

2022 National Aquaculture Extension Conference
Jun 13-17, 2022
Holiday Inn by the Bay
Portland, Maine

Summary:

The 2022 National Aquaculture Extension Conference (NAEC) was held at the Holiday Inn by the Bay, in Portland, Maine, from Monday June 13 through Friday, June 17. 74 attendees were present, representing 28 states, the District of Columbia, as well as the Marianas Islands, the Republic of Marshall Islands. Twenty-four presentations and four posters were delivered during the program, and two field trips to sites of interest along the Maine coast were conducted. A survey was distributed to all attendees, of which 32 were returned. The content, format and location were viewed favorably, with suggestions for inclusion into the next NAEC, scheduled for 2026, in Wisconsin. Details of the proceedings are listed out below.

Attendee Institutions:

Extension and Sea Grant programs:

College of Micronesia Land Brant
Connecticut Sea Grant
Cornell Cooperative Extension of Suffolk County
Delaware Sea Grant
Florida Sea Grant
Illinois-Indiana Sea Grant
Kansas State University
Kentucky State University
Lake Champlain Sea Grant
Louisiana State Ag Center
Louisiana Sea Grant
Maine Sea Grant
Michigan Sea Grant
Michigan State University Extension
Mississippi/Alabama Sea Grant Consortium
MIT Sea Grant
New York Sea Grant
North Carolina Sea Grant
Northern Marianas College CSREES
Ohio Sea Grant
Oregon Sea Grant
Rhode Island Sea Grant
Texas Sea Grant
University of Maine Cooperative Extension
UR Coastal Resources Center
University of Guam Sea Grant
University of Southern California Sea Grant Program

Wisconsin Sea Grant

Universities and other educational institutions:

Auburn University, Alabama Fish Farming Center
 Auburn University, School of Fisheries
 Carteret Community College
 Cornell University
 University of Maine, Aquaculture Research Institute
 Mississippi State University
 New Mexico State University
 Ohio State University
 Oregon State University
 Paducah Tilghman High School
 Purdue University
 Salem State University
 Texas A&M University
 University of Arkansas, Pine Bluff
 University of California, Davis
 University of Hawaii
 University of Idaho
 University of Maryland
 University of Missouri
 University of Rhode Island
 University of Wisconsin, Stevens Point

Agencies and Organizations:

Kualoa Ranch
 Government of Rongelap Atoll
 Kennebec River Biosciences
 National Warmwater Aquaculture Center
 Northeast Regional Aquaculture Center
 NOAA Office of Aquaculture
 Southern Regional Aquaculture Center
 North Central Aquaculture Center
 Western Regional Aquaculture Center
 Center for Tropical and Subtropical Aquaculture
 National Sea Grant Office
 NOAA Fisheries, Southeast Science Center
 NOAA National Center for Coastal Ocean Science
 USDA/APHIS

Program:

The entire 2022 NAEC was carried out in plenary, per the custom of the program: this allows all attendees to see the same material, and provides better conditions for networking - one of the

principal goals of the program. Presentations were delivered on June 14 and 16. Presentation and poster details are given in Appendix II. Field trips - also described in Appendix II - were conducted on Wednesday, June 15th.

Survey:

A paper survey was circulated to all attendees at the program, with 32 responses collected. The survey is given as Appendix III, with the survey results as Appendix IV. Program coordinators also collected open-response replies from the audience, given in Appendix V.

We are happy to supply you with this program report, and were very pleased with the proceedings themselves, including the exceptional support through the Regional Aquaculture Centers and the NOAA Sea Grant Program, together with the many people who advised the development and implementation of the event.

In appreciation, and respectfully submitted;

Dana L. Morse: Maine Sea Grant and University of Maine Cooperative Extension
and

Forrest Wynne: Kentucky State University
Co-Chairs

APPENDIX I - List of attendees

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Avery	Jimmy	jimmy.avery@msstate.edu
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Schreiner	Donald	schr0941@d.umn.edu

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Zydlowski	Gayle	gayle.zydlowski@maine.edu

APPENDIX II - Conference Program

2022 National Aquaculture Extension Conference
and
Continuing Education Workshop
Holiday Inn by the Bay, Hotel and Conference Center, Portland, Maine.

Monday, June 13th Conference Opening

4:00 – 6:00 pm EST Registration

6:00 – 8:00 pm Opening Reception

Tuesday, June 14th

7:00 - 8:00 am Continental Breakfast

8:00 – 8:10 am Welcome and Introductions
Dana Morse, Maine Sea Grant College Program and University of Maine
Cooperative Extension, and Forrest Wynne, Kentucky State University
Extension. dana.morse@maine.edu, fwynne@uky.edu

8:10 – 8:40 am Reginal M. Harrell, PhD. Department of
Environmental Science and Technology and Director, Northeastern
Regional Aquaculture Center, 2113 AnSc/AgEng Bldg, University of
Maryland, College Park, MD 20742. rharrell@umd.edu

8:40 – 9:15 am Gayle Zydlewski, PhD. Director, Maine Sea Grant College Program.
University of Maine, 5741 Libby Hall, Orono, ME. 04469.
gayle.zydlewski@maine.edu.

Kola Garber, PhD. Deputy Director, National Sea Grant College Program.
1315 East-West Highway, Silver Spring, MD, 20910.
nikola.garber@noaa.gov

**Session 1 Aquaculture literacy/social license,
regulations and permitting**

* indicates corresponding author.

9:15 – 9:30 am THE GREAT LAKES AQUACULTURE
COLLABORATIVE'S (GLAC) ROLE IN SUPPORTING
SUSTAINABLE AQUACULTURE IN THE GREAT LAKES REGION.

Amy J. Schrank* and Donald R. Schreiner.
University of Minnesota Sea Grant, St. Paul, MN 55108.
aschrank@umn.edu

9:30 – 9:45 am USING CROSS-SECTORAL PARTNERSHIPS TO
BUILD PUBLIC TRUST AND ENHANCE AQUACULTURE
LITERACY.

Brianna Shaughnessy*, Amalia Almada, Kim
Thompson, Peter Kareiva, Michelle Marvier, Mark Rath, Maggie Allen.
NOAA Office of Education and University of Massachusetts Boston, 100
William T Morrissey Blvd, Boston, MA 02125.
brianna.shaughnessy@noaa.gov

9:45 – 10:00 am GROWING AQUACULTURE LITERACY USING
LOCAL CONTEXT.

Nicole Wright, Ohio Sea Grant, The Ohio State
University, Area 100 Research Center, 1314 Kinnear Rd., Columbus, OH
43212. wright.1128@osu.edu

10:00 – 10:30 am Break

10:30 am ADVOCATING FOR AQUACULTURE
THROUGH SCIENCE CAFÉS AND OTHER EDUCATION
EXPERIENCES.

Theodore Willis*, Kate Holcomb. Lake Champlain
Sea Grant, 81 Carrigan Drive, Burlington, VT 05405.
Theodore.willis@uvm.edu

10:45 am COMPREHENSIVE AQUACULTURE HEALTH
PROGRAM STANDARDS (CHAPS).

Kathleen H. Hartman, USDA APHIS Veterinary
Services, 1408 24th Street, SE, Ruskin, FL 33596.
Kathleen.H.Hartman@usda.gov

11:00 am NURTURING THE SUCCESSFUL
GROWTH AND MATURATION OF A

DOMESTIC SEAWEED AQUACULTURE
INDUSTRY: IDENTIFYING AND REMOVING
BARRIERS AND PROMOTING OPPORTUNITIES.

Anoushka Concepcion*, Gabriela Bradt, Meg
Chadsey, Antoinette Clemetson, Melissa
Good, Dawn Kotowicz, Stephanie Otts, Joshua
Reitsma, and Jaclyn Robidoux. Connecticut Sea
Grant and UConn Cooperative Extension,
University of Connecticut, 1080 Shennecossett
Road, Groton, CT 06340.
anoushka.concepcion@uconn.edu

11:15 am CREATING A SEAWEED FOOD SAFETY
TRAINING TO SUPPORT THE GROWING INDUSTRY.

Michael Ciaramella*, Anoushka Concepcion,
Catherine Janasie, Stephanie Otts. New York Sea Grant/Cornell
Cooperative Extension, 146 Suffolk Hall, Stony Brook, NY 11794-5002.
mc2544@cornell.edu

11:30 am THE REGULATORY EFFECTS ON
ORNAMENTAL AQUACULTURE FARMS IN FLORIDA.

Eric J. Cassiano*, Noah C. Boldt, Jonathan van
Senten, Carole R. Engle and Matthew A. DiMaggio. Tropical
Aquaculture Laboratory, University of Florida, 1408 24th Street S.E.
Ruskin, FL 33570. ericcass@ufl.edu

11:45 am PRODUCER FEEDBACK ON AQUACULTURE
REGULATIONS IN THE GREAT LAKES REGION.

Donald R. Schreiner * and Amy J. Schrank.
University of Minnesota, Minnesota Sea Grant College Program, 144
Chester Park Bldg., 31 West College Street, Duluth, MN 55812.
schr0941@d.umn.edu

12:00 - 1:00 pm Lunch

1:00 pm AUTOGENOUS VACCINES IN AQUACULTURE.

Bill Keleher. Kennebec River Biosciences, 41 Main
St., Richmond, ME 04537.
wkeleher@kennebecbio.com

1:15 PM NOAA FISHERIES RESOURCES FOR MARINE
AQUACULTURE PERMITTING GUIDANCE.

Kevin Madley*, Chris Schillaci, NOAA Fisheries,
Greater Atlantic Regional Fisheries Office,
Gloucester, MA 01930. kevin.madley@noaa.gov

Session 2

Aquaculture marketing and economics

1:30 pm RETAIL SEAFOOD MARKET TRENDS IN THE
U.S., 2016 TO 2021.

Ganesh Kumar*, Lianqun Sun, Carole Engle, and
Jonathan Van Senten Mississippi State University, Delta Research and
Extension Center, Stoneville, Mississippi, U.S.A. gkk27@msstate.edu

1:45 pm IMPROVING EQUITABLE ACCESS TO
LOCALLY FARMED SEAFOOD THROUGH THE SOUTH CENTRAL
LOS ANGELES SUSTAINABLE SEAFOOD HUB.

Amalia Almada*, Heather Fenney, Diane Kim,
Nathan Churches, Linda Chilton, Maria Madrigal, Phyllis Grifman,
Bernard Friedman, Anna Joo Kim, Victoria Campbell-Arva. University of
Southern California Sea Grant, 3454 Trousdale Pkwy, CAS 200, Los
Angeles, CA, 90089. amaliaal@usc.edu

2:00 pm RAISING AWARENESS OF LOCAL SEAFOOD
IN AMERICAN' BREADBASKETS: OPPORTUNITIES FOR
CONSUMER EDUCATION

Amy Shambach*, Kwamena Quagraine, Troy
Weber, Illinois-Indiana Sea Grant / Purdue University, 195 W. Marsteller
St., West Lafayette, IN 47907. ashambac@purdue.edu

2:15 pm PANDEMIC: OPPORTUNITY FOR FISH
MARKET DIVERSIFICATION. Kwamena
Quagraine*, Amy Shambach, Illinois-Indiana Sea
Grant / Purdue University, West Lafayette, IN
47907. kquagrai@purdue.edu

2:30 pm INCORPORATING ENTERPRISE
BUDGETING INTO AQUACULTURE RESEARCH
VERIFICATION PROGRAMS

Terrill R. Hanson*, Luke A. Roy. School of Fisheries, Aquaculture, & Aquatic Sciences Auburn University, 213 Swingle Hall, Auburn, AL 36849. hansontr@auburn.edu

2:45 – 3:15 pm Break

Session 3 **Aquaculture and the environment**

3:15 pm FACILITATING A CONVERSATION BETWEEN PRIORITIZING NPDES REQUIREMENTS AND ANIMAL WELFARE OBLIGATIONS.

Lauren N. Jescovitch* Michigan State University Extension & Michigan Sea Grant, 1500 Birch Street, Houghton, MI 49931. jescovit@msu.edu

3:30 pm _____ INCREASING FISH WELFARE OF LARGE FINFISH IN CALIFORNIA AQUACULTURE.

Jackson A Gross MSPH, Ph.D.* and Zarah Deutsch, D.V.M. University of California Davis, 1 Shields Ave, Department of Animal Science, Davis, CA 95616. jagross@ucdavis.edu

3:45 pm MUD BLISTER WORM *Polydora spp.* IMPACTS, REGULATORY CONSIDERATIONS, GROWER COLLABORATION AND CONSUMER OUTREACH IN OREGON.

Sam Chan and Megan Considine. Sea Grant Extension, Oregon State University, 1600 SW Western Blvd., Suite 350, Corvallis, OR 97330. Samuel.chan@oregonstate.edu

4:00 pm POTENTIAL IMPACT OF HERBICIDE OVERSPRAY ON PHYTOPLANKTON BLOOMS IN ARKANSAS PONDS.

George L. Selden, University of Arkansas at Pine Bluff, 2704 Greenbriar Dr. Jonesboro, AR 72401. seldeng@uapb.edu

4:15 pm CAPACITY BUILDING AND CENTRAL ISSUES IN REDUCING USE AND DETRIMENT OF PLASTICS IN THE MARINE ENVIRONMENT.

Dana L. Morse, Maine Sea Grant College Program, and University of Maine Cooperative Extension. Darling Marine Center, 193 Clark's Cove Road, Walpole, ME 04573. dana.morse@maine.edu

Session 4 Posters (listed below)

4:30 – 6:00 pm Poster session briefings – Poster presenters provide a brief summary of their work to conference participants.

Poster Session Reception – Attendees can ask presenters specific questions about their work during an informal reception setting that encourages professional networking. *Local oysters on the half-shell will be served, courtesy of Libby Davis, and Lady Shuckers (www.ladyshuckers.com)*

USE OF EXTENSION DATA FOR HIGH SCHOOL SCIENCE FAIRS: A CASE STUDY.

Anita M. Kelly, Merci Pena, and Maria Quintero Auburn University, Alabama Fish Farming Center, 529 Centreville St. Greensboro, AL 36744. amk0105@auburn.edu

DO SHELLFISH AQUACULTURISTS HAVE A ‘RIGHT TO FARM’ IN DELAWARE?

Dennis McIntosh*, Chris Hauser and Kenneth Kristl. Aquaculture Research and Demonstration Facility, Delaware State University, 1200 N. Dupont Highway, Dover, DE 19901. dmcintosh@desu.edu

WESTERN REGIONAL AQUACULTURE CENTER (WRAC) ACTIVITY UPDATE.

Rossana Sallenavae, New Mexico State University, P.O. Box 30003 MSC 3AE, Las Cruces, NM 88003. rsallena@ad.nmsu.edu

MIGRATING TO THE DIGITAL PLATFORM TO CONTINUE PROVIDING AQUACULTURE OUTREACH TO STAKEHOLDERS IN THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS (CNMI) DURING THE COVID-19 PANDEMIC: SHARING OUR EXPERIENCE

Michael M. Ogo*, Viktoria F. Buniag, Jacob A. Muna, Rose T. Ad Hocog, Robbie C. Suzuki, Jr, and Michaela Gatdula. Cooperative Research, Extension, & Education Service (CREES), Northern Marianas

College (NMC), P.O. Box 501250 CK, Saipan, M.P. 96950.
michael.ogo@marianas.edu

Wednesday, June 15th Tours

1. Damariscotta

Damariscotta River aquaculture industry and the Darling Marine Center

We'll leave the hotel to rendezvous with Chip and Olga of [Damariscotta River Cruises](#), for a trip along the Damariscotta River, the heart of the Maine oyster industry. From there, we'll travel to the Darling Marine Center for lunch, a tour of their waterfront facilities, and to hear about the research and education there. Time and weather-dependent, we may take a detour on the way back to the hotel for some fresh oysters and refreshments, at one of the several oyster-centric restaurants in Damariscotta and Newcastle.

2. Portland and Casco Bay

Portland's working waterfront and Casco Bay aquaculture tour

As Maine's most important port, Portland in Casco Bay has a rich heritage of fishing dating back to the colonial era when cod was king, followed by the growth and dominance of the lobster industry and more recently the development of the shellfish and seaweed aquaculture sector. Our field trip will begin at 9:30 am with a walk from the hotel to Portland's working waterfront, a 10-15 minute walk. From there, we'll grab our box lunches and get on board the [Fogg's Water Taxi](#), for a 3-hour boat tour of Casco Bay's islands and to see some of the aquaculture sites, including mussel and oyster operations. We'll return to the docks by 1 PM and embark on a walking tour of Portland's working waterfront. The city's waterfront coordinator will walk us through Portland's maritime history, lobster economy, and our ever-complex mixed-used waterfront economy, where aquaculture, wild harvest fisheries, international trade, cruise ships, and the seafood sector all have to co-exist with the demands placed on highly valued waterfront lands. The tour will end around 3:30 a few blocks from the hotel and within walking distance of numerous oyster bars, seafood restaurants and other options for your evening fun. Dress for the outdoors!

****Please note that both trips involve on-the-water activities. Extra layers of clothing and good footwear are advised: it's almost always cooler on the water, and conditions can change quickly. There is always the change that poor weather can cancel the boat trips; we'll have to be prepared for what nature throws our way!**

Thursday, June 16th

7:00 – 8:00 am Continental Breakfast

Session 5 Shellfish and finfish production

8:00 – 8:15 am VIRTUAL AQUACULTURE BUSINESS PLANNING.

W. Christian Brayden*, Sebastian Belle. Maine Aquaculture Association, 103 Water St. Hallowell, ME 04347.
christian@maineaqua.org

8:30 am SMART, SUSTAINABLE SHELLFISH
AQUACULTURE MANAGEMENT PROGRAM.

D. Allen Pattillo*, Miao Yu, Matt Parker, Don Webster, Cathy Liu, Yang Tao, Yiannis Aloimonos, Nikhil Chopra, Matt Gray, Brian Callam, Bobbi Hudson, and Jonathan van Senten. University of Maryland Extension Wye Research and Education Center, Queenstown, MD 21658. dapatt@umd.edu

8:45 am CONCERNED OYSTERMEN RESTORING
ESTUARIES.

Rusty Grice*, Ladon Swann and Bill Walton. Mississippi Alabama Sea Grant Consortium, 21541 Coastal Gateway Boulevard, Gulf Shores, AL 36542. Rtg0010@auburn.edu

9:00 am INVESTING IN SUSTAINABLE SHELLFISH
LANDSCAPES DURING THE PANDEMIC: A STORY OF
CONNECTICUT OYSTERS.

Tessa L. Getchis*, David Carey, Sylvain DeGuisse,
Kristin DeRosia- Banick, Juliana Barrett, Harry Yamalis, Aaron
Kornbluth & Alissa Dragan. Connecticut Sea Grant | UConn Extension,
University of Connecticut, 1080 Shennecossett Road, Groton, CT
06340-6048. tessa.getchis@uconn.edu

9:15 am CRAWFISH (RED SWAMP AND WHITE RED
SWAMP CRAWFISH, *Procambrus clarkii*,
GIRARD) PRODUCTION IN THE SOUTH.

Mark Shirley* and C. Greg Lutz. LSU Ag. Center and
LA Sea Grant. 1105 West Port St. Abbeville,
LA 70510. mshirley@agcenter.lsu.edu

9:30 am WHITE SPOT SYNDROME VIRUS AFFECTING
RED SWAMP CRAWFISH, *Procambrus clarkii* (GIRARDI) IN
LOUISIANA.

Mark Shirley* and Mahala Gambill. LSU Ag. Center
and LA Sea Grant. 1105 West Port St. Abbeville, LA
70510. mshirley@agcenter.lsu.edu

9:45 am AQUACULTURE IN THE U.S. MIDWEST;
ECONOMIC OPPORTUNITY FOR MISSOURI FARMERS?

D. E. Brune.* Professor of Bioprocess and
Bioengineering Engineering, University of Missouri, 229 Agricultural
Engineering Building, Columbia MO 65201. bruned@missouri.edu

10:00 am BEST PRACTICES FOR GROWING YELLOW
PERCH INDOORS TO INCREASE SUPPLY CHAIN RESILIANCE
AND LOCAL FOOD SECURITY IN RESPONSE TO COVID-19.

Amy J. Schrank,* Donald R. Schreiner, and Kieran
Smith. University of Minnesota Sea Grant St. Paul, MN 55108
aschrank@umn.edu

10:15 – 10:45 am Break

10:45 am THE RECIRCULATING AQUACULTURE
SALMON NETWORK SPAWNS NEW OPPORTUNITY FOR
BUILDING CAPACITY OF ATLANTIC SALMON *Salmo salar* RAS
PRODUCTION IN THE US.

Catherine Frederick*, Yonathan Zohar, John
Stubblefield. University of Maryland Extension, Insitute of Marine and
Environmental Technology, Baltimore, MD, 21202. cfrederi@umd.edu

11:00 am 2019 – 2020 INTENSIVE AERATION CATFISH
VERIFICATION STUDIES FROM ARKANSAS.

Larry W. Dorman, University of Arkansas Pine Bluff – Lake Village Laboratory, 1562C South Hwy 65, Lake Village, AR 71653. dormanl@uapb.edu

11:15 am DEMONSTRATION AND TECHNOLOGY TRANSFER OF HATCHERY/NURSERY AND CAGE CULTURE IN THE REPUBLIC OF MARSHALL ISLANDS.

Ryan S. Murashige*, James Matayoshi, Sonya Joel, Marshall Robinson, Simpson Bosin, Jabata Titus, Hussein Mein, Mike A. Estandarte and Cheng-Sheng Lee. Rongelap Atoll Local Government 1766 Uliga Road Majuro, MH. 96960. hukilau11@gmail.com

11: 30 am A GOLDEN OPPORTUNITY: STRATEGIES TO ACCELERATE GROWTH OF GOLDEN SHINER *Notemigonus crysoleucas* IN MINNESOTA AND OTHER NORTHERN CLIMATES.

Donald R. Schreiner* and Amy J. Schrank.
University of Minnesota, Minnesota Sea grant College Program, 144 Chester Park Bldg., 31 West College Street, Duluth, MN 55812.
schr0941@d.umn.edu

Session 6 Youth education, skills, and workforce development

11:45 am SEA GRANT NETWORK CURRICULUM-BASED AQUACULTURE WORKFORCE DEVELOPMENT INVENTORY.

LaDon Swann*, Kola Garber, Mark Rath, Stephen Sempier, Brianna Shaughnessy, Charles Weirich. Mississippi-Alabama Sea Grant Consortium, Sea Grant Network Aquaculture Liaison, 703 East Beach Dr. Ocean Springs, MS 39564 Ladon.Swann@usm.edu

12:00 am EDUCATION AND TRAINING PARTNERSHIPS WITH EXTENSION, INDUSTRY, AND

REGULATORS IN THE NORTH CAROLINA
AQUACULTURE INDUSTRY.

Bryan Snyder*, David Cerino, Eric Herbst, Frank Lopez, Chuck Weirich.
Jacob Boyd Carteret Community College Aquaculture Technology
Program 301 College Circle Morehead City, NC 28557.
Snyderb09@gmail.com

12:15 – 1:15 pm Lunch

1:15 pm

IT'S HARVEST TIME: EXTENSION INTERNSHIPS
PROMOTE SCIENCE AND STRENGTHEN
PARTNERSHIPS WITH FLORIDA'S SHELLFISH
AQUACULTURE INDUSTRY.

Angela B. Collins*, Holly A. Abeels, Vincent Encomio,
Ashley R. Smyth, Laura G. Tiu, Chris M. Verlinde,
Huiping Yang, Charles F. Sidman and Sherry L. Larkin.
University of Florida IFAS Extension & Florida Sea
Grant, 1303 17th Street W., Palmetto, FL 34221.
abcollins@ufl.edu

1:30 pm

VIDEO PRODUCTION EFFORTS TO ENHANCE
AQUACULTURE OUTREACH, ENGAGEMENT,
AND TECHNOLOGY TRANSFER FROM
STATE-OF-THE-ART RESEARCH AND
DEMONSTRATION FACILITY.

Emma Hauser*, Chris Hartleb, University of
Wisconsin-Stevens Point, Northern Aquaculture
Demonstration Facility, Bayfield, WI 54814.
ehauser@uwsp.edu

1:45 pm

THE MAINE OYSTER TRAIL: ADVANCING AQUATOURISM
IN MAINE.

Jaclyn Robidoux* and Afton Vigue. Maine Sea Grant
and University of Maine Cooperative Extension, 14

Maine Street Unit 304, Brunswick, ME 04011.

Jaclyn.robidoux@maine.edu

2:00 pm

TRAINING FOR ENTRY-LEVEL AQUACULTURE WORKERS IN RHODE ISLAND, USA: TAKING A SUCCESSFUL IN-PERSON MODEL, ADAPTING TO 2022 CHALLENGES, AND GOING DIGITAL.

Azure Dee Cygler, * Dr. Robert Rheault, * Cameron Ennis, *Ayla Fox, *Jason Colonies. University of Rhode Island, 220 South Ferry Road, Narragansett, RI 02882. ACygler@uri.edu

2:15 pm

THE UF/IFAS TROPICAL AQUACULTURE LABORATORY'S INVOLVEMENT IN YOUTH EDUCATION PROGRAMS.

Eric J. Cassiano*, Debbie B. Pouder, Marcy L. Cockrell, Katrina Bayliss, and Charlie M. Culpepper, III, Tropical Aquaculture Laboratory

University of Florida, 1408 24th Street S.E. Ruskin, FL 33570.

ericcass@ufl.edu

2:30 pm

CREATING WORKFORCE PATHWAYS BY EDUCATING YOUTH THROUGH AQUACULTURE.

Elliot Nelson*, Dr. Barbara Evans, Center for Freshwater Research and Education, 100 Salmon Run Way, Collaboration Suite 201D, Sault Ste. Marie, MI 49783. elliottne@msu.edu

2:45 pm

IMPLEMENTING AQUAPONICS PROJECT-BASED INVESTIGATIONS (APBI) IN K-12 EXTENSION PROGRAMS TO PROMOTE STUDENT INTEREST AND UNDERSTANDING OF STEM CONCEPTS.

Chelsea Walling* and Kenneth Thompson, Aquaculture Research Center, Kentucky State University, Frankfort, Kentucky 40601. _chelsea.walling@ksyu.edu

3:00 pm

KEEP YOUR RECEIPTS TO GENERATE ADDITIONAL EXTENSION DELIVERABLES.

Matthew A. Smith* College of Food Agricultural, and Environmental Sciences, OSU Extension, Madison

[County, 217 Elm St. London, Ohio, 43140.](#)
smith.11460@osu.edu

[3:15 – 3:45 pm](#) [Break](#)

Session 7 Professional development and promotion

3:45 pm GETTING PROMOTED IN TODAY’S
 ACADEMIC ENVIRONMENT.

Jimmy Avery, Mississippi State University, National
 Warmwater Aquaculture Center, PO Box 197, Stoneville, MS 38776.
javery@drec.msstate.edu

4:00 pm DOCUMENTING AND REPORTING OF
 EXTENSION ACTIVITIES IN SUPPORT OF PROMOTION TENURE
 DECISIONS AT LAND GRANT – SEA GRANT UNIVERSITIES.

Michael A. Rice, Department of Fisheries, Animal
 & Veterinary Science & RI Cooperative Extension, President of URI
 Faculty Senate (2022-23) University of Rhode Island, Kingston, RI 02881.
rice@uri.edu

4:15 pm RESEARCH-BASED FARM
 DEMONSTRATIONS ARE AN EFFECTIVE TOOL FOR EXTENSION
 PROGRAMS IN AQUACULTURE AND PROVIDE DELIVERABLES
 REQUIRED FOR EXTENSION FACULTY PROMOTION PACKAGES.

Luke A. Roy* and Anita M. Kelly. School of
 Fisheries, Aquaculture, & Aquatic Sciences, Auburn University, Alabama
 Fish Farming Center, 529 S. Centreville St., Greensboro, AL 36744.
royluke@auburn.edu

4:30 pm NATIONAL AQUACULTURE EXTENSION
 CONFERENCES: PAST, PRESENT AND PLANNING FOR THE
 FUTURE.

Forrest Wynne* and Dana Morse. Kentucky State
 University, McCracken County Extension Office, 2025 New Holt Road,
 Paducah, KY 42001 Forrest.Wynne@kysu.edu

Friday, June 17th

7:00 – 8:00 am Continental breakfast

Session 8 Mentoring and Diversity, Equity, and Inclusion

8:00-8:05

Opening Remarks

Reginal M. Harrell, Ph.D. – Moderator, Director, Northeastern Regional Aquaculture Center, University of Maryland, rharrell@umd.edu

Mentoring

8:05 – 8:30 MENTORING THE NEXT GENERATION OF
EXTENSION AGENTS/SPECIALISTS.

Michael Masser – Texas A&M University –
Retired. mmasser@nature.tamu.edu

8:30-8:55 THE OLD COOT: WHAT I HAVE LEARNED IN
38 YEARS IN EXTENSION.

Jimmy Avery, Mississippi State University, National
Warmwater Aquaculture Center, PO Box 197, Stoneville, MS 38776.
javery@drec.msstate.edu

DEI

8:55-9:20 INCLUSIVE EXTENSION: IMPROVING
STAKEHOLDER ENGAGEMENT AND EXTENSION IMPACT
THROUGH RECOGNITION, RESPECT, AND REFLEXIVITY.

Adriane Michaelis – Aquaculture Social Scientist,
Contractor with ECS - NOAA Fisheries Southeast Fisheries Science
Center, 75 Virginia Beach Dr., Key Biscayne, FL 33149.
adriane.michaelis@noaa.gov

9:20-9:45 ENGAGING STAKEHOLDERS WITH
CONSIDERATION FOR ENVIRONMENTAL JUSTICE IN
SURROUNDING COMMUNITIES FOR PLANNING, IMPLEMENTING,
AND EVALUATING EXTENSION PROGRAMMING EFFORTS.

Dr. Lonnie Gonsalves – Division Chief, Stressor
Detection and Impacts Division, NOAA National Centers for Coastal
Ocean Science, Silver Spring, MD 20910 lonnie.gonsalves@noaa.gov

9:45-10:10 INSTITUTIONAL CONSIDERATIONS – HOW
TO GET YOUR INSTITUTION OR AGENCY TO WORK WITH YOU
ON IMPROVING DEI EXTENSION PROGRAMMING EFFORTS.

Mr. Norman Pruitt, Director of Human Resources
Management, College of Agriculture and Natural Resources, 1119 Symons
Hall, University of Maryland, College Park, MD 20742. npruitt@umd.edu

Panel Discussion

10:10 - 10:30 am PANEL DISCUSSION ON MENTORING AND
WORKING WITHIN A DEI FRAMEWORK, Mentoring and DEI
Speakers

Dr. Reggie Harrell – Moderator

10:30 – 11:30am Wrap up discussion and Program Evaluation

Adjourn

This program was only possible through the guidance and support from
several groups; please remember to thank them!



APPENDIX III - Program Evaluation Survey

National Aquaculture Extension Conference,

Portland, Maine

June 12 – 17th 2022

Program Evaluation

Day One

Tuesday, June 13th

	Most useful/ Interesting			Least useful/ Interesting	
	5	4	3	2	1
Plenary Speakers	5	4	3	2	1
Session 1. Aquaculture literacy/social license, regulations and permitting	5	4	3	2	1
Session 2. Aquaculture marketing and economics	5	4	3	2	1
Session 3. Aquaculture and the environment	5	4	3	2	1
Session 4. Posters 2 1	5		4		3

Day One

comments _____

Day Two: Tours

Wednesday, June 14th

	Most Useful/ Interesting			Least Useful Interesting		
Damariscotta	5	4	3	2	1	
Portland and Casco Bay		5	4	3	2	1

Day two comments _____

Day Three

Thursday, June 14th

	Most Useful/ Interesting			Least Useful/ interesting	
Session 5. Shellfish and Finfish Production	5	4	3	2	1
Session 6. Youth education, skills, and workforce development	5	4	3	2	1
Session 7. Professional development and Promotion	5	4	3	2	1

Day three comments _____

Day four

Friday, June 17th

Session 8. Mentoring and diversity,
equity and Inclusion 5 4 3 2 1

Day Four comments _____

	Very Good			Poor		
Food and Lodging	5	4	3	2	1	
Monday night reception	5	4	3	2	1	
Poster reception	5	4	3	2	1	
Breakfasts	5	4	3	2	1	
Lunches	5	4	3	2	1	
Dinners	5	4	3	2	1	
Hotel accommodations	5	4	3	2	1	

Comments _____

Reflection

List three key takeaway messages from this conference.

1. _____

2. _____

3. _____

List three action items that we as a national network should focus on over the next five years.

- 1. _____
- 2. _____
- 3. _____

In favor of a 2027 National Aquaculture Extension Conference? Yes No

Comments _____

APPENDIX IV - Evaluation Scores

2022 NAEC Program Evaluation, Survey Results

Ω	Score	5	4	3	2	1	total
	32 surveys were collected						
DAY 1.							
	session 1 aquaculture literacy	8 30%	12 44%	6 22%	1 4%	0	27
	session 2 aquaculture marketing	16 57%	8 29%	3 11%	1 4%	0	28
	Session 3 Aquaculture and Environme	15 54%	11 39%	2 7%	0	0	28
	Session 4 Posters	5 19%	9 33%	7 26%	6 22%	0	27
DAY 2.	Damariscotta Field trip	12 86%	2 14%	0	0	0	14
	Portland and Casco Bay	8 73%	3 27%	0	0	0	11
DAY3.	Session 5 shellfish and finfish product	14 47%	14 47%	2 7%	0	0	30
	Session 6. Youth Education, skills	20 69%	7 24%	2 7%	0	0	29
	Session 7. Professional development	10 33%	8 27%	8 27%	4 13%	0	30
DAY 4.	Session 8. Mentoring and diversity	14 61%	5 22%	2 9%	1 4%	1 4%	23
	Food and lodging	11 44%	11 44%	3 12%	0	0	25
	Monday night reception	11 46%	13 54%	0	0	0	24
	Poster reception	8 31%	10 39%	4 15%	3 11%	1 4%	26
	Breakfasts	4 15%	15 56%	6 27%	1 4%	1 4%	27
	Lunches	13 48%	10 37%	2 7%	2 7%	0	27
	Dinners	10 46%	10 46%	2 9%	0	0	22
	Hotel accommodations	11 46%	13 54%	0	0	0	24
	In Favor of a 2027 NAEC?	Yes 26 100%	No 0 0%				

APPENDIX V: Open-response replies, re: Program Evaluation**Day one**

Excellent job keeping folks on time.

Appreciate a single track of presentations rather than concurrent ones. Great to see topics/areas not usually exposed to – provides perspective and ability to put own experience in context.

Don't take the coffee away so early!

8:00 am is tough start time for jet lagged folks. Very efficiently run for timing. 15 minutes is perfect length for talks.

Meeting was good

Several presenters used too small font and text crowded slides – Hard to read and follow, some presentations (plenary) I was all ready familiar with – interesting, well, done, but not new to me. Only 3 posters – they were good, but more would be nice.

Greatly enjoyed first two sessions

Great organization.

Long day would be nice to break up day with interactive sessions. Maybe consider lightening talks and activities.

Missed most.

Good sessions. Snacks in the wrong room.

Way too many people doing the same stuff that's been done for 20 years and expecting different results.

Good to see people face to face.

More breaks please.

The bite is way worse than the bark.

Good to have everyone in one room to listen to all talks.

Day two – tours **D = Damariscotta tour** **PC = Portland and Casco Bay**

Great! PC

Great tour. Had a great time and learned a ton PC

Very innovative way of farming not on just land but utilizing the ocean. PC

The presentation was pretty awesome! Both tours? D

Enjoyed the trip. Gained understanding of oyster culture. D

Great! Would've loved to have seen finfish aquaculture. PC

Very good information and informative. PC

Great tour. D

Great trip. D

Great Planning – great to include in meeting. D

Needed sugary snacks after lunch. D

Very beautiful and wonderful to experience the oyster in such a hands-on way. PC

Very informative, well organized; really enjoyed seeing the differences between the industry here and where I live. D

Excellent tour of Maine Trail. PC

Perfect weather! Walking tour guide was great. PC

Amazing tour. PC

Learned more nuts and bolts about a topic I knew nothing about; appreciated the relaxed pace and incorporating opportunities to support the businesses involved along with both industry and research perspectives. D

Tour was awesome! D

The Damariscotta tour was a great blend of educational and fun. The opportunity for “hands on” or site experiences paired with the posters and presentations was great. D

Great to see the oyster and mussel farms and appreciate the talk by worker @ oyster farm. Would have loved to see details of aquaculture equipment. PC

Great tour! D

Day Three

Amazing presentation and advise from the expertise.

The presentation and field trip was a knowledgeable and awesome experience.

Professional development was too specific for a sub-population. How to's would be more useful- how to manage an Instagram successfully; or similar.

P and T was not super relevant, and the advice was straightforward.

Would have been helpful to have overview/reminder of the different extension models across the groups represented here.

Great organization and flow.

Long day same as day 1.

More breaks. Professional Development was interesting but very tenure track focused.

A lot of presentations, agency efforts, grant money directed to oysters- Maybe too much.

More breaks please.

Great session 7.

There still seems to be a huge disconnect between what is an identified need of the industry and what some researcher seems to do.

5 and 6 were great but 7 did not apply to a ton of people attending.

The most interesting talks for me were the ones that spoke to the gaps in my experience/expertise.

Some visuals could be cleaner and easier to read. Better font size, color and background coordination. Bigger font, fewer words. Simpler graphics. Lots of good information – variety of US aquaculture. Liked variety of education session, broad terrain. Review and promotion, a bit extraneous – each institution is different – learn what your bean counter needs.

Day four

Important for young starting and the future of aquaculture Extension, aquaculture growth; good inspiration and guidance.

Critically important to what we do. Can't have too much of this content.

This was an excellent session that I hope continues forward.

Good to mention this for young agents. Need to encourage institutions to send new agents.

Great panel!

This session should be during the first day's session, not left at the end.

Wish this session had been embedded within the previous two days since everyone is losing steam, but it is such a critical topic.

Drs. Gonsalves and Michaelis talk were among the more useful and reflective. DEI is too often a mere afterthought, or something addressed only to check a box. From what I have seen, Extension has a long way to go to actually get inclusive and expand our reach to engage and capitalize on society's diversity. We claim we're good at it. I have not yet seen that to be the case. Putting DEI at the very end, as an afterthought, speaks volumes, and was a miss.

One of the best sessions

Facilities, accommodations, and reception comments

Excellent job on everything.

Much confusion with the hotel reservations, room block availability, etc.

Need more actual vegetarian options- not just salad or sides- we need protein too! Very convenient location.

Don't take the coffee away so early in the day! Day four's location: not good. Chiller unit was too loud to hear conversations/comments from audience.

Great location. Wish there were more opportunities for outdoor dining or dining out in the city.

Beautiful location and wonderful food!

More panel discussions instead of presentations; more ways to actively engage. Want protein packed breakfasts (ie. eggs and bacon).

More seafood items at lunch!

Portland was a convenient way to fly into.

Couldn't afford the Holiday Inn so I stayed elsewhere.

Did not stay at the hotel or attend the Monday reception. Nice touch with the lobster rolls; great deserts and lots of opportunity to talk and network.

Reflection comments (three per respondent)

As always, best aquaculture conference

Extension work continued strong, despite COVID's impact.

While we have regional issues/opportunities, I would like to see a National Aquaculture Extension Website.

Times are changing.

Some things never change.

Maine is beautiful and the aquaculture is inspiring.

Fish people are cool.

Learning and teaching needs to happen internally and externally.

Defining what is aquaculture is hard.

Good meeting, well organized

Enjoyable

Thanks – Dana, Forrest, et al.

Lots of focus on aquaponics in STEM – Who's doing Pro?

The pandemic kicked everyone's ass.

Shellfish are as close as we have to a unifying industry.

In-person engagement opportunities are crucial to building relationships.

Leverage resources and constantly seek active collaborations and networks.

Extension must be adaptable with new tech.

Importance of reaching all audiences.

Connecting with folks – getting to know them is a great plus for this conference.

Connect to make greater impacts

Learn about industry in other locations.

Collabs can reach broader audiences.

Dramatic regional differences in aquaculture approaches

Great opportunity for cross-SG network collaboration on K-12 aquaculture education.

Multi-generations of Extension specialists and opportunity for mentorship.

Diversity of topics – great.

Ability to network with colleagues – great.

Consider bringing in some of our stakeholders

- What do they need from us
- Maybe a panel

What is the future of Extension?

Bring in students for a couple of sessions.

It was a great opportunity to network and meet people.

There is a great community here doing many useful programs!

I appreciated the chance to network with colleagues.

The collaboration between Sea Grant and Land Grant Extension is beneficial.

We all need to talk more – why do we not have a list serve similar to fisheries Extension network?

We all have a role in biosecurity and risk management education and outreach.

Our consumer facing work is just as important as our producer facing/support work.

Leadership/ mentoring is key to our success.

Networking is most important.

Sea Grant is a young/strong organization that is well supported – Land Grant, not so much.

Broadened my view of relevant areas (literacy, media).

Collaborations are necessary.

Land Grant and Sea Grant need to do more collaborations.

Raising awareness of local seafood: opportunities for consumers.

Innovative

Resources fullness

Outcome.

Sea Grant Extension is on the rise!

Extension faculty and personnel work on a huge range of issues in the U.S.

Maine is awesome!

Networking

Social

New ideas.

Sea Grant needs to collaborate with Univ. Extension Specialists.

Sea Grant is doing great things

COVID impacted oyster/mussel industries.

Very good program and experience.

Industry needs and Extension skills are very varied.

Networking with colleagues new and old greatly facilitated and most helpful.

Great desserts and snacks, food yes!!!

Connection with potential resource people.

Gain in new knowledge that will improve extracurricular methods.

Learning more about Extension of the natural world.

List three action items that we as a national network should focus on over the next five years.

Funding development

Increased participation

More in conference professional development.

Perhaps annual, short zoom meeting.

Training sessions on Instagram actually provide hands on exposure instead of or in addition to site trips

More proactivity and involvement promote value of factual information, facts aren't opinions or suggestions, they are really relevant

Workforce development

Internship programs

Fund travel to NAEC

More social time

Less bureaucrats

Mentoring young extension personnel and faculty

Recruiting young graduates into extension

What technology system best used

How to win at competitive grant writing

Having everyone have a poster from different state on place to represent them

Mentoring for extension professionals with 10 years or less to mingle and have sessions with more experienced extension professionals to share experiences and knowledge

Diversity in aquaculture extension/reaching clientele groups

Continue to provide practical information to clients

Integrate sea grant/land grant extension efforts

Strengthening the awareness of the role of extension in our industry for university/political stakeholders

Telling the consistent messaging story/letting producers tell their story

Produce a national product (web based) that includes key features of aquaculture by region – and includes the great lakes!

Share products (digital business planning), budgeting tools, trail maps websites, interactive products regularly to learn from one another, share with stakeholders, reduce duplication

Aquaculture literacy

Workforce development

Making sure we are serving historically excluded groups

Interactive virtual event

Humble self-reflection about how to be more inclusive and engage diverse stakeholders

More focused time for mentorship of new aquaculture extension

More focus on communities served by aquaculture (not just producer focused)

More communities of practice within aquaculture (eg. public perceptions, equity) so we're not reinventing the wheel

Collaborate with USAS to probably see up a Journal of American Aquaculture Journal or USAJ or something. Should include both research and extension, professional development, etc.

Mentoring opportunities

Better communication about funds to support trip assistance

Strengthening network connections

Including and engaging complimentary networks

Explore novel approaches to engage industry support on regional and national efforts

Internal knowledge about aquaculture

Team building/collaborations

Communication

Technology

Economics

Social license

Social licensing issues/opportunities

Consistent national marketing

DEI

Economics

Funding development

Increased participation

More in-conference professional development

Comments

Great meeting in Portland. Meet new colleagues and reinvigorate links with familiar faces. Was able to rekindle my enthusiasm and established new links. Will assist Amy and Emma with 2027! Dana and Forrest – Super job and great chemistry!!!

Increase the number of posters

Minnesota would be a great place for the next meeting

I think 4 years, perhaps too big a gap. Maybe 3 years? The players, positions, needs, changing rapidly.

Great conference series!

No hybrid; I like the idea of virtual mini-conferences in between years. Generally – more interactive sessions. Shouldn't we incorporate our best practices with each other? Yes, we are all proud of what we've done and I've enjoyed learning about an array of projects and topics, but ppts can get boring

Thanks for organizing – great job!

Mixing up the format with more panel discussions and breakout groups would be better

I wish there was more calls to action/collaboration incorporated. I like the review of projects, but I think there ought to have been some workshop conversations facilitated. Posters are not great. But more exchange of dialogue would be more invigorating, and potentially productive.

3 full days and one travel day/reception would be a sweet spot (the extra half day could be a travel day instead)

Best conference, the small size allowed for great networking and I learned so much!

I would like to know how many extension people would not have been able to make this conference without RAC/NIFA financial support/Great job Forrest, Dana, and everyone involved.

You are appreciated./I would like for PDF's and links to everyone's websites loaded onto shared Google Drive./I would have liked to have seen this recorded.

In the program or once everyone shows up for the meeting, give us a list of attendees. Name, contact info, 3 words of expertise (Example: RAS, Oysters, Water Quality). This would help new people learn who the old people are and vice versa.

Field trip is a must! More time for discussions/problem solving table discussions? Or introduce ourselves/purposely set time for facilitated networking/team building

