The Shellcracker

FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

http://www.sdafs.org/flafs

October, 2012

President's Message:

I had the privilege of attending the 142nd meeting of the American Fisheries Society this August in St. Paul, Minnesota. At scientific meetings, I am always struck by the benefit of broadening your professional network and gleaning knowledge from other researchers. In particular, reaching across disciplines and study areas for inspiration is something that we can all benefit from as fisheries scientists. Too often we become relegated to the scientific approaches and thinking of our immediate colleagues and a fresh idea can frequently add new light to a question of interest.

One of the symposium topics at the annual conference was "Comparing and Contrasting Fisheries Research and Management Paradigms Across Marine and Freshwater Ecosystems". Although common challenges exist in both freshwater and marine systems, fisheries science and management of these systems often differ significantly in their approach. In some cases, the life history of the study species (i.e., anadromous or catadromous fish) dictates a melding of these ideas; but in many cases, sampling and statistical approaches vary widely between systems. The symposium was small (seven presentations) relative to its broad topic and was moderately attended. I feel that we, as fisheries scientists, can benefit from learning between systems by choosing to attend a talk that would not normally pique our interest. As a coastal fisheries biologist, I made a point of attending a few presentations on species whose life histories span both systems, such sturgeon and salmon, and on freshwater species such as walleye and largemouth bass. In addition to learning something new about relatively unfamiliar species to me, I also gained a few different ideas about how to approach fisheries questions within my focus.

One of the best parts about the Florida chapter meeting is that we don't have to choose between talks and end up benefitting automatically from different points of view. The symposium this year, "'Long-term monitoring: designs, problems, and results", is one that I am personally excited about, since I work for the State of Florida's Marine Fisheries Independent Monitoring Program, which has been around since 1989. Learning about other monitoring programs and approaches within our state will hopefully lead to new innovation in our own long-term program and may initiate the possibility of integrating some of these monitoring surveys to get a more comprehensive view of the status of Florida's fisheries. This symposium will be a great way to compare notes, improve upon monitoring approaches, and foster collaboration across disciplines. Please see page 3 for the first call for papers, and I look forward to seeing everyone in Ocala next February!

I hope everyone had a wonderful and productive summer!

Sincerely,
Kerry Flaherty
President, Florida chapter of AFS

Getting in Touch

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Upcoming Events

NSF Graduate Fellowships in the life sciences are due November 19th, 2012. 2000 of these prestigious awards for 30k per year fellowships over 3 years.
PROGRAM SOLICITATION NSF 12-599
For more information contact: http://www.nsf.gov/pubs/2012/nsf12599/nsf12599.htm

33rd Annual Meeting of the Florida Chapter of the American Fisheries Society, February 19-21, 2013. Altoona, FL

2013 Southern Division AFS Spring Meeting - February 7 -10, 2013 in Nashville, Tennesse. http://www.sdafs.org/meetings/2013/default.htm

2013 NANFA Convention - *KentuckyMay 2nd -5th, 2013, Cumberland Falls State Park. http://www.nanfa.org/convention/2013.shtml*

2013 Society for Integrative and Comparative Biologists Annual Meeting. January 3-7, 2013. San Francisco, CA. http://www.sicb.org/meetings/2013/

2013 ASLO. **American Society of Limnologists and Oceanographers,** New Orleans, LA. 17-22 February 2013. http://www.aslo.org/meetings/neworleans2013/

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

Got something you wish to contribute to the Shellcracker? Got an epipleural rib caught in your craw? Email the editor dparkyn@ufl.edu with any articles or information that you would like to be included in the next issue. The deadline for the next issue is Dec 20th, 2012, so sharpen your pencils AND your hooks… The Ed.

Annual Meeting and Symposium Announcement – 1st Call for Papers
33rd Annual Meeting of the Florida Chapter of the American Fisheries Society

February 19-21, 2013

Ocala 4H-Camp, Altoona, Florida

Hello Florida Fishheads! It's that time of year again! It's time to begin planning a return to the Ocala 4-H Camp to enjoy the company of colleagues and friends, and learn more about what's happening in the world of fisheries around you. The meeting is four months away, but it is never too early to begin thinking about what you might want to present. The meeting format will consist of both invited and contributed oral presentations and posters. The symposium on Wednesday will be 'Long-term monitoring: designs, problems, and results.'

Long-term monitoring programs take a considerable amount of time, effort, and funding. Two of the most common and important questions about monitoring programs are: Why are they taking place? How are they used? Some of the various monitoring programs in Florida will be highlighted at this year's symposium and will address these questions along with the design, problems, and results of the programs. After the overview of the programs, contributed papers that use long-term monitoring data will be presented. If you have long-term monitoring data that you would like to share, please submit an abstract.

All abstracts are due ***Friday, January 11, 2013***, for full consideration in the symposium or contributed sessions. Please send your abstract (<300 words) and associated information (following the format given below) to **travis.tuten@myfwc.com**; in the subject line of your email, please list the author(s) as they will appear in the program (e.g., SchaubMooreMajikowski.doc). Platform presentations will be 20 minutes (15 minutes for presentation and 5 minutes for questions or discussion). We will have **PowerPoint 2007** loaded on a laptop capable of accepting your presentation on a CD, DVD or flashdrive. All posters will be formally presented on Tuesday evening, February 19, and can be left up for the entire meeting. Posters should be no larger than 150 X 100 cm (60" X 40"), but they can be set up either as portrait or landscape format on an easel. If you require other options for projection or poster formats, please contact the annual meeting's Program Chair, Travis Tuten, at travis.tuten@myfwc.com.

The 2013 meeting will again be held at the Ocala 4-H Camp, on Sellers Lake in the Ocala National Forest. This venue is located east of Ocala, south of SR 40, just off SR19. Maps and directions will be available in the next issue of the Shellcracker or can be found at 4-H Camp Ocala's website 4-H Camp Ocala. The meeting's schedule will be similar to recent past meetings. We will begin at noon on February 19th. Lunch will be served and then followed by the presentation of contributed papers. The poster session will take place following dinner on Tuesday evening. The 'Long-term monitoring: designs, problems, and results.' symposium will start on Wednesday morning. The business meeting and raffle will follow dinner on Wednesday night. We will hear more contributed papers on Thursday morning, followed by lunch and the presentation of awards immediately following lunch.

For your convenience, we are again planning to have registration available online: 2013 FLAFS Meeting Online Registration. Once you fill out the online form, you can either pay online through PayPal or print the completed form and mail it in with your check, cash, or money order.

If you would rather not use the online form, a hard copy of the registration form as used in previous years can found in this issue of the Shellcracker or on the Chapter's website: Florida Chapter AFS

Please note the savings available if you register on or before January 11, 2013. This helps in many ways: reduces everyone's registration time, gives us a head's up on the count for meals, saves money, gets the correct amount of t-shirts or hats, and you don't miss any talks. Therefore, please **pre-register by completing the registration form** (online or hard copy) **and sending in your deposit** online through PayPal or by mail to the Chapter's Secretary-Treasurer, Cheree Steward (see registration form for Cheree's contact information), **by January 11, 2013**. Lastly, you should plan to bring your own linens or sleeping bag if you are planning to sleep at the camp. Linens will only be available in limited supplies and for a small fee.

Students: Student travel awards will be available for the annual meeting. Master's and doctoral students are also eligible for the Roger Rottmann Memorial Scholarship, for which the recipient(s) will be announced at the annual meeting. More information and the application materials are available at FLAFS Awards and Scholarships.

We're looking forward to returning to the beautiful 4-H camp for our 2013 annual meeting, and hope to see you there!

Sincerely,
Travis Tuten
FL AFS President-Elect

Registration (cont'd from Pg 3):

Abstract Format:

Limit abstracts to ≤ 300 words and follow this format (2007 MS WORD is preferred):

Presenter: Williams, Brian; Email: BranWilliams@FloridaFish.net;
Author(s): Williams, B.[1], K. Rowley[1], and P. George[2].
[1]Affiliation. Address.
[2]Affiliation. Address.

Title: Recommendations for New Limits on Some of Florida's Most Targeted Fish Species

Abstract: <300 words (MS Word will count it for you)

Student Presentation: No or Yes (work reported was completed while a student)

Presentation type: Oral or Poster

Would you like to be considered for the symposium? Yes or No

Are you willing to be a moderator? Yes or No

Are you willing to be a judge? Yes or No If so, oral presentation or poster?

Student Raffle and Silent Auction

Thank you all for making our last Raffle a good one. We had 80 donations that our members were able to collect from 5 states, in addition to numerous small prizes dropped off by the members. Special thanks go out to Janice Kerns, Travis Tuten, Kerry Flaherty, Joy Young, Bob Wattendorf, Steve Bortone, Andy Strickland, Matt Badolato, Carla Garreau, Eric Nagid, Larry and Diana Connor, Lew Bullock, Ed Camp, Sarah Stevens, KJ Starzinger, Kathy Guindon, Dave Kerstetter, and Alan Collins. We apologize if you have been inadvertently left off this list.

We need your Help to make the 2013 Raffle a bigger and better one!

We can easily get at least 20 more donations for this coming meeting's Raffle if all the above members help us again this year and several more members volunteer to cover some of their local businesses and organizations to get Raffle and Silent Auction donations. If you can spare a few hours over the next few months, **please e-mail or call Alan Collins at lac96@bellsouth.net or 850-303-4434 and he will be glad to help you.**

We ALL benefit from your generosity.

Florida Chapter of the American Fisheries Society
4H Camp Ocala, Florida
Annual Meeting Registration: February 19-21, 2013

Official Use Only:
Postmarked: _____
Entered: _____
Deposited: _____

First: _____ **Last:** _____ ☐ **Student (please check)**

Affiliation: _____
This address will be used in our mailing list and should be the one where you want to receive materials.

Street Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Work Phone: _____ **Ext:** _____ **Email:** _____

T-Shirt Size: (Select One) Small Medium Large X-Large XX-Large XXX-Large

Arrival Time: (Select One) Tue Noon Tue PM Wed AM Wed Noon Wed PM Thur AM

Please check the appropriate boxes below.

PRE-REGISTRATION: registration form postmarked by Friday, January 11, 2013
☐ $ 30.00 One-day Registration ☐ $ 40.00 Full Registration

LATE-REGISTRATION: registration form postmarked after Friday, January 11, 2013
☐ $ 35.00 One-day Registration ☐ $ 47.00 Full Registration

Meals and Lodging

Tuesday, February 19, 2013
- ☐ $8 Lunch
- ☐ $14.50 Dinner
- ☐ $27.00 Lodging

Wednesday, February 20, 2013
- ☐ $6.50 Breakfast
- ☐ $8 Lunch
- ☐ $14.50 Dinner
- ☐ $27.00 Lodging

Thursday, February 21, 2013
- ☐ $6.50 Breakfast
- ☐ $8 Lunch

Full Meals and Lodging ☐ **$120.00**
Linens (please bring own, limited supply) ☐ $ 6.00

Florida Chapter dues (calendar year 2013) ☐ **$10.00** ☐ FL Chapter dues paid via AFS annual membership.

Total Amount: _____

Total Enclosed: _____ ○Cash ○Check
(Minimum $10)

Balance Due: _____ ○Cash ○Check ○Credit

Please Make Checks Payable to Florida Chapter, AFS and mail to:

Cheree Steward
FWC
601 W. Woodward Ave.
Eustis, FL 32726

Phone: (352) 357-2398 ext. 244
Fax: (352) 357-2941
Email: cheree.steward@myfwc.com

*Checks not payable to 'Florida Chapter AFS' will be returned to sender.

Registration Forms may be sent via fax (attention: Cheree) or via email: (subject: 2013 AFS FL).
A minimum amount of $10 must be mailed to validate your registration.

Note: This is a cafeteria-style service and food must be ordered a week in advance.
Since meals are pre-paid, **please** submit your registration form as soon as possible.
Registrations will still be accepted at the meeting, but with a late registration fee.
We can only accept **non-FWC VISA** or **MASTERCARD** on the meeting date.
Credit card charges are submitted by our parent organization, AFS, after the meeting.
If you would like to pay your meeting fees with a credit card, then please send a $10 check for your deposit.

On-line registration is available at :
https://docs.google.com/spreadsheet/viewform?formkey=dDRPT2E0d18xZVh6UjZXSXk2cTFESmc6MQ

Award Nominations!?!

The Awards Committee is seeking nominations for the Florida Chapter's, Outstanding Achievement and Rich Cailteux Awards. Send nominations to Eric Nagid (eric.nagid@myfwc.com) by January 11, 2013. Applications should be limited to one page, but descriptive enough to convey why the individual is deserving of the award. Nomination letters should outline the accomplishments of the individual that meet the criteria of each award below.

Outstanding Achievement Award

The purpose of the Outstanding Achievement Award is to recognize individuals for singular accomplishments and contributions to fisheries, aquatic sciences, and the Florida Chapter. The award aims to honor individuals for distinct contributions to the fisheries profession and enhancing the visibility of the Chapter. The Outstanding Achievement Award is the highest honor Florida AFS may bestow upon an individual member or collaborating group.
Candidates will be evaluated according to the following criteria:

- Original techniques or research methodology
- Original ideas, viewpoints, or data which contributed to fisheries management or our understanding of aquatic resources
- Important ecological discoveries
- An original fishery research or management program of statewide importance

Activities in public education and outreach that have statewide impacts

Rich Cailteux Award

The purpose of the Rich Cailteux Award is to recognize individuals who have maintained a long-term commitment to research, management, and/or conservation of Florida fisheries and aquatic resources. This award aims to honor individuals for their career contributions to the fisheries profession and enhancing the visibility of the Florida Chapter.
Candidates will be evaluated according to the following criteria:

- A minimum of 20 years spent in a fisheries related field in Florida
- Substantial career contributions to Florida aquatic resources and the fisheries profession
- An imaginative and successful program in fisheries and aquatic sciences education
- An established record of mentoring young fisheries professionals, and involvement and leadership with the Florida Chapter of the American Fisheries Society

Student Section

Student Research Highlight

Use of underwater video cameras to assess fish communities in dense submersed aquatic vegetation

Kyle L. Wilson[1], Micheal S. Allen[1], and Michael D. Netherland[2]

[1] University of Florida, School of Forest Resources and Conservation, Program of Fisheries and Aquatic Sciences, 7922 NW 71st St., Gainesville, FL 32653

[2] US Army Engineer Research and Development Center, 7922 NW 71st Street Gainesville, FL 32653

*Corresponding author: wilson23@ufl.edu

Background

Habitat complexity shapes the structure of food webs, mediates predator-prey dynamics, provides refuge for young animals, and fosters increased biodiversity through niche partitioning. Submersed aquatic vegetation (SAV) functions as both ecologically critical and structurally complex habitat. Across many life-history stages, fish utilize SAV to forage on plants, algae, aquatic macroinvertebrates, and other fish and as refuge from predators. The variety of these uses makes SAV habitats highly important to fishery and conservation concerns.

The complex habitats that fish inhabit are often difficult to access creating unique challenges for sampling strategies aimed to inform conservation and management. The physical attributes of habitat including complexity and morphology influence the sampling efficiency for many gears, making quantitative assessments of animal occurrence and abundance difficult. Many studies have used traditional or modified gears to sample fish communities in SAV habitats including pop nets, seines, electrofishing, rotenone and trawls. However, these sampling gears capture probabilities are often influenced by habitat cover, and thus, it is important to understand how capture probability varies with habitat composition and complexity. These sampling problems become particularly evident in dense and/or invasive SAV species, such as hydrilla *Hydrilla verticillata*, which can form surface canopies and grow in high biomass densities that prevent effective sampling.

A consequence of these sampling issues is only a macro-scale understanding of fish-plant interactions, such as the average fish use in large vegetation patches, with very little micro-scale inferences available, such as the fish use on the scale exploited by individual or groups of fish. Conservation strategies often assume that dense SAV reduces dissolved oxygen owing to high respiration rates at night, therefore limiting fish utilization and available habitat. Unfortunately, fisheries managers rarely know the extent that fish utilize dense SAV because of the aforementioned sampling difficulties. Aquatic plant management actions (e.g., herbicides) are often applied at least in part under the assumption that fish habitat will be improved, but there is a need to evaluate fish use of dense SAV habitats to evaluate this assumption. Given the pervasiveness and spread of problematic and invasive SAV plants affecting aquatic ecosystems globally, managers need statistically valid fish samples in these complex but ecologically important habitats.

Methods

Here, we used an innovative, non-lethal method using UVC to obtain fish occurrence and fish counts in dense, surface-matted hydrilla. Three 0.405 ha experimental ponds covered with surface-matted hydrilla (~100% surface coverage) were used from July-October 2011; two ponds were stocked with 75 and 150 adult sunfish (*Lepomis macrochirus* and *L. microlophus*). The third pond had a multi-year fish community assumed to be at carrying capacity stocked with *Lepomis* spp. and largemouth bass, *Micropterus salmoides*. All ponds were drained in October 2011 and total fish populations were obtained via fish collections.

A portable viewing system coupled with an underwater video camera and DVR-recorder was used to capture point counts beneath the *Hydrilla* canopy layer (Figure 1).

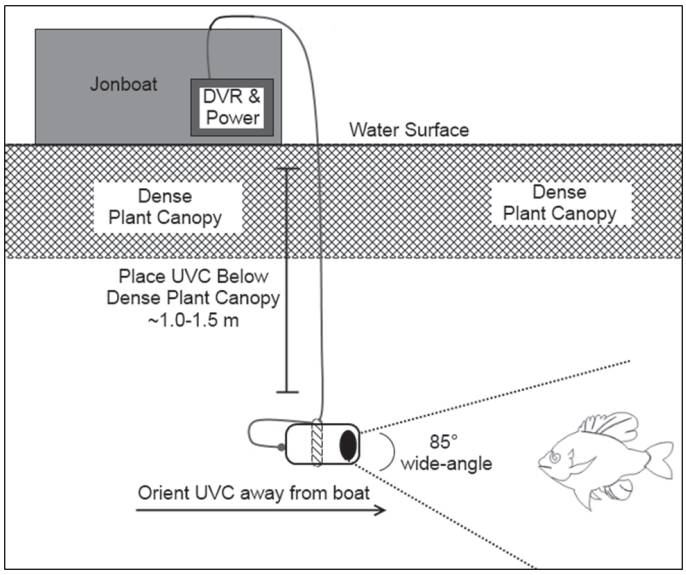

Figure 1- Diagram for underwater camera deployment to sample fish in dense aquatic plants.

We conducted 10-20 point counts with UVC every two weeks at random locations at each pond. We measured fish presence, and fish counted at each point count. From video analysis, fish were identified down to functional group (small fish), family (*Lepomis* spp.) or species (largemouth bass) were we noted fish as present or absent from the point count. When fish were present we counted the abundance of each fish type using the $MaxN_{species}$ statistic as the maximum number of individuals of a taxon onscreen at any one time during the point count counted fish at each site as the maximum number of fish onscreen at any one time (Figure 2).

Furthermore, mean *MaxN* increased with fish abundance among ponds, suggesting that video counts captured proportional changes in abundance (Figure 3). Mean fish occurrence also increased with increases in fish abundance (Figure 4).

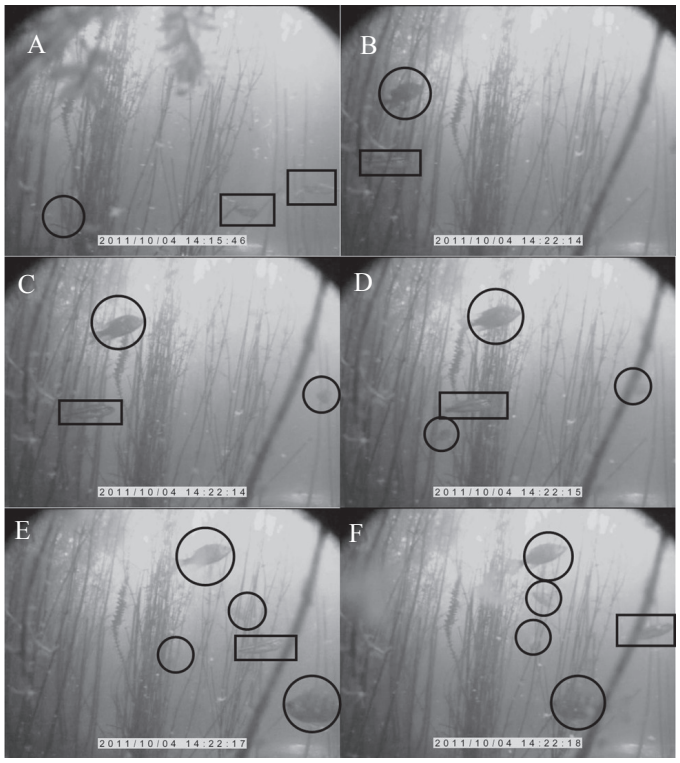

Figure 2- Example UVC point count taken underneath dense, surface-matted SAV showing the *MaxN* for juvenile largemouth bass and *Lepomis* spp. occurring at different times. A) Two juvenile largemouth bass (in rectangle) were observed with one *Lepomis* spp. (in circles). B-F) only one juvenile largemouth bass was observed with several *Lepomis* spp.

Answers to Page 9 Florida Fishes A. Juvenile African pompano, B. tessellated darter C. beaugregory D. flagfish

We then evaluated whether occurrence and *MaxN* metrics varied between the ponds and through the sampling season with sampling week as the predictor variable using a generalized linear model. As largemouth bass occurred infrequently and were only in pond 3, we combined all fish species together in this analysis.

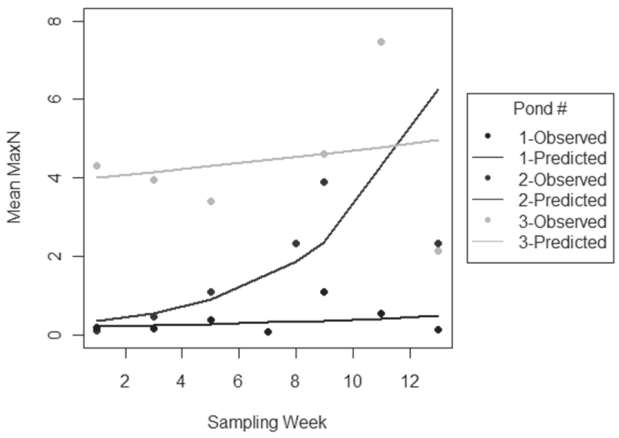

Figure 3- The observed mean *MaxN* (maximum number of fish simultaneously onscreen; points) and predicted mean *MaxN* (solid lines) for all fish sampled in dense SAV with UVC in each pond per sampling period.

Results and Conclusion

The end of season collections showed the ponds held different levels of fish populations. Pond 1 started at 75 adult *Lepomis* spp. and ended at 21 fish with no recruitment. Pond 2 started at 150 adult *Lepomis* spp., had recruitment and ended at 5,000+ fish. Pond 3 started at assumed carrying capacity and ended at 15,000+ *Lepomis* spp., 700 juvenile largemouth bass, 3 adult largemouth bass. The differences in population size in each pond were accurately reflected in UVC fish occurrence and *MaxN* between the ponds. Fish occurrence and *MaxN* were lowest in pond 1, intermediate in pond 2, and highest in pond 3 (Table 1).

Furthermore, mean *MaxN* increased with fish abundance among ponds, suggesting that video counts captured proportional changes in abundance (Figure 3). Mean fish occurrence also increased with increases in fish abundance (Figure 4).

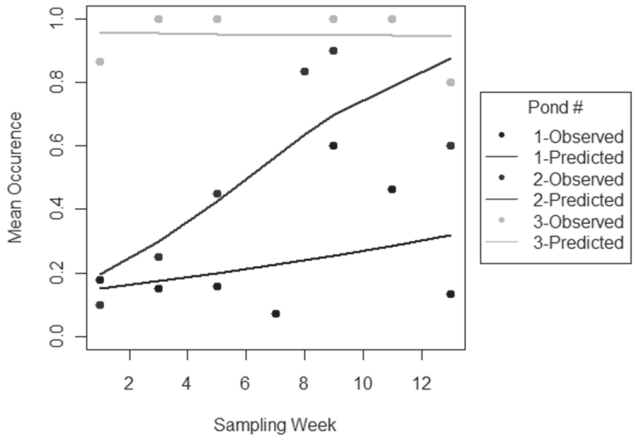

Figure 4- The observed mean occurrence (points) and predicted mean occurrence (solid lines) for all fish sampled in dense SAV with UVC in each pond per sampling period.

The UVC provided an innovative, non-lethal technique to sample fish communities in densely vegetated aquatic habitats. An advantage of UVC to other sampling techniques in SAV, such as electrofishing, is that it allows direct observation of fish in structurally complex habitat and addresses the lack of micro-scale inferences on fish-plant interactions. Furthermore, UVC can provide several different metrics at the population (e.g. presence-absence, abundance, species diversity) and behavioral level (e.g. co-occurrence, movement, foraging) and provide permanently captured data that can be reviewed repeatedly for accuracy.

Table 1- Three ponds with dense SAV and different levels of fish abundance were sampled with a UVC system. The mean fish occurrence and the mean *MaxN* were taken for all fish taxons and all sampling periods in that pond. Trend refers to how those metrics responded over the course of the sampling season.

Pond	Fish Abundance	Abundance trend	Fish Occurrence	Occurrence trend	*MaxN*	*MaxN* trend
1	Low	Stable	0.222	Stable	0.433	Stable
2	Intermediate	Increased	0.495	Increased	1.61	Increased
3	High	Stable	0.95	Stable	4.34	Stable

The sampling design for using UVC can be specialized to fit the needs for a variety of fishery and conservation objectives. We showed that the UVC can be useful for assessing fish abundance in dense SAV habitats, which have traditionally been difficult to sample with standard gears. The UVC effectively measured differences in fish abundance among the ponds and detected temporal changes in abundance for the pond with high recruitment of young fish. Resource managers could use these methods to evaluate fish community responses to changes in habitat (e.g. sample for littoral fish community's response before/during/after aquatic plant removals) or to detect differences in fish abundance among lakes with different habitat characteristics. For example, freshwater fish frequently inhabit areas of low dissolved oxygen or impacted water quality; a sampling protocol that quantifies fish responses, taken from UVC metrics, and habitat/water quality metrics might be superior for time course sampling of fish communities responding to seasonal hypoxia compared with traditional methods. This method offers new opportunities to quantify fish population responses to changes in habitat quality and quantity.

About the first Author. Kyle Wilson, undertook a large-scale dispersal from his natal West Coast stream and is a MS student studying with Dr. Mike Allen at the University of Florida.

Name That Florida Fish!

(Answers bottom of page 8)