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An example Abstract for the 17th annual Meeting

Laurence L. Connor

Florida Game and Fresh Water Fish Commission, P.O. Box 1903, Eustis, FL 32727-1903; (352) 357-6631;flconno9r@aol.com

An informative abstract contains a statement of the problem and its significance, study objectives, principal findings, and key conclusions. State your results and conclusions and avoid statements like, "the changes in the fish populations after the regulation will be discussed." Remember, a well written abstract is the Program Committee's only measure of the quality of the presentation.

Non-student presentation

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such as computer projection screens, but it will be the presenter's responsibility to provide and setup the equipment.

Abstracts must be submitted by **20 January 1997** in the format shown in the example on the reverse. List the authors' names as they should be printed in the program and abstract book. If the presenter is not the first author, indicate the presenter with an asterisk. Please include complete addresses and phone numbers for all authors, and, if available, the FAX number and e-mail address for the presenter. Abstracts should be 200 words or less and concisely state the problem and its significance, study objectives, principal findings, and key conclusions. Avoid statements like "the impacts of the regulation on the bass population will be discussed." Indicate following the body of the abstract whether the presenter is a student or non-student. Remember that your abstract is all the Program Committee has to judge the merit of the presentation, make it as informative as possible.

Submit the abstracts to **Larry Connor**, Program Committee Chair, Florida Game and Fresh Water Fish Commission, PO Box 1903, Eustis, FL 32727-1903, or by e-mail at flconnor@aol.com. We prefer to get the abstracts electronically either on disk or by e-mail. Our experiences with e-mail at Tampa '95 showed that e-mailing files through the Internet is less than perfect, so you may need to follow up with a hard copy or disk. The file should be in WordPerfect and in a PC compatible format. If you use a Mac or can't send an electronic copy, submit a good quality hard copy as a last resort. FAX's are not acceptable. **The Florida Chapter does not waive registration fees for participants in the technical sessions.**

*Symposia and Other Special Sessions*

If you have a proposal for a topical symposium, workshop, or other special session, contact **Larry Connor**, Program Committee Chair, Florida Game and Fresh Water Fish Commission, PO Box 1903, Eustis, FL 32727-1903; (352) 357-6631 before **7 December 1996** for information.

Management Act relating to identification and protection of essential fish habitat. [Federal Register]

**Corps Wetlands Permitting.** In early December 1996, the Army Corps of Engineers anticipates publishing modifications of its wetlands permitting regulations to reduce the minimum tract size that would have to be reviewed by NMFS, FWS, and EPA. Currently, developers can fill wetlands of less than an acre without review; the new regulations would require review of all wetland projects exceeding one-third of an acre. More extensive review has been required for modifying wetlands exceeding 10 acres, but the new regulations will lower this threshold to 3 acres.} [Los Angeles Times via Greenwire]

*The above news items were derived from weekly summaries compiled by Gene Buck, Senior Analyst, Congressional Research Service. These summaries appear on several electronic mailing lists such as the AFS list. I have extracted items that I thought were topical to Florida or were weird enough to be of interest to the membership - Peter Hood.*

## Call For Papers

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# Ecosystems and Habitat: Research, Management, and Restoration

17<sup>th</sup> Annual Meeting of the Florida Chapter American Fisheries Society  
Withlacoochee Training Center, Brooksville, Florida, 25-27 February 1997

The Florida Chapter American Fisheries Society will convene its 17<sup>th</sup> Annual Meeting at the Withlacoochee Training Center, Brooksville, 25 February 1997. The meeting's theme is "Ecosystems and Habitat: Research, Management, and Restoration." These are important topics to fisheries professionals in Florida in light of the demands of our increasing population and urbanization and their impacts on the environment. In addition to the technical sessions, the Florida Chapter will hold its annual business meeting on 26 February 1997. Other highlights will be the chance to meet and network with other fisheries professionals, socializing at the nightly bonfires, and the Chapter's outstanding raffle. Mark your calendar and plan to attend.

While we encourage submissions that pertain to the meeting's theme, any paper dealing with aquatic organisms, fisheries management, aquatic ecology, or the marine or freshwater environments will be considered. Oral presentations are limited to 20 minutes and the time limit will be strictly enforced. The recommended format is a 15-minute presentation followed by a 5-minute question-and-answer period. Two by two slides in horizontal format are preferred, but the Withlacoochee Training Center has a projection VCR. We won't prohibit other media

### *Student Travel Grants*

The Florida Chapter American Fisheries Society awards a limited number of travel grants to assist students attending the Annual Meeting. These grants cover the cost of meals and lodging. Registration fees are not waived. Contact **Bob McMichael**, Florida Marine Research Institute, 100 8<sup>th</sup> Avenue SE, St. Petersburg, FL 33701-5095, (813) 896-8626 for more information.

non-native species introductions. The report suggests these introductions have cost the U.S. economy billions of dollars and have contributed to the decline of 42% of U.S. threatened and endangered species. {On Oct. 26, 1996, President Clinton signed the National Invasive Species Act into law as P.L. 104-332.} [The Nature Conservancy press release via Greenwire, Congr. Record]

**FL Keys Sanctuary Referendum.** On Nov. 5, 1996, 52% of Monroe County, Florida, voters voted against retaining the FL Keys National Marine Sanctuary in a non-binding referendum; 42% of voters favored the Sanctuary. [Assoc Press]

**Shrimp Bycatch Reduction.** On Nov. 14, 1996, the Gulf of Mexico Fishery Management Council voted 11-1 (with 1 abstention) to recommend that shrimpers be required to use bycatch reduction devices (BRDs) when trawling in Gulf of Mexico waters west of Cape San Blas, FL, between 10 and 100 fathoms deep. Use of these devices is to minimize capture of immature red snapper and other finfish species when trawling. [Assoc Press]

**Tilapia Imports.** In early November 1996, the Seafood Market Analyst reported that U.S. imports of fresh or chilled tilapia fillets were almost 50% higher for Jan.-Aug. 1996 than the same 8 months in 1995. Costa Rica (647 metric tons) and Ecuador (320 metric tons) are the major suppliers for the U.S. market -- together accounting for more than 70% of the import volume. The value of these imports has increased 58% from a year earlier. About 97% of these tilapia imports enter the United States through Miami. [Seafood Market Analyst]

**Catfish Study.** In October 1996, scientists at the Univ. of Arkansas at Pine Bluff's Aquaculture-Fisheries Center presented a study completed for the Catfish Bargaining Association at the Association's annual meeting in Indianola, MS, indicating that, although production costs for catfish rearing have increased 18% between 1978 and 1996, the market price of catfish has increased only about 5% during this same time period. [Assoc Press]

**Wastewater Hormones.** On Nov. 12, 1996, UK government researchers reportedly published results wherein they found that very minute levels of natural human female hormones in wastewater were causing the sex of fish to be altered. [London Guardian and London Independent via Greenwire]

**Caviar Shortage?** On Nov. 11, 1996, the World Wildlife Fund released a report discussing increasing threats to sturgeons that are likely to reduce the availability of high quality caviar. The report recommends stronger U.S. import controls to limit illegal trade, bans on trawling for sturgeon and more protective laws in Russia, Iran, and countries around the Caspian Sea, and a labeling system to identify the products of legal sturgeon fisheries. [Assoc Press]

**Degradable Nets in Mississippi.** On Nov. 19, 1996, the MS Commission on Marine Resources adopted a regulation requiring MS fishermen to use nets made of degradable material after Jan. 1,

1997. Fishermen protest that such nets are not made in commercial quantities, such material is difficult to distinguish from non-degradable materials, and that costs are significantly higher than non-degradable nets. [Assoc Press]

**Volusia County Sea Turtle Nesting.** On Nov. 15, 1996, U.S. Fish and Wildlife Service officials endorsed Volusia County, FL's application for an incidental take permit under the Endangered Species Act that would allow driving on selected Volusia County beaches as long as the county takes steps outlined in a habitat conservation plan to minimize the threat to turtles. [Assoc Press, Orlando Sentinel via Greenwire]

**Texas Freshwater Fisheries Center Opening.** On Nov. 19, 1996, the Texas Parks and Wildlife Dept. opened its \$18 million Texas Freshwater Fisheries Center east of Athens, TX. This Center is an aquarium and education center committed to research on aquatic life in Texas' freshwater streams, ponds, and lakes. The facility includes a 24,000 sq. foot hatchery that will concentrate on producing Florida largemouth bass and an Anglers Swordfish and Shark Limited Access. On Jan. 6-23, 1997, NMFS will conduct a series of 10 public hearings along the Atlantic coast on a proposed limited access system for Atlantic swordfish and Atlantic sharks. [personal communication]

**Highly Migratory Species Management.** On Dec. 9-11, 1996, NMFS will hold 3 public hearings (Silver Spring, MD; St. Petersburg, FL; and Danvers, MA) on proposed regulations modifying management of Atlantic bluefin tuna, billfishes, and sharks, published in the Federal Register on Nov. 6, 1996. This proposal would consolidate several different sets of regulations (50 CFR Parts 285, 644, and 678) into 50 CFR Part 630. The proposed regulations revise reporting and monitoring requirements, redefine the "incidental" catch permit category for Atlantic tunas, address enforcement concerns, and remove inconsistent or outdated language. [personal communication]

**Atlantic Swordfish Drift Gillnet Closure.** On Nov. 29, 1996, NMFS announced a 6-month closure (Dec. 1, 1996 through May 29, 1997) of the drift gillnet fishery for swordfish in Atlantic, Gulf of Mexico, and Caribbean waters under U.S. jurisdiction to better protect endangered right whales and loggerhead turtles. [personal communication]

**LA Gillnet Ban Protest.** On Nov. 17, 1996, 30 Louisiana chefs held a benefit to express their concern to the public that the Louisiana gillnet ban is decreasing the amount and availability of local fresh fish. Proceeds of the benefit were to be donated to the Louisiana Seafood Management Council. [Assoc Press]

**Essential Fish Habitat.** On Nov. 8, 1996, NMFS published an advanced notice of proposed rulemaking requesting comments by Dec. 9, 1996, on proposed guidelines for implementing the provisions of the Magnuson-Stevens Fishery Conservation and

information contact Erlend Moksness (convener), Institute of Marine Research, Flodevigen Marine Research Station, N-4817 His, Norway. (p:+47-37059000 ,f:+47-37059001, e: symp98@flode.imr.no, www:http://www.imr.no/sear/oto98.html).

## News Bits

**Florida Net Ban.** On Sept. 10, 1996, FL Governor Lawton Chiles' Cabinet was to have considered new mullet gear rules proposed by the FL Marine Fisheries Commission, which would allow a vessel to fish two nets as long as each does not exceed a 500 sq. foot limitation. On Sept. 9, 1996, a Wakulla County shrimper had illegal fishing charges dismissed by a Wakulla County court because the FL net ban language did not clearly specify whether nets were banned within 3 statute miles or within 3 nautical miles of the Gulf Coast. The Court ruled that the FL Marine Fisheries Commission improperly interpreted the ban to apply within 3 nautical miles of the Gulf Coast without sufficient cause rather than limit the ban to within 3 statute miles of the coast. The state has indicated that it would likely appeal this ruling. [Assoc Press]

**PCBs in Fish.** In the Sept. 12, 1996 issue of the New England Journal of Medicine, psychologists reported that children exposed to PCBs before birth (mothers had elevated PCB levels from eating PCB-tainted fish from Lake Michigan) had trouble reading when they reached school age. [Wash. Post, Wall Street J., and NY Times via Greenwire]

**Florida Net Ban.** On Oct. 7, 1996, the FL Marine Fisheries Commission passed a 90-day emergency rule prohibiting use of nets exceeding 500 sq. feet to catch mullet. This rule attempts to restrict the use of plastic tarpaulin and other innovative gear allegedly developed to circumvent the intent of the 1995 FL net ban. On Nov. 7, 1996, Governor Chiles and his Cabinet voted to adopt a recommendation by the FL Marine Fisheries Commission for a 90-day emergency ban on the use of tarp nets to harvest mullet. [Tampa Tribune and St. Petersburg Times via Greenwire]

**Lake Apopka Restoration.** On Oct. 30, 1996, U.S. Dept. of Agriculture officials announced a \$26 million federal program aimed at as much as 13,000 acres of wetlands along Lake Apopka's north shore as part of efforts to restore Lake Apopka, FL. This program is funded by the USDA Wetlands Reserve Program. [Reuters]

**Gulf Disaster Aid Expansion.** In late October 1996, NMFS announced that its Gulf of Mexico fishery disaster program had been expanded to provide compensation for uninsured losses and damage to commercial fishing vessels and gear as well as charterboats from the major storm of Mar. 12-14, 1993. The application deadline for this assistance was Nov. 7, 1996. [NOAA press release]

**Shark Suntan.** In the {Oct. 24, 1996 issue} of Nature, Univ. of Hawaii scientists report findings that juvenile hammerhead sharks tanned in the sun, showing increased melanin. This finding is

believed significant because {skin} cancers are rare in sharks, and could assist research on potential medical treatment for {skin} cancer or its prevention. [Reuters, Assoc Press]

**Rancid Shrimp Trial.** On Oct. 18, 1996, after a 10-week federal trial, a St. Petersburg, FL seafood distributor and three employees were found guilty of chemically treating spoiled, imported shrimp and reselling it throughout the U.S. to groceries and restaurants. [Assoc Press]

**Cyanide Fish Kill in Manila Bay.** On Oct. 18, 1996, Philippine officials announced that cyanide appeared to be the cause of a massive 30-ton fish kill in Manila Bay observed on Oct. 11. The source of the cyanide was unknown. [Assoc Press]

**Seabird Mortalities from Longline Fishing Gear.** In {mid-October 1996, the International Union for the Conservation of Nature-sponsored (IUCN) World Conservation Congress,} meeting in Montreal, Quebec, adopted a resolution calling for widespread use of measures to prevent seabirds from getting hooked and drowned on longline commercial fishing gear. [Environmental Defense Fund/Defenders of Wildlife press release]

**Magnuson Act.** On Oct. 11, 1996, President Clinton signed S. 39, the Sustainable Fisheries Act, into law as P.L. 104-297. President Clinton's statement on signing this measure expressed concern for provisions requiring specific management actions in specific fisheries or areas and that the conflict of interest provisions were inadequate. In addition, President Clinton stated that provisions directing the negotiation of international bycatch reduction agreements and prohibiting the Secretary of Commerce from repealing a fishery management plan without Regional Council approval will be treated as advisory, rather than mandatory. [White House press release, Greenwire, Assoc Press, Congr. Record]

**Cephalopod Overfishing.** On Oct. 8, 1996, a Moroccan fishery organization called for urgent measures to protect cephalopods (octopus, squid, and cuttlefish) from extinction due to alleged overfishing in Moroccan waters by foreign fleets. The group reported average catch rates were only about half of what they were a year ago. [Reuters]

**Invasive Species.** On Oct. 3, 1996, the Senate passed H.R. 4283, the National Invasive Species Act, and sent this measure to the President. This measure amends and reauthorizes the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. On Oct. 22, 1996, the Nature Conservancy released a report "America's Least Wanted" calling attention to concerns for

## Call For Papers

**American Fisheries Society 1997 Annual Meeting**, Aug. 25-29, in Monterey, CA. **Abstracts due by 10 January, 1997.** For more information, contact J.L. Nielson, AFS 1997 program chair, Hopkins Marine Station, Stanford University, Pacific Grove, CA 93950-3094

**Symposium on Marine Conservation Biology at the Annual Meeting of the Society for Conservation Biology**, June 6-9 1997, at the University of Victoria, Victoria British Columbia, Canada. **Deadline for abstracts is Jan. 15, 1997.** For more information, contact Elliott A. Norse, Ph.D. President, Marine Conservation Biology Institute, 15806 NE 47th Court, Redmond WA 98052-5208 (p:206/ 883-8914, f:206/ 883-3017, e:enorse@u.washington.edu).

**The Society for Conservation Biology Annual Meeting**, June 6 to 9, 1997, in Victoria, British Columbia, Canada. **Call for Papers and posters deadline is January 15, 1997.** For more information, contact Pat McGuire, Conference Management, University of Victoria, PO Box 3030, Victoria, BC, Canada, V8W 3N6. (p:250/721-8746, f:250/721-8774, e:SCB97@uvcs.uvic.ca, www:[http://geography.geog.uvic.ca/dept/announce/scb\\_page.html](http://geography.geog.uvic.ca/dept/announce/scb_page.html)).

**International Symposium on the Biology and Management of Eurasian ruffe (*Gymnocephalus cernuus*)**, March 21 - 23, 1997, in Ann Arbor, Michigan. **Abstract deadline is Jan. 15, 1997.** For more information, contact Jeff Gunderson, Minnesota SeaGrant College Program, 2305 East Fifth Street, Duluth, MN 55812-1445 (p:218/726-8715, e:jgunderson@mes.umn.edu) or Mike Klepinger, Michigan Sea Grant College Program, 334 Natural Resources Building, Michigan State University, East Lansing, MI 48824-1222 (p:517/ 353-5508).

**The Annual Conference on Ecosystems Restoration and Creation**, May 15-16, 1997 in Tampa, FL. **Abstract deadline is Jan. 29, 1997.** For more information, contact Hillsborough Community College, Institute of Florida Studies, Plant City Campus, 1206 N. Parek Road, Plant City Florida 33566 (p: 813/757-2104)

## Upcoming Meetings

**Seventh International Zebra Mussel and Aquatic Nuisance Species Conference**, Jan. 28-31, 1997 in New Orleans, LA. Contact Conference Administrator, 567 Roy St., Pembroke, ON K8A6R6 (p:1-800-868-8776; w:<http://www.foxfiresys.com/zebraconf/>)

**Aquaculture in Thailand Study Tour**, Feb. 7-28, 1997 by the Aquaculture Short Course Unit, Asian Institute of Technology, Thailand. The 10-day study tour will expose participants to existing aquatic production systems in both freshwater and brackish water areas. More information can be obtained from <http://www.agri-aqua.ait.ac.th/aqua/ascu.htm> or e-mail to <somchai@ait.ac.th>.

**17th Annual Meeting of the Florida Chapter of the American Fisheries Society**, Feb. 25-27, 1997 at the Withlacoochee State Forest Training Center, Brooksville, FL. Contact Larry Connor, FGFWFC, PO Box 1903, Eustis, FL 32727-1903 (904-357-6631) for more information.

**Annual Whirling Disease Symposium Expanding the Data Base: 1996 Research Progress Reports**, March 6-8, 1997, at the Eccles Conference Center, Utah State University, Logan, Utah. For more information, contact the Whirling Disease Foundation, P.O. Box 327, Bozeman, Montana 59771-0327, (p:406/585-0860, f:406/585-0863, e:whirling@mcn.net).

**Third International Ocean Pollution Symposium**, Apr. 6-11, 1997 at Harbor Branch Oceanographic Institution in Ft. Pierce, FL. For more information, contact Iver Duedall, Organizing Committee Chairman, Division of Marine and Environmental Systems, Florida Institute of Technology, Melbourne, FL 32901 (f:407-984-8461, e:iops@fit.edu) for more information.

**The Second Annual International Wildlife Law Conference**, Apr.8, 1997 in Washington DC at the Georgetown University Law Center. For more information, contact Professor David Favre, Detroit College of Law - Michigan State University, Michigan State University, East Lansing, MI 48824. The conference will utilize a three panel format addressing 1) The precautionary principle and international wildlife treaty regimes, 2) The International Whaling Commission and the aboriginal whaling exception, and 3) The Convention on Biological Diversity: Problems and Prospects.

**Annual Meeting of the American Society of Ichthyologists and Herpetologists**, June 26-July 2, 1997 in Seattle WA.

**Second International Symposium on Fish Otolith Research and Application**, June 20-25, 1998 in Bergen Norway. For more

## **HCC's New Beginning for Aquaculture in Florida**

Hillsborough Community College (HCC), Brandon Campus has launched a new and innovative Aquaculture Degree Program which will open with the Spring 1997 semester. Heading this new program is Dr. Bill Falls who recently hosted the successful 12th Annual Florida Aquaculture Conference, November 15-17 at the Florida Department of Environmental Protection (FDEP) and University of South Florida (USF), St. Petersburg. Dr. Falls started at HCC on December 5, 1996 after a highly successful and rewarding ten-year career at FDEP's Stock Enhancement Research Facility (SERF), Port Manatee, and USF's Bayboro Campus teaching graduate classes in aquaculture.

Last February HCC's Aquaculture Advisory Board approved an aggressive curriculum in aquaculture that consists of 38 semester hours. The purpose of this program is to prepare students for employment as aquaculture managers, production managers, and aquaculture technicians. Further to provide supplemental training for persons previously or currently employed in aquaculture. The curriculum includes, but is not limited to ichthyology, fish breeding, fish nutrition, pond maintenance, diagnosis and treatment of fish diseases, business management of a farm pond, and field experience necessary to operate an aquaculture operation.

A student has the option in this two-phase curriculum to complete an A.S. Degree in two years or obtain a Competency Achievement Award in one year in Agriculture Production Technology (Emphasis on Aquaculture)(or take individual courses as Continuing Education). Classes and labs will be offered night and day to accommodate the needs of all students interested in aquaculture.

The field experience focuses on hands-on work at aquaculture facilities in Hillsborough County, neighboring counties, and the Bahamas. Students will rotate through a variety of aquaculture operations to gain a broad spectrum of experiences. After completing the course work, each student will gain invaluable experience spending 24 hours/week/semester at four different aquaculture facilities. Anyone that has attended one of Dr. Falls' hands-on spawning workshops at a FAA meeting understands what hands-on means. You will get wet, learn, and have fun.

At a time when a new beginning in aquaculture is taking place in Florida, it is exciting and appropriate, that such a new beginning is ushered in by HCC. HCC is in the middle of the world renown, highly successful tropical fish farm industry that is within view of the skyline of downtown Tampa (Tropical fish are the number one freight item at Tampa International Airport.).

On January 6th, Ichthyology is scheduled from 5:30-6:45 pm (M-W) with a lab on Wednesday from 7-9:30 pm. On January 7th, a day class in Ichthyology will be offered on T-TH from 8:30-10:45 am with a lab on Thursday from 11:00 am-1:30 pm. Also starting on the 7th is Aquacultural Disease Processes on T-TH from 5:30-6:45 pm with a lab on Tuesday from 7-9:30 pm. Besides these new classes, an extensive library of the best and most current aquaculture books will be available. For more information on this program contact Dr. Falls at 813/253-7833, register at 813/253-7801, or E-mail HCC at Falls@HCC.CC.FL.US (State employees are eligible for tuition-free classes at HCC).

federal funds for research, but the increase, "only begins to make up ground lost in the previous three years to spending cuts and inflation." The AAAS analysis indicates that the net loss between FY 94 and 97 was 1.9% due to level funding and inflationary erosion. According to the AAAS analysis, funding for R&D was increased by \$2.9 billion over FY 96, with every major funding agency increasing except NASA and the Department of the Interior. During the three year period, 94-97, only two agencies have kept ahead of inflation: NIH and NSF. Among the other findings in the AAAS analysis were:

- \* two agencies cut last year recovered lost ground this year -- EPA R&D increased 12.3% to \$593 million, and the Department of Commerce's R&D totals \$1 billion, an increase of 7.7%.
- \* DOD R&D jumped \$2 billion, or 5.2% over last year. Defense related research at the Department of Energy increased 10% to \$2.9 billion.
- \* Total federal R&D, including both domestic and defense, for FY 97 will be \$74 billion, with DOD receiving \$40.5 billion of that total, or 55% of the total.

More details are available on the AAAS web site: <http://www.aaas.org/spp/dsp/rd/rdwwwpg.htm>.

**Subscriptions for Wildlife Ecology Digest is available for free.** This is a weekly e-mail digest for research, conversation, job opportunities, issues, thoughts, and general postings concerning wildlife ecology. The list currently has 5,400 members and includes wildlife professionals, professors, students, agencies, and organizations from all over the world. The publication has been in existence for seven months. To receive this e-mail digest, please send a message to: [kingfshr@northcoast.com](mailto:kingfshr@northcoast.com) with the subject: "Subscribe to WED," followed by your correct e-mail address. Your first issue will arrive soon after that. For more information on the service as well as over 200 links to other wildlife/ecological websites, the digest also has a website at <http://home.aol.com/wedigest>.

**Anesthetize your fish and eat it too!** When reading some e-mail from the Fish Ecology list server, I ran across this answer to a query about using clove oil to anesthetize salmonids. For those of you interested in adding to your culinary ability, you might want to try the following recipe. The clove oil response was from Steven Cooke, a biology student at the University of Waterloo.

"With regards to using clove oil as a Anesthetic for Salmonids. Researchers in Dr. R.S. McKinley's lab at the University of Waterloo have been using clove oil as an anesthetic for several years (both in lab and field settings). Clove oil is a gras (generally accepted as safe) anaesthetic and therefore can be used to anesthetize fish which may be eaten by other organisms or humans. I have personally used clove oil in Alberta to anesthetize brook trout and brown trout successfully. In Ontario, we have also used clove oil on smallmouth bass. One must add ethanol to the clove oil and mix in order to emulsify the solution in the water. We used both an induction dose (stronger) and a weaker maintenance dose. Fish recovered quickly when placed in stream water. We have held fish anesthetized with clove oil for several months and noticed no ill effects. One aside which may be of interest...One small brook trout which was induced with an overly strong concentration perished during surgery. Later that evening we decided to barbecue and eat the fish. After cooking the fish, the flesh still retained a clove flavor. "

Listed below are some references from Steve Cooke for the use of clove oil as an anesthetic:

- Anderson, W.G., R.S. McKinley, and M. Colavecchia. In Press. The use of clove oil as an anesthetic for rainbow trout and its effects on swimming performance. N. Amer. J. Fish. Management.
- Endo et al. 1972. Studies on the anesthetic effect of euglanol in some fresh water fishes. Bull. of the Japanese Soc. Sci. Fish. 38:761-767.
- Hikasa et al. 1986. Anesthesia and recovery with MS 222, euglanol and thiopental sodium in the carp, *Cyprinus carpio*. Jap. J. Vet. Sci. 48: 341-351.

### **Continuing hardhead catfish mortalities.**

The Aquatic Health Group of the Department of Environmental Protection is continuing to investigate the mortalities of hardhead catfish that have occurred around the Gulf coast. The group has received more reports of hardhead mortalities. The mortalities have continued sporadically on the east coast in the Melbourne area throughout the summer but reports have recently increased. The area affected by the mortalities ranges from Palm Bay northward to Tomoka Basin. On the west coast reports have been received from Rookery Bay to upper Naples Bay. Texas and Louisiana have also reported hardhead mortalities.

The group is examining fish samples from affected areas to determine if currently affected hardheads have the same tissue symptoms (eosinophilic inclusion bodies in light microscopy and the viral arrays in electron microscopy) that were found in the posterior kidney cells of hardhead catfish from previous mortalities. If you see and dead or dying hardhead or gafftopsail catfish (or any other fish kill event), contact Ann Forstchen at the Florida Marine Research Institute (813-896-8626).

### **And the Winner is...**

Dr. Chris Hartleb, Assistant Professor of Biology at the University of Wisconsin - Stevens Point was trying to figure out what text to use for a fish population dynamics class. He used the Fish Ecology list server to poll other fisheries scientists on which text they would recommend. The ranking of texts ran as follows

1. Quantitative Fisheries Stock Assessment: Choice, Dynamics, & Uncertainty by R. Hilborn & C.J. Walters, 1992, ISBN: 0-412-02271-0 Chapman & Hall
2. Fisheries Biology, Assessment & Management by M. King, 1995, ISBN: 0-85238-223-5 Fishing News Books
3. Fisheries Biology: A Study in Population Biology by D.H. Cushing, 1981, ISBN: 0-299-08110-9 University of Wisconsin Press

4. On the Dynamics of Exploited Fish Populations by R.J.H. Beverton and S.J. Holt, 1993, ISBN: 0-412-54960-3 American Fisheries Society
5. Principles of Fishery Science by W.H. Everhart and W.D. Youngs, 1981. Cornell University Press
6. Computation & Interpretation of Biological Statistics of Fish Populations by W.E. Ricker, 1975, ISBN:0-662-01440-5
7. Fish Population Dynamics by Gulland (ed.),

**NOAA's Estuarine Living Marine Resources Program** has recently completed an informative report entitled "Estuarine-catadromy: a Life History Strategy Coupling Marine and Estuarine Environments via Coastal Inlets." Estuarine-catadromous species are those that spawn in seawater and whose larvae migrate into estuaries where they grow into juveniles. The estuarine-catadromous life history strategy is used by some of our most important commercial and recreational species, such as Atlantic menhaden, Atlantic croaker, and red drum. The report describes three strategies employed by estuarine-catadromous species and contains 19 species' life history summaries as they relate to estuarine-catadromy. The report also contains an assessment of 12 estuarine-catadromous species' larval utilization of US east coast inlets and estuaries, including preliminary analysis and modeling to evaluate if different species' larvae are keying on different inlet/estuarine characteristics during their migrations into the east coast estuaries. Copies of the report can be obtained from: Tony Lowery, N/ORCA1 SSMC-4, 1305 East-West Highway, Silver Spring, MD 20910 or [tlowery@seamail.nos.noaa.gov](mailto:tlowery@seamail.nos.noaa.gov)

**AAAS releases final assessment of fiscal year 97 R&D spending.** The American Association for the Advancement of Science (AAAS) released an end of the session analysis of the FY 97 federal funding for research programs, and concluded that "projected cuts" failed to materialize. The final figures for the current fiscal year show a 4.1 per cent increase in

**Agnaculture** - the science of cultivating jawless fishes

Agnathew Pat and friends

## FISHERIES ACTION NETWORK EXPERTISE DATABASE

Send to: Mike Mitchell, Charlotte Harbor Field Lab, 1481-A Market Circle, Port Charlotte, FL 33953

*Please Print*

Last Name:		First Name:		Initial	
Affiliation:					
Street Address:			City/State/Zip:		
1-45 Fields of Expertise. Please check all that apply. 21-30 List species Studied. 31-40 List locations studied e.g. Indian River, Lake Apopka					
Research Category		Research Aspects		Study Species	Study Sites
1 Marine		16 Age&Growth		31	46
2 Offshore		17 Egg&Larvae		32	47
3 Coastal		18 Juvenile		33	48
4 Estuarine		19 Adult		34	49
5 Rivers		20 Life History		35	50
6 Lakes		21 Histology		36	51
7 Wetlands		22 Physiology		37	52
8 Coral Reefs		23 Ecology		38	53
9 Artificial reefs		24 Mercury		39	54
10 Others		25 Aquaculture		40	55
11		26 Recreational Fisheries		41	56
12		27 Commercial Fisheries		42	57
13		28 Fisheries Management		43	58
14		29		44	59
15		30		45	60

Please list other information that you wish to include in this database: \_\_\_\_\_

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This database will serve to put people who need fisheries information such as fisheries managers, journalists, and government officials in contact with appropriate researchers.

- A. Bob McMichael
- B. Ramon Ruiz-Carus

## FISHERIES ACTION NETWORK

The Florida Chapter's Fisheries Action Network (FAN) is coming on-line soon. An Internet E-mail address will be established and maintained by Mike Mitchell. Conceived by the parent society, FAN's purpose is to provide a method for the timely transfer of fisheries information to interested parties such as other scientists, fishery managers, planners, elected officials, and other decision makers.

Other functions may emerge as FAN evolves and takes shape within the Florida Chapter. For example, the parent society envisions FAN to be a tool for proactive involvement in fisheries and conservation issues. Since the active participation in such issues has been controversial in the past within our chapter, the direction we take can be decided at the Chapter meeting.

The first order of business for FAN is to establish a database that characterizes Florida Chapter members' expertise. The function of the database is to provide a readily accessible source of experts that can be called upon to provide information for fishery-related problems. **On the following page is the informational questionnaire. Please take some time to fill it out and send it to Mike Mitchell.**

Mike Mitchell  
Charlotte Harbor Field Lab, 1481-A Market Circle, Port Charlotte, FL 33953

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## AGNATHIC DICTIONARY

*submitted by Pat Fricano & his Tampa DEP Tech. Services Friends.*

**Agnatha** - class of primitive jawless fishes (example - the parasitic Sea Lamprey Eel).

**Agnastic** - a jawless fish who believes there is no way to prove or disprove there is a God or things beyond the material world.

**Agnatha Christie** - jawless fish who writes best selling mystery novels.

**AgNathan's** - jawless fish who developed a famous hot dog franchise in the northeast.

**Agnatha Dei** - a jawless fish of god.

**Agnathion** - temple for agnathids.

**Agnathistan** - an Islamic country of jawless fishes.

**Agnasty** - 1) an agnathid with an attitude.

2) a prime time soap opera about rich jawless fishes.

**Aгнаstronaut** - an agnathid in the final frontier.

**Agnathio Hall** - agnathid talk show host.

**Agnew** - former vice president who possesses the attributes found in some popular agnathids.

**Agneanderthal Man** - a primitive form of man with no jaw.

**Agnut** - a candy bar for jawless fishes.

## TENTATIVE MEETING AGENDA

25 February Tuesday Afternoon	Florida Ecosystem Restoration: Is It Possible? or contributed papers depending on the number of submissions
25 February Tuesday Evening	Social and bonfire bonding.
26 February Wednesday Morning	Florida Ecosystem Restoration: Is It Possible?
26 February Wednesday Afternoon	Florida Ecosystem Restoration: Is It Possible?, contributed papers, or outer continental shelf oil and gas depending on the number of submissions
26 February Wednesday Afternoon	Florida Chapter AFS Business Meeting.
26 February Wednesday Evening	Raffle, social, and bonfire bonding.
27 February Thursday Morning	Contributed papers.

**Start thinking about how you can contribute to the Florida Chapter of AFS.** The following is a list of the 1996-97 chapter committees and current members. If you are interested in joining any of these committees, please do.

### Program

- |                                 |                      |
|---------------------------------|----------------------|
| 1. Committee members            | 4. Agency highlights |
| A. Larry Connor-President Elect | 5. Committee members |
| B. Grant Gilmore                | A. Peter Hood        |
| C. Ron Taylor                   | B. Tom Maher         |
| D. Mike Mumma                   | C. Ramon Ruiz-Carus  |
|                                 | D. Julie Wallin      |

### Membership

1. New directory
2. Chapter development
3. Interaction-newsletter committee
4. Committee members
  - A. Larry Connor
  - B. Peter Hood
  - C. Rich McBride
  - D. Doug Haymans

### Legislative

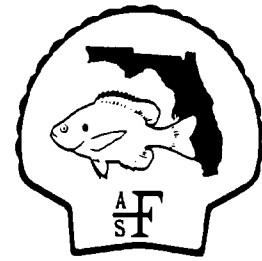
1. Summarize legislative information for Chapter members
2. Fishery Action Network
3. Internet access and information
4. Committee members
  - A. Steve Miller
  - B. Mike Mitchell
  - C. Bob Wattendorf

### Newsletter

1. Internet information
2. Book reviews
3. State issues

### Awards

1. Best paper
2. Chapter awards
3. Committee members



### **From The President Elect**

The annual meeting is shaping up nicely, a very tentative agenda is included. We have been very successful in getting presenters for the restoration symposium. Almost everyone contacted has agreed to come. We should have presentations on the upper St. Johns River restoration by Steve Miller (SJRWMD) and Dave Cox (FGFWFC). Tom Rossegger (FGFWFC) will present a paper on a revegetation project in Lake Monroe. Mike Hulon (FGFWFC) will cover the Lake Kissimmee, Lake Tohopekaliga, and upper Kissimmee basin restoration. Joel Trexler (FIU) and Bill Loftus (USGS) will make a presentation on the Everglades. Ed Matheson (FDEP), Allyn Powell (NMFS), Gordon Thayer (NMFS), and Jerry Lorenz (Audubon) will talk about Florida Bay and it's surrounding mangrove community. James Bohnsack (NMFS) and Chris Koenig (FSU) are scheduled for presentations on reefs and marine sanctuaries. Dr. Jerry Ault (RSMAS) will present an overview of present models developed for a variety of South Florida ecosystems. We are still working on presentations on the central Florida muck farm and Lake Apopka restoration projects. Unfortunately, we'll be missing presentations on the Kissimmee River restoration due to a scheduling conflict. Of course, we are still looking for contributed papers.

Paul Brouha, AFS Executive Director, contacted me recently to see if the Chapter would be interested in having a presentation and discussion on the new outer continental shelf oil and gas development. He serves on the Department of Interior's advisory committee and said he would try to line up a presentation for the meeting. I hadn't heard back from him as of the 2<sup>nd</sup> week of December, but I am hopeful that he will be successful.

I'm sure that we will schedule a discussion of the Chapter's role in the outdoor writers conference next June. AFS President Chuck Coutant will be involved with the conference and may attend our meeting. Mike Van Den Avyle, Southern Division Past President, also plans to attend. We should have two guests from the Caribbean to observe our meeting and discuss forming the Caribbean Chapter.

Mark your calenders, 25 February through 27 February, 1997, and plan to attend. In addition to the technical sessions, we will have our traditional bonfire bonding and raffle.

Larry Connor  
President Elect  
(352) 357-6631