the Shellcracker

FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY *http://www.sdafs.org/flafs*

April, 2010

President's Message:

Thank you to everyone who attended the 2010 30th annual meeting of the Florida Chapter of the American Fisheries Society and braved the windy and cold conditions of Ocala. I never thought I would see white caps on Spring Lake. All of us benefitted tremendously from the nightly bonfires given the near record low temperatures.

This year's symposium reviewed areas of uncertainty in fisheries science and methods to correct for these uncertainties. Our keynote speaker, Dr. Carl Walters, Professor at the University of British Columbia, Fisheries Centre, commenced our symposium by describing where uncertainties come from and what uncertainties are more important to account for in models. Dr. Walters stressed the importance to continue to form hypothesis and experimentally test our assumptions to rationally decide what factors are contributing to uncertainties in our research. We had a successful symposium and heard presentations of how uncertainties are present regardless of the species, body of water, simplicity or complexity of the model, and how as biologist we can address these uncertainties and find ways to lessen the impact of uncertainties.

In my opinion, the success of Florida Chapter relies heavily on the diversity of research presented, as well as, the diversity of the biologist presenting research. At this year's meeting we had representatives from state and federal agencies and private research organizations. In addition, there were students (undergraduate and graduate level) and professors from six universities. We had 49 presentations (13 poster, 36 oral) with students contributing to just about half of the research presented. My deepest gratitude goes to judges at this year's meeting. Judging both the professional and student presentations was very difficult given the closeness of scores (please see page 12 the award winners). Thank you also to the recipients of student travel grants, your assistance throughout the meeting was greatly appreciated.

In closing, please mark your calendars for the 2011 annual meeting of the Southern Division of the American Fisheries Society. The Florida Chapter is hosting next year's meeting and we are planning for one heck of a time. The meeting location is the Grand Hyatt Tampa Bay and is being held January 12-16, 2011. Please keep posted to our website and to emails from the chapter for updated news regarding the 2011 SDAFS meeting. We are currently forming the necessary committees and looking for involvement from chapter members (new and old). If you are interested in assisting in next years meeting, then please contact Eric Nagid (2011 SDAFS General Chair, eric.nagid@MyFWC.com).

Sincerely,

Linda Lombardi
FL Chapter President

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Upcoming Events

May 30 – June 3, 2010: AFS Early Life History Section's 34th Annual Larval Fish Conference. Santa Fe, New Mexico. www.larvalfishcon.org

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

New Titles

Paddlefish Management, Propagation, and Conservation in the 21st Century. Craig P. Paukert and George D. Scholten, editors. 443 pages, Symposium 66. Published by the American Fisheries Society. December 2009.

Biology, Management, and Conservation of Lampreys in North America. Larry Brown, Shawn Chase, Matthew Mesa, Richard Beamish, and Peter Moyle, editors. 321 pages, Symposium 72. Published by the American Fisheries Society. December 2009.

Interested in contributing something to the Shellcracker? Email Kevin Johnson at *kevin.johnson@myfwc.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, 2010, so start fishing...

Feature Article

The forgotten importance of fisheries descriptions: some lessons learned from the southeast Florida recreational swordfish fishery.

David W. Kerstetter and Elaine J. Brewer
Nova Southeastern University Oceanographic Center

Introduction

Modern fisheries science is usually – and rightfully – focused on such things as determining biological parameters for assessments, delineating behaviors, and more applied topics such as conservation engineering for fishing gears. However, there are aspects of history that can be important for fisheries management and stock assessments. The simple descriptions of fisheries at various points in time can provide insights into the development (or decline) of a fishery and the types of gear used, which can in turn be used to standardize effort between historical periods. As a case study, we have been working on the description of the recreational fishery for swordfish in the Florida Straits, which briefly existed in the late 1970s, only to disappear for a time before returning in the early 2000s.

As background, the swordfish, *Xiphias gladius*, is one of approximately 30 pelagic fishes considered a highly migratory species (HMS; NMFS 2007). Swordfish are globally distributed in tropical to temperate waters. In the western Atlantic, they range from Newfoundland (Tibbo et al. 1961) to Argentina (de Sylva 1962) and have high density in the Florida Straits north to Cape Hattaras and southeast to the Virgin Islands (Marckle 1974). Although genetic studies have suggested that there is only a single species of swordfish worldwide (see Palko et al. 1981), there are two stocks defined for management purposes in the Atlantic Ocean (Marsh and Stiles 2007). The North and South Atlantic stocks are believed to be physically separated by the equatorial current which typically runs at 5° N latitude (Greig 2000).

In contrast to commercial fishing for swordfish, which began in the 1870s (Gibson 1998), recreational targeting did not begin until the 1920s in New England waters (Crandall 1926). The very few anglers targeting them during this early period typically did so in waters from Massachusetts to New York, where they casted to individual swordfish basking at the surface during the day. Because fishing northeastern waters took substantial financial backing, swordfish were only available to wealthy recreational anglers and the commercial fleets. Popularity for recreationally targeting swordfish remained minimal through the 1960s, when roughly 50 fish were caught annually on rod and reel gear throughout the United States (NMFS 1999).

The start of the swordfish recreational fishery in the Florida Straits occurred in 1976 when Jeremy and Jesse Webb planned and succeeded in catching swordfish (Dunaway 1976). There was no doubt among anglers that swordfish were common in south Florida waters; longline vessels had been fishing for them regularly in the area since the mid-1970s and recreational anglers had also been catching swordfish on rod-and-reel gear, often by accident while targeting sharks in deeper water (Dunaway 1976). However, swordfish tournaments did not begin in south Florida waters until 1977 (Berkeley 1989). The first directed swordfish tournament was based out of Miami and was the first of its kind for any species: a night tournament focused on drift fishing with the aid of chemical light attractants (Levesque and Kerstetter 2007). A total of 60 fish were landed by 27 boats in this one tournament alone (Berkeley et al 1978), and roughly 500 swordfish were caught by the recreational fishery as a whole throughout the remainder of that year (Beardsley 1988). In response to this newly-found fishery, recreational activity spread south to Key West and north to Fort Pierce (Dunaway 1977).

Little control was applied to the commercial pelagic longline fishery in the Florida Straits through the 1980s, and it subsequently expanded. However, catch rates steadily declined over time for both the recreational and commercial fisheries. As one recreational angler noted, 'During the last Miami tournament it was a problem finding a place to fish were there wasn't 22 miles of longline out' (Stutz 1981). There were times when recreational anglers targeting swordfish could not get to their grounds due

to the estimated 100,000 hooks set each night in the Florida Straits from commercial vessels (Leech 1987). A combination of fishing gear conflicts with pelagic longlines and declining (or non-existent) catch rates brought about the essential demise of the recreational swordfish fishery in 1983 (Berkeley 1989), the last year in which a south Florida swordfish tournament was held until the current period.

Since swordfish occur in both national and international waters, the species requires international regulation. The International Commission for the Conservation of Atlantic Tunas (ICCAT) regulates swordfish in Atlantic Ocean and adjacent seas. The HMS Management Division of the U.S. National Marine Fisheries Service (NMFS) manages swordfish domestically through such measures as vessel and angler permits, mandatory catch reporting, and placing restrictions on certain gear types (*e.g.*, requiring circle hooks for the pelagic longline fishery). As a practical matter, almost all tournaments targeting HMS species have also been required to report catches and effort since 2000.

Recreational fishing, especially in south Florida waters, is one of the most popular outdoor activities, attracting large numbers of people and thus high levels of effort (Cowx 2002; Pitcher and Hollingworth 2002). Unlike the relatively lengthy history of the commercial fishery, recreational catches for swordfish have been documented for a rather short period. Others have noted the similarities in commercial and recreational fisheries regarding data needs (e.g., Cooke and Cowx 2006). We sought to not only document the trends within the current recreational tournament swordfish fishery in south Florida, but also to attempt to reconstruct the history and details of the early period of the fishery using several available data sources.

Materials and Methods

Historical Period Data (1976-1983): Contemporary swordfish tournament data was collected during the late 1970s by then-graduate students at the Rosenstiel School of Marine and Atmospheric Science (RSMAS) at the University of Miami. In addition to formal reports (e.g., Berkeley et al. 1978), these data include hand-written data logs and other catch information from several tournaments in this early period which have never been published. These original paper records were obtained directly from Steven Berkeley (University of California, Santa Cruz) in 2006. Additional information on these early swordfish tournaments was found from contemporary popular sport fishing literature.

Current Period Data (2000-present): Swordfish tournaments since the late 1990s have been subject to mandatory reporting to NMFS, which includes data on size, number landed, number released, etc. Information on swordfish tournaments from the 2000s through the present has also been collected from various tournaments in south Florida by researchers at the NSU Oceanographic Center and other sources. This information includes fishing time, entry fee, total number of boats fishing[1], total number of fish caught, and total prize monies awarded. Popular sport fishing literature, such as *Marlin Magazine* and *Florida Sportsman*, as well as personal communications with tournament directors have been used to collect additional, non-published information. Data from istiophorid billfish tournaments in the Florida Straits have been collected in similar manners and used for comparison.

Data Analysis: Catch per unit effort (CPUE) is the traditional term that quantifies the catch relative to a unit of effort, often the total amount of time fished and the abundance of participation in recreational fisheries (Venizelos 2003). However, it may be biased if effort is inadequately quantified and not strictly proportional to abundance (Harley et al 2001). We used a modified form of CPUE for this study that best fit our available data. Catch per hour (CPH) was calculated by:

$$CPH = f/E*100,$$

where f is total number of fish caught including those boated and released, and E is the gross fishing effort. The gross fishing effort is calculated by:

$$E = b*([\text{lines out}-\text{lines in}]*d),$$

where b is the number of boats participating in the tournament, *lines out* is the pre-determined time to stop fishing, *lines in* is the pre-determined time to begin fishing, and d is the number of fishing days in the tournament.

Lengths of individually landed fish from the two periods were used to determine if the size of fish has changed over time. A baseline CPH was developed by obtaining an average CPH based on the two fishing periods. This baseline was used to test CPH throughout and between each of the two fishing periods. Total prize monies awarded per year as well as averaged prize monies awarded per year were compared between and among swordfish and istiophorid billfish tournaments.

[1] The total number of boats fishing is used instead of anglers fishing as most entrance fees and participation records are per boat, not angler.

Results

In total, data were gathered from 96 swordfish tournaments (17 historic and 79 current). Data from a total of 165 istiophorid billfish tournaments (46 historic and 119 current) were also collected for comparative purposes. Total weights of swordfish have similarly (and also non-significantly) decreased over the combined historic and current periods (Figure 1). Values for swordfish CPH over the combined historic and current periods show a slow (albeit non-significant) decrease over time (Figure 2).

However, total vessel participation shows a strong decrease by the end of the historic period. Participation in the current period began with a high number of vessels even with a low number of tournaments in the first year, then rising significantly through the current period until roughly year 2006, which then saw a drastic decrease in boat numbers. The total catches of swordfish through the historic and current periods match numbers and patterns with total vessel participation. Average vessel participation started high in 2002 with a decrease of half the vessel participation the next year and a steady increase for every year after that until 2008, where a decrease again occurred.

The average catches of swordfish during the historic period began relatively high, then decreased until no tournament fish were caught in 1983. Average catches in 2002 were the same as in 1977 and dropped nearly the same amount the next year as in 1978. Unlike the remainder of the historic period, average catches in swordfish tournaments rose for the next three years until they began decreasing again in 2007 – the last year of high average participation numbers – until sharply declining again in 2008 to the same levels as 1980. The average prize monies awarded in billfish tournaments is tenfold those of swordfish tournaments within the same years. Prize monies trended differently between these fisheries, however, as 2008 saw a skyrocket increase in billfish prize monies while swordfish prize monies remained relatively constant.

Discussion

Commercial landings of swordfish in the southeastern United States (including the Florida Straits) went from 527.2 mt in 1978 to 2324.9 mt in 1980 (Hoey and Casey, 1988). Declining catch rates in the recreational fishery (Figure 2) might have indicated high fishing pressure in the area alone. The declining size of landed fish by the recreational fishery in this early period should also have been a warning sign: as Steve Berkeley noted later, the "continuing decline in the average size of swordfish harvested is a classic symptom of overfishing," (Pollack 1988). Although the cessation of the pelagic longline fishery within the Florida Straits likely helped the recreational fishery, the North Atlantic swordfish stock also began to rebound during the early 2000s; while the 1999 stock assessment had the stock at 0.65 B/B_{MSY}, the 2009 stock assessment had the stock at 1.05 B/B_{MSY} (ICCAT, 2009).

The recreational fishery restarted in 2000 and experienced high catch rates for several years before beginning a decline. The cause (or causes) of this decline remains unclear. The closure of the Florida Straits to pelagic longline gear in March 2001 (NMFS 2002) resulted in a number of negatives for the commercial fishery, including over 150 small vessels permanently leaving the fishery (G. Helsing and V. Pyle, A Fisherman's Best, pers. comm.). However, it also arguably created at least a temporary refuge for the juvenile swordfish within the area. The recreational fishery moved quickly into targeting swordfish, developing over time into a highly specialized fishery with unique gear and techniques. Although NMFS requires anglers to obtain an HMS fishing license and report any swordfish landings through a call-in system within 24 hours (NMFS 2009), there remains widespread concern about the level of non-reporting of landings by the recreational fishery. However, some prominent anglers within the recreational fishery have encouraged others to not report their landings, fearing additional commercial pressure mimicking that of the late 1970s. The recreational fishery also recently developed a new technique of "deep-dropping" baits during daylight hours to depths of 500 m or more, which often results in catches of larger fish than those seen in the nighttime drift fishery. Although the reels cost approximately $2500 each, there is no shortage of demand for them (E. Brooks, Lindgren-Pitman, Inc., pers. comm.). Little is known about this deep-drop fishery other than absolute landings, but if anecdotal reports are correct, then it is imposing a skewed fishing mortality on the larger fish than is the recreational fishery as a whole.

Prohibiting pelagic longline gear from the Florida Straits also did not exclude other commercial fisheries for swordfish. A relatively small number of rod-and-reel vessels obtained handgear permits soon after the area closure and began selling their catch commercially. Since 2004, a completely new type of commercial gear – the "swordfish buoy gear" – has emerged, especially in the southern areas of the Florida Straits. Although a recent study (Bayse and Kerstetter, 2009) quantified catch and bycatch rates in this fishery, there is little historical data to evaluate its impact on the local population.

The Florida Straits therefore presents a difficult management situation, with recreational and commercial fisheries competing for the same highly migratory species. Historic management efforts tended to favor the economic contributions of the commercial fisheries. When swordfish management became a pressing issue for the United States in the late 1980s due to a declining North Atlantic stock as a whole, the recreational fishery was not seriously considered. Now that recreational anglers are becoming aware of the economic importance of the current swordfish fishery, more individuals and even swordfish angling clubs are becoming active in the conservation and management processes. Providing scientific, unbiased descriptions of the recreational fishery to these processes can provide important data on such elements as bycatch and changes in gear technology over time that are needed for effective management strategies.

Conclusions

In addition to the comparison of tournament records, a future, second part of the project will include discussions with swordfish anglers who fished through both the historic and current periods of the fishery. These personal discussions may be crucial to understanding how the fishery participation, gear, and techniques have changed over the years, especially given the lull in activity during the second half of the 1980s and early 1990s when many swordfish anglers switched to other highly migratory pelagic fisheries. Additional information for this part will also be obtained from personal logbooks, captain's reports, and other non-published materials. However, even the preliminary data analyses to date have provided insights into the fishery that support angler anecdotal arguments regarding catch trends.

There are several larger lessons that can be learned from this preliminary exploration of these historical datasets. One, it's always worth contacting those working with the fishery during those earlier periods to see if they also have any original data gathering dust somewhere. For example, Gartside et al. (1999) shows that proper use of angling club records can provide insights into catch trends. Two, the standardization of historical data with contemporary data can provide insights into changes in abundance that may not be reflected in landings alone. And three, we – as professionals – should actively try to document changes over time in those fisheries with which we work; such changes are rarely seen by those not as intimately familiar with the gear. In short, many of our fisheries are constantly evolving, and we share in the responsibility to ensure that these changes are documented for future retrospectives.

Acknowledgements

We would like to thank Steve Berkeley for his assistance with this project. Unfortunately, he passed away in 2007, shortly after sending us these original datasheets from the 1970s tournaments. AFS has established an annual graduate student fellowship in his name.

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Figure 1. Comparison of weights of individual swordfish landed in southeast Florida recreational tournaments during both the historic period (left) and current period (right). Both regressions are non-significant.

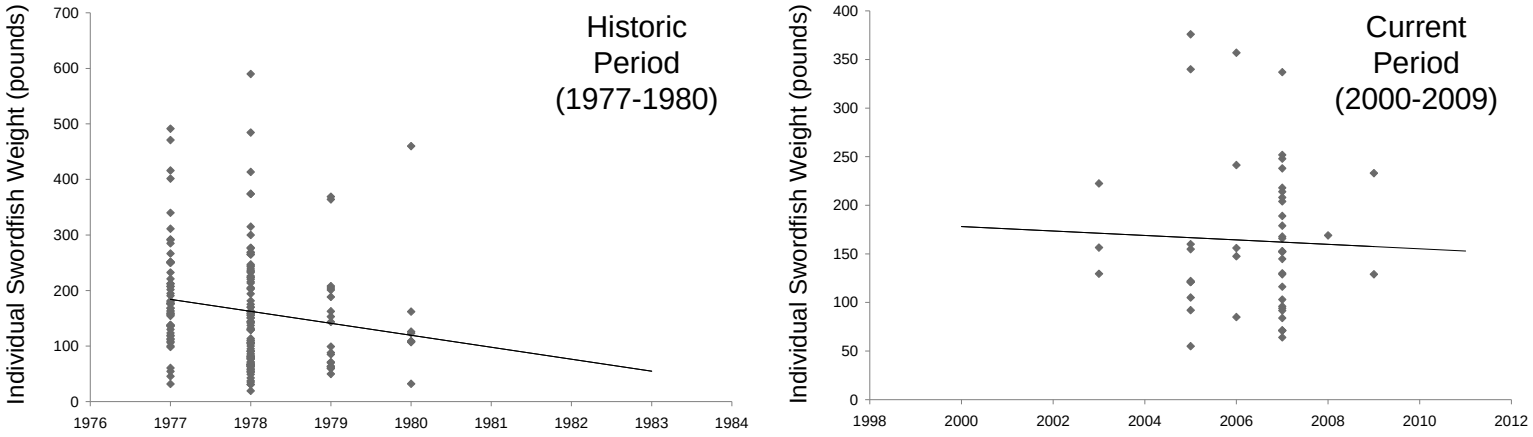
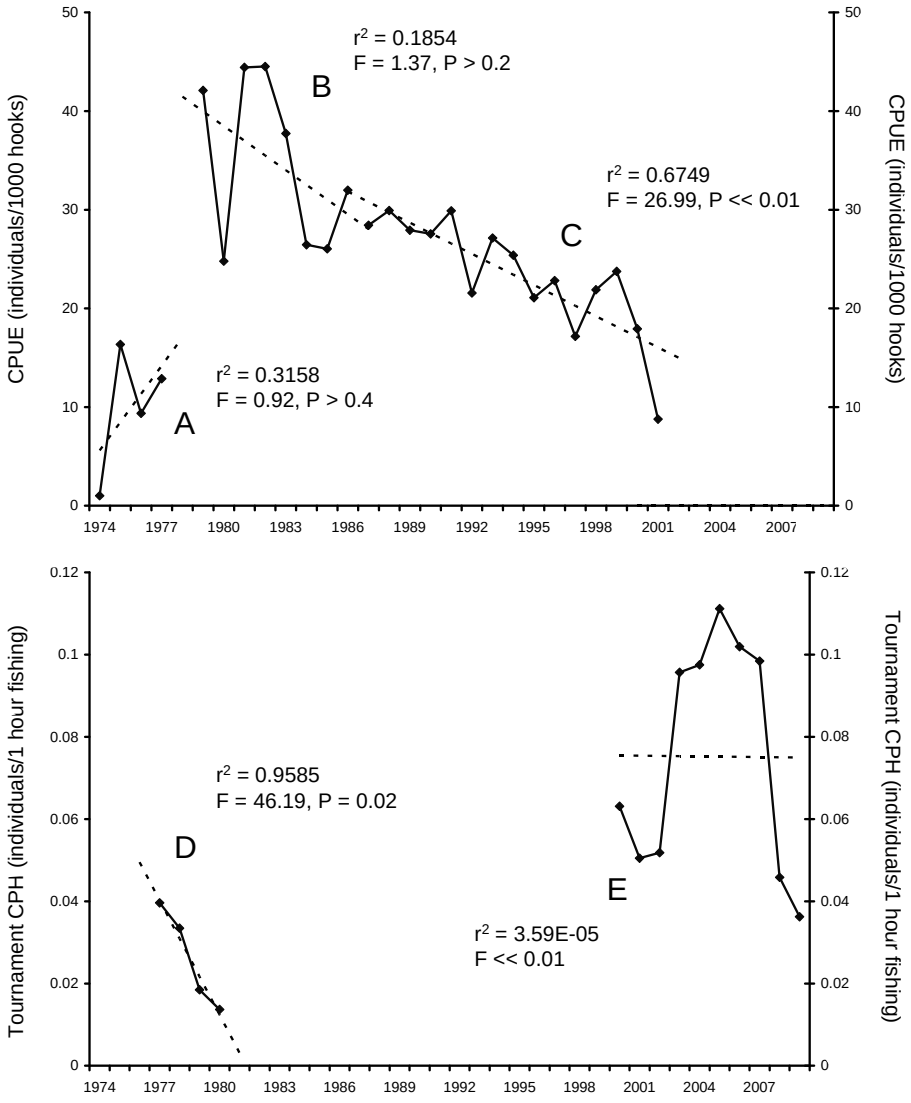


Figure 2. Comparison between southeast Florida commercial pelagic longline fishery catch-per-unit-effort (CPUE; number caught/1000 hooks) and rod-and-reel recreational tournament fishery hooked-per-unit-effort (CPH; number caught/hour of fishing) 1974-2009. Sources: A: Hoey and Casey (1988); B: Hoey and Bertolino (1988); C: various NMFS Technical Memoranda; D: Historical period tournament data from Berkeley et al. (1978) and other data sources (present study); E: Current period tournament data (present study).



Thanks to the following 2010 meeting raffle prize donors:

Whippoorwill Sportsman's Lodge – Lake Talquin - (850) 875-2605, Seminole Outdoors – Tallahassee – (850) 576-5103 Lazy Daze Campground – Ochlockonee River - (850) 575-2267, Joe Tomelleri (www.americanfishes.com) Coral Reef Scuba – Tallahassee - (850) 385-1323, Crum's Bait and Tackle – Panacea - (850) 984-5501 Ingram's Marina - Lake Talquin - (850) 627-2241, Captain Tom Van Horn - Mosquito Lagoon - (www.irl-fishing.com) Cabela's (www.cabelas.com), Biomark (www.biomark .com), Palm Bay Fishing Outfitters (www.pbfishingoutfitter.com) Randy's Saltwater Specialties (www.fl-fish-guides.com) - (407) 908-8498, Angie's Marine Supply – Crawfordville – (850) 926-3114, Fred Fisher (www.aquatic-impressions.com), Diane Peebles – St. Petersburg, Owens Fishing and Marine, 935 N Bay St, Eustis, FL (352) 357-3030, Joe Budd Aquatic Education Center, B.A.S.S., Larry Connor, Gulf Marine - Panama City, Gulf World Marine Park – Panama City Beach, West Marine – Panama City Beach, Capt. Anderson's Restaurant – Panama City Beach, Paul Brent, Artist (www.paulbrent.com), The Canoe Shop – Panama City Captain's Table Restaurant – Panama City, Panama City Marina, K-Mart - Panama City, Montego Bay Restaurant – Panama City Beach. Sam's Club - Panama City, Wal-Mart – Lynn Haven and Panama City Beach, Panama Marine Supply – Panama City, St. Andrew's Marina – Panama City, Sunjammer's Watersports – Panama City Beach Jerry Anderson's Fishing Fleet – Panama City Beach, Jubilee Deep Sea Fishing – Panama City Beach Country Boy's Restaurant – Lake Talquin – (850) 875-3900, Adams Trees – Lake Talquin – (850) 575-5078 NOVA Southeastern University Oceanographic Center, International Gamefish Association, Coastal Conservation Association, Cary's Bait and Tackle (Blountstown Highway) – Tallahassee, FSU Coastal Marine Lab

Minutes of the 30th Annual Meeting of the Florida Chapter American Fisheries Society
Business Meeting
February 17, 2010
4-H Camp Ocala, Altoona, Florida

President Deb Murie called the business meeting to order at 7:10pm and established a quorum.

Past-presidents of the Florida Chapter who were in attendance at the meeting were acknowledged and included: Marty Hale, Wes Porak, Larry Connor, Rich McBride, Chuck Cichra, and Eric Nagid. Other members of the Florida Chapter who are officers of other AFS organizations and present at the meeting were acknowledged. Jack Dequine and Larry Connor were recognized as past-presidents of the Southern Division of AFS. Cecil Jennings, current president of the Southern Division of AFS, was in attendance and was called to the podium to address the Chapter.

Cecil Jennings began his address with budget concerns that are affecting all chapters throughout the SDAFS. He mentioned that only one chapter in SDAFS nominated itself at the national level for the "Best Chapter Award" and encouraged the Florida Chapter to nominate ourselves this year. In regards to new officers of SDAFS, only two candidates were nominated for a position this past year and the executive committee of SDAFS had to go through 10 people to get a second candidate. Cecil stressed that it is hard to find worthy candidates and suggested when you are asked to fill an officer job, consider it an honor from your colleagues and accept it. He noted that there was only a 20% response for online voting of the SDAFS officer positions and would like to see in increase in responses for future elections. He announced the recipients of the "Jack Dequine Award Winners" for the best paper at the 2009 SDAFS meeting in New Orleans. He mentioned that the Tennessee Chapter hosted the 2009 National Meeting of AFS in Nashville and acknowledged other Chapters who hosted various meetings. He then acknowledged the activities of other Student Sub-units of other Chapters in the Southern Division and what meetings they had hosted. Finally, Cecil promoted the student column "Students' Angle", which appears in the AFS journal "Fisheries", and also promoted the "Students Writing Contest" for both graduate and undergraduates. He encouraged students of the Florida subunit to make submissions. More information about "Students' Angle" can be found at http://www.fisheries.org/afs/docs/pub_authguide.pdf and more information about the "Students Writing Contest" can be found at http://www.fisheries.org/afs/awards.html

Travis Tuten presented the 2009 Treasurer's Report, which can be found in this newsletter. Travis asked that people pre-register for meetings in the future to help estimate meal and t-shirt numbers.

Larry Connor gave the current balance of the Rottmann Scholarship Fund. Assets of the Rottmann Scholarship Fund increased from $17,828.04 on December 31, 2008 to $22,152.65 on December 31, 2009, which is a $4,324.61 increase. Since the funds inception the Fund has shown a 5.54% annual rate of return, and Larry did not recommend any changes to the Rottmann Scholarship at this time.

Reports of Florida Chapter committees were made including Newsletter, Raffle, Membership, Student Scholarships and Awards, and Florida Chapter Awards.

Kevin Johnson (Newsletter Editor) asked that both fresh and saltwater articles be submitted for publication in the Newsletter. He said that if anyone has any pertinent information to pass out or advertise, just email him. He also suggested that Student Sub-unit articles should be submitted by students from different universities.

Andy Strickland (Raffle Coordinator) said that raffle items were hard to obtain this year and support from people throughout the state would help in the future. He also recognized Alan Collins for his time and hard work in obtaining many of the raffle items.

Larry Connor reported on the 2009 membership roster. The Florida Chapter membership decreased by 47 members since 2008, with a total of 181 members in 2009. As of 2009, 106 members did not renew their membership and the Chapter had only 59 new members. He suggested that maybe this was due to the economy and maybe because of "topical members" that only come for specific symposiums.

Chuck Cichra announced the recipients of 2010 Travel Grants and Rottman Scholarships. A total of 24 students applied for Travel Grants and 13 individuals were awarded grants based on they were scheduled to present their research at the 2010 meeting. The 13 individuals included Zy Biesinger (University of Florida), Ed Camp (University of Florida), Dylan Carey (Eckerd College), Felipe Carvalho (University of Florida), Benjamin Cournoyer (Eckerd College), Theresa Floyd (University of Florida), John Hargrove (University of Florida), Matt Lauretta (University of Florida), Ethan Machemer (Nova Southeastern University), Robert Skoumal (Eckerd College), Geoffrey Smith (University of Florida), Mae Taylor (Nova Southeastern University), and Nathan VanBibber (Eckerd College). Student travel grants funds are raised through the previous year's raffle profits and the Florida Chapter only made enough money from the 2008 raffle to cover 12 student awards, but additional funds were added from the Chapter's budget to provide funding to all 13 student applicants who were presenting.

Chuck Cichra also announced the 2010 recipients of the Rottmann Scholarship along with their credentials. Alecia Adamson (University of Florida) was given the Master of Science level Scholarship. Felipe Carvalho (University of Florida) was given the Doctor of Philosophy level Scholarship.

Kerri Bolow (2009 Student Sub-unit Vice President) gave a report for the Student Sub-unit. Newly elected officers included Tiffany Weidner (Nova Southeastern University) as President, Theresa Floyd (University of Florida) as Vice President, and Heidi DaSilva (Nova Southeastern University) as Treasurer.

Will Patterson (Past-President) came to the podium and gave recognition to Kevin Johnson, Linda Lombardi (President-Elect), and Travis Tuten for their work with the Chapter. He then announced Dave Kerstetter and Dennis Renfro as individuals who were nominated for President. Each candidate stood up and spoke about themselves. Ballots were then passed out and a vote was counted by Will Patterson and Linda Lombardi.

Eric Nagid (2011 Southern Division Meeting – Time and Place Committee Chair) spoke about the Grand Hyatt Tampa Bay, which was chosen as the venue to hold the 2011 Southern Division meeting from January 12th until January 16th, 2011.

Deb Murie then announced Eric Nagid as the General Chair for the 2011 Southern Division Meeting and reminded that Chapter's members there was a sign-up sheet for various committees needed to run the meeting and asked that people sign up.

Will Patterson returned to the podium and announced Dave Kerstetter as the next President-Elect of the Florida Chapter.

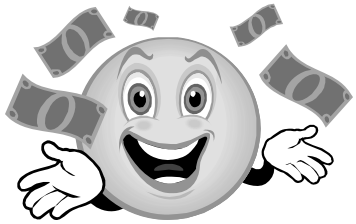
Deb Murie then announced Linda Lombardi as the new President and handed the meeting over to Linda. Linda gave Deb a plaque as recognition of her service as President of the Florida Chapter.

Andy Strickland returned to the podium and expressed that he would like to have a successful raffle at the 2011 Southern Division meeting and asked that a committee be formed for help obtain items from individuals throughout the state. He then suggested that a recognition plate be bought and placed at the base of a Magnolia tree that was planted on 4-H Camp Ocala's grounds in Rich Cailteux's honor. Mike Murphy seconded the motion on getting it done. It was discussed that ExCom would decide on the expenditure of the plaque. A vote was taken and everyone voted in favor of the motion, no one opposed it.

Linda Lombardi adjourned the meeting.

2010 Treasurer's Report Florida Chapter AFS

1 January 2009 to 31 December 2009



	Checking	Mutual Funds	Total
January 1, 2009	$10,593.95	$ 7,365.37	$17,959.32
December 31, 2009	$ 7,096.12	$ 10,155.94	$17,252.06
Difference:	$ (3,497.83)	$ 2,790.57	$ (707.26)

Credits:

Deposits		$ 12,371.49
Dividends & Interest		$ 308.30
	Total:	$ 12,679.79

Debits:

Annual Meeting vender & supplies	$ (9,127.50)
Rottmann Scholarship	$ (1,000.00)
Raffle costs	$ (752.15)
Funds to Purchase Securities	$ (305.15)
Annual bank fees	$ (300.00)
AFS Liability Insurance	$ (150.00)
Tennessee Chapter Donation-AFS meeting	$ (1,000.00)
Web Package for "ShellCracker"	$ (542.82)
2011 SDAFS Deposit/Grand Hyatt Tampa Bay	$ (3,000.00)
Total:	$ (16,177.62)

2009 Balance	**$ (3,497.83)**

Major Expense Categories:

Annual Meeting, including Raffle	61.1%
2011 SDAFS deposit	18.5%
Student scholarships	6.2%
Donation for AFS meeting hosed by Tennessee	6.2%
Web Package	3.4%
Securities purchased	1.9%
Other: banking fees, insurance etc.	2.8%

2009 Annual Meeting Presentation Awards

Student Paper

Best: Geoff Smith (MS, University of Florida), D. Murie, and D. Parkyn. Non-Lethal sexing and implications of sex ratio on population dynamics of Greater Amberjack, *Seriola dumerili*.

Honorable Mention: Felipe Carvalho (PhD, University of Florida, D.J. Murie, F.H.V. Hazin, H.G. Hazin, and G.H. Burgess. Spatial predictions of blue shark catch per unit of effort (CPUE) and catch probability of juveniles in the southwestern Atlantic Ocean.

Professional Paper

Best: Kim Bonvechio (Florida Fish and Wildlife Conservation Commission), T.F.. Bonvechio, and R.L. Cailteux. Proposed standard weight (Ws) equation and standard length categories for Suwannee Bass Micropterus notius.

Honorable Mention: Chris Bradshaw (Florida Fish and Wildlife Conservation Commission), and B. Sauls. Keeping track of what you toss: The fate of for-hire discards.

Student Poster

Best: Calvin Gilkey (Undergraduate, Eckerd College), S.H. Denison and W.A. Szelistowski. Genetic analysis of the Atlantic and Pacific forms of the Amphi-American fish *Oligoplites saurus.*

Honorable Mention: Alan Downey-Wall (Undergraduate, Eckerd College), L.B. Van Woudenberg, W.A. Szelistowski and S.H. Denison. A Preliminary analysis of genetic structure in Florida populations of dusky pipefish Sygnathus floridae and chain pipefish *Syngnathus louisianae.*

Professional Poster

Best: Doug DeVries (NOAA Fisheries Service), C. Gardner, J. Brusher, and G. Fitzhugh. Demographic and spatial patterns of reef fish on the N.E. Gulf of Mexico inner shelf as revealed in a fishery-independent trap and video survey.

Honorable Mention: David Kerstetter (Nova Southeastern University Oceanographic Center) and S. M. Bayse. Characterization of swordfish buoy gear catches in the Florida Straits.

Rich Cailteux Award:

Ron Taylor (left) presented with the first Rich Cailteux Award, which recognizes individuals for their career long contibutions to the fisheries profession. Ron works for FWC/FWRI and has spent the majority of his 30+ year career enhancing our knowledge on the biology & ecology of snook species and is considered an international expert in his field.

Student Section

Student Research Highlight

Preliminary Age Estimates of the Endangered Smalltooth Sawfish in South Florida

Rachel M. Scharer*[1], William F. Patterson III[1], John K. Carlson[2]. [1]University of West Florida, Pensacola, FL and [2]NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center, Panama City, FL.

Introduction

In 2003, the smalltooth sawfish, *Pristis pectinata*, became America's first marine fish and first elasmobranch to be listed as an endangered species (Simpfendorfer, 2005). The early decline of the species in US waters was not apparent since they were caught only as bycatch for many years, thus did not appear in fisheries statistics (Seitz and Poulakis, 2006). The current population level is estimated to be approximately 5% of that of the original population (Simpfendorfer, 2002). The population once ranged from the Gulf of Mexico to New York in US waters, but currently is distributed between Ten Thousand Islands and the Florida Bay region of the Everglades National Park (Poulakis and Seitz, 2004).

Smalltooth sawfish have not been studied extensively, thus there is little information available on their ecology, including a lack of basic life history data critical for conservation. Most of the life history parameter estimates available for smalltooth sawfish are actually proxies based on data from congeners, usually *P. microdon*, the largetooth sawfish. Age and growth data for smalltooth sawfish are limited to juveniles examined by Simpfendorfer (2008). However, there have been three successful attempts at aging adults of other sawfish species, but ageing of adult *P. pectinata* has not been attempted previously.

Age of maturity is unknown for *P. pectinata*, but Simpfendorfer (2005) estimated that males mature at around 2.7 m and estimates for female maturation are around 3.6 m. Length at birth is approximately 600 to 800 mm (Simpfendorfer, 2002). Juveniles double in length in the first year of life, with growth slowing after the second year (Simpfendorfer et al., 2008). Young sawfish are often found in rivers and estuaries (Simpfendorfer, 2005), but it is unknown whether adult sawfish make migrations into freshwater to pup, or if juveniles migrate there after birth.

Several tagging studies have been conducted to examine sawfish movement patterns, but sample sizes have been low and this issue remains unresolved. In bony fishes, analysis of otolith chemistry has been shown to be an effective natural tag of freshwater versus estuarine or marine residency, which may have implications for examining habitat utilization for sawfish. Two elements commonly assayed in otoliths to examine habitat utilization are strontium (Sr) and barium (Ba). These elements act as a natural tag because they are incorporated from the environment into the calcium carbonate matrix of the otolith through substitution for Ca; both Sr and Ba are typically much higher in freshwater than in the ocean (Eldson and Gillanders, 2005). However, little research has been conducted on the incorporation of trace elements into elasmobranch hardparts, which likely results from the absence of otoliths in elasmobranchs. However, Hale et al. (2006) was able to map trace element distribution in vertebrae of the round stingray, *Urobatis halleri*, with laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS).

We have begun a study to examine several aspects of *P. pectinata* life history, including age, growth, and habitat residency. Our first objective is to determine whether smalltooth sawfish can be aged based on counts of opaque zones in vertebrae and possibly rostral teeth, with the goal being to fill current gaps in our knowledge of age and growth for this species. Secondly, we will employ LA-ICP-MS to examine age validation, habitat residency, and possibly migration patterns via analysis of trace elements in transects across sectioned vertebrae. Below, we present preliminary results from our initial examination of vertebrae sections to estimate fish age.

Methods

Vertebrae and rostral teeth were collected from naturally deceased fish (n = 8) in southern Florida. Transverse sections were made through vertebral centra and were read with transmitted light under a stereo microscope (Fig. 1). No staining was required due to opaque and translucent zones being clearly defined in vertebral sections. Lateral and transverse sections of rostral teeth have also been sectioned. Each section was read independently by two readers without any prior knowledge of fish size. If counts differed between readers, age was assigned by consensus.

Preliminary Results and Discussion

Size of sampled fish ranged from 600 to 4327 mm total length (Fig. 2). Opaque and translucent zones were clearly evident in vertebral centra, and age estimates based on counts of opaque zones were zero to nine years. Microstructure was apparent in longitudinal but not transverse sections of rostral teeth, although patterns similar to those in vertebrae were not found.

Sawfish mortality due to severe cold in south Florida this winter will provide a few more samples to age, and observers on fishing vessels may also provide additional vertebrae and rostral teeth samples due to bycatch mortality. Age validation will be explored through examination of calcium and trace metal concentrations across vertebral sections with LA-ICP-MS. The University of West Florida has a new Varian 810 Collision Cell ICP-MS, but we are dependent on a loaner laser system to do the ablation work. We have made tentative plans to so later in spring 2010. Beyond attempts at age validation with laser ablation of vertebrae, we also plan to examine microstructure patterns in rostral teeth sections and examine whether element:Ca ratios in vertebrae or rostral teeth can be used as a natural tag to estimate habitat residency.

Figure 1. Sectioned vertebra from a 3.1 m male smalltooth sawfish estimated to be 6 years old.

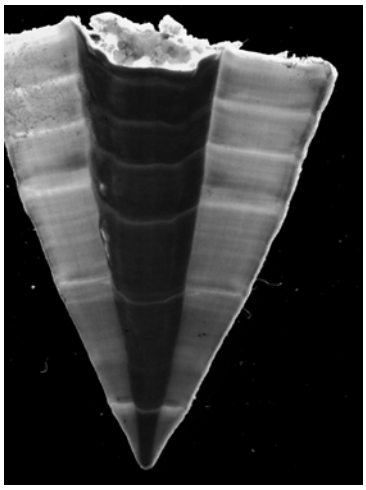
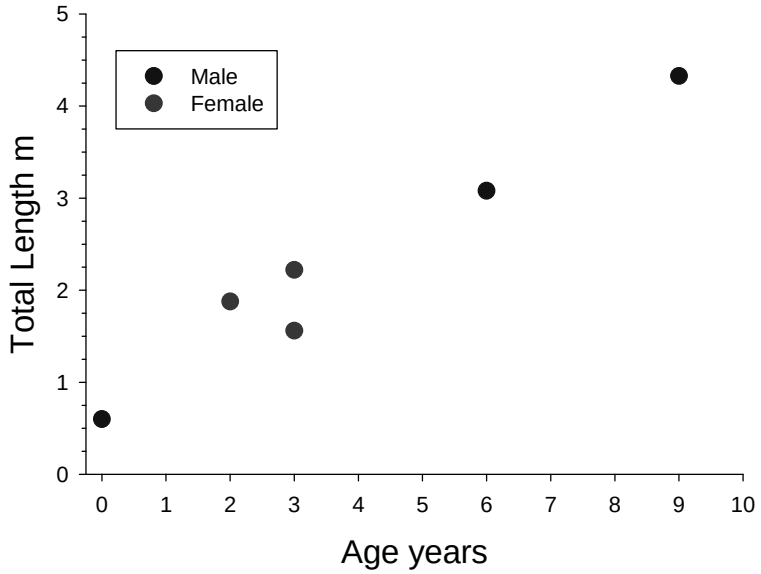


Figure 2. Size at age estimates based on opaque zones in sectioned vertebrae for small tooth sawfish sampled in south Florida.



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Seitz, J.C. and G.R. Poulakis. 2006. Anthropogenic effects on the smalltooth sawfish (*Pristis pectinata*) in the United States. Marine Pollution Bulletin, 52:1533-1540
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ROTTMANN SCHOLARSHIP RECIPIENTS!!!

The Doctoral-level recipient is Felipe Carvalho (pictured, left). The Masters-level recipient is Alecia Adamson (not pictured). Both are students at the University of Florida, School of Forest Resources and Conservation, Program in Fisheries and Aquatic Sciences.