

Fish Health Section

FISH HEALTH SECTION



FHS NEWS – March 2024

Fish Health Section website: <https://units.fisheries.org/fhs/>

Fish Health Section Facebook Site: <https://facebook.com/FishHealthSectionAFS>

Fish Health Section Twitter feed: @AFSFishHealth

Would you like your recent open-access publication featured on our Twitter feed? We would like to share one publication per week. Just fill out the form at: <https://forms.gle/NWVXEFOGcdYME6gh8>.

Time to renew your AFS & FHS membership!

Welcome to 2024! It's time to renew your membership. This is your friendly annual reminder. If you'd like to continue to receive the FHS newsletter, don't forget to renew by **March 1st**.

AFS-FHS Voting Now

Due to the Bylaws amendments passed last summer, the Fish Health Section has two new standing committees and a stakeholder advisory panel to fill with an upcoming election.

- Testing Standards Committee
- Inspection Standards Committee
- Inspection Standards Stakeholder Advisory Panel

The voting link is now active: <https://www.surveymonkey.com/r/M2J3Y5B>

The link is now open and will continue until **April 1st, 2024**. Please encourage your fellow members and colleagues to vote! See attached descriptions and candidate statements.

Please direct any questions to the Nominating and Balloting Committee Chair (Timothy Bruce; tjb0089@auburn.edu).

Snieszko Student Travel Award Announcement



The FHS Awards Committee is soliciting applications for Snieszko Student Travel Awards, which will award money to student members of the AFS-FHS to attend the 2024 Annual Meeting of the FHS and Western Fish Disease Workshop July 30th – August 1st in Boise, Idaho. The amount of money to be awarded and the number of travel awards will be announced later. Previous recipients of the Snieszko Student Travel Awards can be found [here](#).

Students must be members of the AFS-FHS to be eligible and must submit the following information in their application packet:

1. Letter of application and statement of any special financial circumstances (i.e. not supported by a stipend, etc.)
2. Curriculum vitae
3. Three letters of recommendation
4. Itemized budget on how money is to be spent, i.e. travel, meals, lodging and registration
5. Copy of abstract of paper to be presented

Applications will be judged on:

1. Quality of abstract
2. Significance of the research
3. Academic achievement
4. Professional achievement
5. Financial need

Completed applications need to be emailed to the Awards Committee Chair (Benjamin LaFrentz, benjamin.lafrentz@usda.gov) by **May 3, 2024**.

Feel free to contact members of the Awards Committee with questions.

Awards Committee

Ben LaFrentz, Chair	benjamin.lafrentz@usda.gov
Heather Walsh	hwalsh@usgs.gov
Danielle Van Vliet	dvan@utah.gov

S.F. Snieszko Distinguished Service Award Nomination Announcement

The Awards Committee would like to solicit nominations for the S.F. Snieszko Distinguished Service Award (SDSA). The SDSA is the highest award presented by the Fish Health Section. This award is presented for the purpose of honoring individuals for outstanding accomplishments in the field of aquatic animal health. This is a career award and while it may be given to more than one individual in a year, it is not necessarily awarded every year.

Because this is a career award, candidates should have a significant number of active years in science within the finfish or shellfish health field as well as significant accomplishments which are not limited to but may include a significant number of publications, a significant number of secured grants for grad student thesis projects, administration of a successful lab, a major discovery in the field of finfish or shellfish health, and/or previous recognition by other professional societies or committees. More information about the award and previous recipients can be found [here](#).

If you wish to nominate an individual for the SDSA please send nomination packages (see requirements below) to the Awards Committee Chair (Ben LaFrentz, benjamin.lafrentz@usda.gov) by **April 1, 2024**. Awards recipient(s) will be honored at the Annual Fish Health Section Meeting.

Individuals must be nominated by a current FHS member and packages must include:

1. Six letters of recommendation from fish health professionals that support the nominee's dedication to research, teaching and/or service to the field of aquatic animal health.

2. The nominee's curriculum vitae.
3. A general letter of recommendation by the primary nominator who must be a current FHS member.

Additional guidance can be found on page 21 of the FHS Procedures Manual. Feel free to contact members of the Awards Committee with questions.

Awards Committee

Ben LaFrentz, Chair benjamin.lafrentz@usda.gov
Heather Walsh hwalsh@usgs.gov
Danielle Van Vliet dvan@utah.gov

Special Achievement Award Nomination Announcement

The Awards Committee would like to solicit nominations for the Special Achievement Award. The award is presented to a Fish Health Section member or group that has made a significant accomplishment or advancement in the field of fish health. The award is for a one-time accomplishment and may be given for: (1) a unique contribution to the fish health field (such as a new diagnostic tool, a new technique to control disease, etc.), (2) a significant research accomplishment, or (3) outstanding leadership in resolving a major aquatic animal health problem. Please click [here](#) to view past recipients of this award.

If you wish to nominate an individual for the Special Achievement Award, please send nomination packages (see requirements below) to the Awards Committee Chair (Ben LaFrentz, benjamin.lafrentz@usda.gov) by **April 1, 2024**. Awards recipient(s) will be honored at the Annual Fish Health Section Meeting.

Individuals must be nominated by a current FHS member and packages must include:

1. The accomplishment.
2. The significance of the accomplishment to the field of fish health.
3. Implication of the accomplishment to aquaculture (local, regional, national, or worldwide).

Copies of any articles or supporting documents related to the work should be included in the nomination package. Nominations for the Special Achievement Award should be made within one year of the accomplishment. Additional guidance can be found on page 23 of the FHS Procedures Manual.

Feel free to contact members of the Awards Committee with questions.

Awards Committee

Ben LaFrentz, Chair benjamin.lafrentz@usda.gov
Heather Walsh hwalsh@usgs.gov
Danielle Van Vliet dvan@utah.gov

MEETINGS, WORKSHOPS & COURSES

The AFS-FHS Summer Seminar Series is back for 2024! Slots are filling up fast!

Since 2020, graduate students and early career professionals have used this virtual seminar series to network and share their important work. This series provides a tremendous opportunity for young AFS-FHS scientists to showcase their efforts.

Previous year's presentations have been archived here: <http://z.umn.edu/fishhealthseminar>.

We will be awarding Best Student Presentation Awards to support student travel, made possible by our generous sponsors!

Thanks to generous contributions from our sponsors, we will again be awarding Best Student Presentation Travel Awards!

Want to present?

In a slight change from past summers, this year each week will feature an individual lab that supports graduate student research. We hope PIs will take advantage of this opportunity to showcase their lab and help us highlight a diverse mix of lab groups from across the country. The seminar format will consist of the following:

1. A brief introduction from the PI (Max. 10 min), followed by
2. Up to three students or early career professionals from each lab presenting.
 - a. Student presentations will consist of the standard 12-minute research talk followed by a 3-minute Q&A.

Seminars will take place on zoom on **Thursday afternoons (12-1 pm Central Time)** and run from May 9th - Aug 22nd. Eligibility for the best presentation awards will be limited to **active AFS-FHS student members** so make sure your membership is up-to-date!

Slots are limited and will be allotted in a first come, first serve basis. **Students, tell your PIs to sign up your lab now!** Preference will be granted to PIs that are **active AFS-FHS members** so update your membership today!

Want to be notified of upcoming seminars?

Join the AFS Summer Student Seminar Listserv to receive announcements regarding upcoming seminars and abstracts.

The seminars are free and open to the public - please forward these announcements to your networks. The seminar calendar and Zoom access information will be available mid-April.

Important links:

[Lab Signup – Reserve your spot](#)
[AFS-FHS Student Seminar Series Listserv](#)
[Seminar calendar and Zoom access information](#)

If you have any questions, please don't hesitate to contact us. See you this summer!

Matt Griffin (matt.griffin@msstate.edu)

Megan Shavaliier (shavali1@msu.edu)

Nick Phelps (phelp083@umn.edu)

American Fisheries Society, Fish Health Section Meeting and 63rd Western Fish Disease Workshop



July 30th – August 1st, 2024

The 2024 American Fisheries Society, Fish Health Section meeting and 63rd Western Fish Disease Workshop will be held at the Riverside Hotel in Boise, Idaho from Tuesday July 30 – August 1, 2024. A full day continuing education session will be held on Tuesday July 30th and will be followed by a welcoming social, with light appetizers, cash bar and a casual session of interesting case studies. The general session will start the morning of Wednesday July 31st and will continue through the afternoon of Thursday August 1. A poster session on Wednesday afternoon will be followed by the meeting banquet.

CONTINUING EDUCATION SUMMARY:

- The continuing education program will cover “Disease Prevention - Finfish Brood and Production Strategies”. This educational session is intended to provide a practical applied approach for disease prevention with the focus being biosecurity, risk management, vertical pathogen transmission, feeding and gut health, general brood management strategies, genetic selection, vaccination strategies, research and practical case studies.
- Final CE and RACE credits TBD.

MEETING VENUE AND ROOM RESERVATIONS:

- Venue: Riverside Hotel in Boise, Idaho (<https://www.riversideboise.com/>)
- Room reservations: [63rd Western Fish Disease Workshop](#)

REGISTRATION AND ABSTRACT SUBMISSION:

- Continuing education registration: \$75 (U.S. dollars)
- FHS/WFDW registration: \$350 (U.S. dollars)
- Registration and abstract submission links are in development but will be available very soon.



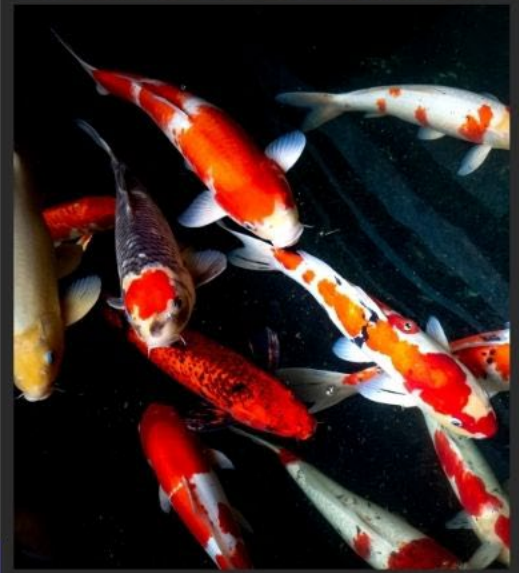
American Board of Veterinary Practitioners Symposium

18 CE hours of fish medicine
lectures and 4 hour Fish
Diagnostic Workshop, including
ultrasound and endoscopy

April 25-28, 2024
New Orleans, LA

Learn More & Register

<https://abvp.com/symposium/>



JOBS/GRADUATE ASSISTANTSHIPS

Zebrafish Related Job Announcements

<https://wiki.zfin.org/display/jobs/Zebrafish-Related+Job+Announcements>

RESOURCES/NEWS

Aquatic Animal Drug Approval Partnership (AADAP) Updates are available by request:

The AADAP Updates feature news on aquaculture drugs currently in the U.S. Food and Drug Administration (FDA) approval process, AADAP programmatic updates, and aquaculture drug use guidance information. If you would like to sign up to receive the AADAP Update, please email julie_schroeter@fws.gov to be added to our email listserv.

Call for Papers

The open access journal *Microorganisms* (ISSN 2076-2607, IF 4.5) is pleased to announce that we have launched a new Special Issue entitled "Recent Research on Fish Vaccination". Kenneth Cain is serving as Guest Editor for this issue.

Given the depth of your expertise in this field, I would like to cordially invite you to contribute a manuscript to the Special Issue. For more information, please visit the Special Issue website at:

https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Furldefense.com%2Fv3%2F_https%3A%2F%2Fwww.mdpi.com%2Fjournal%2Fmicroorganisms%2Fspecial_issues%2F4792FG4W90_%3B!!JYXjzlvb!mv68a3gUndNYGUE6F2bQcetWpDALVhJkzzzIVDhDmmIDuXRNj6rPEiHrBbliFzAUfMclbMstj-Wmv6q%24&data=05%7C02%7CStacy.A.Strickland%40stateoforegon.mail.onmicrosoft.com%7Cb2568f1da50b4d0dc96808dc34361b5d%7Caa3f6932fa7c47b4a0cea598cad161cf%7C0%7C0%7C638442654220221916%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=xovroBB7ujXcKYDLZl6tAoVMdfNGmpU4ZSQ%2FWHbUvpM%3D&reserved=0

Please click on the following link to either accept or decline to contribute:

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Papers may be submitted from now until 15 June 2024 as papers will be published on an ongoing basis if accepted for publication following peer review. Submitted papers should not be under consideration for publication elsewhere. Authors are also encouraged to send a short abstract or tentative title to the Editorial Office in advance (margaret.zeng@mdpi.com).

Microorganisms is fully open access. Manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.1 days after submission. An article processing charge (APC) of 2700 CHF currently applies to all papers accepted after peer review. You may be entitled to a discount code if you previously reviewed for MDPI or if your institution is a participating member in MDPI's Institutional Open Access Program (IOAP).

Inspection Standards Stakeholder Advisory Panel

1. Responsibilities and duties
 - Provide recommendations and advice to the Inspection Standards Committee on the composition of the Risk Evaluation and Health Inspection sections of the Blue Book, including updates and revisions.
 - Provide information on best practices, requirements, and perspectives of respective stakeholder groups to the Inspection Standards Committee.
2. Committee membership
 - Number of members: Three (3) per stakeholder group.
 - Term: Three (3) years, with a maximum of two (2) consecutive terms.
 - Stakeholder representation includes:
 - Aquaculture
 - Indigenous, tribal, and First Nations aquatic management
 - State, provincial, or regional aquatic organism management
 - Federal aquatic organism management
3. Member qualifications: Knowledge or experience in aquatic organism practices and policies for the respective stakeholder group

Candidate Information Provided via Nomination Form

Aquaculture

Charles Conklin

Charles has 50 years of commercial aquaculture experience, served 3 separate terms as President of the United States Trout Farmers Association, and is Past president of the PA Aquaculture Association. He is also Past Interim Chairman of the Board of the Northeast Regional Aquaculture Center and served a 5-year term as the PA Department of Agriculture's Aquaculture Coordinator, alongside multiple other appointments to Aquaculture related groups. He has over 50 years experience dealing with fish health and fish health regulations from multiple states and regions and would like commercial aquaculture influence on the development of fish health procedures.

Erin Ewald

Erin is employed by Taylor Shellfish for 10 years to manage BMP compliance and have managed High Health program at Taylor for 5 years. She's participated and is actively engaged in WA State and NAA animal health committees. Erin would like to provide aquaculture perspective to panel regarding shellfish health, maintenance and biosecurity.

Benjamin Gollon

Benjamin has 35 years in commercial aquaculture and is familiar with testing requirements of most US States, especially when involving interstate transport. Also, he is a President of the Wisconsin Aquaculture Association. He would like to serve to be sure future fish health testing standards are compatible with commercial aquaculture requirements.

Jesse Trushenski

Jesse Trushenski is the Chief Science Officer for the Riverence Group, a group of privately-owned aquaculture companies based in Washington and Idaho. Riverence Provisions LLC and Riverence Farms LLC—the group's farms and processing operations—are collectively the largest producer of farm-raised trout in the Americas. Riverence Brood LLC—the group's breeding operation—is a producer of premium Rainbow Trout genetics and the only domestic commercial supplier of Atlantic Salmon and Coho Salmon eggs. As both breeders and farmers of trout and salmon, Riverence is keenly aware of the significant challenges facing salmonid aquaculture domestically and worldwide, including matters relating to pathogen testing for diagnostic and inspection purposes, implications for domestic and international trade in aquatic animals, etc. Based on her current position and former roles as Riverence's Director for Animal Health and Welfare (responsible for the company's fish health management operations) and the Fish Pathologist Supervisor for the Idaho Department of Fish Game, Trushenski would bring unique and broad-based perspectives to the Stakeholder Advisory Panel. Jesse Trushenski has been a driving force

behind the recent Blue Book revision process from its inception. She was primarily responsible for securing Multi-State Conservation Grant funding for this effort in 2020, and contributed to the subsequent successful application for additional MSCG funding in 2023. She served as a member of the Blue Book Revision Steering Committee and co-chaired the Committee's Industry Working Group from 2021 to 2023, contributing meaningfully to the philosophical and procedural changes that brought the Blue Book revision effort to this point. Serving as member of the Stakeholder Advisory Panel would be, in many ways, a continuation of these efforts on behalf of the aquaculture industry. Trushenski has fulfilled numerous leadership roles within the fisheries and aquaculture communities. She has chaired or served on multiple advisory panels and other committees addressing aquaculture research, regulation, and policy on a national scale, and is the author of *Understanding Aquaculture*. Trushenski is a Past-President and Fellow of the American Fisheries Society and serves as a member of the National Fish Habitat Board. She is also the current President of the US Trout Farmers Association and Vice-President of the Fish Health Section.

State, Provincial, or Regional

Wade Cavender

Wade Cavender is the Assistant Aquatic Section Chief for the Utah Division of Wildlife (UDWR). In this position he serves as the program manager for Aquatic Animal Health and Research Center, formerly known as the Fisheries Experiment Station. This program provides services to the DWR Aquatics Section which include: 1) providing practical applied research services for native species conservation, sportfish management, aquatic animal health management and fish culture methods; 2) providing a comprehensive program of fish health inspection and certification services for state fish hatcheries and free ranging fish populations; and 3) working as a liaison between agency partners to assist in the development of cooperative policies and procedures throughout the Western United States. Wade previously worked as the UDWR Fish Health Specialist and laboratory manager for over 10 years and in that time gained extensive experience managing bacteriology, virology, parasitology and molecular testing programs. As a certified Aquatic Animal Health Inspector (2007-present) and Fish Pathologist (2012-present), he frequently works to provide oversight and implementation of legal requirements associated with aquatic animal health inspections, pathogen surveillance and diagnostic responsibilities as they pertain to free ranging fish populations and fish culture programs. Wade has interest in providing guidelines to ensure mutually shared success of natural resource, fish culture and industry related programs.

David Russell

Russell is a certified AFS Fish Pathologist; a lead pathologist for Maine's Department of Inland Fisheries & Wildlife's fish health lab; chair of the Maine Aquatic Animal Health Technical Committee; and vice chair of the Northeast Fish Health Committee. With a background in marine aquaculture & in a regulatory agency for the state of Maine, Russell is well suited to provide guidance & advice from perspectives that are needed in the Blue Book. This advisory role will also benefit from his involvement with regional & state fish health committees, and his work with Maine Department of Marine Resources on importation risk assessments and permitting. Russell has an expertise in both aquaculture & state regulations, so can bring highly informative information to the advisory panel. His current role is with the State of Maine, which is why he's listed as a state representative.

Brandon Taro

I have been involved in fish health for over 14 years, with two different state agencies, and I also bring a broad background from other scientific disciplines, and I believe that would be an asset. I would like to help represent the interests of state agencies in regard to inspection standards.

Federal

Lori Gustafson

Dr. Gustafson holds a DVM, MS, PhD; expertise in veterinary epidemiology, aquatic animals, aquaculture; surveillance, & decision science. Provide veterinary epidemiological expertise from the perspective of USDA-APHIS. Gustafson is highly regarded in the aquatic organism health community for her skills &

experience in epidemiology, with > 35 refereed publications in the discipline. She will be contributing the perspective of USDA-APHIS, which is the federal competent authority for animal diseases.

Ken Phillips

I have 29 years of fish health experience, and currently serve as the Project Leader at the U.S. Fish and Wildlife Service La Crosse Fish Health Center (Center). The Center is a provides aquatic animal inspection and diagnostic services to National Fish Hatcheries and Tribal Fish Hatcheries that rear warm, cool and cold water fish species The Center also performs research into aquatic animal pathogens and diseases, develops cell lines for tissue cell culture, and develops various assays for the detection of aquatic animal pathogens. The AFS-Fish Health Section Blue Book is a very important tool for animal health professionals, and I would be honored to serve on the Advisory Panel.

Janet Whaley

Dr. Whaley is a DVM and lead veterinarian & Acting Branch Chief of Operations for NOAA Fisheries' Seafood Inspection Program. Whaley has > 25 years of experience in government & industry in the areas of veterinary medicine, toxicology, epidemiology, risk assessment, policy, & natural resource management. Whaley has authored & co-authored > 30 articles & technical reports in the area of animal health. Whaley is NOAA Fisheries' expert on aquatic animal health issues related to aquaculture & trade. She will be representing the agency's perspective in aquatic animal health topics.

Inspection Standards Committee

1. Responsibilities and duties
 - Foster and promote the use of scientifically justifiable approaches for conducting health inspections of aquatic animals and provide guidance for appropriate health management sampling procedures.
 - Review and update, as needed, the overall organization and intended use of the Blue Book; determine the need for revising, updating, and editing; formatting; technical editing; and distribution of the Blue Book.
 - Specific review and updating of the Blue Book except for sections related to Laboratory Testing Procedures and the Model Quality Assurance/Quality Control Program.
2. Committee membership
 - Number of members: Maximum of six (6).
 - Term: Three (3) years, with a maximum of two (2) consecutive terms.
 - Chair: Current FHS President or designee; non-voting except to break ties.
 - The Committee must include representation in the following areas
 - Aquatic epidemiology or statistics and modeling
 - Licensed veterinarian with aquatic disease specialization
 - Certified AFS FHS fish pathologist
 - Certified AFS FHS aquatic animal health inspector
3. Member qualifications: For members representing aquatic epidemiology or statistics and modeling, academic training, or professional experience in the respective subject area. Current licensing or certification is required for veterinarian, Fish Pathologist, and Health Inspector positions.

Candidate Information Provided via Nomination Form

Epidemiology

Nick Phelps

Nick Phelps is an Associate Professor in the Department of Fisheries, Wildlife and Conservation Biology, and the Director of the Minnesota Aquatic Invasive Species Research Center, at the University of Minnesota. He has expertise in statistics and modeling and studies emerging threats to aquatic systems at both the macro and microbial scales in the fields of fish health and aquatic invasive species, which lie at the intersection of animals, humans and the environment. His goal is to identify threats, understand risks, and ultimately develop long-term evidence-based management solutions to balance the needs of all relevant stakeholders. Specific research interests include diagnostic development, spatial modeling, and risk management. Nick has earned a BS in aquatic biology from Bemidji State University, an MS in aquaculture/fisheries from the University of Arkansas-Pine Bluff, and a PhD in veterinary medicine from the University of Minnesota. Nick has been a member of the American Fisheries Society - Fish Health Section since 2005. Over the years, he has served the FHS in numerous capacities, including the Recruitment and Student Involvement Committee, Technical Standards Committee, Handbook Oversight Committee, Nominating and Balloting Committee, Blue Book Revision Committee, and the Extramural Funding Committee. He enjoys the professional opportunities and friendships the FHS has provided and is excited to continue to serve the FHS in the future. Nick has a keen interest in emerging threats to aquatic systems at both the macro and microbial scales in the fields of fish health and aquatic invasive species.

Licensed Veterinarian

Trista Becker

I have worked with both state and federal agencies for 10 years as an aquatic veterinarian, which includes running a regional program and testing laboratory for many different species of fish. I am one of the first cohort of Diplomates in Fish Practice through the ABVP and have experience with international movements of fish (and mammals). As an experienced fish veterinarian and having worked with a variety of cultured species of fish, I have long held an interest in improving the inspection standards to see an increase in relevancy. The standard one-size-fits-all approach that has been long-held has been good from the standpoint of consistency, however it would be good to see some flexibility in certain cases (especially with low-risk small populations). I would be excited to apply my experience with hatcheries and

listed fish to improve the standards while continuing to protect valuable natural resources and aquaculture in the US. I believe there can be a benefit to both commercial aquaculture and wild fish populations by encouraging compliance and applying standards that protect and function well for the intended purpose.

Myron Kebus

Dr. Myron Kebus is an assistant professor at the College of Veterinary Medicine, Michigan State University and has been working as the north central regional Aquaculture Outreach Veterinarian since 2022. He has provided extensive direct outreach assistance on fish veterinary concerns to fish farmer and veterinary stakeholders. He is a 1992 graduate of the University of Wisconsin-Madison, School of Veterinary Medicine, and received his master's degree in aquaculture/veterinary science from the University of Wisconsin-Madison in 1990. His masters research investigated stress in rainbow trout, particularly as it pertains to fish hatcheries. In 1993, after a year of mixed animal veterinary practice, he started the Wisconsin Aquatic Veterinary Service, the first fish-only private veterinary practice in the Midwest, and provided veterinary services to fish farms, public aquariums, pet fish retailers, wholesalers, and hobbyists. From 1999 to 2022 he was Wisconsin's State Fish Health Veterinarian, directing the Fish Health Program for the Division of Animal Health, in the Wisconsin Department of Agriculture, Trade and Consumer Protection. Most recently he was an aquaculture research subject matter expert with the University of Minnesota, College of Veterinary Medicine, Secure Foods Systems team where he helped develop a risk assessment and associated guidance for viral hemorrhagic septicemia in the Great Lakes region. He helped found and is the past president of the American Association of Fish. He is the past chair and currently serves of the Aquatic Veterinary Medicine Committee of the AVMA, representing Private and Public Food Animal Production. Dr. Kebus has a long-term interest in aquatic animal health and diagnostic services to meet resource and fish production needs.

Certified AFS-FHS Fish Pathologist

Joe Marcino

Joe is an AFS-FHS certified Fish Pathologist and Aquatic Animal Health Inspector with over 35 years of experience working in the aquatic animal health profession. Much of this work includes managing aquatic pathology laboratories to provide inspection and diagnostic services for several state agencies. His commitment to pathogen management and disease prevention methods within regional fisheries programs make him an ideal candidate for this committee. Joe has long-term laboratory program and laboratory manager with commitment to a sound scientific approach to inspection and testing procedures.

Lora Petrie-Hanson

I have been a certified fish pathologist for 29 years and have worked in fish diagnostics and fish production/fish health research for 40 years. Since 1990 I have been in the College of Veterinary Medicine at Mississippi State University performing fish disease diagnosis, teaching fish diseases and immunology and conducting fish health research. BS and MS from Auburn FAA in '81 and '84, PhD from CVM-MSU in 1997. Dr. Petrie-Hanson would like to serve to support the Fish Health Section and aquatic animal health.

Esteban Soto

Dr. Esteban Soto received his veterinary degree from Escuela de Medicina Veterinaria, Universidad Nacional, Costa Rica in 2005. He earned his Master's degree in Veterinary Medical Science (Aquatic Pathobiology) from the Mississippi State University College of Veterinary Medicine in 2007, and a PhD in Pathobiological Sciences from the Louisiana State University School of Veterinary Medicine in 2010. After completion of his PhD, Dr. Soto joined the Ross University-School of Veterinary Medicine as an Assistant, then Associate Professor of Veterinary Bacteriology and Mycology from 2010-2015. In 2015 he joined the Department of Medicine and Epidemiology at the University of California - Davis School of Veterinary Medicine, where he currently works as a Professor of Aquatic Animal Health. Dr. Soto is board certified by the American College of Veterinary Microbiologists with subspecialties in Veterinary Bacteriology and Mycology and Veterinary Immunology. He is past president for the American Fisheries Society-Fish Health (AFS-FHS) section (2017-2018) and chair for the AVMA Aquatic Veterinary Medicine Committee (2018-2019). He is a certified Fish Pathologist by the AFS-FHS and certified aquatic

veterinarian by the World Aquatic Veterinary Medical Association. His main research interests are the pathogenesis of important infectious diseases of wild and aquatic animals and the development of best management strategies for prevention and treatment of these diseases. Dr. Soto has an interest in updated testing requirements for aquatic animal health laboratories.

Certified AFS-FHS Aquatic Animal Health Inspector

Thomas Loch

Dr. Loch is currently an Assistant Professor in the Michigan State University – Aquatic Animal Health Laboratory and jointly appointed through the Department of Fisheries and Wildlife (College of Agriculture and Natural Resources) and the Department of Pathobiology and Diagnostic Investigation (College of Veterinary Medicine). His position is funded by the Fisheries Division of the Michigan Department of Natural Resources (MDNR) and is part of the collaborative Partnership for Ecosystem Research and Management (PERM) Program. Through this partnership, the members of the MSU – AAHL and I collaborate closely with the MDNR to provide diagnostics, outreach, and fish health expertise to the State and other regions within the Great Lakes Basin. Emerging health issues of wild and captive fish populations residing in the Great Lakes commonly guide areas of research focus, with an emphasis on supporting the efforts of fishery management agencies and aquaculture with cutting-edge research and disease prevention and control. He also has a keen interest in providing a wealth of training and professional development opportunities for fisheries professionals, veterinary/undergraduate/graduate students, and international scholars from a diversity of backgrounds. Dr. Loch's current position, professional experience and recent participation with the BB Steering Committee provides confidence that he will bring an applied scientific approach to developing inspection requirements and a practical direction for this group.

Nilima Rendukas

Currently, I am with the Aquaculture Division (Arkansas Veterinary Diagnostic Laboratory) at the Department of Agriculture. This is an APHIS and NAHLN-approved Fish Health Certification State Aquaculture Laboratory located in Little Rock, AR. In my current job, I conduct annual and bi-annual fish health inspections which involve testing fish samples for viruses, bacteria, and parasites according to the World Organization of Animal Health (WOAH), AFS-FHS Bluebook, and our laboratory APHIS and NAHLN-approved protocols. My lab provides fish health inspection services to fish producers from in-state and out of the state. Being an FHS Certified Fish Health Inspector enables me to provide service to fish producers with their inspection certification requirements. I work with several fish producers in Arkansas to develop a more effective diagnosis, treatment, and prevention of fish health problems on sportfish and baitfish farms. The Blue Book is part of my work, and being part of the Committee will help me better serve fish producers. To use guidelines for sampling procedures, and to encourage the use of scientifically justified methods (Blue Book) for performing fish health inspections of aquatic animals and for best fish health management.

Testing Standards Committee

1. Responsibilities and Duties

- Foster and promote the use of standard, reliable, and sensitive technical procedures for pathogen surveillance and diagnosis of aquatic animal diseases.
- Specific review and updating of the Laboratory Testing Procedures section of the Blue Book.
- Provide guidance for the development of tests intended for diagnostic vs screening purposes.
- Develop criteria for assays and procedures to be included in the Blue Book.

2. Committee membership

- Number of members: Minimum of three (3), maximum of six (6).
- Term: Three (3) years.
- The chair is elected by a simple majority vote of committee members.

3. Member qualifications: Academic training or professional experience in the development and/or validation of test procedures for pathogen identification. Professional experience in a diagnostic laboratory setting is highly valuable.

Candidate Information Provided via Nomination Form

Jayde Ferguson

Jayde is currently working as a Fish Pathologist for the Alaska Department of Fish and Game. Responsibilities include managing the aquatic animal health laboratory, performing diagnostic testing for finfish and shellfish, report writing of results and recommendations to improve fish and shellfish health, maintenance of the disease history database, maintenance of laboratory space and equipment and overall employee performance and safety in the workplace. Also provide oversight for inspection services for finfish and shellfish hatcheries. Jayde has a long-term interest in aquatic animal health and testing procedures to address resource and fish production needs.

Ammar Hanif

I currently work in MD DNR conducting fish health inspections. As the eDNA and Biomolecular specialist, I also provide expertise on using molecular tools to identify pathogens and study their ecology in the environment, wild fish populations and fish hatcheries. I would like to use my expertise to help update the science behind the tests being used in fish health and fish health inspections. I am very interested to learn more from others the different aspects of fish health while providing my own input regarding the current testing practices in the literature. As a person early in my career conducting fish health inspections, I would like to help with updating the Blue Book that would allow it be more equitable, easier to follow, and more flexible to accommodate date the fast pace of fish health.

Nora Hickey

Nora Hickey, DVM is the Aquatic Health Laboratory Manager at the Washington Animal Disease Diagnostic Laboratory (WADDL) at Washington State University. Prior to working at WADDL, she provided veterinary services for tribal salmon hatcheries as the Program Veterinarian at Northwest Indian Fisheries Commission. She received the 2022 Outstanding Veterinary Services Award from the Washington State Veterinary Medical Association for her work with salmon at tribal hatcheries in Western Washington, and she is a Past President for the American Association of Fish Veterinarians. Interest in development and implementation of approved testing methods

Lacey Hopper

Lacey Hopper currently serves as Project Leader for the U.S. Fish and Wildlife Service (Service) Bozeman Fish Health Center located in Bozeman, Montana. The Bozeman Fish Health Center provides services to eight western states including Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah and Wyoming. The Center collaborates with partners to provide diagnostics, monitoring, investigations, certifications and training related to free-ranging and cultured fish populations. Lacey has been with the Service and in fish health for almost 20 years. She started her fisheries career with Idaho Fish and Game at the Clearwater Fish Hatchery as a fish technician right after college, and began her Service fish health career at the Idaho Fish Health Center working for both the state and federal government at the same time. Lacey then served as lead virologist at both the Lower Columbia River and

Bozeman Fish Health Centers before becoming the lab supervisor. Lacey earned a B.S. in Biology from the University of Idaho and a M.S. in Biology from the University of Nebraska where her research focused on VHSV susceptibility of endangered pallid sturgeon. Lacey works closely and collaboratively with a wide variety of state, federal, tribal, private, international and university partners and researchers on aquatic animal health-related projects and issues. Interest in reviewing and updating testing methods for aquatic animal health laboratories to meet resource and fish production needs.

Amy Long

I have both academic training and professional experience in the development and validation of test procedures for pathogen identification namely qPCR assays for detection and quantification of bacterial pathogens of fish. I have also developed various immunoassays including an ELISA for *F. psychrophilum*. Finally, I worked in the Oregon Fish & Wildlife Fish Health Laboratory for 2 years screening samples for Bacterial Kidney Disease. As a member of the FHS and someone who has often referred to the Blue Book, I believe that it's critical that this guide be updated to reflect newer, more accurate assays as well as highlighting differences between diagnostic and screening assays. I also think it's important that the guide be standardized with uniform criteria applied to each new or updated assay. The Blue Book is not perfect but it is extremely valuable to the Fish Health community. I would like to serve on the Testing Standards Committee to help modernize the Blue Book while ensuring that it remains relevant and timely.

Mark Polinski

I have both personal and professional interests for wanting to be on this committee. Personally, I would like to see both commercial and conservation aquaculture improve and succeed as I see them as highly efficient ways for optimizing social-environmental balance. One of the most significant impediments I perceive in aquaculture is in a lack of streamlined reliable health testing to facilitate efficient regulation of aquatic animal movement. Professionally, I have made a career in developing and conducting pathogen screening assays. Defining and implementing rubrics for standardized processing will help me use and improve the tests I conduct. I have 17 years of experience in developing and validating pathogen screening assays. I have experience in cell line development, molecular assay development, analytical test validation, and diagnostic test validation targeting a wide range of pathogens of both fish and shellfish. I have worked in diagnostic laboratories in the United States, Canada, and Australia and have closely collaborated with multiple diagnostic laboratories in Norway and Denmark. I also currently serve as a working group member for the USDA-APHIS Comprehensive Aquaculture Health Program Standards (CAHPS) and National Aquatic Health Program and Standards (NAHPS) initiatives.

Janet Warg

Janet is a Microbiologist for the Diagnostic Virology Laboratory, within the NVSL. Janet has 30+ years of experience working in a diagnostic laboratory and routinely develops and validates tests for aquatic pathogen identification.

Christopher Whipps

I have worked in the area of fish health (and wildlife) for approximately 25 years. I have developed, compared, optimized, and field-tested several diagnostic tests. My greatest depth is with DNA/RNA based diagnostics (PCR, qPCR, eDNA), but I also have experience with basic parasitology, bacterial culture, viral culture, ELISA, IFAT, etc. Once a test is developed, I also have experience with the evaluation of such methods from an epizootiological perspective (diagnostic and analytical sensitivity, specificity, etc.), and the statistical methods for planning sampling and evaluating results. I am currently a professor at the State University of New York in Syracuse, and the director of the Center for Applied Microbiology there. I have published over 100 peer-reviewed papers on fish and wildlife health, and have an active research program in this area. In the past, I worked for Fisheries and Oceans Canada in the Fish Health Unit, and I did my PhD at Oregon State University on fish parasite biodiversity. I previously served on the Tech Standards committee (2010-2014) and would like to again get involved, and contribute to the Fish Health Section. I have experience developing and implementing a wide range of diagnostic tests and believe I can provide useful feedback on matters of this kind.