

Lab Lines

NOVEMBER 2021

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DIRECTOR'S VIEW

The Coastal and Estuarine Research Federation (CERF) and American Fisheries Society (AFS) conferences dominated much of the time of many of CBLs faculty, FRAs and students. Kudos to Dr. Lora Harris and all those involved in organizing the CERF conference, and to Dr. Ryan Woodland and all those involved in organizing the AFS conference. Also, please take the time to congratulate Isabel Sanchez-Viruet and Kohma Arai for their best presentation awards at the CERF conference. Both awards are reminders that although we have struggled through COVID, we have maintained our tradition of excellence in our science despite the challenges.

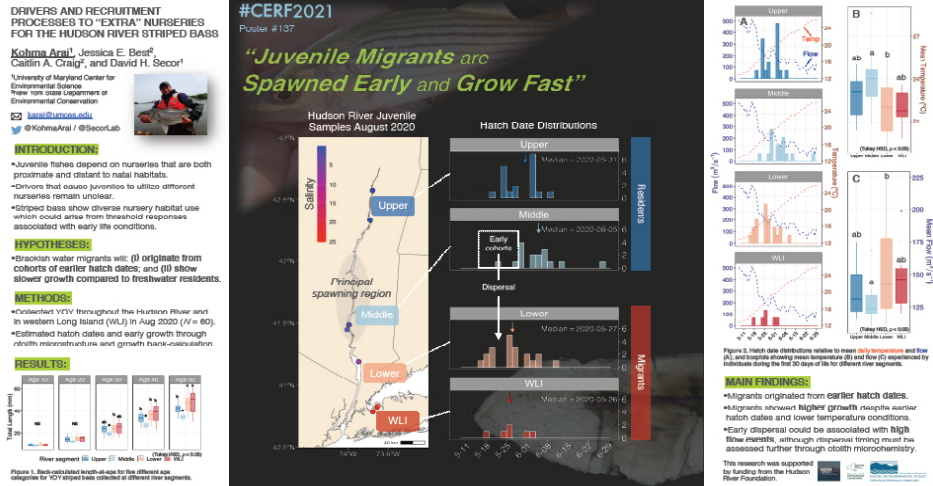
Of all the things I enjoy about America, I think Thanksgiving tops the list. A holiday that is designed to simply spend time with family and friends – to eat, drink, and be thankful for life's bounty – What's not to like. I think it is especially great that so many of us chose to take this time to help others who struggle on a daily basis. So, to the entire CBL community – whether you are travelling far, or just to the couch – I offer everyone best wishes for a wonderful Thanksgiving holiday. Spend time with family and friends, and if you like me you can't because they are far away, phone them to tell them how important they are. Try to find time for yourself to rest and recharge or indulge in a passion. This last 18 months has taught us many things, but more than anything, it surely must have reinforced the importance of family and friends in our lives – and how thin the veneer of civilization can be.

IN CASE YOU MISSED IT

Ryan Woodland was the Scientific Committee co-Chair this year for the American Fisheries Society National Meeting in Baltimore from Nov 6-10th.

A number of UMCES folks were involved with the CERF 2021 conference that began on November 1st. At CBL this includes Lora Harris as conference co-chair and Jeremy Testa as Scientific Program Committee co-chair, as well as students Nick Coleman and Isabel Sanchez Viruet on the Attendee Experience Committee.

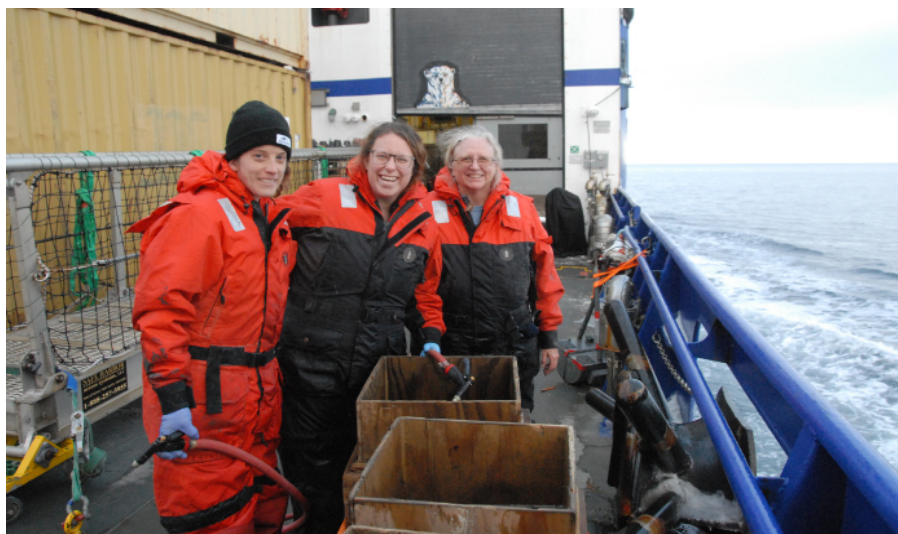
Kohma Arai and David H. Secor (CBL) presented a virtual poster at the 26th biennial conference of the Coastal and Estuarine Research Federation (CERF). Arai K, Best JE, Craig CA, Secor DH. "Drivers and recruitment processes to "extra" nurseries for the Hudson River striped bass."



Slava Lyubchich (CBL) and Srishti Vishwakarma (AL) presented two virtual posters at the 3rd Conference on Statistics and Data Science (Salvador, Brazil):

- V. Lyubchich and K. H. Kilbourne. Testing the Granger-causal relationship between the North Atlantic Oscillation and multidecadal sea surface temperature variability. <https://youtu.be/18GAS3Irih0>
- S. Vishwakarma, X. Zhang and V. Lyubchich. Applying data science quantile approaches to investigate drivers of crop yield anomalies. <https://vimeo.com/633396382>

Jackie Grebmeier, Lee Cooper, Christina Goethel, and Catherine Lalande are sailing for the first time in arctic waters in November, aboard the RV Sikuliaq, having left Nome on Sunday. The small team onboard also includes scientists from the University of Alaska Fairbanks, the University of Washington and NOAA's Pacific Marine Environmental Lab. Air temperatures are currently -5°C (22°F), and the surface water temperature is 0.3°C , but winds are light and seas calm.



Campus Sign Project

Building off the success of the “Climate Stripes” sign, the Chesapeake Biological Laboratory is developing a series of visually compelling outdoor signs that use our research to engage individuals who walk around our campus in learning about our local environment, who we are, what we do, and why it is important.

Thank you to Amber Fandel, Samantha Mais, Laura Lapham, Lauren Rodriguez and Dong Liang for submitting their ideas for outdoor signs or exhibits! The Chesapeake Biological Laboratory is conducting research to support the development of several ideas generated from members of our community:

Disappearing Bay Grasses

Using a series of three aerial photos, campus visitors will view the loss of bay grasses in the waters surrounding Solomons Island.

Sea Level Rise/Coastal Inundation on Solomons Island

CBL will work to secure permission from Calvert County to paint the sidewalk near the Visitor Center and traffic circle, or to install high water mark signs, to help walkers visualize the local impacts of current flooding and future sea-level rise.

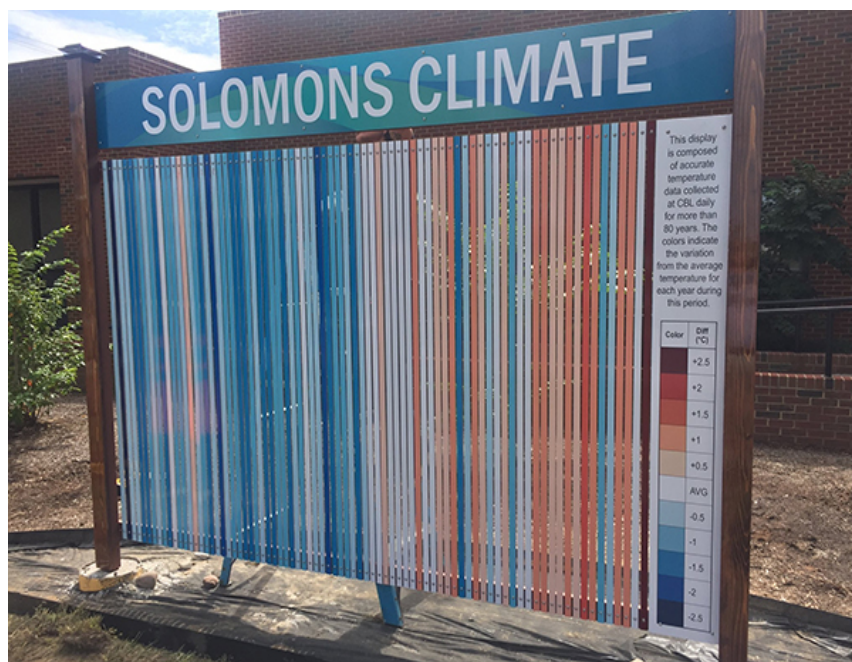
Going In-Seine

Signage will briefly explain what a seine study is and highlight fish commonly caught in the survey.

Ride-On/Selfie Statue

Like Testudo at UMD College Park or the Nittany Lion at Penn State, a prominently featured sculpture or statue of a charismatic Chesapeake Bay animal will become an iconic feature and “selfie spot” on CBL’s Solomons Island campus. This will increase awareness of the Chesapeake Biological Laboratory as a scientific university and provide fundraising opportunities.

New campus signs will follow the 03-30-03 interpretive strategy: Each exhibit will include messages for audiences viewing signs over a 3-second, 30-second, and 3-minute duration.



Flooding Photo Call

Do you have photos of Solomons Island flooding from October 2021 that you are willing to share with the community? CBL Outreach is looking for photos that may be used show current flooding and coastal inundation in the Campus Sign Project. Add your photos to the "2021 Solomons Island Flooding" Google Drive.

Visitor Center

The CBL Visitor Center opened to CBL faculty, staff, and students on the morning of November 3rd, when over \$800 of merchandise was sold.

The Visitor Center will open once more to offer members of the CBL community a final opportunity to purchase logo t-shirts and items prior to winter break. This opening will occur for a few hours on a day in early or mid-December.

Science for Communities

Thank you to CBL's Drs. Kilbourne, Nesslage, Grebmeier, and Lyubchich, as well as AL's Mark Cochrane and NOAA's Libby Jewett for presenting in the Fall 2021 Science for the Communities webinar series!

Planning for the Spring 2022 series has begun. Pending the status of the Southern Maryland community with respect to the COVID-19 coronavirus pandemic, we hope that the spring series can return to offering in-person attendance. A Zoom webinar participation option will continue for those who cannot travel to the lab. Organizers are exploring a possible theme of "The Urban Ocean" for Spring 2022.

Facilities

Maintenance Building - Closed for Repairs

Following the October flooding, the Maintenance Building will be closed for substantial repairs and the building is not in safe occupancy mode at this time. The staff has temporarily relocated to Nice Hall. If you are picking up a vehicle, or need something or someone from Maintenance, please contact Brian, Dale or Stacy.



AUTOCLAVE PROCEDURE AND SAFETY

We currently have two autoclaves available for use on campus and they are located on the 2nd floors of Bernie Fowler Labs and Truitt labs. This newsletter will provide you with information about autoclaves and how to use them. If you need to use one and are new to autoclaves, please be sure to contact me for training. However, if you are already familiar with them, this newsletter will be a review.

Autoclaves use elevated temperatures (usually 121° C) and pressure for a selected length of time to sterilize items such as glassware, equipment, waste, medical equipment and medical waste. Cycle selection for the unit will depend on what it is you are sterilizing. For liquids or items containing liquids use the liquid cycle. If you are sterilizing glassware or other unopened utensils, you would select the gravity cycle. Any wrapped items will require the vacuum cycle.

There are three phases that will occur during the selected cycle once the autoclave is started. The first is the purge phase in which the steam will start to displace the air in the unit and the temperature and pressure will start to increase. During the exposure (sterilization) phase, the temperature and pressure will reach the desired set point and maintain it until the desired time limit has been reached. Once the time limit has been reached, the third phase - exhaust phase - will begin and the pressure will be released and the unit is restored to ambient temperature. The contents will remain hot, so use care when removing items from the autoclave.

Autoclave Procedure

Please be sure the autoclave is clean before you turn on the generator and jacket.

- Wipe away any water inside the autoclave. Clean with a simple rag and water.
- Check the door gasket for any flaws before loading.
- Make sure the drain is clear and clean.

Before loading items into autoclave:

- Be sure the items are autoclavable. Glassware and plastics should be heat resistant (Pyrex, Kymax, polycarbonate, Teflon and polypropylene.) Do not autoclave any oils, waxes, flammables, radioactive materials, chlorides and any solvents that could emit toxic fumes.
- Make sure containers are no more than 2/3 full and any screw caps have been turned back so they are not tight
- Any containers with liquid should be placed in a secondary container or tray that can hold all the liquid in the container in case of a spill. Open shallow metal pans are best for this than tall plastic tubs. Add about ¼ to ½ inch of water to pans to allow for even heating.
- Do not mix solids and liquids in the same load.

Loading items:

- When placing items in the autoclave, make sure they are not close together because you will need to allow for air to move around inside. Do not overload the autoclave.
- Use the shelf. Never set something on the bottom of the autoclave.

Safety Corner: Continued

Use:

- Turn on jacket and generator from the menu panel if they are not already on. It will take about 20-30 minutes to get up to pressure.
- Before starting cycle, the chamber gauge should be reading “0”. The jacket gauge is about 15-20 psi and the chamber pressure should be 60-70 psi. Do not open door if chamber is not “0”.
- When autoclave is ready, close door and turn knob until it fits snug and then turn 2 more times.
- Select cycle and it will continue on its own. Be sure to stay for 60 seconds after starting to make sure everything is running properly.

Cycle select-

- All liquids as liquid.
- Gravity – anything not wrapped. Open glassware.
- Vacuum – anything wrapped.

After use:

- Once cycle is over, make sure the chamber gauge is at “0” before opening door even if the menu panel says it is okay to open the door. Wear the appropriate protective equipment. Gloves are provided in each autoclave room.
- Be sure to stand behind the door and open slowly. You can use the door as a shield should a large amount of steam exit the chamber.
- Allow the items to cool before removing.
- Be sure to clean the autoclave when you are finished and sign into the logbook

Before You Go!

CBL's FacBook has transformed into the CBL Handbook. All CBLers are welcome to take a look at this newly improved resource! [Click here to take a look!](#)

For any suggestions or questions, please reach out to Renee Arnold at rarnold@umces.edu.

