

A Busy Fall for the International Year of the Salmon (IYS) Initiative

By Mark Saunders, IYS Director
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North Pacific Region

The fall has been a busy and productive one for the IYS initiative. It has been a true team effort for all Secretariat staff, including Caroline Graham, who joined us this fall as an intern and has contributed greatly. Working with our partners to explore potential collaborations has been an extremely positive experience. It seems every day we become aware of another person, organization, or event that fits well into the IYS. Even with the minimal media exposure we have had to date, we are routinely approached by people who are interested in engaging in the initiative.

A great example is an October visit from a Korean delegation to Canada including researchers and executives from a university and government agencies as well as a couple of film crew. We were able to participate in a day spent at a Qualicum hatchery on Vancouver Island where there were stimulating exchanges of information regarding hatchery practices and research projects related to high seas salmon. We were also interviewed by the film crew that was developing a segment on the IYS.



The Korean delegation at Big Qualicum Hatchery. Back row, left to right: Jeong-Seok Yu (Blue Korea Innovation Ltd.), Hyun Je Park (Gangneung-Wonju National University (GWNNU)), Chung Il Lee (GWNNU), Jim Irvine (Fisheries and Oceans Canada (DFO)), Mark Saunders (NPAFC), Young-Ja Yun (Ministry of Oceans and Fisheries (MOF)), Les Clint (DFO), Dave Willis (DFO). Front row, left to right: Do Hyun Lee (Korea Fisheries Resources Agency (FIRA)), Cheul Ho Lee (FIRA), Yeongha Jung (DFO).



Mark Saunders currently works for the NPAFC Secretariat as the Director for the North Pacific Region of the International Year of the Salmon (IYS) initiative. In 2016 he retired from the Canadian Department of Fisheries and Oceans

(DFO) where he headed up a Salmon, Aquaculture and Freshwater Ecology Division at the Pacific Biological Station in Nanaimo, BC with staff working on salmon stock assessment, freshwater habitat, molecular genetics, fish health, and marine ecology. Mark has been active at NPAFC since 2009, serving as CSRS Chairperson from 2011–2014, and he is currently the Chairperson of the International Year of the Salmon Working Group.



Madeline Young began working as the North Pacific Coordinator for the International Year of the Salmon (IYS) initiative after completing an internship at the NPAFC Secretariat in March 2017. Prior to working with the NPAFC,

Madeline obtained a BSc in Marine Biology from the University of British Columbia, Canada, and moved to Ísafjörður, Iceland, to complete her Master of Resource Management at the University Centre of the Westfjords. During this time, she developed an interest in studying ways to reduce entanglements and bycatch in fisheries and aquaculture operations and completed a study of whale, porpoise, and turtle entanglements in mussel aquaculture gear for her thesis.

NPAFC and NASCO Presidents' Meeting

In August 2017, the NPAFC President, Carmel Lowe, and the NASCO President, Jóannes Hansen, met in Nanaimo, BC, Canada, with the aim of advancing the partnership of their organizations to implement the IYS. The meeting and associated visits to fisheries and scientific sites throughout southern BC were fun and constructive, including both formal and informal exchanges between the Presidents. A considerable amount of the informal exchanges emphasized the vast amount of potential synergies that exist between the two RFMOs, and the Presidents agreed to seek additional opportunities to determine how they might capitalize on these synergies to the mutual benefit of both organizations.

The Presidents confirmed the commitment of both NPAFC and NASCO to work collaboratively towards the IYS initiative and agreed that the focus of the IYS partnership would be at the salmosphere level and on activities in either the Pacific, Atlantic or Baltic regions that would add value to the efforts of the IYS. They also recognized that there could be benefits from improved exchanges among scientists and managers working in all regions of the salmosphere. The meeting concluded with an invitation from the NASCO President for a reciprocal visit from Carmel to continue the exploration of other collaborative opportunities.



NPAFC President Carmel Lowe and NASCO President Jóannes Hansen in Nanaimo, BC, Canada. Photo credit: NPAFC Secretariat

We very much appreciated the support of John Field, the Executive Director of the Pacific Salmon Commission (PSC) in Vancouver, who arranged to visit the Johnstone Strait sockeye salmon test fishery, and the Mission and Qualark hydroacoustic counting sites on the Fraser River. In particular, Jóannes had a memorable moment catching a coho salmon with rod and reel trolling gear off Nanaimo Harbour.



Jóannes Hansen with a coho salmon in Nanaimo Harbour. Photo credit: NPAFC Secretariat



Johnstone Strait sockeye salmon test fishery. Photo credit: NPAFC Secretariat

Planning a hemispheric-wide initiative is a challenging endeavor and the Presidents committed to convening face-to-face meetings of our Coordinating Committee to expedite implementation of the IYS. As a result, an IYS technical team, consisting of the Coordinating Committee Co-chairs and NPAFC and NASCO Secretariat representatives, met at the office of the United States National Marine Fisheries Service in Gloucester, MA, USA, in mid-December to develop discussion documents to inform meeting agendas for the North Pacific and North Atlantic Steering Committees and the Coordinating Committee. The three committees will meet in person between January 30 and February 7, 2018.

We anticipate that at these meetings we will be able to confirm approaches to complete our website, communications key messages, plans for the launch of the IYS, a social media strategy, as well as a plan to conduct outreach and research planning at the salmospheric scale.

This fall we have been working on planning potential research activities at both the basin and salmospheric scales that will address our IYS outcomes. Descriptions of several of these exciting projects follow.



IYS Technical Team in Gloucester, MA, USA. From left to right: Mark Saunders (NPAFC), Madeline Young (NPAFC), Kim Damon-Randall (NOAA Fisheries), Emma Hatfield (NASCO), Vladimir Radchenko (NPAFC). Photo credit: NPAFC Secretariat

North Pacific High Seas Expedition: This IYS Signature Project presents an opportunity to make significant progress in understanding the marine life history period of Pacific salmon through an intensive coordinated program of winter and summer expeditions utilizing up to five research vessels deployed simultaneously across the North Pacific Ocean. Information, including biological materials for salmon stock identification, data for abundance estimates, and structure of nektonic communities will be collected through the trawl surveys and supplemented by oceanographic, hydrobiological, and trophological studies in the summer–autumn season as well as the wintering period. The objective of these expeditions is to provide estimates of salmon spawning stock recruitment for 3–4 age cohorts of chum and sockeye salmon. These data can then be utilized for fishery forecasting in subsequent years. Cooperative high seas cruises represent a tremendous opportunity to collaborate on methods related to fisheries research in the field and for outreach through live-streaming of the exciting work being conducted onboard. Dick Beamish has been successful raising over \$1M CDN towards chartering a Russian research vessel and we have made requests for ship time from the parties in Canada, Japan, Korea and the United States.

ROAM: One exciting new frontier to explore for salmon tracking in the open ocean is ROAM (RAFOS Ocean Acoustic Monitoring)—a concept being developed by a few Atlantic researchers, including Tim Sheehan (National Marine Fisheries Service), Simon Thorrold (Woods Hole Oceanographic Institute), and Jon Carr (Atlantic Salmon Federation). This novel idea uses existing SOFAR (Sound Fixing and Ranging) technology to track salmon in the high seas; however, it works in reverse so that instead of drifting tags emitting ‘pings’ which are identified by moored receivers, drifting tags identify ‘pings’ emitted from moored sound sources. Some advantages of this new method include increased ability to accurately track salmon through their entire marine phase, the enhanced potential for basin-level collaboration, and its overall cheaper price tag. In October 2017, the NPAFC Secretariat hosted a webinar with a presentation by Tim Sheehan for interested participants in the Pacific. While this approach is still in the development stage, there is a great amount of interest from both the Atlantic and Pacific basins to explore the use of this technology. A small workshop will be hosted by Tim Sheehan in Woods Hole in March 2018 to further explore this concept with Pacific researchers expected to attend.

Likely Suspects Framework: The Likely Suspects Framework is an accounting approach to identify likely bottlenecks across life history stages of salmon that is under development by the Atlantic Salmon Trust (AST). The Framework places candidate mortality factors within an overall spatio/temporal framework of Atlantic salmon throughout the smolt migration phase, both freshwater and marine, with a view to quantifying the potential of each factor to influence survival. Recognizing the significant benefits that could be realized from expanding the discussion to the wider salmosphere, Pacific colleagues were invited to attend a workshop hosted by the AST in Edinburgh in November 2017. Participants discussed further development and refinement of the Likely Suspects concept, taking into account previous and on-going related research in both the North Atlantic and North Pacific basins. For information on the outcome of the workshop, please visit Jim Irvine’s article on Page 27.

The collaborative spirit experienced at all the above-mentioned meetings and planning sessions is infectious to say the least! We are eager for this energy to take us into the new year, which will be an exciting one for the IYS. The months leading up to the 2018 NPAFC Annual Meeting in May will be formative for the IYS launch, focal year of 2019, and other activities expected to take place for the duration of the initiative. We are looking forward to working with all of you in the coming days and months.