by the Membership Committee, which stands as one his proudest professional achievements. In 2008, he received the AIFRB's highest honor—the Distinguished Service Award. He received this award during the AIFRB reception at the American Fisheries Society Annual Meeting in San Francisco, for which he was a member of the planning committee (funding and student awards).

*"My immediate vision for the Institute is to continue our practice of providing support to our members, both in terms of fiduciary support (especially for our student and young professional members), and in scholastic support to assist the full membership in their research endeavors. Further, we need to look for new ways to increase and improve support for the membership. My immediate goal is to improve communication amongst the membership by providing for email messaging to the entire membership, instead of relying on snail mail.*

*I am most honored and humbled to be running for the Presidency of the organization that I love and that has given me so much, both personally and professionally. I commit to the membership my resolve to serve them with my best effort, to do my best to live up to the standards exemplified by those that have served before me, and to work closely with the BOC to better the organization per its standard of Excellence in Fisheries Science."* Tom Keegan

**Vote now! Either mail the attached tear-off ballot or vote online: [www.aifrb.org/2013/07/candidate-statements-president-elect](http://www.aifrb.org/2013/07/candidate-statements-president-elect) (password: votefortom), by September 1, 2013.**

## AIFRB – Annual Meeting 2013

The AIFRB will have its Governing Board meeting and will also host a manned booth in the Trade Show at the upcoming American Fisheries Society Annual Meeting in Little Rock, from September 9th through the 12th.

We invite all members to come to the meeting (in the case of private business, you might be asked to go outside and mingle at the bar for a few moments!) and to attend the Trade Show and hang posters. Any AIFRB member is welcome to hang a poster, space permitting, at our booth. Just bring your poster by the booth and we will take care of it. We will also be featuring the **Little Rock New Membership Special** – sign up to be a member of the Institute and receive a free copy of our first Symposium Proceedings, *The Future of Fisheries Science in North America*. If you are a professor, a supervisor, or a researcher, and have a student or colleague that you think should join the Institute (and of course, they should!), bring them by to sign up (a resume is ultimately required for membership, but can be emailed to the Membership Chair Tom Keegan, [tkeegan@ecorpconsulting.com](mailto:tkeegan@ecorpconsulting.com)). We look forward to seeing you in Little Rock!

Our schedule is as follows:

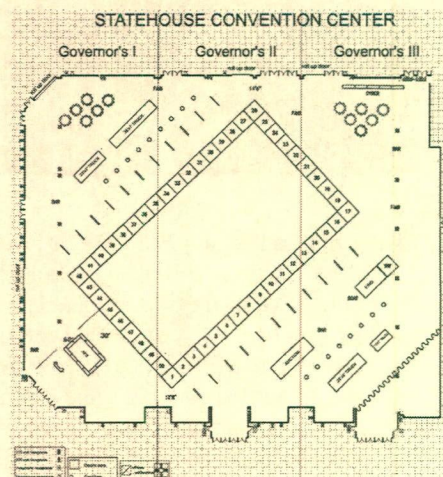
### Meetings: Little Rock Marriott

Saturday, Sept. 7 – 10:00 am to 5:00 pm – Neosho Room

Sunday, Sept. 8 – 8:00 am to 2:00 pm – Neosho Room

### Trade Show: Statehouse Convention Center:

Find AIFRB at booth number 35 (see floor plan to the right), adjacent to the aquarium trucks!





## News Bites

**“Flight recorders” is how NOAA’s Tom Helser likes to describes otoliths.**

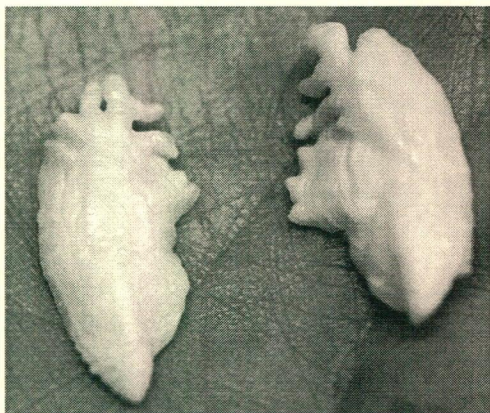


Photo Credit Greg Gilbert

*Otoliths from Tom Helser’s lab at the NOAA Alaska Fisheries Science Center*

Ocean temperature, and thus the oxygen-18 level, varies from shallow coastal waters to deeper ones, so otoliths record migration patterns. A recent study in yellowfin sole found a sharp increase in oxygen-18 after the fish turned 7 years old, meaning it moved into deeper, colder waters. As juveniles, they must have lived near the coast.

“This is an animal that responds extremely closely to temperature as it grows older,” said Helser, noting how climate change could interfere with the fish’s usual behavior.

Jeremy Harris, a graduate student working with the otolith collection at the UW, is also leading a project that could uncover the effects of climate change.

He is comparing the otoliths of walleye pollock from 50 years ago with contemporary ones, with the primary goal of figuring out whether the species has gotten smaller over time. This happened in cod when the largest fish were caught and only smaller ones were left to reproduce.

Combining growth data with temperature could also shed light on climate change.

On a longer time scale, 4,000-year old otoliths in prehistoric trash heaps are a record of ancient surface-water temperatures. This is the basis of a collaboration between Helser and archeologists in Newfoundland.

The chemical signature of the atomic bomb is seen in otoliths, too.

Atomic bomb testing in the 1960s caused a sharp spike in carbon-14 in all living things, from rhino horns to tree rings. That carbon-14 signature is one way to validate the age of older otoliths.

Some of the otoliths in the collection date to the 1960s, and that includes rockfish, which can live more than 100 years.

The ultimate goal in cataloging the collection is to aid this wide range of research.

Read more of the Seattle Times article written by Sarah Zhang at [www.aifrb.org/news/otolithsby](http://www.aifrb.org/news/otolithsby)

## Guest Essay

**Fisheries Management More Than Meets the Eye**

Nils E. Stolpe

Last year I wrote *After 35 years of NOAA/NMFS fisheries management*, how are they doing? How are we doing because of their efforts? ([www.fishnet-usa.com/After 35 years of NOAA.pdf](http://www.fishnet-usa.com/After_35_years_of_NOAA.pdf)). I concluded with:

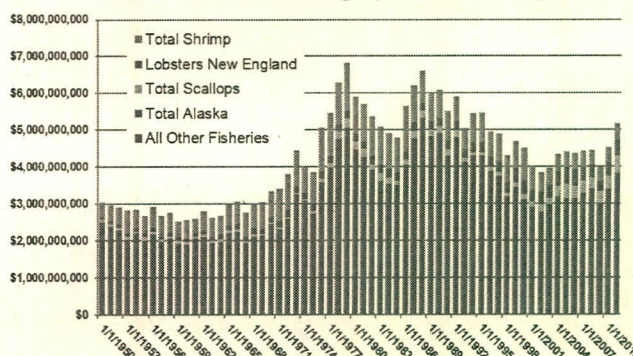
Our collective fisheries were never as badly off as grandstanding ENGOs convinced the public and our lawmakers that they were. Regardless of that, they are unquestionably in great shape now. Are the fishermen - the only people who have paid a price for that recovery - going to profit from it? At this point there aren’t a lot of indications that they are going to. Ill-conceived amendments to the Magnuson Act, the ongoing foundation-funded campaign to marginalize fishermen and to hold them victims of inadequate science, and a management regime that is focused solely on the health of the fish stocks and is indifferent to the plight of the fishermen effectively prevent that.

That having been a year ago, and statistics measuring the performance of our commercial fisheries for 2011 being available ([www.st.nmfs.noaa.gov/st1/commercial/landings/annual\\_landings.html](http://www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html)), I thought I’d check back to see what, if anything, had changed. All in all, the big picture is mostly positive. Unfortunately, the big picture is made up of a lot of smaller pictures, and some of them aren’t so good.

Originally the Magnuson Act placed much more emphasis on business- and community-supportive aspects of federal fisheries management. Those aspects have been eroded by the lobbying activities of the handful of ENGOs that have come to dominate the world of fisheries/oceans activism. They, and for the most part NOAA/NMFS as well, address fish issues on a case by case, species by species basis. More importantly, the people at NOAA/NMFS tend to shy away from cumulative economic impacts when they have analyses done, and cumulative impacts are what most of the commercial fishermen, the people who depend on them and the businesses they support have to deal with – and in New England and the Mid-Atlantic (at least, and this isn’t to slight the industry elsewhere, because I doubt that it’s different in many other ports) in spite of increasing total landings value increasing, it could be getting a lot worse really soon.

For a more in depth version of this article, please visit: [www.aifrb.org/2013/07/fisheries-management-more-than-meets-the-eye](http://www.aifrb.org/2013/07/fisheries-management-more-than-meets-the-eye)

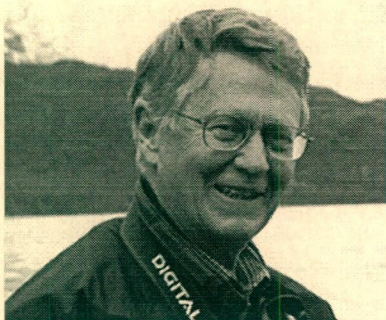
**Value of national landings (in 2010 dollars)**





# In the Spotlight

## John (Jack) Helle Awarded



**Dr. John (Jack) Helle** was honored with the William E. Ricker Resource Conservation Award from the American Fisheries Society at their August 2012 meeting in St. Paul, Minn. He worked at NOAA's Alaska Fisheries Science Center's Auke Bay Laboratories in Juneau for most of his career and was recognized for his lifetime contributions as a leader in aquatic resource conservation and ecosystem management at an international level. His vision for interdisciplinary and international collaborations secured a better understanding of the interactions between ocean dynamics and physical attributes with production of Pacific salmon. His publications and scientific leadership have provided a thorough examination of the Gulf of Alaska and the Bering Sea ecosystems. Helle's participation in treaty collaborations as a scientist provided insight for international collaborations among U.S., Canadian, Japanese, Russian and Korean scientists. Dr. Helle was also one of two recipients for the 2011 Wally Noerenberg Award (WNA) for Fishery Excellence—the highest award bestowed by the Alaska Chapter, honoring an individual's lifelong achievements in a career focused on Alaska's fisheries. And he was inducted into the U-Idaho Alumni Hall of Fame in 1999.

## Joe Margraf Elected

Congratulations to **Joe Margraf**, who will be stepping on as Second-Vice President for AFS at the AFS Annual Meeting in Little Rock. Joe is a hail fellow well met, solid fish guy, and he plans to bring big things to office in the coming years, such as investigating different strategies for AFS publications and evaluating the financial consequences of changes made; understanding the need to speak for many of the members who work for agencies and cannot speak out as individuals; working on alternatives to present meeting structures; and much more. As Joe has been a long time member of AIFRB, and there is much crossover between the two societies, we thought we'd share in the celebration!

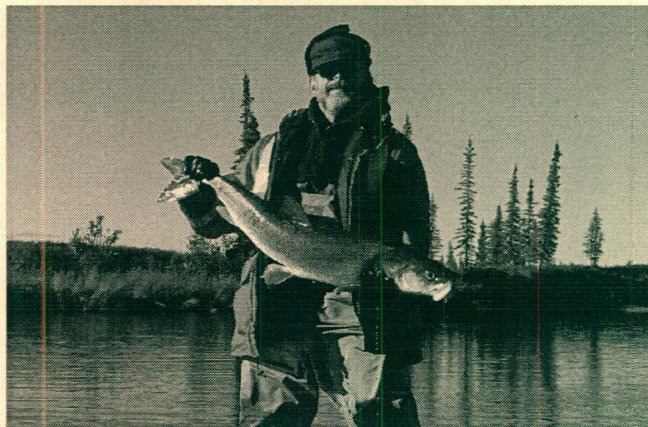
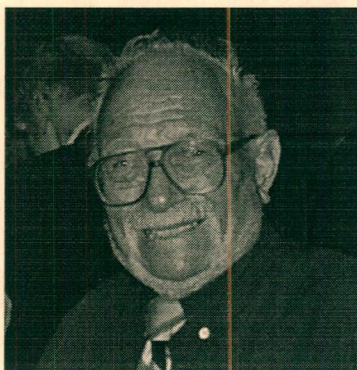


Photo Credit: Mike Millar

*Joe with inconnu on Selewik River 4 September 2004*

## Sammy Ray Awarded

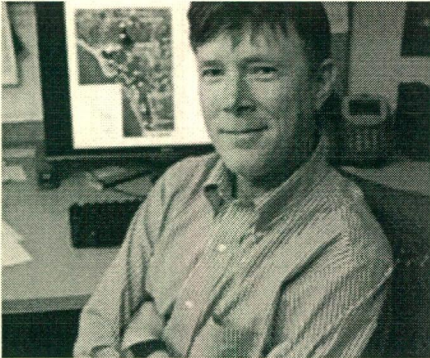
**Sammy Ray**—professor emeritus of marine biology at Texas A&M University at Galveston, where, for more than half a century, he has been an international leader in oyster research as a major staple in aquaculture and also as a reflection of the environmental health of the Gulf of Mexico—has received the Distinguished Alumni Award from Rice University. The diagnostic method he developed in the early 1990s to detect the disease agent in oysters is still the most widely used in oyster disease studies and has been vital in seafood safety. The website he and a colleague established in 2007, [oystersentinel.org](http://oystersentinel.org), is one of the most highly regarded avenues for monitoring the environmental health of estuaries along the Gulf of Mexico. In addition, Ray made significant contributions to ornithological research on behalf of the Smithsonian Institution while serving in a combat zone during World War II. He has served at Texas A&M Galveston in several key administrative positions, including interim president. In 1986 he created the highly regarded Sea Camp at the university, a weeklong program that teaches children aged 10-18 about marine and estuarine environments through hands-on experiences. In 2012, Ray was honored by his alma mater Mississippi Delta Junior College with the Distinguished Service Award at homecoming. Sammy Ray also served as AIFRB's membership chairman from 1981-1997—a record for the longest service as Membership Chairman (initially called "Membership Secretary"). He was also recognized as the Texas Academy of Science's Distinguished Texas Scientist for 1996.





## In the Spotlight *continued*

### Dr. Gregory Tolley Promoted



Dr. Gregory Tolley (along with George Poveromo – renowned saltwater angler, writer and television host) became a member of the the Fish Florida board of directors, joining seven other board members who are marine artists, anglers, conservationists, and marine industry professionals who oversee the angler support non-profit Fish Florida. Dr. Greg Tolley is Professor of Marine Science at Florida Gulf Coast University. Tolley earned his doctoral degree in Marine Science at the University of South Florida in 1994. He has authored papers on marine and estuarine ecology and physiology, and on novel approaches in science education. Tolley teaches estuarine ecology, ichthyology, and oceanography at FGCU and is the Director of the Florida District of the American Institute of Fishery Research Biologists.

Fish Florida supports fishing and conservation education programs throughout Florida.

## AIFRB Blogs

### Abigail Lynch's Blog

### The MSU Fly Gals 2013: Hooking Women on Fisheries Conservation

lynchabi@msu.edu.



Gazing out over the North Branch of the Au Sable River in the early morning light, fly rod in hand, Tom Sadler beams. A dense fog shrouds the river and fish rise, making soft plinking sounds on the surface—perfect conditions to teach a beginner's class. Sadler, an internationally-recognized fly fishing instructor from Charlottesville, Virginia, has recently introduced the seventh annual cohort of MSU Fly Gals to the art of fly fishing. Through MSU Fly Gals, Tom has taught women with an array of disciplinary and recreational backgrounds from the MSU Department of Fisheries and Wildlife, Michigan Department of Natural Resources, and even the U.S. Fish and Wildlife Service (USFWS).

#### Small Fry: the beginnings of MSU Fly Gals

Dr. Bill Taylor met Sadler through the Sport Fishing and Boating Partnership Council, an advisory committee for the USFWS whose mission is to promote the conservation and awareness of valuable aquatic resources that support and enhance recreational fishing opportunities. Taylor and his longtime friend and colleague, Bill Demmer, the executive Vice President for Conservation and Education of the Boone and Crockett Club, had been discussing ways to get more women actively involved in outdoor recreational activities. They hoped that Sadler could help them make this dream a reality. USFWS recently estimated that recreational anglers spend ...

To read the rest of Abigail Lynch's Fly Gals, visit: [www.aifrb.org/2013/07/msu-flygals](http://www.aifrb.org/2013/07/msu-flygals)

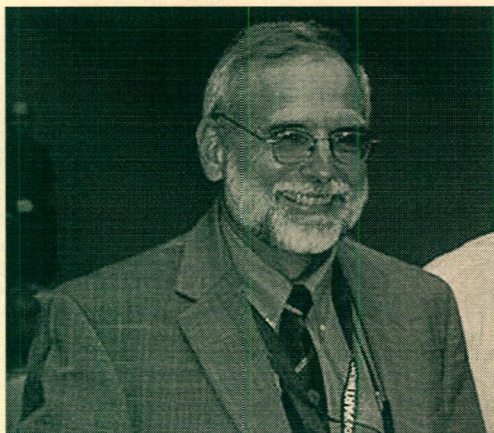


## AIFRB Blogs

### *continued*

#### Don Jackson's Blog The Purple Plastic Worm

djackson@cfr.msstate.edu



Nothing in nature looks like a nine inch long purple plastic worm. It doesn't matter. The purple plastic worm is one of our civilization's triumphs, sort of like discovering that tomatoes are not poisonous, and that consuming the byproducts of decomposing fruit and grain, in small doses, can bring a little cheer into life. During the tumbling generations of humankind I suspect that desperation, accidents, and blind evolutionary processes probably have contributed more to our quality of life, if not our very survival, than have purposeful endeavors. But regardless, the world has the purple plastic worm, and I'm happy about that. I will not question whether or not there was reason applied during its creation.

I have absolutely no idea why a largemouth bass wants to bite a purple plastic worm. Maybe it's because it's something new and different, out there creeping along the bottom of a pond, plowing a shallow furrow in the ooze. It's out there, in the domain of the bass, causing a small ruckus in an otherwise tranquil world...ever so slight.

That may be the point. It is an irritant...sort of like a dripping faucet in the bathroom when you're trying to go to sleep. You quietly and calmly go to the thing and gently, sometimes firmly, take care of the situation. Or, perhaps, in another state of mind, you try to ignore the dripping for a while, covering your head with pillows, and then finally jump out of bed in a rage, rip the sink off the wall, and then have to go outside and shut off the water to the house before the new carpet is ruined. Bass treat purple plastic worms both ways.

Read the entire article at [www.AIFRB.org/2013/07/the-purple-plastic-worm](http://www.AIFRB.org/2013/07/the-purple-plastic-worm)

## In Print

### Recently Published Member Greg Tolley

#### Freshwater Inflow Effects on Larval Fish and Crab Settlement onto Oyster Reefs

S. Gregory Tolley, Bethany M. Brosious, James T. Evans, III,  
Jennifer L. Nelson, Lesli H. Haynes, Lacey K. Smith, Scott E.  
Burghart, and Ernst B. Peebles



#### ABSTRACT

Planktonic larvae of resident, oyster reef-associated decapods and fishes are subject to variable transport and retention whenever estuarine circulation is altered by freshwater inflow. Because freshwater inflow has the potential to advect larvae either toward or away from oyster reef settlement habitats, we compared the monthly distributions and abundances of larvae and postsettlement stages in Estero Bay, FL, under variable inflows during a 2-y period. Positive correlations between inflow and larval abundances of 2 species (*Rhithropanopeus harrisii* and *Gobiosox strumosus*) appeared to be caused by advection of upstream larvae downstream into the study area, whereas similar correlations with postsettlement juveniles of other species (*Eurypanopeus depressus* and *Petrolisthes armatus*) suggested bottom-up improvements to postsettlement survival. In contrast, the larvae of many species were advected seaward and away from oyster reef habitats during periods of elevated inflow, creating a spatial gap between the larvae and their landward settlement habitat. The size of this gap was larger for reefs that had greater exposure to freshwater inflows. Larvae displaced too far seaward would have a reduced window of opportunity to find oyster substrate for settlement, thus risking increased aberrant drift and predation loss. Because of the stationary nature of the settlement habitat, advection associated with elevated freshwater inflows was beneficial to some species and detrimental to others, producing winners and losers. The study also suggested that live oyster density was a good indicator of the density, biomass, and richness of oyster reef fishes and decapods. Evidence of temporal resource partitioning (successive peaks in larval densities) was present for those fishes that use empty oyster shell as sites for egg laying and nesting, although this pattern was present only during the first year of the study.

Journal of Shellfish Research / Aug 2012 / pg(s) 895-908



# From the Archives

## Member Susumu Kato

### Sharks of the Genus *Carcharhinus* Associated with the Tuna Fishery in the Eastern Tropical Pacific Ocean

Susumu Kato

Fishery Biologist (Research), Bureau of Commercial Fisheries Biological Laboratory, U.S. Fish and Wildlife Service, San Diego, California

#### INTRODUCTION

The U.S. tuna fishery in the eastern tropical Pacific Ocean is principally a purse seine operation. Typical vessels have a capacity of 120 to 500 tons of tuna, and the fishery ranges from southern California to northern Chile and offshore several hundred miles. The waters between latitudes 25° N. and 50° S., which are rich in yellowfin and skipjack tunas, are also well supplied with sharks, some species of which appear to be associated with tuna. Although

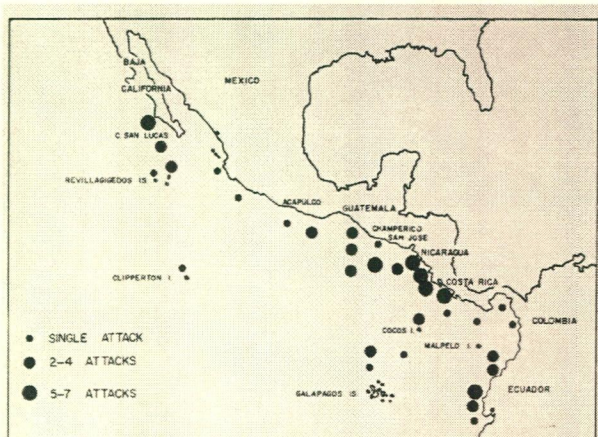


Figure 1.—Shark attacks on nets and catch, as logged by purse seiners from January to October 1962.

easy for sharks to feed on these tuna, in the meantime ripping the net so that the entire catch is sometimes lost. Then the boat has to remain idle for several hours or even days while the crew mends the net. Hundreds of tons of fish and much fishing time are lost because of shark attacks. Most of the damage is done by sharks on the outside of the net; those within the net do some damage to the tuna and net, but they suffocate quickly and are troublesome mainly because they slow the netstacking and brailing operations. The study of the operations of the tuna fishery and the application of oceanographic and biological findings in improving fishing efficiency are the main functions of the Bureau of Commercial Fisheries Biological Laboratory, San Diego. Because of the widespread problem of sharks, a study of the sharks associated with the tuna purse seine fishery has been undertaken. The objectives of the study are (1) to determine whether shark damage to nets and catch can be reduced, (2) determine the population structure of the species involved, (3) increase our knowledge of the life histories of the pelagic sharks, and (4) compile a check list of the pelagic sharks found in the area of study. Most of the sharks that are associated with the tuna fishery belong to the genus *Carcharhinus*. These sharks are quite similar in appearance, and it is difficult to differentiate the various species. The main purpose of this paper is to point out, by means of photographs and verbal descriptions, the major differences that characterize the various species. A general account of the shark study being done by the Bureau of Commercial Fisheries at San Diego is also presented.

tuna is probably not a major food item for sharks under natural conditions, the purse seining operation makes it simple for sharks to obtain a free meal. When the net is pursed and the tuna are confined in a small bag of net, many become gilled or die of suffocation. It is

Find the entire manuscript at: [www.airfb.org/2013/07/from-the-archives-manuscript-from-member-susumu-kato](http://www.airfb.org/2013/07/from-the-archives-manuscript-from-member-susumu-kato)

AIFRB  
Northern California District

## Dinner and Presentation

5:30 Social Hour

6:30 Dinner

7:30 Presentation

Thursday, August 15, 2013

Ping's Mandarin Restaurant  
817 Francisco Blvd W  
San Rafael, CA 94901  
(415) 492-1638

Greetings! I am happy to report that the Northern California District is still alive and well. We are resuming our glorious tradition of dinner presentation meetings, beginning with this particularly interesting, and spicy (!) presentation,

*Spa Treatments, Mood Lighting, and Barry White: Playing Matchmaker for the Endangered White Abalone*

presented by Dr. Kristin Aquilino, Postdoctoral Scholar with the White Abalone Captive Breeding Program, UC Davis Bodega Marine Laboratory. Prior to the presentation, we will hold a brief business meeting, to discuss 1) nomination committee for new District officers, 2) membership, 3) future meeting content, and 4) new business from the floor.

The cost for dinner and tip will be about \$20 per person (with no host bar). Please respond to me via email or phone, as soon as possible as to your presence or absence. We need to give the restaurant a relatively accurate head count.

Please respond to:

**Tom Keegan**

[tkeegan@ecorpc consulting.com](mailto:tkeegan@ecorpc consulting.com)  
(916) 765.9239



# In Memoriam

Witold ("Witek") L. Klawe, 1923-2013

Witold ("Witek") Klawe, a Tuna Commission scientist from 1955 to 1999, passed away at his home in La Jolla, California, on June 7, 2013. Witek was born in Piotrkow Trybunalski, Poland, on June 9, 1923. After World War II he emigrated from Poland to Canada, where he earned his B.A and M.A. degrees at the University of Toronto in 1953 and 1955, respectively. His master's thesis was on the biology of the bloodworm, *Glycera dibranchiata*, of the Maritime Provinces of Canada. Later, in 1991, he was awarded the degree of Doctor Honoris Causa by the Academy of Agriculture in Szczecin, Poland. Witek joined the staff of the IATTC in 1955. His first assignment was to study larval tunas. He was very good at that, and soon became recognized worldwide as an authority on that subject. He was a prolific writer. He is probably best known for the book, *Tuna and Billfish—Fish without a Country*, by James Joseph, Witold Klawe, and Pat Murphy, and for his paper, *What is a tuna?*, published in *Marine Fisheries Review*, Vol. 39, No. 11, and reproduced in *FINS* [Fishing Industry News Service, Department of Fisheries and Wildlife, Western Australia], Vol. 11, No. 2. His other works

include 3 IATTC Bulletins, 2 IATTC Data Reports, about 50 papers in outside journals, and 20 translations, mostly from

Russian to English. Witek was interested in almost everything—botany, gardening, marine invertebrates, birds, philately, languages, the Southern California desert, and other subjects too numerous to mention. Most importantly, he was interested in other people. He was a generous host, and whenever scientists or students from other countries visited the Tuna Commission for periods of work or study, Witek and his

wife Barbara welcomed them, inviting them to fine restaurants, visits to the many attractions of San Diego, and trips to the desert. Some visitors spent many months with Witek and Barbara in their home in La Jolla. Witek and Barbara travelled extensively, particularly to Hawaii and Europe. He had many contacts with Polish scientists, and in 1988 he was awarded the Gold Insignia of the Order of Merit, Polish People's Republic, for his many contributions to Polish science. Witek is survived by his wife Barbara, son David, and daughter-in-law Lisa. Everyone who knew him will miss him greatly.



*Witek and Barbara Klawe meeting the NOAA Ship Oscar Elton Sette (seen in the background) during a stop in Kealahou Bay on Hawaii's Kona Coast in 2006*

## Young Professionals! A Survey Just For You

Recognizing the importance of expanding membership to young professionals and students, AIFRB has announced the inclusion of a young professionals' representative to assist in understanding what young members expect and desire from our society. To help determine how AIFRB can assist in promoting good science at the beginning of careers, Cate O'Keefe (the University of Massachusetts—SMASST) was selected to represent young professionals at this year's upcoming meeting with the goal of starting these important discussions. Please consider taking this survey to weigh in on what you think is important for young professional AIFRB members.

[www.surveymonkey.com/s/aifrbyoungprofessionals](http://www.surveymonkey.com/s/aifrbyoungprofessionals)





## Founding Fellow Donald H. Fry, Jr.



Donald Fry was born in San Francisco, California, on September 2, 1905. He earned his A.B. and M.A. degrees at Stanford University in 1927 and 1928, respectively.

He was hired by the California Division of Fish and Game (CDFG) as an assistant fisheries biologist in 1928, was promoted to senior fisheries researcher in 1931, and to senior fisheries biologist in 1943. He spent the period of 1928 to 1957 at the CDFG's laboratory in Terminal Island, California, where he worked on Pacific mackerel and other species. Concurrently, from 1948 to 1957, he was a California representative to the Pacific Marine Fisheries Commission.

In 1957, Don took a 1-year leave of absence to work for the Food and Agriculture Organization (FAO) of the United Nations in Uganda. After that, he returned to the CDFG, and was transferred to Sacramento, California, and promoted to supervisor of research and analysis for the CDFG's Salmon and Steelhead Investigations. He remained in that position until he retired in 1975.

Don was a Founding Fellow of the American Institute of Fishery Research Biologists and a lifetime member of the Audubon Society. He served as president of the Sacramento Valley Audubon Society in 1960. During the last months of his life he was involved in developing the Bobelaine Nature Preserve adjacent to the Sacramento River in Sutter County.

He died in Sacramento, California, on March 4, 1976, at the age of 70.

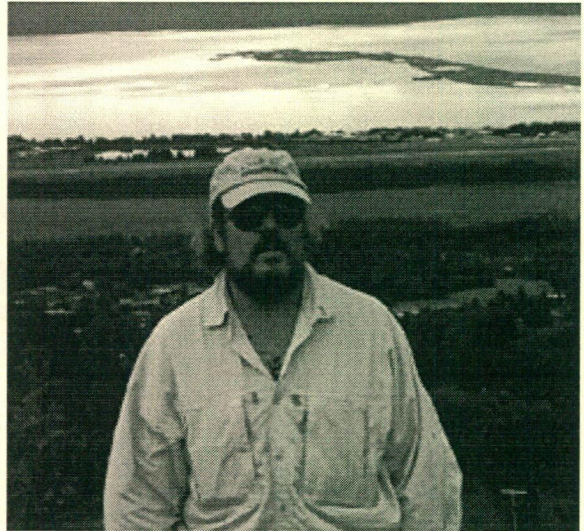
### REFERENCES

- American Men and Women of Science  
Anonymous. 1976. Donald H. Fry, Jr. [obituary]. Sacramento Bee, July 5, 1976: C20.  
William Dillinger, Peter Hayes, Catherine LaZier, Edwin P. Pister, Dale Steele, and Sally M. Walters Schmodt. 2012. personal communications.

## Meetings

### Upcoming Meeting

Talk to be given by  
Member Gregory A. DeBrosse



**Gregory A. DeBrosse** – of the Haskins Shellfish research Laboratory – is a Marine Biologist with over 25 years of experience in the culture of fresh and salt water fish, marine algae, shellfish, and a variety of marine invertebrates. His marine research experience has included employment with the Washington State Department of Fisheries. His talk – entitled **OYSTER AQUACULTURE IN THE DELAWARE BAY** – will take place on October 2, 2013, at the Wetlands Institute, located at 1075 Stone Harbor Blvd, Stone Harbor, NJ 08247. Everyone is welcome.

### Past Meeting

Chaired by

**Member Dr. Vaughn Anthony**

Report of the 17th Northeast Regional Stock Assessment Workshop

(Held during 29 November - 4 December 1993 at the Northeast Fisheries Science Center, Woods Hole, Massachusetts.) **Dr. Vaughn Anthony** (NEFSC) chaired the 14-member SARC (Table 1). Two SARC members were from outside the region (Seattle, Washington and Canada). Nearly 50 other individuals also attended (Table 2). The agenda for the meeting can be found here: [www.nefsc.noaa.gov/publications/crd/pdfs/crd9406.pdf](http://www.nefsc.noaa.gov/publications/crd/pdfs/crd9406.pdf)



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Vacant

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### **Carolinas**

Vacant

### **Florida**

S Gregory Tolley, Ph.D.  
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Coastal Watershed Institute  
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Vacant

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(978) 282-0308 x 114

### **Oregon-SW Washington**

Vacant

### **Texas**

Vacant

### **Washington, NW**

Katherine Myers  
School of Aquatic & Sciences  
University of Washington  
Box 355020  
Seattle, WA 98195-5020

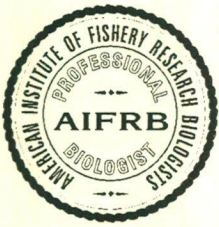
**BRIEFS**, the newsletter of the American Institute of Fishery Research Biologists, is published six times a year. It is intended to communicate the professional activities and accomplishments of the Institute, its District, and Members; the results of research; the effects of management; unusual biological 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, Sarah Fox, Washington, D.C., sgfoxeditor@gmail.com. Subscription \$40 a year to Institutions and Non-Members. Officers- Steve Cadrin, Department of Fisheries Oceanography, School for Marine Science & Technology, UMass Dartmouth, (508) 910-6358, scadrin@umassd.edu-President; Kathryn A. Dickson, Dept. of Biological Science, California State University Fullerton, Fullerton, CA 92834-6850, kdickson@exchange.fullerton.edu - 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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*American Institute of Fishery  
Research Biologists*  
c/o Allen Shimada  
NMFS, Office of Science and Technology  
1315 East West Highway  
Silver Spring, MD 20910







Website: [www.aifrb.org](http://www.aifrb.org)

# *American Institute of Fishery Research Biologists*

*Promoting excellence in fishery science*

## ... BRIEFS ...

VOL. 42-3 4

FALL/WINTER 2013

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

### President's Message

The AIFRB Board meeting in Little Rock had some of the most dynamic discussions and actions by our leaders that I've participated in. Our deliberations focused on some major challenges, like increasing membership and revival of some districts, as well as several exciting new developments. We were lucky to have two dedicated members to accept nominations for president-elect, and I was happy to announce Tom Keegan as our next president. After many years of Doug Vaughn's coordination of our activities with the American Fisheries Society, Sean Lucy is taking the AIFRB/AFS liaison position



2013 Board participants (from left) Cate O'Keefe, Tom Ihde, Traci Larinto, Tom Keegan, Kathy Dickson, Sean Lucey, Allen Shimada, Jeff Shaeffer, Steve Cadrin and Dick Beamish with the Arkansas River in the background.

in new and productive directions, continuing our series of symposia and expanding on our joint activities. Cate O'Keefe joined the Board as the young professionals representative and injected many creative ideas on how to "youthenize" our Institute. Sarah Fox was welcomed as the executive editor of *Briefs*, and her enthusiasm for invigorating the newsletter as well as her collaborations with Tom Ihde on making the website more current and active had contagious effects on the rest of the board. Several factors conspired to limit the number of district directors who could attend, but we were fortunate to have Traci Larinto describe the activities of the Southern California District that serve as an example for others. These people and others like Kathy Dickson (secretary), Allen Shimada (treasurer), Jeff Schaeffer (Great Lakes), and Dick Beamish (past president) traveled far, and devoted their weekend to the maintenance and advancement of our Institute. Their commitment to the board meeting reflects their devotion throughout the year, which will be needed to implement the many action items developed by the board. I am overwhelmed with gratitude to the board for their time and efforts.

*Steve Cadrin - President of AIFRB*

### COME JOIN OUR LinkedIn GROUP

and get the conversation started with other AIFRB -  
American Institute of Fishery Research Biologists on LinkedIn

[www.linkedin.com/groups/AIFRB-American-Institute-Fishery-Research-6513517?gid=6513517&goback=%2Emid\\_I740619895\\*416\\_\\*1\\_\\*1\\_\\*1%2Egmp\\_6513517&trk=NUS\\_UNIU-ngroup](http://www.linkedin.com/groups/AIFRB-American-Institute-Fishery-Research-6513517?gid=6513517&goback=%2Emid_I740619895*416_*1_*1_*1%2Egmp_6513517&trk=NUS_UNIU-ngroup)



## For Our Young Professionals Don't Forget

Please remember to take advantage of your free benefits!

- Submit a draft of a paper and one of our senior scientists will give it a pre-review. After that, you can submit the manuscript elsewhere knowing it's considered a strong, publishable scientific paper.
- Need some work experience? We'll back you and give you mentoring services.
- Need to travel? We have more grants and awards than you can shake a fishing pole at!

Where to start? Contact Cate O'Keefe [cokeefe@umassd.edu](mailto:cokeefe@umassd.edu). As your young professional representative, she's eager to help.

## Take Our Survey

[www.surveymonkey.com/s/aifrbyoungprofessionals](http://www.surveymonkey.com/s/aifrbyoungprofessionals)

## Young Professionals Perspectives

Cate O'Keefe, 2013/2014 AIFRB Young Professional's Representative  
[cokeefe@umassd.edu](mailto:cokeefe@umassd.edu)

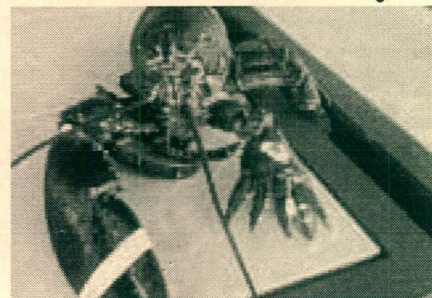
Little Rock, AR isn't situated on a coastal harbor or a salt marsh, doesn't have fish processing plants or ocean-going trawlers docked nearby. So, why did I, a marine fisheries scientist, find Little Rock so rewarding for my career? I was selected as the AIFRB Young Professional's Representative at the Annual Board of Control Meeting held in conjunction with the Annual Meeting of the American Fisheries Society. By attending the AIFRB Board meeting and working at the AIFRB booth during the tradeshow, I had the opportunity to meet and mingle with world-renowned scientists, as well as introduce myself to students and young professionals researching fisheries from around the country.

The organization, incorporated in 1956, includes many distinguished scientists from North America and has evolved to recognize the important contributions young scientists can make. AIFRB encourages good science in the early stages of careers and wants to expand student and young professional membership. There are several services and opportunities that AIFRB currently offers to assist students and young professionals, including travel awards to attend conferences and meetings internationally, a mentor program that arranges work experiences throughout North America, free pre-submission of manuscripts for review by senior scientists, and the opportunity to meet and network with professionals in the fisheries field. Additionally, membership in AIFRB offers a chance to be involved in the community aspect of fisheries research, and gives young professionals a broader perspective of science, conservation and management of fisheries.

My goals as the 2013/2014 Young Professional's Representative are to expand the social media presence of AIFRB, encourage involvement of students and young scientists at the regional level within their districts, and communicate AIFRB-supported opportunities available to early-career scientists. In order to achieve these goals and continue AIFRB's commitment to increase membership, I need to hear from you! Please take a few minutes to fill out the Young Professional's Survey and contact me with your ideas. Becoming an active AIFRB member in your early-career stage opens doors to interesting, fun and unique experiences, and can help you develop a distinguished scientific career of your own!

## NEWS

### 'Lobster Wars' six-clawed specimen comes to Boothbay



Maine State Aquarium Manager Aimee Hayden-Roderiques reported September 3 that this four-pound lobster, with its "five-claw" crusher claw, is on its way to the aquarium. She said it is being shipped to West Boothbay Harbor from Hyannis, Mass., this week, courtesy of Richard Figueiredo and Captain Peter Brown of the *F/V Rachel Leah*, one of TV's "Lobster Wars" vessels.

[m.boothbayregister.com/article/'lobster-wars'-six-clawed-specimen-comes-boothbay/19993](http://m.boothbayregister.com/article/'lobster-wars'-six-clawed-specimen-comes-boothbay/19993)

## District News Northern California District



Investigation of the Impacts of Common Endocrine Disrupting Compounds on Multiple Early Life Stages of Endangered Atlantic Salmon and Shorenose Sturgeon and Threatened Atlantic Sturgeon

[www.kierassociates.netImpacts%20of%20Common%20EDCs%20on%20early-age%20Atlantic%20salmon%20and%20sturgeon\\_Kier%20Associates\\_2013.pdf](http://www.kierassociates.netImpacts%20of%20Common%20EDCs%20on%20early-age%20Atlantic%20salmon%20and%20sturgeon_Kier%20Associates_2013.pdf)

Publication sent in by AIFRB member, project administrator and co-author: BILL KIER



# American Institute of Fishery Research Biologists

## 2014 MEMBERSHIP YEAR DUES NOTICE

(1 SEPTEMBER 2013 - 31 AUGUST 2014)

**Dear Colleagues:** Please return with annual dues and confirm email contact information. Annual dues are indicated on mail panel of envelope above your name & address, it reads your *Member Status*, the number is *Years* owed. Thank you.

Professional Associate (A) /Member (M) /Fellow (F) ..... \$40.

Student Associate (S) ..... \$20.

Emeritus Member (EM)/Fellow (EF) ..... No Dues.

I wish to make a tax-deductible donation. .... \$\_\_\_\_\_

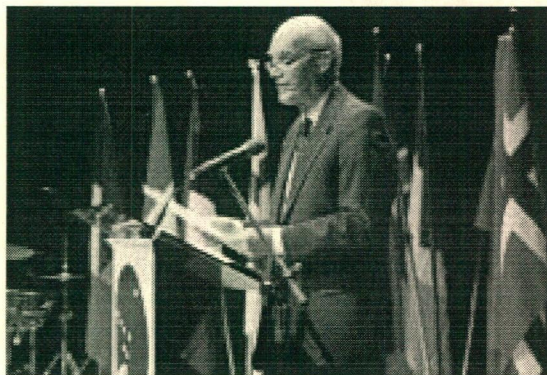
E-mail Contact Information: \_\_\_\_\_

☐ Check here to receive hard copies of *Briefs* by mail. (If left unchecked, and to reduce AIFRB expenses, you will receive *Briefs* only electronically if you email address is on file.)

*Please remit in U.S. Funds and payable to AIFRB. For credit card payment visit [www.aifrb.org](http://www.aifrb.org)*

## Awards

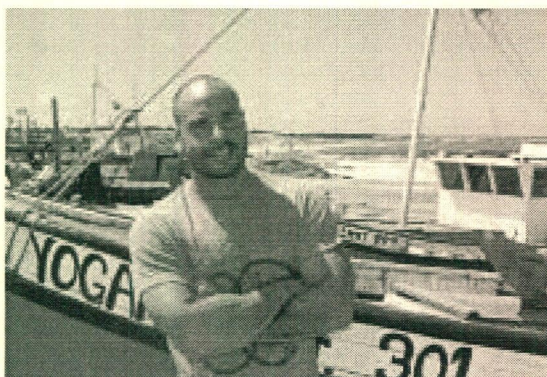
**The AIFRB Outstanding Achievement Award** was presented to Mike Sinclair at the ICES/NAFO Gadoid Fisheries Symposium on October 15 in St. Andrews New Brunswick



Among Mike's many accomplishments, he was the President of the International Council for the Exploration of the Sea, the Director of the Bedford Institute of Oceanography, the Regional Director of Science for the Canadian Maritimes Region of the Department of Fisheries and Oceans, including management of the St Andrews Biological Station. Mike's 1988 book on Marine Populations is a good example of his approach to fisheries science, because it is truly interdisciplinary and applies an ecosystem approach to the topic. The book inspired advancements in early life history dynamics, stock identification and exploring the history of ideas in marine science. Mike joins an impressive list of previous award recipients that includes many of the greatest scientists in our profession.

More information on the symposium is at [www.gadoid-symposium.info](http://www.gadoid-symposium.info)

**The W.F. Thompson award for Best Student Paper** was presented to Nico Gutierrez at the International Council for the Exploration of the Sea conference in Reykjavik, Iceland.



Nico's award reflects excellence in his recent paper on 'Leadership, Social Capital and Incentives Promote Successful Fisheries' published in *Nature* (470:386-389). This year's award was for the best paper published in 201, was nominated by Dr. Ray Hilborn at the University of Washington, and was one of 15 student papers evaluated by the committee. The W.F. Thompson Award consists of a certificate, \$1,000 check and a one-year membership in AIFRB at the appropriate level.

Nico now works for the Marine Stewardship Council in London, so the ICES conference was a suitable occasion to present the award. AIFRB and ICES were co-sponsors of the recent World Conference on Stock Assessment Methods for Sustainable Fisheries (Boston MA, July 2013). Coincidentally, in my closing address at the conference in Boston, I referred to a conversation that I had with Nico about reaching out to developing

nations with our expertise and resources in stock assessment. Nico's accomplishment and recognition offer an example of how AIFRB focuses on American fisheries research and has global impacts. The award was presented by the Anna Christine Brusendorf, the ICES General Secretary. *Thanks to the selection committee and people at ICES for their efforts.*

*Author: Gary A. Nelson, Ph.D, Massachusetts Division of Marine Fisheries, [gary.nelson@state.ma.us](mailto:gary.nelson@state.ma.us)*



# Setting the Mood for White Abalone Recovery

Dr. Kristin Aquilino. UC Davis, Bodega Marine Laboratory; Email: kmaquilino@ucdavis.edu

Historically, an estimated 300,000 white abalone (*Haliotis sorenseni*) ranged from Point Conception to Baja California. However, severe over-fishing led to the species being the first marine invertebrate listed as endangered under the Endangered Species Act. Models suggest that the population will shrink to fewer than 1,000 individuals in the next 10-15 years in the absence of recovery efforts.

Already, most of the remaining wild white abalone are too far apart from one another to reproduce successfully. Captive breeding and outplanting were identified as critical to the recovery of this species. Over the past two years, University of California, Davis's Bodega Marine Laboratory (BML) and our partner institutions have celebrated the first instances of successful captive white abalone reproduction in nearly a decade. While these new progeny will contribute to the captive broodstock, greater reproductive output in captivity is required before outplanting in the wild is feasible. As we look ahead, we consider strategies for increasing captive reproduction and for successfully placing captive-bred white abalone back into their native habitat.

A key challenge in breeding white abalone in captivity is encouraging them to become reproductive. The natural breeding season for white abalone is in the late winter and early spring, but it is possible that in captivity they are missing an important environmental cue that stimulates gametogenesis. Currently, many of our adult abalone broodstock are not producing ripe gonads. When we induce spawning using a hydrogen peroxide bath, broodstock often release very few gametes and those that are released are often immature. At BML, we are manipulating conditions in the lab that might help "set the mood" for our broodstock to become more reproductive. An astronomic clock controls the lighting system for our broodstock, which turns on and off at the same time the sun rises and sets in the white abalones' native range. We also control seawater temperature and we feed the broodstock giant kelp (*Macrocystis pyrifera*) and dulse (*Palmaria mollis*), a proteinaceous red alga. With these improved conditions, we are hoping that we can increase the reproductive capacity of captive broodstock during their typical spring spawning season, and maybe even trick them into becoming reproductive at other times during the year.

Collaboration among partner institutions holding white abalone broodstock has been critical to recent captive breeding success. In addition to BML, white abalone are held at UC

Santa Barbara, Ty Warner Sea Center, Aquarium of the Pacific, and Cabrillo Marine Aquarium. Because of the proximity of some partner institutions, it is possible to transport sperm between facilities, and coordinating attempts improves the likelihood of getting both males and females to spawn by increasing the number of animals participating in an attempt. Because broodstock held at nearby partner institutions have different parentage, an additional benefit of coordinated spawning attempts has been the possibility of increasing the genetic diversity of progeny.

While focusing on reproductive conditioning techniques might increase the success of spawning attempts, we are also investigating ways to increase survival of white abalone

progeny, particularly during the few months after settlement. Abalone generally experience high natural mortality just after settling, and losses of 95% or more are common. It is possible that slight changes in diet or other conditions following settlement might help increase survival during this very sensitive stage.

Though mortality of white abalone is highest during the first few developmental stages, maintaining white

abalone health through adulthood is critical for breeding success. A fatal disease called withering syndrome threatens both wild and captive abalone. Generated by a bacterium that infects the gut tissues of abalone, it can cause their muscular foot to shrink and lose its ability to hold onto the substrate. Using PCR techniques, we regularly test all captive white abalone for the bacterium that causes withering syndrome, and we treat animals in an antibiotic bath if it is ever detected. We also make sure white abalone broodstock are free of shell-boring organisms like sponges, worms, and clams, which can make shells brittle and deformed, and create avenues for infection. We regularly apply a wax coating over the abalones' shells to suffocate any organisms present.

Already, captive breeding successes over the past two years have added over one hundred animals to the captive population, tripling the total number of white abalone in captivity. Because juvenile white abalone become reproductive as early as one year old in captivity, these animals will soon contribute to the captive broodstock. As we look forward to having enough juveniles to begin outplanting them, we have begun to prepare for outplanting efforts by deploying sets of habitats for easing captive-bred white abalone in the wild. These Baby Abalone Recruitment Traps will reduce predation



continued on page 8



# Rebuilding Snake River Sockeye Salmon Population

*Article by Dan Baker (guest blogger for Jesse Trushenski)  
Eagle Fish Hatchery Manager Idaho Department of Fish and Game*

On April 2, 1990, the National Oceanic and Atmospheric Administration Fisheries Service (NOAA) received a petition from the Shoshone-Bannock Tribes (SBT) to list Snake River sockeye salmon as endangered under the United States Endangered Species Act (ESA) of 1973. On November 20, 1991, NOAA declared Snake River sockeye salmon endangered.

In the spring of 1991, the Idaho Department of Fish and Game (IDFG) along with the SBT initiated the Snake River Sockeye Salmon Captive Broodstock Program with funding from Bonneville Power Administration (BPA). The goal of this program was to conserve the population's genetic diversity and to rebuild Snake River sockeye salmon populations in Idaho.

Initial steps to recover the species focused on the establishment of captive broodstocks at the Eagle Fish Hatchery (Eagle FH) in Idaho and a safety net program at NOAA Fisheries facilities in Washington State. The initial broodstock was developed from three sources: 1) anadromous sockeye adults returning to Redfish Lake from 1991 through 1998 (16 total); 2) smolts emigrating from Redfish Lake from 1991 through 1993 (886 smolts collected); and 3) residual adult sockeye collected in Redfish Lake (26 total). From this limited genetic background, pedigrees and spawning matrices were initially developed to minimize the chance of inbreeding. More recently, microsatellite analyses are used to build spawning matrices based on individual relatedness. Genetic conservation efforts to date have been effective in maintaining an estimated 95% of the original genetic diversity of the population during the first 15 years of the program (Kalinowski et al. 2012).

## **Where Are We Now**

The Snake River sockeye salmon captive broodstock programs at IDFG's Eagle FH and NOAA Fisheries' Manchester Facility continue to maintain sockeye broodstocks providing progeny for reintroduction strategies. The program adopted a spread-the-risk release strategy; releasing eyed-eggs, pre-smolts, smolts and full term adults back to native habitat. These release strategies have been evaluated over the years to determine the most beneficial use of progeny produced from the captive broodstock operations. Smolt releases have shown to be the most effective release strategy numerically, although full term adults released to Redfish Lake have shown some of the highest smolt to adult return survival rates. Anadromous returns have increased over the last five years due to an expansion of the number of full term smolts released. From 1998 through 2004, 144,164 smolts were released resulting in 214 anadromous sockeye adults returning. From 2005 through 2011 959,834 smolts have been released resulting in 3,367 anadromous sockeye adults returning to the Stanley Basin.

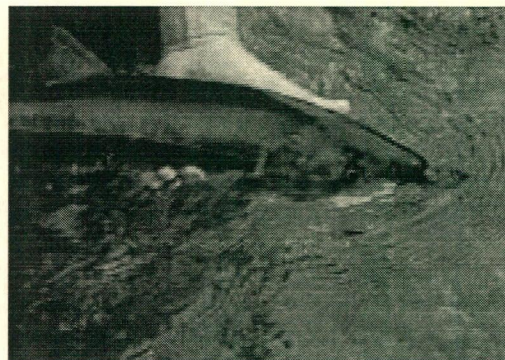
## **What Is To Come**

The Snake River sockeye salmon captive broodstock program is currently expanding to meet production goals outlined in Phase Two of a three phased recovery approach identified by IDFG to help meet recovery objectives. Springfield Fish Hatchery was dedicated on September 6, 2013. This facility, operated by IDFG and funded by BPA, will be capable of rearing up to 1,000,000 sockeye smolts annually for release in the Stanley Basin. Anadromous returning sockeye are expected to increase to numbers not seen since the 1950's. As return goals are achieved, the sockeye captive broodstock programs at NOAA and IDFG will be phased out and the program will be operated as an integrated anadromous broodstock hatchery, spawning returning anadromous adults to meet egg production goals. Anadromous adults not required for hatchery spawning will be released to Stanley Basin lakes, rebuilding the natural population of Snake River sockeye salmon. The Snake River sockeye salmon program has come a long way from the 16 wild anadromous sockeye that returned during the 1990's, to the few hundred returning now... historically an estimated 25,000 to 40,000 Snake River sockeye salmon returned to the Stanley Basin each year.

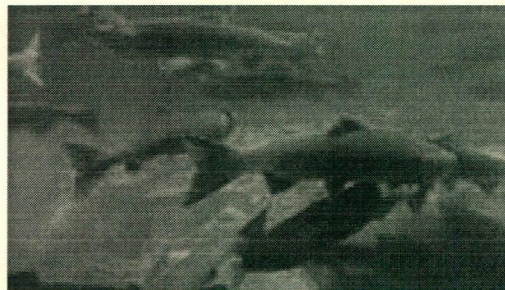
[www.aifrb.org/2013/09/using-captive-broodstock-technology-to-rebuild-the-snake-river-sockeye-salmon-population](http://www.aifrb.org/2013/09/using-captive-broodstock-technology-to-rebuild-the-snake-river-sockeye-salmon-population)



*SNAKE RIVER SOCKEYE SALMON CAPTIVE BROODSTOCK AT IDFG'S EAGLE FISH HATCHERY.*



*IN 2010, ANADROMOUS SOCKEYE SALMON TRAPPED AT REDFISH LAKE CREEK WERE PASSED ABOVE THE WEIR AND ALLOWED TO COMPLETE THEIR JOURNEY TO REDFISH LAKE FOR THE FIRST TIME SINCE THE PROGRAM STARTED IN 1991.*



*ANADROMOUS SNAKE RIVER SOCKEYE SALMON OUTPLANTED TO REDFISH LAKE.*



# Step Aboard One of America's Most Advanced Ocean Research Vessels

By Joe Hanson / Wired Magazine

Wired Magazine is cool. NOAA's newest research vessel, the Bell Shimada is even cooler. And Allen Shimada, the son of the man for whom the vessel was named - Bell - is an active member of AIFRB and stands on the governing board. Thus, we thought it was high time we introduced those few who didn't know about the connection!

Bell M. Shimada (Fellow 1958) - the father of AIFRB member Allen Shimada - had a distinguished fisheries biologist career, making a lasting contribution in the early study of Pacific tuna stocks — so distinguished, in fact, that the National Oceanic and Atmospheric Administration (NOAA) commissioned their latest research vessel in his name in late 2010. The Bell M. Shimada is a 208-foot, state-of-the-art research vessel studies a wide range of marine life and ocean conditions along the West Coast. The ship operates primarily in U.S. waters from Washington state to Southern California.

Shimada died in a 1958 plane crash at the age of 36 during a research trip prior to taking a new job as the director of a new Bureau of Fisheries' Eastern Pacific Tuna Investigations. He left behind his wife Rae and young children Julie and Allen, a current NOAA fisheries biologist. A native of Seattle, Shimada entered the University of Washington's School of Fisheries in 1939. During World War II, he served in the Military Intelligence Service in Guam and at the U.S. Army headquarters in Tokyo. After the War, he received his bachelor's, master's, and doctorate degrees from the University of Washington. In 1956 when Shimada began work for the Bureau of Fisheries to the

Inter-American Tropical Tuna Commission, which was co-housed with the Scripps Institute of Oceanography, he earned a reputation as an expert on the habits of Pacific tuna.

Bell had also accepted an invitation from W.F. Thompson

to join AIFRB just before he left on his last trip (back when membership was offered based on the recommendation of five other AIFRB members!). According to Allen Shimada, the ship's commissioning was a high honor not only for Shimada, but also for Rae, who was Oscar Elton Sette's secretary at the Bureau of Commercial Fisheries Honolulu Laboratory. "However, I think [his] story is only one of the many young Japanese Americans who volunteered out of the camps for the military or government service and who rightly belong to 'The Greatest Generation,'" said Allen Shimada. Bell and his fellow Nisei Veterans, including Dr. William Yasutake (Emeritus Fellow 1997) were awarded the 147th Congressional Gold Medal at the U.S. Capitol on November 2, 2011.

To learn more visit [www.nationalveteransnetwork.com/awardceremony.shtml](http://www.nationalveteransnetwork.com/awardceremony.shtml).

The ship was named by a team of freshman students from Marina High School in Monterey, Calif. that won a regional NOAA contest to name the vessel.

To read the complete article, pick up the hard copy of Wired, October 2013, and flip to page 109. Or head to our website: [www.aifrb.org/2013/10/step-aboard-one-of-americas-most-advanced-ocean-research-vessels](http://www.aifrb.org/2013/10/step-aboard-one-of-americas-most-advanced-ocean-research-vessels)



*The ship's namesake Bell M. Shimada, pictured here 1952, was passionate about his work.*



*NOAA Ship Bell M. Shimada (R-227) next to NOAA sister ship Pisces in the Gulf of Mexico.*



# Spotlight on AIFRB Member: Gary Nelson

Gary Nelson, an AIFRB Member, is interviewed about black spot disease by Martha's Vineyard Times.

## *Gone Fishin': Call Me Squeamish, But I Don't Eat Worms*

Early last week, I caught a fat striped bass. The fish was not particularly large, probably about 15 pounds but a nice size for the table. I paid no attention to what appeared to be a slight red sore on its side, figuring it was probably due to the fight. My practice when I plan to keep a bass is to cut the fish in the gills immediately to bleed it, both to end its struggle and preserve the quality of the meat. I trim off the dark red meat, which I think adds little to the flavor.

When I looked at the fillets I saw several dark spots in the otherwise white flesh. It was not an appetizing sight. A closer examination revealed small capsules or cysts. To paraphrase my daughter — gross.

I put the fish in the refrigerator and went to that source of all knowledge and opinion, Google search. For a second view, I also contacted the folks at the Mass Division of Marine Fisheries (DMF).

DMF striped bass biologist Gary Nelson told me that the department's resident parasitologist thought the fish was infected with black spot disease "which is a life stage of a trematode worm known as fluke."

He added, "The larvae create cysts under the skin and in the flesh. The fish is edible in that condition, just cook it as you normally would."

Do what? I emailed back and told him it did not sound very appetizing. I asked if he had any sense of how widespread it was, since this was the first time over many years I had ever spotted any black spots in any bass I had kept.

"I don't have any statistics, but I see it occasionally in striped bass and other fish," Gary said. "It is one of the most common diseases. Luckily, it usually isn't lethal."

Did you catch the "usually isn't" part of that answer? I imagined myself on the cusp of being the first human to contract mad striped bass disease.

A Google search for dark spots in striped bass brought up several references. The Maryland Department of Natural Resources website posted a question from a fisherman, Paul

Puher, about rockfish, their name for striped bass. It was very similar to my experience.

"I recently caught a rockfish that looked very healthy," Paul said. "I filleted it and saw these black spots deep in the meat. I cut through it, and it appeared to be a dead something. Can you please tell me what these things are; should the fish be thrown out, is this normal?"

Maryland fish health biologist Mark Matsche responded.

The black spots are the larval form of a parasitic worm known as digenean trematodes. This infection is often called "black spot disease", and in some fish, particularly small

individuals, the worms may be visible through the skin. There are many different species of digenea worms, and most are white or yellow in color. The black appearance of the worms is a result of pigments that may accumulate around the parasites as part of the fish's immune response. This black pigmentation of the worms doesn't always occur, and the spots may appear white or yellow ("white spot" or "yellow spot"



disease). Most species of fish may be susceptible to digenean infections. Digenean worms have a fairly complex life cycle, which involves aquatic snails or other invertebrates as the initial host; fish as an intermediate host; and mammals, birds, or other fish as the final host; the intermediate form of the worm penetrates and burrows into the flesh of fish.

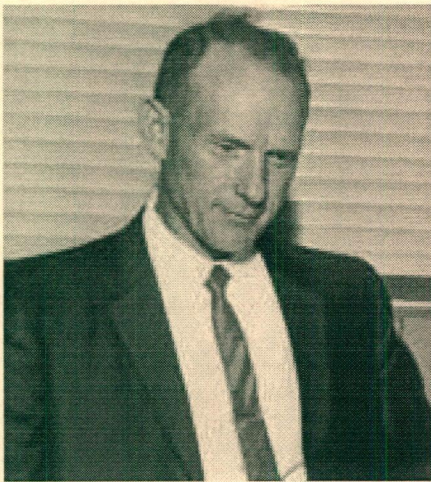
Most digenean parasites are not dangerous to humans. When few in number, black spots can be trimmed from the fillets, and thorough cooking will kill any remaining worms.

My wife and I considered what to do, fish cakes perhaps. There did not seem to be enough beer in the fridge to wash down fish cakes with cooked trematode worms.

I imagined the farm to table folks could sell it if they charged enough and added Vineyard in front of worms on the menu, but it was not for us. I was not reassured by the notion that all I had to do was cook the bass. I used the fish for crab bait.

[www.aifrb.org/2013/10/spotlight-on-aifrb-member-gary-nelson](http://www.aifrb.org/2013/10/spotlight-on-aifrb-member-gary-nelson)





## Founding Father John B. Glude

John B. Glude was born on August 2, 1918, in Silverdale, Washington. He received a B.S. degree in Fisheries in 1939 from the University of Washington and an M.P.A. degree in 1969 from the same institution.

He worked as a shellfish biologist for the Washington Department of Fisheries (WDF) from 1940 to 1941. During World War II, from 1941 to 1945, he was employed as an associate naval architect draftsman at Todd Pacific Shipyards in Tacoma, Washington. After the war, he returned to the WDF, where he was involved in research on the effects of pulp mill pollution on oysters and the importation of Japanese seed oysters to Washington.

In 1948, he moved to the U.S. Fish and Wildlife Service (FWS) laboratory at the Woods Hole Oceanographic Institution in Woods Hole, Massachusetts, where he was involved in research on the abundance and survival of softshell clams along the

entire east coast of the United States. That project was moved to a former fish hatchery in Boothbay Harbor, Maine, in 1948. Soon thereafter, he became Director of the Boothbay Harbor Laboratory, where he instituted further research on artificial propagation of clams and other species.

He later became Director of the FWS laboratory in Annapolis, Maryland, where he worked on methods for farming shellfish, with an emphasis on oysters. He then moved to the U.S. National Marine Fisheries Service (NMFS) headquarters in Washington, D.C., where he was responsible for shellfish research covering seven regional laboratories and development of the first U.S. National Aquaculture Plan. Later, in 1970, he became Assistant Regional Director of the Northwest Region of the NMFS in Seattle, Washington. After retirement, he started Glude Aquaculture Consultants, and was active in the U.S. and overseas, often consulting on behalf of the United Nations Food and Agriculture Organization. Over the course of his career, he published more than 100 scientific papers on clam and oyster culture.

He served for two years, in 1964 and 1965, as President of the National Shellfisheries Association, and also periods as Vice-President and President of the World Aquaculture Society, the latter in 1978-1979. He was a member of the American Fisheries Society and the Ecological Society of America, and he was a Founding Fellow of the American Institute of Fishery Research Biologists.

Throughout his life, he was an avid sportsman, enjoying fly fishing, hunting, and kayaking. He took up wind surfing at the age of 65!

Mr. Glude died in Annapolis, Maryland, on October 19, 2004, at the age of 86. John was influential and well-respected worldwide for his work on clam and oyster culture, and for his efforts on behalf of the World Aquaculture Society and the National Shellfisheries Association. He is missed by his many friends and colleagues from around the world.

## Kabata: Evolution of a Scientist

**A fascinating video series, produced by Dick Beamish!**

Meet Dr. Bob Kabata, Polish resistance fighter, British deckhand and Canadian scientist, who showed how parasites could be used to track fish populations, and who challenges the next generation to study the ocean as one huge interacting ecosystem. (Just one in a series of videos produced by Richard Beamish, AIFRB)

[www.aifrb.org/2013/10/kabata-evolution-of-a-scientist](http://www.aifrb.org/2013/10/kabata-evolution-of-a-scientist)

*continued from page 4*

*Setting the Mood for White Albacore Recovery*

pressure on stocked juvenile white abalone and allow them to acclimate to ocean conditions before they migrate to the natural reef. These traps are already in place at three protected locations in the white abalone's native range.

As the white abalone remaining in the wild population continue to age, captive breeding and outplanting are critical for saving the species from extinction. The captive breeding successes we have experienced over the past two years, provides a strong ray of hope for this species.

The white abalone project at BML is led by Dr. Gary Cherr, the permit holder for white abalone and an expert in reproductive biology. Dr. Jim Moore of the UC Davis Wildlife Health Center and the California Department of Fish and Wildlife (CDFW) is an expert in shellfish health. He monitors and helps maintain the health of captive white abalone at BML and our partner institutions. Dr. Laura Rogers-Bennett of the UC Davis Wildlife Health Center and CDFW is an expert in abalone ecology. She helps lead efforts to better understand larval ecology and to prepare for planting captive-bred white abalone into the wild. Dr. Melissa Neuman is the white abalone recovery program coordinator at NOAA, National Marine Fisheries Service, West Coast Region.



# We Say Thank You and Bid Adieu, Sammy Ray

*“Find what you love to do and you’ll never work another day in your life.” Sammy Ray*

**Dr. Sammy Ray, World-Renowned Texas A&M-Galveston Professor, Dies At Age 94**

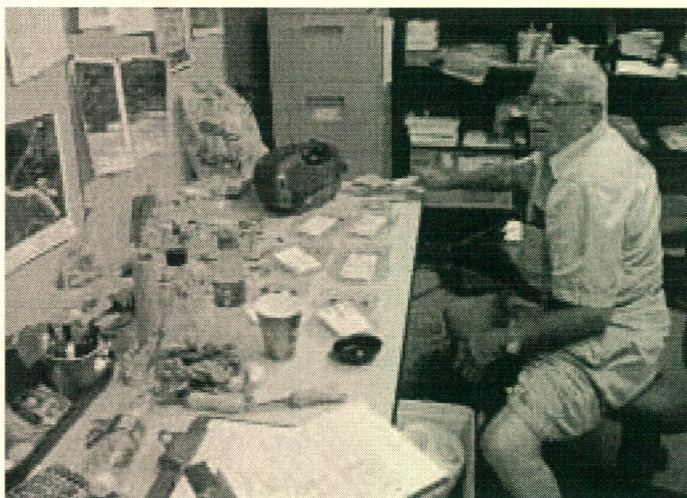
Dr. Sammy Ray, a world-renowned marine biologist and one of the founders of Texas A&M University at Galveston, has died at age 94. He joined the faculty in 1957 and became an internationally acclaimed scientist for his research in the field of oysters — research that authorities in the field agree had a profound and positive effect on the vital Gulf Coast industry — economically and otherwise. He formally retired in 1990, but continued to conduct research — either in his laboratory on campus or aboard a vessel that bears his name.

Please read his full obituary here: [www.tamug.edu/News/2013/articles/SammyRayDeath.html](http://www.tamug.edu/News/2013/articles/SammyRayDeath.html)

“Sammy Ray meant so much to so many people. I not only lost my mentor but also a best friend and father figure. It was typical for him to wear khakis and work with a cup of coffee nearby and talk radio going (note photo sent by the head of the Outreach Program). He was in that lab seven days a week all the way up to the time of the stroke. He was ever remarkable for being 94 years old. The family is establishing a Dr. Sammy Ray Scholarship fund at TAMUG for Marine Science scholarships - for those who want to make a contribution of some kind, the family asks that they consider this as a vehicle.” *Judy Wern Kiester*

“The sad news that Dr. Sammy Ray had died reached me this afternoon. He was 94 years old, a long run for anyone. And yet my hand flew to my mouth and I gasped in surprise. I guess I just expected him to always be there. Listening to him speak was like being in a library, flipping through books. He was legendary on the Texas A&M at Galveston campus. Every time I saw him speak, he received standing ovations from the audience: conferences, meetings, lecture halls. He was brilliant, yes. But what set him apart was that he was *approachable*. No ivory tower syndrome there. He loved students and always found time to talk to them - to really talk to them, not just lecture. He so enjoyed his work every day that he never really retired, it was in his blood and his very being. It was who he was. He left a legacy that our oldest son was introduced to this summer. Sammy Ray started Sea Camp, it was his baby and he nurtured it and helped it grow into what it is today.” *Kate Ryan Williams – writer for Huffington Post, mother of one of the Sea Campers, and wife of a former TAMUG student who she refers to as Aquaman.*

For the full Memoriam: <http://kateryanwilliams.blogspot.com/2013/10/the-influence-of-good-man-dr-sammy-ray.html#.UmLBfJTXQki>



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## Keep An Eye Out

**AIFRB will present FISHOSPHY, a blog by Steve Cadrin, John Everett, Ray Hilborn, Bonnie McCay, Brian Rothschild, Nils E. Stolpe, James Sulikowski, Vidar Weststad**

A column in the New York Times on October 2, “Deep-Sea Plunder and Ruin”, focused on pressuring the European Parliament’s Fisheries Committee to “phase out the use of deep-sea-bottom trawls and other destructive fishing gear in the Northeast Atlantic.” It ends “there is no doubt on the part of the more than 300 scientists worldwide who signed a declaration that this form of fishing should be eliminated from the deep sea. Whatever their reasons, Europe’s fishing corporations and their parliamentary allies — the “merchants of doubt” — are making one last stand even in the face of scientific consensus (sic). But this time the doubters may have run out of viable arguments.”

Building on the fiction that fishermen are raping and pillaging the oceans, it categorizes deep sea bottom trawls and unspecified other types, as “destructive fishing gear,” implying that a worldwide scientific consensus supports a ban on this form of fishing.

A few hundred scientists signing a declaration isn’t a worldwide scientific consensus.

Some deep sea areas will produce more fish or shellfish thanks to trawling. Conversely, some areas should be protected. There are existing technologies to minimize the negative impacts and more are under development. What’s missing is an informed public dialogue focused on determining how much modification of the ocean environment we should accept for what level of increased protein production (consider how we’ve enhanced the “natural” productivity of our agricultural regions).

Our job is to see that this dialogue – and others dealing with ocean resources - is based on solid data and sound science, not hyperbole and alarmism. We owe it to our oceans, our fishermen and an increasingly hungry world to do as much as we can to insure that. It is our intention for the new Fishosophy blog to be a step in that direction.



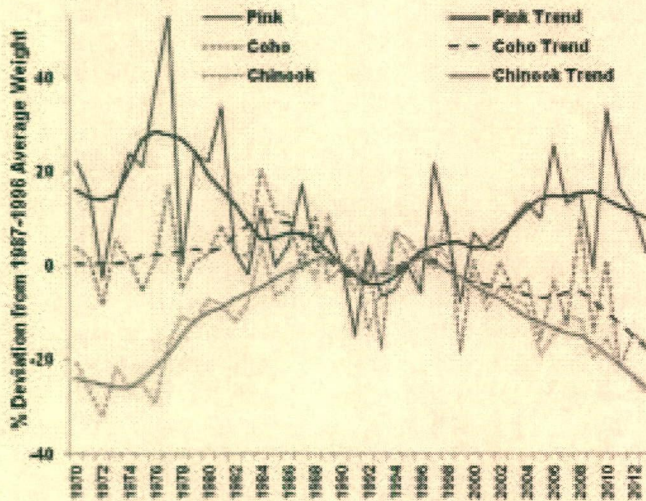
# Email Eavesdropping!

Pacific salmon abundances are at historic high levels but some species and some populations are at critically low levels. Pink salmon returns in odd numbered years continue to increase just about everywhere while Coho off the coasts of Washington and British Columbia remain at low levels. Here is a glimpse into the complex issues confronting scientists who try to understand - and manage - what is happening in such a changing environment.

## Original Message

**From: Piston, Andrew W (DFG)**

I just checked ALEX and found that the all-gear pink salmon harvest has now topped 90 million (not including Yakutat) and seems to still be increasing fairly rapidly as fish tickets continue to be entered. Yesterday morning it was barely over 89 million. It will be interesting to see how much higher it gets into record territory.  
Andy



## Original Message

**From: Shaul, Leon D (DFG)**

Awesome! It also appears that after an early lag of several million, we're kicking Prince William Sound's highly cultured butt - and apparently the entire central region.

## Original Message

**From: Shaul, Leon D (DFG)**

The previous SEAK record was 75 million in 1999. Sounds like lots of pinks down your way too — while drifting off to sleep the other night I heard Les Jantz being grilled on "As it Happens" about a run estimated at 26 million entering the Fraser .....

## Original Message

**From: Irvine, James**

Yes, record pink salmon returns are widespread. I was asked to join Les on "As it Happens" to speak about ocean conditions but the necessary approvals were not in place. While we predicted good pink (and coho) salmon returns this year (<http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs->

[DocRech/2013/2013\\_032-eng.html](#)), the magnitude of the runs was not anticipated.

I am beginning to think we need a major international initiative to assess abundance of returning salmon by proper sampling in Gulf of Alaska, kind of like the Russians do in their waters. I seem to recall Dick making this point in the past. We have the ability to discriminate among populations so the scientific challenge would be to obtain random samples of the population mixture.

Jim

## Original Message

**From: Shaul, Leon D (DFG)**

I agree — with current GSI capability, forecasts based on offshore or high seas sampling could potentially turn out to be the most cost effective option overall. The NOAA pink forecast in this region (Joe Orsi's group) has the best predicting track record I'm aware of. It indicated for a very good 2013 catch (in the low 50 million range) and may actually have been fairly accurate this year considering just the relative strength of runs coming through the northern straits where they conduct their trawl surveys. However, the central and southern parts of the region and outer coastal areas in the north were relatively much stronger, so their forecast was quite low on a region-wide basis. While I'm amazed that the processors kept up as well as they did, while running short of supplies and bleeding a steady stream of burned out employees, there were definitely a lot more pinks that could have been caught had the industry been prepared for such an anomaly.

As far as coho, we have never tried to formally forecast them and I have lost all confidence in any ability I thought I had to do so. The NMFS folks have not had much success either, recently concluding that (in sharp contrast to pinks) the coho critical period is likely beyond where they last see them in August at a size of 200+ mm. The Auke Creek jack-adult relationship has completely disintegrated since the mid-1990s and I had begun to notice an even-year dominant cycle in marine survival in some stocks that's been running counter to both adult coho size (and % males) and pink abundance. I was actually pessimistic this year, as our marine survivals had been faltering (primarily in the northern part of the region) since 2006, with the deepening cooling trend, while cohos (and pinks) returning this year went to sea and spent their early marine life during the coldest 12 month PDO index since 1971 (during the worst of the bad old days for Alaska salmon). However, it is shaping up to be the second best coho year on record in terms of wild abundance (next to 1994) while troll CPUE throughout



the season has been at an all-time record — and I see the Babine escapement count has been running second highest since 1946.

Both cohos and Chinooks had been showing some signs of an emerging second critical period related to declining late-ocean growth, but it is certainly not in evidence this year — or if it has continued, is masked by extraordinary early marine survival. Early July troll Chinooks continued their decades-long declining trend in average weight to yet a new low (figure below). However, our trollers informed us the ocean was full of Chinooks, and wild fall brights (a main driver stock here) are in fact recently appearing in the Columbia in spectacular numbers closer to the shelf and are highly sensitive to the PDO but are probably much less vulnerable to salmon foraging than *B. anonychus*.

Leon

——Original Message——

**From: Beamish, Richard**

The CPUE for juvenile Coho in the September trawl surveys in the Strait of Georgia remains as a pretty good indicator of adult production. I suspect this happens because the early marine survival is so poor. If it was as good as in Alaska, I think there would be a lot more variability as more factors would be affecting the total production.

Dick

——Original Message——

**From: Shaul, Leon D (DFG)**

That makes sense. From the other perspective, it appears SEAK pinks are growing quite well at sea despite very high abundance in some years (size at abundance since 1997 has averaged about 10% higher than it was from 1982-1996) so there may be less variation in late-ocean mortality after the early marine mortality captured in the NOAA trawl surveys. In contrast, higher trophic consumers caught in SEAK have shown an opposite trend in growth (with coho size declining mostly in odd years) so one might expect late-ocean mortality to increase as a component of overall mortality in those species.

In Chinooks, the sibling forecasts used in the PSC allowable catch calculations have been over-forecasting the main north-migrating stocks caught here for several consecutive years (although likely not this year) and data from all along the Alaska coast (including stocks in the Bering Sea) shows smaller Chinooks are growing fine when they are feeding mostly in the coastal fish community as “feeder kings” but seem to hit a wall in the 3rd and 4th years when they move more offshore. Growth has been slowing but average age at maturity advancing -

would seem to suggest late-ocean mortality has become more of a factor than before.

——Original Message——

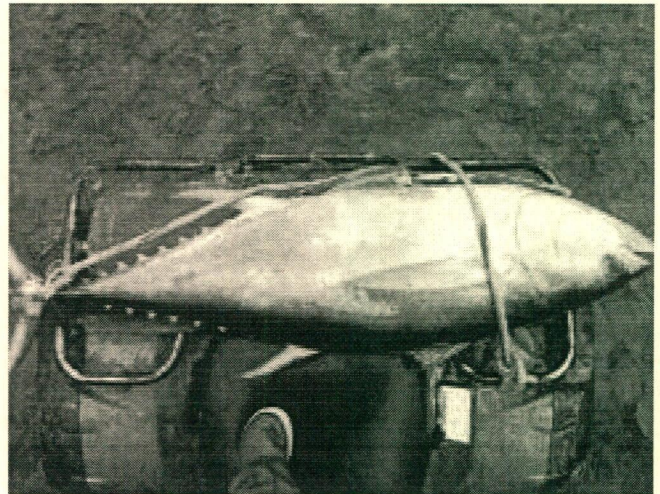
**From: Beamish, Richard**

I am working on a presentation in which I will limit the factors that affect brood year strength to seven. The number seven is just for fun because it is comfortable to most people. The main message is that there are a relatively small number of major factors that vary depending on the location of the population. Cheers, Dick

——Original Message——

**From: Shaul, Leon D (DFG)**

Speaking of factors, here's a real oddity — perhaps an artifact of a scrambled ocean? Certainly unexpected with both ENSO and the PDO in negative territory. Actually, from what we can tell it may be a new species record for Alaska (yellowfin tuna) photographed by our fishery sampler on September 16 at the mouth of the Tsiu River (probably the greatest wild coho producing system for its size on the planet, mid-way between Yakutat and Cordova). Reportedly about 80 lbs dressed . . . of course they ate it and report it was delicious.



**Update from: Shaul, Leon D (DFG)**

It appears the tuna was likely a bigeye tuna, rather than a yellowfin (an equally impressive fish nearly as far as the yellowfin from its expected range). Iâ€™m sure readers more familiar with tuna will note that. The other is more of an update --- Andy says (Oct 25) the SEAK pink catch has now passed 93 million.

Leon



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