AMERICAN FISHERIES SOCIETY

Annual Meeting of the Washington-British Columbia Chapter
April 8–11, 2019
at the Kitsap Conference Center, Bremerton, WA

http://wa-bc.fisheries.org/2019-meeting/

FINAL CALL FOR PAPERS

The Washington-British Columbia Chapter of the American Fisheries Society invites you to submit your abstracts for presentations at the 2019 Meeting in Bremerton, WA, April 8–11, 2019. The submission deadline is **March 1**. This year's theme is:

"Feast and Famine from the Headwaters to the Sea"

We are organizing several exciting and informative symposia for our meeting this year, and we encourage you to submit your abstracts associated with any one of our session topics. We are organizing sessions focused on:

1) Downstream fish passage facility performance, evaluation, and monitoring
2) Salmonids in the Skokomish River Basin: past, present, and future
3) Uninvited guests at the feast; consequences of non-native species introduction and spread
4) Environmental DNA (eDNA) as a tool for detection of aquatic species
5) Pacific Northwest shellfish: sustaining the feast for the future
6) Orca and the recent decline
7) Salmon famine? Bottom up and top down effects
8) Green Crab invasion: two decades in the Pacific Northwest
9) General submissions/contributed papers
10) Poster session

You may request your abstract be considered for any of these symposia topics. We encourage early submission but will accept abstracts until **March 1, 2019**. Abstracts can be submitted online at: http://wa-bc.fisheries.org/2019-meeting/abstract-submission/

Contact President Elect Brittany Jenewein with questions or concerns (btjenewein@gmail.com).

List of Symposia

Downstream fish passage facility performance, evaluation, and monitoring

Chair: Jacob Venard, HDR, Inc., jacob.venard@hdrinc.com

Description: The successful implementation of performance evaluation and monitoring of downstream fish passage facilities is essential to determining the success of the facilities. These studies determine whether the facility is meeting performance standards and also help identify issues, troubleshoot problems, and guide next steps for potential improvements. Proper study design and implementation is necessary to accurately determine the effectiveness of the facilities, with great importance to both the owners and operators, and the agencies overseeing these facilities. The goals of this symposium are to provide results of such studies as well as lessons learned and guidance for the successful implementation of these studies, so that the necessary information is attained to accurately evaluate the performance of these facilities as well as guide the design, operation, and potential next steps for meeting requirements. Topics covered by this symposium include the following:

- Study design considerations: lessons learned to guide effective evaluations (e.g. species considerations, methods/techniques in relation to key information, that they provide to measuring performance
- Measuring and meeting criteria: examples of how criteria are (or not) being met
- Essential data/statistics that collecting the important information
- Study results and what we've learned from performance evaluation and monitoring.
- Application to future facility and/or study design.
- What did we learn that we did not expect to learn, or vice versa, what didn't we learn that we expected to learn?
- Implementation to application: next steps toward meeting performance standards and considerations for future projects

Salmonids in the Skokomish River Basin: past, present, and future

Chair: Phil Sandstorm, Tacoma Power, psandstrom@ci.tacoma.wa.us

Description: Tacoma Power completed construction of Cushman No. 1 Dam and No. 2 Dam by 1930 impounding the North Fork Skokomish River and creating Lake Kokanee and Lake Cushman. For a number of years there was no passage above the dams, and the only fish in those lakes were fish that were trapped during construction or planted to maintain a fishery. In recent years Tacoma Power has invested to create adult passage (2013) and juvenile passage (2014) through trap and haul systems. Two conservation hatcheries (North Fork Skokomish

River Hatchery and Saltwater Park) were created in 2014 to aid in reintroduction efforts, and monitoring and evaluations efforts have been initiated to further the understanding of existing populations and performance of hatchery programs. This symposium will focus on how the initial construction of the dams impacted salmonid populations in the North Fork Skokomish River, what we are learning while reintroduction and recovery actions are occurring, and future issues that will likely be encountered in this basin. At the end of the session we would like to hold a panel discussion focused on future directions for research efforts and populations as reintroduction and progression towards recovery continue. After a brief discussion the panel of representatives (from multiple agencies) would field questions from the audience.

Uninvited guests at the feast; consequences of non-native species introduction and spread

Chair: Paul Spruell, Department of Biology Eastern Washington University, pspruell@ewu.edu

Description: Anthropogenic changes to the environment often have unintended consequence with respect to community composition and structure. In many cases these environmental changes may allow populations of non-native species to increase in number substantially and may facilitate the colonization of new habitats, thus expanding the range and effect of these exotic species. In this symposium, we will examine the effects of non-native species including consideration of their current and future ranges, their direct and indirect on native species, and management actions aimed at mitigating their effects.

Environmental DNA (eDNA) as a tool for detection of aquatic species

Chair: Sarah Brown, WDFW Molecular Genetics Lab

Description: Environmental DNA (eDNA) is a promising new tool to non-invasively monitor species of conservation concern. eDNA is DNA that is left in an environment (water, air, soil), as an organism passes through and leaves behind shed cells. This DNA can be detected through traditional molecular genetic techniques (qPCR, sequencing, etc.), and can potentially link a species to a geographic region. This technique is of particular interest to rare or threatened species, which are difficult or costly to detect through traditional means. This session will focus on the use of eDNA as a tool to aid in detection of aquatic species.

Pacific Northwest shellfish: sustaining the feast for the future

Chair: Bobbi Hudson, Pacific Shellfish Institute

Description: Washington State is the largest producer of hatchery-reared and farmed shellfish in the U.S. Shellfish production on both private and public lands

has a long and vibrant history. Indian tribes have harvested wild shellfish, including oysters and clams, from Puget Sound and the coastal areas for thousands of years. Many of the same tribes co-manage shellfish resources today, for both native and non-native bivalve species, similar to state-tribal management of salmon, steelhead and groundfish. Multiple Western Washington Indian tribes are also engaged in shellfish aquaculture, contributing to the $150 million and 2,710 jobs the shellfish industry generated in Washington State in 2013. Shellfish aquaculture plays an increasingly important role in domestic seafood production, but Washington's shellfish production has been hampered by a myriad of challenges, including: pests and diseases, ocean acidification, harmful algal blooms, bacterial contamination of shellfish growing waters, and land use restrictions related to essential fish habitat and other managed aquatic resources. This session will explore the successes and limitations shellfish aquaculture production in the Pacific Northwest, with a focus on Washington State and today's innovative farming and research methods.

Orca and the recent decline

Description: The recent decline of the Southern Resident orca whale population has sparked (ignited may be a better term) public and government officials' interests to a degree that is turning the heat up on potential management actions aimed to recover the population. Many governments, agencies, NGOs, and the general public have started to look for answers help recover this endangered population. The Washington State Governor, Jay Inslee, has even setup a special task force and budgeted over one billion dollars towards saving the Southern Resident orcas. Because the link between this population of ocras and their primary food source, Chinook Salmon, is so strong, fisheries professionals from all across the Pacific Northwest and British Columbia must understand the issue and its potential impacts on the future of fisheries management.

Salmon famine? Bottom up and top down effects

Description: From freshwater to marine growth and survival, bottom up and top down effects play a critical role in salmonid populations. This symposium seeks to assess all areas within complex salmonid food webs that may be influenced by, or influencing, top down or bottom up effects on salmonid populations.

Green Crab invasion: two decades in the Pacific Northwest

General submissions/contributed papers

Poster session