the shell-cracker

FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

http://www.sdafs.org/flafs

April, 2006

President's Message:

What a meeting! As always, our Chapter members came through, presenting 39 platform presentations and 24 posters during our 3-day meeting. If you were like me, you were probably wondering - How do the talks keep getting better? It seems that every year, the quality of the oral and poster presentations keeps improving, both in style and content - better study designs, more advanced statistics, clearer graphics (including video), and the scientific questions underlying the research.

As your past President-Elect and your current President, I realize more than ever that our annual meetings don't just magically happen. There is a lot of planning/work that occurs prior to the meeting, and there are lots of activities that occur during the actual meeting. One thing that you quickly realize is that it takes people to get it done.

Rich McBride, our Past-President, did a great job counseling me on what needs to be done. Rich sure likes lists! Jeff Hill helped organize a great symposium on Florida's exotic aquatic organisms. Nate Weis designed an awesome logo for our shirt and program.

How did you find out about the meeting? Odds are you read about it either in our Chapter's newsletter (the Shell~cracker) or on our Chapter's web site (http://www.sdafs.org/flafs/). Jackie Debicella and Bob Wattendorf have done a wonderful job of producing these for the Chapter.

Eric Nagid made sure that you were registered, had a bed to sleep in, food to eat, beverages to drink, and a place to meet. Eric, our President-Elect, has already started scheduling for the 2007 meeting, and he still has plenty of bills to pay and records to keep. Linda Lombardi-Carlson has stepped forward to take over this task from Eric as our Chapter's new secretary-treasurer.

If you hadn't noticed, those 39 PowerPoint presentations went off without a hitch. Mark Rogers, along with a cadre of other graduate students, made sure that the talks were loaded into the computer and ready for each speaker.

Best posters! Best papers! Who judged all of those posters and platform talks? If you have not been a judge, try it. It's not easy! The scoring can be rather stressful at times, yet 17 members volunteered to be judges. They are listed in this newsletter at the bottom of the Annual Meeting Presentation Awards article.

The Raffle! Each year it seems to get bigger and better! Tom Maher and Bridget Tiffany did a wonderful job as always! Thanks also goes to all those who donated prizes.

Getting in Touch

If you have not gotten my message, my message is that is takes volunteers for our Chapter to succeed. PLEASE volunteer! It only takes a little time if we all pull our share.

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Upcoming Events

Apr 19-21—First International Symposium on Mangroves as Fish Habitat, Miami, FL.

Apr 19-22—Workshop on Computational Science for Natural Resource Managers, TN.

Apr 25-28—National Conference: Planning a Survey of the Nation's Lakes, Chicago, IL.

May 13-14—Moving Fisheries Science and Policy Towards Ecosystem-Based Management, St. Pete Beach, Florida.

May 15-19—AFS Western Division Annual Meeting, Bozeman, MT.

Jun 6-9—Fourth International Reservoir Symposium, Atlanta, GA.

Check out our Parent Society's calendar at http://www.fisheries.org/Calendar.shtml for other events not listed here!

Feature Article

U.S. Aquaculture: Therapeutants and Anesthetics

Randy MacMillan
President, National Aquaculture Association, 304-728-2167, naa@frontiernet.net

Paul Zajicek
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Misinformation abounds relative to the availability and use of drugs (therapeutants and anesthetics) for animal health by public or private facilities culturing aquatic species. The purpose of this paper is to provide an overview of drug identities, uses, a brief discussion of antimicrobial resistance, and a list of Internet sources of information so that "The Shell Cracker" subscribers and readers may remain conversant about this important, controversial, and complex topic.

The availability and use of drugs by public and private aquaculturists is strictly regulated by the U.S. Food and Drug Administration (FDA) and U.S. Environmental Protection Agency (EPA). Generally a drug is an article intended for use in diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals. It includes an article, other than food, that is intended to affect the structure or any function of the body of man or other animal, and includes articles that are intended for use as a component of a drug. For aquatic animal production, articles such as ice, oxygen and salt are, by definition, drugs. There are seven drugs approved for use in aquaculture: one anesthetic, one parasiticide, one spawning agent, and four antibiotics; and a variety of materials that FDA considers of low regulatory priority (i.e., ice, salt, garlic, carbon dioxide, etc.) One of the approved antibiotics is no longer manufactured and available.

Approved Drugs

Chorulon® (chorionic gonadotropin) is a prescription product that is used as an aid in improving spawning function in male and female brood finfish. As a prescription product, federal law restricts this drug to use by or on the order of a licensed veterinarian. Chorulon® is used in individual fish by injecting intramuscularly just ventral to the dorsal fin. The dosage is dependent upon fish species and body weight of the individual fish. Chorulon® is sponsored by Intervet America, Inc.

Finquel® (Argent Laboratories) and Tricaine-S® (Western Chemical, Inc.) are the same drug (MS-222; tricaine methane sulfonate) but sponsored and manufactured by different companies. MS-222 is intended for the temporary immobilization of fish, amphibians, and other aquatic, cold-blooded animals. Aquatic animals are immersed in water containing the drug at concentrations ranging from 10 to 1,000 mg/L. For food animals there is a mandatory 21-day withdrawal time before the fish can be harvested for human or animal consumption. Further, when used in food fish, use is restricted to fish from the Ictaluridae, Salmonidae, Esocidae, and Percidae families. For non-food aquatic animals it can only be used under laboratory or hatchery conditions. MS-222 must be used at water temperatures above 10° C. The drug does not require a veterinary prescription and is available over-the-counter (OTC).

Formalin-F® (Natchez Animal Supply Co.), Paracide-F® (Argent Laboratories), and Parasite-S® (Western Chemical Inc.) are the same drug (formalin) but sponsored and manufactured by different companies. Western Chemical Inc. and Natchez Animal Supply Company have the broader drug application for formalin since their NADAs apply to all finfish, all finfish eggs, and penaeid shrimp. Paracide-F® is restricted to use in salmon, trout, catfish, bluegill, and largemouth bass. Formalin is used as an external parasiticide to control protozoan parasites *Chilodonella*, *Costia* (*Ichthyobodo*), *Epistylis*, *Ichthyophthirius*, *Scyphidia*, *Trichodina*, and monogenetic trematodes (*Cleidodiscus*, *Dactylogyrus*, and *Gyrodactylus* spp.). For finfish eggs, the drug is used to control fungi and for penaeid shrimp it is used to control protozoan parasites (*Bodo*, *Epistylis* and *Zoothamnium* spp.). There is no mandatory withdrawal time prior to food or non-food animal harvest (formalin does not bioaccumulate above natural background concentrations in animals) and there is no prescription required. Formalin is added to ambient water at 15 to 25 µl/L to treat finfish for up to one hour, and 1000 to 2000 µl/L for 15 minutes to treat eggs. Penaeid shrimp treatment varies with farming practice.

There are only three FDA-Center for Veterinary Medicine (CVM) approved and available antimicrobials for use in domestic aquaculture but their approvals are limited to specific food fish (catfish, salmonids and lobster) and specific diseases. These antimicrobials are oxytetracycline (Terramycin for Fish®; oxytetracycline monoalkyl

trimethyl ammonium), a potentiated sulfonamide (Romet-30® and Romet-TC® ormetoprim: sulfadimethoxine) and florfenicol (AQUAFLOR®). These drugs can only be administered through feed in a specific feed formulation. A third antimicrobial is approved for use in to treat specific diseases in specific types of farm raised finfish, sulfamerazine, but is not currently available or manufactured by the sponsor, Alpharma Animal Health.

Terramycin for Fish® is the trade name for the only approved oxytetracycline product for use in aquaculture and it is approved to treat only certain diseases in catfish, salmonids and lobster. Oxytetracycline medicated feed can be used to treat bacterial hemorrhagic septicemia and pseudomonas disease in catfish at a dose of 2.5-3.75 g/45.36 kg of fish/day for 10 days when the water temperature is above 16.7°C. For salmonids, when the water temperature is above 9°C, Terramycin for Fish® can be used to control ulcer disease, furunculosis, bacterial hemorrhagic septicemia and pseudomonas disease using the same dose and duration as for catfish. Terramycin for Fish® is not currently approved for use in salmonids at temperatures below 9°C although efforts are ongoing to provide data that could ultimately lead to CVM approval for use at these colder water temperatures. Lobster can be treated with Terramycin for Fish® to cure the bacterial disease gaffkemia. The treatment duration is only 5 days at 1 g/0.4536 kg of medicated feed. This product has a withdrawal time of 21 days for catfish and salmonids and 30 days for lobster. The CVM withdrawal time is the period between the last administration of the drug to the aquatic animal and the time when the aquatic animal can be harvested and offered for food (human or animal). The withdrawal time ensures no harmful drug residues are present when the animal is harvested for human consumption.

Romet-30® can be used in medicated feed to treat enteric septicemia of catfish and furunculosis in salmonids. The dose is 50 mg/kg body weight/day for five days. In catfish there is a 3-day mandatory withdrawal time and for salmonids, a 42-day withdrawal time. The shorter withdrawal time for catfish occurs because any Romet-30® residues that might be present are removed with the skin of catfish during processing. Romet-TC® is mixed into a slurry and top-coated to yield a Type B medicated finished feed. The dose rate is the same, 50 mg per kilogram of body weight for five days.

AQUAFLOR® can be used in medicated feed to treat enteric septicemia of catfish. The dose is 10 mg/kg body weight/day for 10 days. There is a 12-day mandatory withdrawal time. AQUAFLOR® has been recently approved (October 24, 2005) and ends a 21-year drought between drug approvals. AQUAFLOR® is also what FDA-CVM has termed a "Veterinary Feed Directive" (VFD) drug. VFD drugs are available through normal feed distribution but a licensed veterinarian must provide a signed VFD for their purchase and use and there is no extra-label or off-label use allowed.

There was only one approved antibiotic for ornamental fish (Nifurpirinol: Furanace Caps) held in an aquarium for treatment of columnaris disease in freshwater ornamental fish that are not reproducing. This drug was withdrawn from production by the manufacturer on September 23, 2005.There are no other antibiotics approved for aquatic non-food animals.

It is illegal to use antibiotics prophylactically to prevent aquatic animal disease or for production purposes such as to promote aquatic animal growth. Top dressing feed with an antimicrobial (adding the antibiotic on top of the animal's normal rations) is specifically not permitted except for Romet-TC®. No antibiotics have been approved for hauling tanks or for immersion treatment of aquatic animals.

There are very limited circumstances where the two antibiotics, Terramycin® and Romet-30®, can be administered in feed to other aquatic animals. This is termed "extra-label use." Conditions for extra-label use are specified in the Animal Medicinal Drug Use Clarification Act of 1994 and include, but are not limited to, express written recommendation and oversight by a licensed veterinarian and complete and accurate record keeping. There are a number of compounds identified by FDA as being of "low regulatory priority." These compounds or materials include acetic acid, calcium chloride, calcium oxide, carbon dioxide gas, Fuller's earth, garlic, hydrogen peroxide, ice, magnesium sulfate, onion, papain, potassium chloride, povidone iodine, sodium bicarbonate, sodium chloride, sodium sulfate, thiamine hydrochloride, urea, and tannic acid. FDA encourages formal approval of these drugs but regards them as low regulatory priority when used according to good management practices.

Antimicrobial Resistance

The environmental and public health significance of the two antibiotics (Terramycin for Fish® and Romet-30® and Romet-TC®) used in the domestic farm raised food fish industry is not known. The significance is dependent upon a number of factors including environmental fate and the probability that human pathogens might become resistant to the particular antibiotic or class of antibiotics. There is currently no data available to demonstrate a direct link between the use of either antibiotic in fish farming and the occurrence, even rarely, of human pathogens resistant to that particular antibiotic. There are also no publicly available reports to suggest that antibiotic residues occur in domestic farm raised fishes marketed for human consumption. There are valid reasons why the public health significance of antibiotic use by public or private aquaculture is thought to be negligible. These reasons include the significant difference between the bacterial flora (pathogenic, commensal, and environmental) of fish and

humans, the difference in body temperatures between fish and humans or their environments, and various physical barriers to the transfer of resistance factors between aquatic bacteria and human bacterial pathogens.

The authors thank Rosalie (Roz) Schnick, National Coordinator for Aquaculture New Animal Drug Applications, and Dr. Thomas Bell, Aquatic Animal Drug Approval Partnership, for review and comment on early drafts.

Internet Sources of Information

American Veterinary Association: Judicious use of antimicrobials on food fish
http://www.avma.org/scienact/jtua/fish/jtuafish.asp

Aquatic Animal Drug Approval Partnership (AADAP)
http://www.fws.gov/fisheries/aadap/index.htm

National Coordinator for Aquaculture new Animal Drug Applications
http://aquanic.org/jsa/aquadrugs/index.htm

Joint Subcommittee on Aquaculture, Working Group on Quality Assurance in Aquaculture Production
http://aquanic.org/jsa/wgqaap/index.htm

Upper Midwest Environmental Sciences Center (UMESC)
http://www.umesc.usgs.gov/

U.S. Food and Drug Administration, Center for Veterinary Medicine http://www.fda.gov/cvm/aqualibtoc.htm

Drug Approval Coordination Workshop

Co-hosted by: U.S. Geological Survey's Aquaculture Drug Research and Development Project and the U.S. Fish and Wildlife Service's Aquatic Animal Drug Approval Partnership in cooperation with the University of Wisconsin-La Crosse Continuing Education and Extension.

Aug. 1-2, 2006 • Radisson Hotel • La Crosse,Wisconsin

The workshop will provide a forum to:
• coordinate research efforts
• network with other researchers
• share information concerning the development and status of aquaculture drugs in the approval process
• recognize drug approval accomplishments
• introduce new drugs that have the potential to benefit aquaculture

Workshop participants include state natural resource agencies, pharmaceutical companies and federal agencies, including the FDA's Center for Veterinary Medicine, the U.S. Department of Agriculture's Agriculture Research Service, the Department of Interior's U.S. Fish and Wildlife Service, and U.S. Geological Survey.

The La Crosse Center, located on the banks of the Mississippi River in downtown La Crosse, will be the site of this year's workshop. A block of rooms is reserved for the workshop at the Radisson Hotel (attached to the La Crosse Center), 608-784-6680. Workshop rates are $60 (single) and $90 (double) per night (rates do not include tax). A final announcement for this workshop will be posted in April 2006 at *www.umesc.usgs.gov/dacw/*.

For more information contact Jeff Meinertz at jmeinertz@usgs.gov
or Jim Bowker at jim_bowker@fws.gov

This workshop has become an outstanding environment for researchers to discuss aquaculture drug development.

Announcements

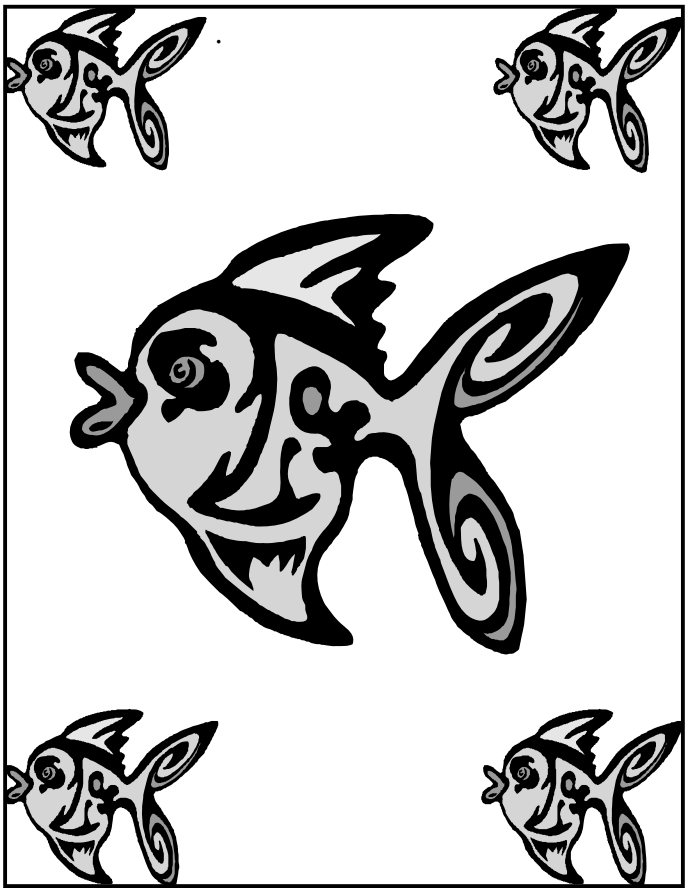
New AFS Book Releases

Fishes of the World (4th edition). Nelson, J. S. 2006. John Wiley and Sons, Inc.

Effects of Urbanization on Stream Ecosystems. Larry Brown, Robert Gray, Robert Hughes, and Michael Meador, editors.

Aquaculture in the 21st Century. Anita M. Kelly and Jeffrey Silverstein, editors.

Interested in contributing something to the Shell-Cracker? Email Jackie Debicella at *jmdebicella@mactec.com* with any articles or information that you would like to be included in the next issue. The deadline for the next issue is June 30th, 2006, so start fishing...



CALL FOR NOMINATIONS

Excellence in Fisheries Education Award
Education Section, American Fisheries Society

The American Fisheries Society (AFS) Excellence in Fisheries Education Award was established in 1988. The award is administered by the Education Section and is presented to an individual to recognize excellence in organized teaching and advising in some aspect of fisheries education. Nominees may be involved in extension or continuing education, as well as traditional college and university instruction. Nominees must be AFS members, have been actively engaged in fisheries education within the last five years, and have had at least 10 years of professional employment experience in fisheries education. Two or more people may act as nominators, but at least one nominator must be an AFS member. Letters and supporting material documenting the contributions of the nominee to fisheries education (e.g., awards, descriptions of exemplary service, innovations, students taught and advised, post graduate achievements of former students) should be sent to **Michael Quist (mcquist@iastate.edu)** and a second copy to **Donna Parrish (Donna.Parrish@uvm.edu)** in digital form. Please send a hard copy of nomination materials to **Michael Quist**.
Nomination deadline is **May 31, 2006**. Additional information can be obtained from:

Michael Quist
Chair, Excellence in Fisheries Education Committee
Dept. of Natural Resource Ecology & Management
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Minutes of the Florida Chapter of the American Fisheries Society
2005 Annual Business Meeting
Ocala, FL
February 26, 2006

President Rich McBride established that a quorum was present and called the meeting to order at 7:05 pm. Rich reviewed the minutes from the 2005 business meeting and made a motion the minutes be accepted as published in the April 2005 Shellcracker newsletter. The motion was seconded and passed unanimously.

The chapter recognized Jack Dequine and Larry Conner as past Southern Division AFS presidents in attendance. The chapter recognized past Florida chapter AFS presidents in attendance. They were: Marty Hale, Wes Porak, Paul Shafland, Larry Conner, Bob Wattendorf, Ron Taylor, Rich Cailteux, and Mike Allen.

Eric Nagid presented the Treasurer's Report for the 2005 calendar year (attached). A motion was made and seconded to approve the report and was accepted by unanimous vote.

Mark Rogers, Florida Student Subunit President reported subunit updates. The subunit held their first official meeting, and held elections. Matt Catalano was elected President-elect, and Jennie Sandberg remained as Secretary-Treasurer.

Rich McBride announced that Jackie Debicella remained as the Shellcracker newsletter editor.

Bob Wattendorf reported on website updates. Abstracts from oral and poster presentations will be available online. Additionally, Nicole Morris is currently managing the Student Subunit website.

Bridget Tiffany reported on raffle updates. Notable comments focused on the exceptional prizes and the large number of contributors. The chapter recognized Tom Maher with a certificate for his service and commitment as raffle Chair.

Chuck Cichra reported on this year's student travel grant recipients. From the 32 students that registered and attended the meeting, 19 students received travel grants that funded room and board. The students were: Dustin Addis (UWF), Ivy Baremore (UF), Beverly Barnett (UWF), Coleman Bender (Florida Gulf Coast), Jason Bennett (UF), Mike Dance (UWF), Drew Dutterer (UF), Stacy Galleher (UNF), Suzi Gibson (UWF), Sarah Jeffers (UWF), Eddie Leonard (UF), Cecelia Lounder (UWF),Kari MacLauchlin (UF), Lauren Marcinkiewicz (UF), Nicole Morris (UWF), Jason Rock (UF), Mark Rogers (UF), Jennie Sandberg (UWF), Rachel Wilborn (UWF).

Chuck Cichra described the Roger Rottmann Scholarship. There were no PhD applications received this year. The application committee could not make a distinction between two equally qualified applicants for the Master of Science level. Therefore, Ivy Baremore (UF) and Drew Dutterer (UF) were each awarded $500, and this year's recipients of the Roger Rottmann Scholarship.

Larry Conner provided Southern Division AFS updates. He spoke of the successful SEAFWA annual meeting held in St. Louis, MO, and the successful Southern Division annual meeting held in San Antonio, TX. The 2006 SEAFWA annual meeting will be held in Norfolk, VA. The 2006 Southern Division annual meeting will be held in Lake Placid NY, Memphis TN in 2007, West Virginia in 2008, and Mississippi in 2009. Larry also commented and reminded the members about The Hutton Junior Fisheries Biology Program. Larry closed by commenting about the AFS Hurricane Relief Task Force designed to provide assistance for hurricane impacted fisheries facilities and/or equipment. Potential aid in this effort could (1) provide temporary complimentary memberships to AFS, (2) provide complimentary journal subscriptions, (3) create of a virtual distribution point (e.g. equipment assistance),(4) contact vendors for loans, resources, and equipment, and (5) provide agencies and/or individuals with meeting scholarships to impacted members. The discussion will be brought to the AFS governing board in March 2006.

Rich McBride introduced Eric Nagid and Justin Krebs as presidential candidates, and Linda Lombardi-Carlson and Bill Pouder as Secretary-Treasurer candidates. Subsequent to ballot tabulation, Rich McBride announced Eric Nagid as President-elect and Linda Lombardi-Carlson as Secretary-Treasurer.

Chuck Cichra presented Rich McBride with the President's Plaque, and chaired the remainder of the meeting.

New Business
A motion was made to allocate funds to the AFS Hurricane Relief Task Force as described by Larry Conner. The initial motion was to commit $1500 over a 3-year period, but was later amended to a single contribution of $1500. The motion was seconded and passed unanimously.

Ron Taylor made a request to the chapter to support the Snook V Symposium. Mike Allen made a motion to fund the symposium in the amount of $500. The motion was seconded and approved unanimously.

A motion was made to discontinue USPS mailing of the Shellcracker newsletter to reduce spending. An unspecified number of members indicated preference of hard-copy newsletters by show-of-hand. However, a motion was made by Rich McBride to table the discussion due to Jackie Debicella's (newsletter editor) absence. The motion was seconded.

Following no additional new business, a motion was made to adjourn the annual business meeting. The motion was seconded and the meeting adjourned at 7:45 pm.

Treasurer's Report
Florida Chapter AFS
1 January 2005 to 31 December 2005

Beginning Balance: January 1, 2005	$	14,862.89
Closing Balance: December 31, 2005	$	15,350.03
Difference:	$	487.14
Credits:		
Deposits	$	21,958.67
Dividends & Interest	$	441.58
Other credits	$	368.91
Debits:		
Checks	$	(19,175.05)
Funds to Purchase Securities	$	(644.72)
Other debits	$	(306.68)
Withdrawals	$	(2549.85)
Asset Value:		
January 1, 2005	$	10,609.67
Securities Purchased	$	644.72
December 31, 2005	$	11,003.95
	$	(250.44)

Major Expense Categories:	
Annual Meeting	84%
Newsletters	5%

Eric Nagid
Secretary/Treasurer FL chapter AFS

Student Section

Student Research Highlight

Ecology of Inshore Lizardfish in the Northern Gulf of Mexico

Sarah A Jeffers
UWF Fisheries Biology
11000 University Parkway, Pensacola, FL 32514

Inshore lizardfish, *Synodus foetens*, are among the most abundant benthic fishes in the northern Gulf of Mexico (Gulf). Little is known about their ecology despite the ecological significance their numbers imply. This fish is caught as bycatch in about 75% of shrimp trawls in the Gulf of Mexico. The extent of this impact on inshore lizardfish is unknown, which is due in part to the lack of general information about their ecology. High densities over the shelf and in trawls make this species an ideal model to determine some of the effects of bycatch. The goal of this study was to examine habitat-specific density, diet, and growth of inshore lizardfish in sand, shell rubble and hardbottom habitats on the north central Gulf shelf. Lengths of lizardfish caught over the study sites ranged from 49 to 403 mm with a mean length of 241 mm. Density estimates computed from quarterly trawl samples (n = 113) taken in 2004 and 2005 were significantly different among habitat types and sampling dates ($p < 0.01$); highest density estimates occurred in hardbottom and sand habitats.

Fish diet was determined by gut content analysis in which prey items were identified to the lowest taxa possible. Prey groups were then dried and weighed to compute percent diet. Stomachs consisted of mostly squid and fish, and were not significantly different among habitat types or sampling dates. Anchovies and squid dominated smaller lizardfish stomach contents, while the larger lizardfish contained more benthic and demersal fishes in the stomachs. Stable isotope ($\delta^{15}N$, $\delta^{13}C$, and $\delta^{34}S$; n = 44) analysis was also conducted to compliment gut content analysis. Analysis of muscle stable isotope values also indicated that the importance of benthic fishes to lizardfish diet increased with fish size.

Fish age was determined by examining otolith microstructure. This was accomplished by sectioning lizardfish otoliths using an Isomet low-speed diamond-bladed saw. Opaque zones were then counted to determine age. Analysis of otolith annuli yielded a maximum age of 5 years among samples (n = 883) collected and processed for age and growth analysis. Growth analysis from size-at-age data showed wide variance at size. When the log of abundance of fish at age was applied to a catch curve analysis, a total mortality rate of $0.98y^{-1}$ was determined with an R^2 value of 0.99. Using Royce's methods (4.6/maximum age), a natural mortality of $0.43y^{-1}$ was calculated. Fishing pressure was then calculated and determined to be $0.55y^{-1}$. This produces an unusually high F:M ratio of 1.3 for an unfished population. A fished population should have a ratio under 1.0 to be sustainable. Therefore, the lizardfish population is either being brought up as bycatch in large amounts or is found in deeper depths than this study surveyed.

Overall, this work represents the first significant ecological study of inshore lizardfish in the northern Gulf. Determining the distribution, diet, and age and growth for non-exploited species is crucial in beginning to determine the essential fish habitat which will in turn lead to information needed to protect these fish from being overfished due to bycatch. Perhaps similar attention should be paid to other poorly studied, but ecologically important, species if ecosystem management is to become more of a reality in US waters.

Student Announcements

Congratulations to the students who received travel grants from the Florida Chapter of AFS that funded room and board.

These students were: Dustin Addis (UWF), Ivy Baremore (UF), Beverly Barnett (UWF), Coleman Bender (Florida Gulf Coast), Jason Bennett (UF), Mike Dance (UWF), Drew Dutterer (UF), Stacy Galleher (UNF), Suzi Gibson (UWF), Sarah Jeffers (UWF), Eddie Leonard (UF), Cecelia Lounder (UWF),Kari MacLauchlin (UF), Lauren Marcinkiewicz (UF), Nicole Morris (UWF), Jason Rock (UF), Mark Rogers (UF), Jennie Sandberg (UWF), Rachel Wilborn (UWF).

Congratulations to Ivy Baremore (UF) and Drew Dutterer (UF) who were this year's recipients of the Roger Rottmann Scholarship and awarded $500 each.

If you are a student and are not receiving emails pertaining to the student subunit
then please contact: Jennie Sandberg jss18@students.uwf.edu

The Hutton Junior Fisheries Biology Program

The Hutton Junior Fisheries Biology Program is a summer mentoring program for high school students sponsored by the American Fisheries Society. The principal goal of the Hutton Program is to stimulate interest in careers in fisheries science and management among groups underrepresented in the fisheries professions, including minorities and women. Application to the program is open to all sophomore, junior, and senior high school students regardless of race, creed, or gender. Because the principal goal of the program is to increase diversity within the fisheries professions, preference will be given to qualified women and minority applicants. Students selected for the program are matched with a professional mentor in their area for a summer-long, hands-on experience in a marine or freshwater setting. A scholarship of $3,000 is awarded to each student accepted into the program. To learn more about the Hutton, explore the 'Hutton Program' link on the AFS webpage.

Sixty-three students were chosen to participate in the 2005 Hutton Program. We hope to provide this enriching experience to even more students in 2006!

To download student and mentor applications for Summer 2006, click on 'Hutton Program' on the AFS webpage and then click on "Student" or "Mentors".

2006 Annual Meeting Presentation Awards

We had an outstanding meeting consisting of 24 (8 student and 16 non-student) posters and 39 (9 student and 30 non-student) platform presentations at this year's annual meeting. Abstracts for these can be found at http://www.sdafs.org/flafs/PDF/2006-Abstracts.pdf The following were selected by the judges to be the best:

Student Posters

Best	**Eddie Leonard**, D.J. Murie, and D.C. Parkyn, University of Florida Comparative age and growth of greater amberjack in the Gulf of Mexico
Runner-up	**Lauren Yeager**, Eckerd College Habitat utilization by juvenile reef fishes in Manzanillo, Costa Rica

Non-Student Posters

Best	**Steve Crawford**, Florida Fish and Wildlife Conservation Commission Evaluation of two types of gravel as sunfish attractors
Runner-up	**Tim Bonvechio and Kim Bonvechio**, Florida Fish and Wildlife Conservation Commission Preliminary population responses of sport fish species to a habitat enhancement at West Lake Tohopekaliga
Runner-up	**Kelly Gestring**, P.L. Shafland, and M.S. Stanford, Florida Fish and Wildlife Conservation Commission The status of Loricariid Catfishes in Florida with emphasis on Orinoco Sailfin (*Pterygoplichthys multiradiatus*)

Student Platform Presentations

Best	**Jason Bennett** and W.E. Pine, III, University of Florida Using acoustic telemetry to estimate natural and fishing mortality of common snook I n Sarasota Bay, Florida
Runner-up	**Mark Rogers** and M.S. Allen, University of Florida Cold in the Tropics?: Implications of winter on growth and survival of age-0 Florida large mouth bass
Runner-up	**Suzi Gibson**, W.F. Patterson, R.P. Phelps, and W.P. Patterson, University of West Florida Distinguishing wild from hatchery produced juvenile red snapper with otolith chemistry

Non-student Platform Presentations

Best	**Will Patterson**, J.H. Cowan, Jr., C.A. Wilson, and Z. Chen, University of West Florida Population connectivity in Gulf of Mexico red snapper inferred from otolith elemental signa tures
Runner-up	**Jeff Hill** and C.A. Watson, University of Florida Diet of the nonindigenous Asian swamp eel *Monopterus albus* (Synbranchidae) in tropical ornamental aquaculture ponds in west central Florida
Runner-up	**Tom Reinert**, C.A. Straight, and B.J. Freeman, Florida Fish and Wildlife Conservation Commission The Battle of Atlanta: control and containment options for a (relatively) northern population of Asian swamp eels

Thanks go to the following individuals that judged the numerous student and non-student posters and platform presentations at this year's meeting: Mike Allen (UF), Rich Cailteux (FWC), Matt Catalano (UF), Chuck Cichra (UF), Steve Crawford (FWC), Pat Fricano (FDEP), Bob Heagey (FWC), Mac Kobza (SFWMD), Linda Lombardi-Carlson (NOAA/NMFS), Rich McBride (FWC), Debra Murie (UF), Mark Rogers (UF), Kelly Smith (UNF), Will Strong (FWC), Ted Switzer (FWC), Ron Taylor (FWC), and Bob Wattendorf (FWC).

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