



INTERNATIONAL  
YEAR OF THE SALMON



*Radchenko Vladimir, NPAFC Secretariat*



*Participants' name tags of the last NPAFC face-to-face meeting attended by PICES, February 2020*

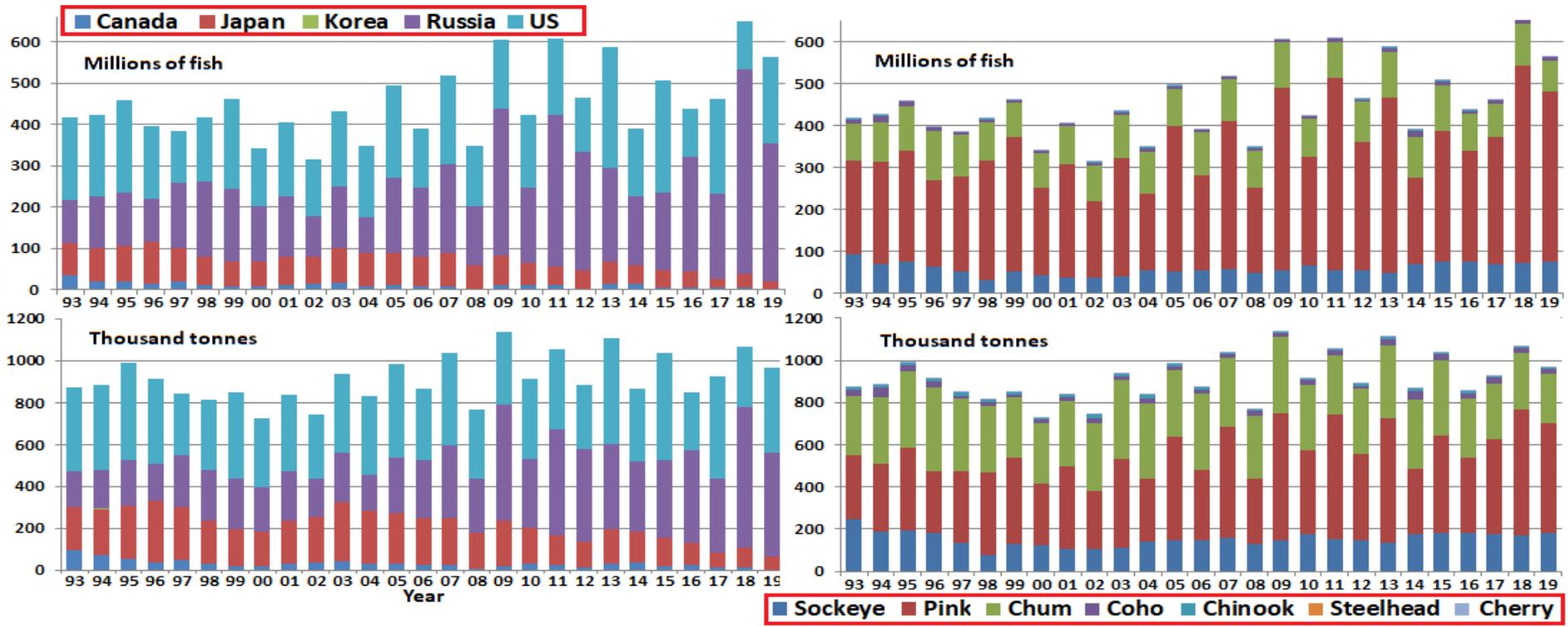
# Plan of NPAFC presentation at the PICES FIS meeting:

- Pacific salmon updates
- The International Year of the Salmon (IYS) signature projects updates
  - The Pan Pacific research survey
  - Likely Suspects Framework
  - IYS Data Mobilization project
- NPAFC and PICES in UN Decade of Ocean Science
- Meetings, workshops, symposia
- NPAFC publications of mutual interest



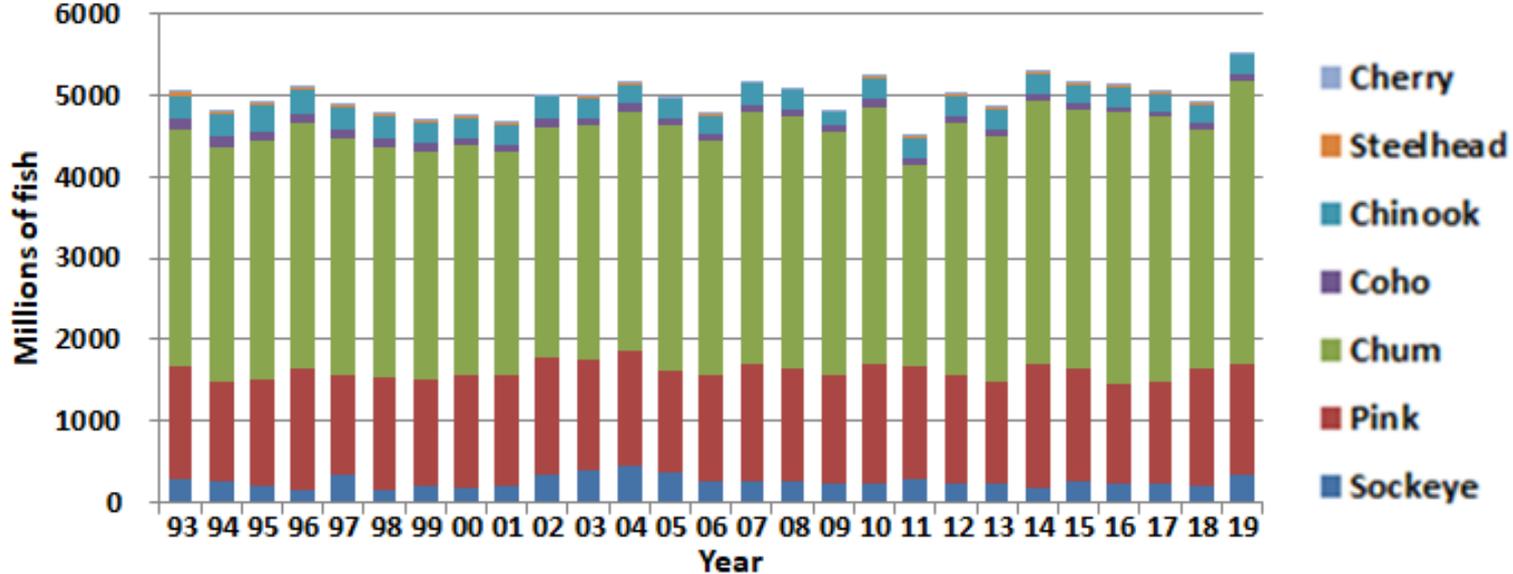
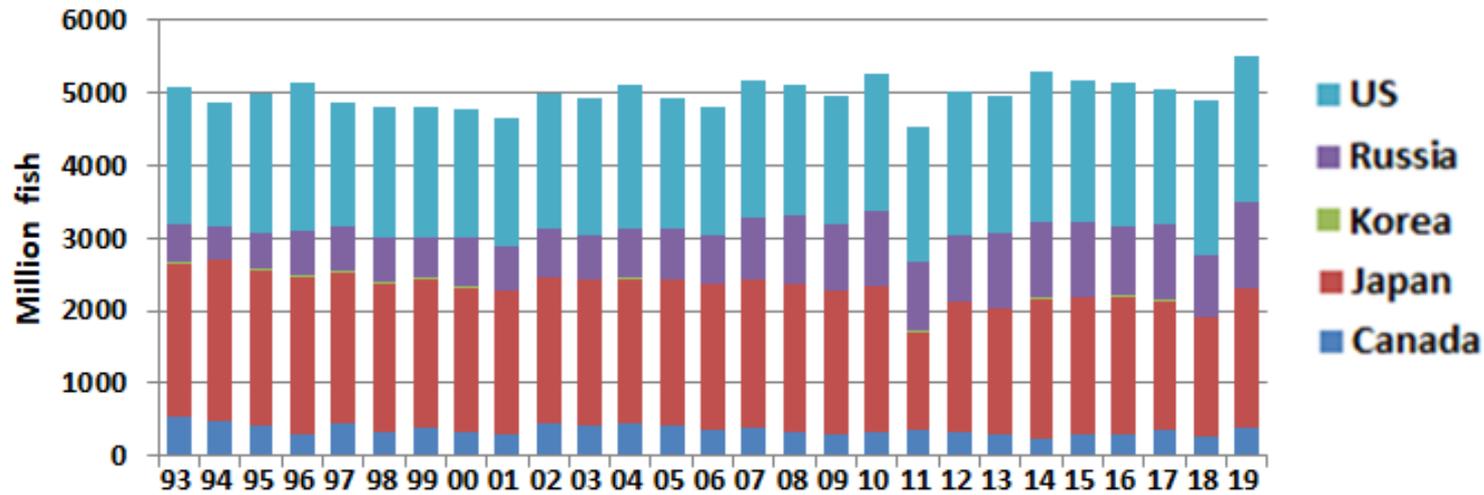
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# Commercial Salmon Catches in NPAFC Member Countries



- Total Pacific salmon commercial catch in 2019 is the ninth highest among odd years in harvested salmon weight (968,729 metric tons) and still surpasses all even years' figures besides 2018;
- In harvested numbers (563.276 million fish), Pacific salmon commercial catch in 2019 is the fifth highest after 2009, 2011, 2013 and 2018);
- Average individual weight of sockeye (2,371 g) and chum (3,167 g) salmon occurred to be second lowest in 1993-2019; for pink salmon (1,297 g) – third lowest after 1999 and 2018;
- Salmon catches in southern areas have reduced while northern regions keep stable trends. Joint portion of Russia and U.S.A. in total catch first exceeded 96% in fish numbers and 93% in weight;
- Pink and chum salmon contribute 85% of caught fish numbers and 78% of total catch weight that is near the average value for 1993-2019
- Preliminary estimates of salmon run magnitude and commercial fishery catch in 2020 are significantly less than the last five-year average for all salmon species

# Juvenile Salmon Hatchery Releases, 1993-2019



- In 2019, numbers of released salmon juveniles increased by more than the half of billion and reached the historical high level of 5,517 million fish;
- Pink salmon percentage lowered to 24.6% and chum salmon percentage grew to 62.9% with almost 3.5 billion of juvenile chum released

# The IYS Timeline

2016 – 2018	<b>Setting the stage:</b> planning, coordinating, enlisting partners and contributors	Outreach
Fall 2018	<b>Opening event</b>	
2019	<b>IYS focal year:</b> field seasons, new data collection	
2020 – 2021	Signature projects development, continuation of new data collection	
Uncertainties related to COVID19 pandemics		
2022	<b>Pan-Pacific integrated high seas expedition</b> analyses, publications, wrap-up symposium	



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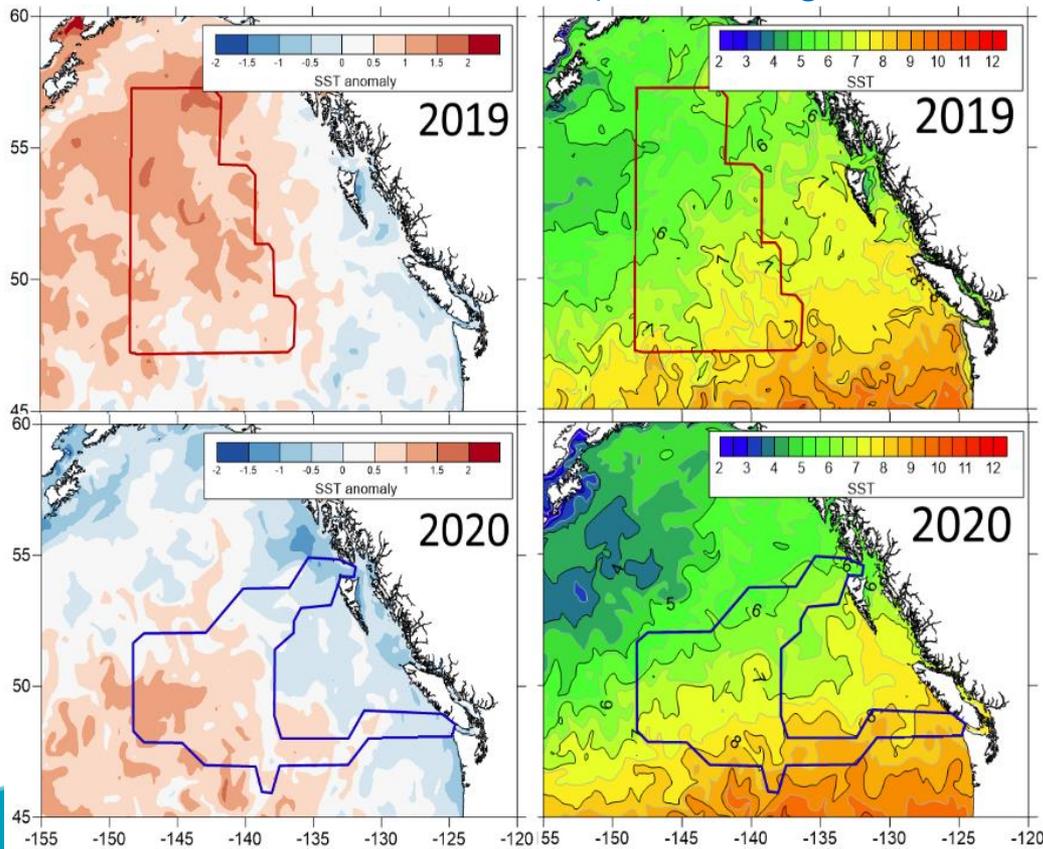
# 2020 Gulf of Alaska expedition

The second expedition to study the mechanisms that regulate the production of Pacific salmon covered an area of 648,000 km<sup>2</sup> between March 11 and April 7, 2020 with an international research team of 12 scientists from Canada, Russia and the United States.

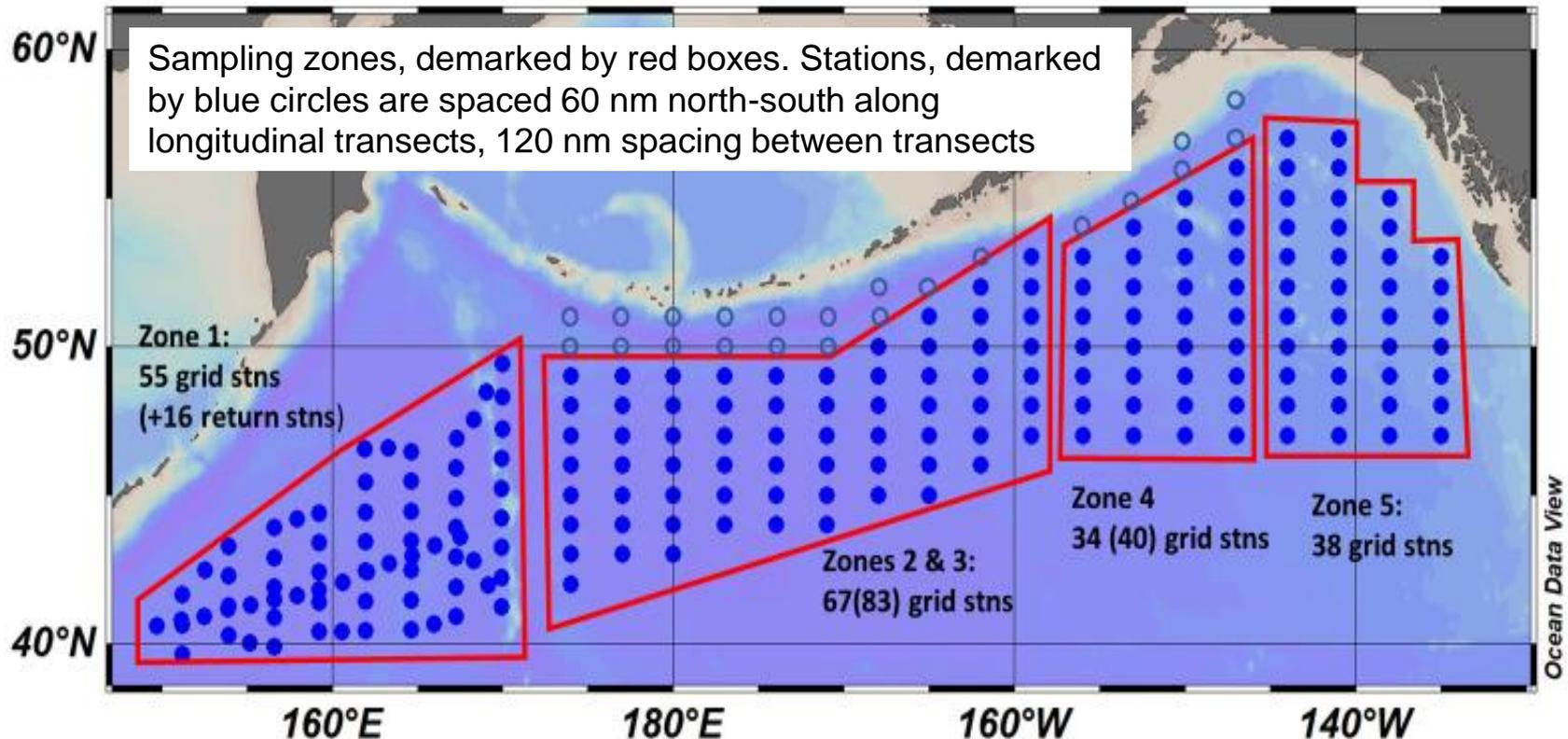
In total, 566 salmon (234 Chum salmon, 118 Coho salmon, 51 Sockeye salmon, 136 Pink, 26 Chinook salmon, and 1 Steelhead trout) were caught



The expedition highlighted the need for continued international research “from coast to coast” to identify mechanisms that regulate Pacific salmon survival and fitness in the high seas.



# Preliminary Cruise Plan for the NPAFC IYS Pan Pacific Winter Expedition



Due to restrictions related to the COVID-19 pandemic, CSRS recommended a postponement of the Pan Pacific winter survey until **2022**



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# Likely Suspects Framework (LSF)



**Objective:** Develop a relatively simple conceptual model linking observations of bottlenecks for salmon survival across life history stages through collaboration with salmon researchers from the Atlantic and the Pacific basins

**Main partners:** NASCO, Atlantic Salmon Trust, Pacific Salmon Commission, First Nation Fisheries Council, DFO, US NMFS, Long Live the Kings

**Approach:** The conceptual model and case use studies will be developed through a series of Salmonscape virtual workshops

Timeline	Expected Progress
October 2020	Technical Advisory Groups and Project Management Team will be formed
December 2020	Salmonscape workshops will be completed
January 2021	Project Team will be formed; Principal Investigators, postdoc, Data Scientist, and Data Technician will begin their contracts
February 2021	Salmonscape Technical Report will be completed
December 2021	Initial database will be completed
August 2022	LSF user interface will be completed
November 2022	Initial results will be presented at the IYS Wrap-up Symposium
December 2022	The final overview report and user interface will be completed and Project Team members will complete their contracts



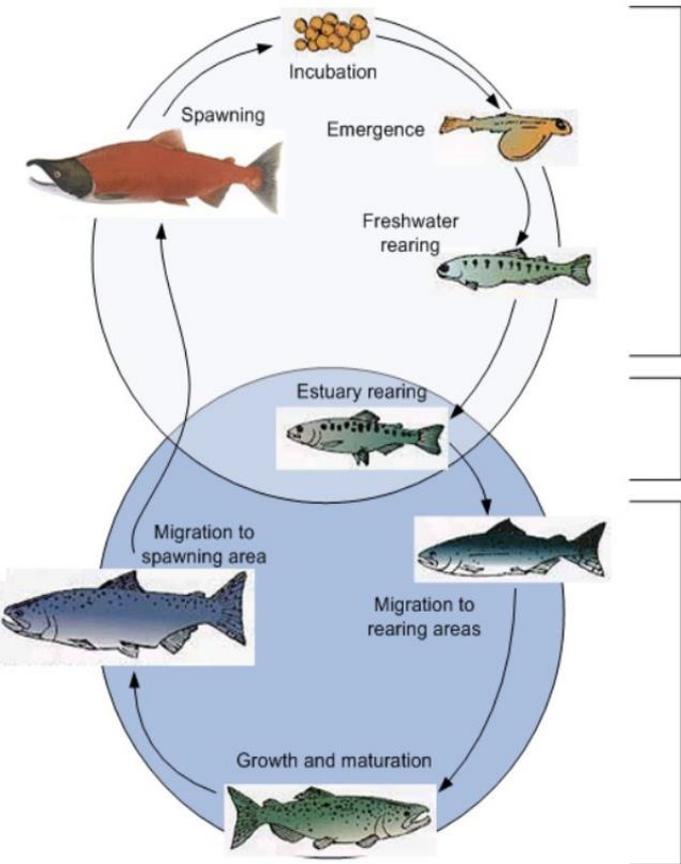
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# IYS Data Mobilization – Roadmap development

**Expected outcome:** Freely available information systems contain historic and current data about salmon and their environment

**Timeline:** Present through December 2022

**Partners:** National Center for Ecosystem Analysis and Synthesis (NCEAS)/Moore Foundation, Atlantic Salmon Trust/Missing Salmon Alliance, and Hakai Institute/Tula Foundation



Timeline	Expected Progress
September – November 2020	Establish data mobilization governance
October 2020 – May 2021	Assessment of barriers to data mobilization - State of Alaska Salmon and People Project (SASAP) experience
September 2020 – February 2021	Test application of standardization and synthesis for High Seas Survey data
2021 – 2022	Test applications of standardization and synthesis through a series of salmon management case-use studies in the Atlantic and Pacific basin as part of the Likely Suspects Framework



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# NPAFC and PICES in UN Decade of Ocean Science

Conference call of May 15, 2020. Discussed topics :

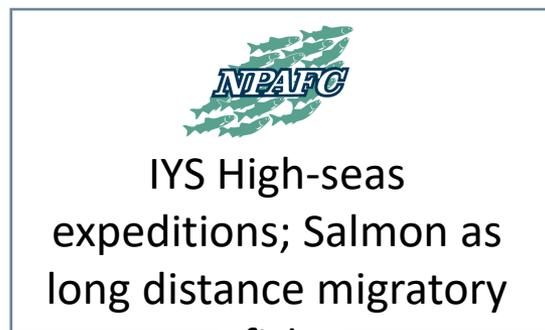
- Creation of a Study Group on NPAFC and PICES involvement into the UN Decade of Ocean Science (two members from each secretariat and scientific community, four in total)
- Reviewing and updating (if needed) the NPAFC-PICES Framework for Enhanced Scientific Cooperation in the North Pacific Ocean



NPAFC CSRS Chairperson, Dr. M. Fukuwaka:

*“CSRS can contribute to the UN Decade of Ocean Science by sharing scientific knowledge with PICES”*

## Potential ideas for a mutual project theme development



fish



research



stocks

**This is the time to start discussing a new mutual project to contribute to the UN Decade of Ocean Science**



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# IYS Working Group and North Pacific Steering Committee

- Met in Vancouver, B.C., Canada on **February 25-28, 2020**
- 33 participants including PICES Deputy Executive Secretary **Hal Batchelder**

Both meetings highlighted continued support for the IYS. Increased number of events and projects was registered on the IYS website along with the growth.



Participants provided direction on ways to improve communication and outreach, including the website and social media, and provided feedback on Signature projects. Report on preliminary results from the 2019 High Seas Expedition was well received.

There were presentations on planned IYS signature projects and productive discussions on communications regarding the Pan Pacific High Seas Expedition planned to survey the breadth of the North Pacific. The NPSC reviewed the effectiveness and membership of the Theme Counsel Groups, discussed the current workplan and budget, and participants suggested alternative fundraising opportunities and strategies.

See details in the **NPAFC Docs #1913, Rev. 3, 1914** at <https://npafc.org/published-documents-2020/>



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Wednesday, October 28, 2020

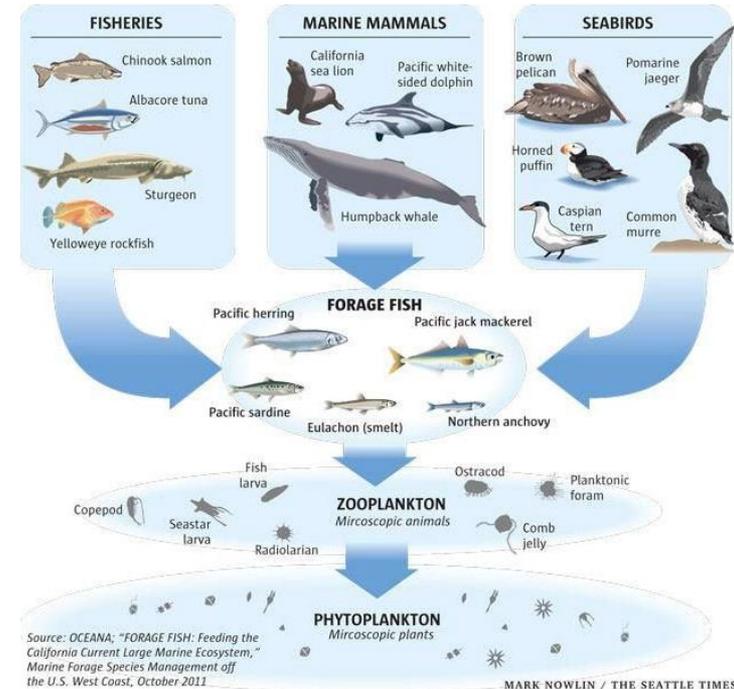
VS4 (S14): **FIS** Topic Session

Implementing a collaborative, integrated ecosystem high seas survey program to determine climate/ocean mechanisms affecting the productivity and distribution of salmon and associated pelagic fishes across the North Pacific Ocean



Scientific Program: **21 presentations** including **18 oral** and **3 e-posters**:

- [Khrustaleva, A.M., et al.](#) Microevolutionary processes in Asian sockeye salmon *O. nerka* populations
- [Pakhomov, E.A., and A.N. Kanzeparova.](#) Comparative oceanographic conditions during the International Gulf of Alaska Expeditions 2019 and 2020
- [Rosengard, S.Z., et al.](#) Co-variability of Fraser River sockeye productivity and phytoplankton biomass distributions in the Northeastern Subarctic Pacific Ocean
- [Hunt, B.P.V., et al.](#) Food web structure and salmon trophic ecology in late winter in the Gulf of Alaska
- [Beamish, R.J.](#) Gulf of Alaska expeditions in 2019 and 2020
- [Wells, B.K.](#) An ecosystem-science approach to support salmon management ...



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# Winter ecology of Pacific salmon

## Hybrid – Virtual Conference

**February 8, 9, 10, 2021 in the North America,  
February 9, 10 and 11, 2021 in Asia**

Five venues (conference centers): Vladivostok,  
Hokkaido, Juneau, Vancouver, Portland

- Overview and Objectives: Beamish, R.J., and B.E. Riddell
- Key note Speaker: Radchenko, V.I., NPAFC

### Topics to be covered:

- 1 – Salmon catches, distributions, and fish conditions
- 2 – Salmon diets and relation to zooplankton observations
- 3 – Relationships between oceanography and salmon catches
- 4 – Abundance of Pacific salmon including methods
- 5 – Energy density and early marine growth
- 6 – Squid catches and relationships to salmon diets
- 7 – Myctophids 8 – Predators 9 - Pathogens and parasites
- 10 – Environmental observations and distributions
- 11 – Phytoplankton observations and distributions
- 12 – Zooplankton and Fish Bi-catch observations and distributions
- 13 – Oceanography inter-relationships and patterns
- 14 – Nets, trawls and fishing 15 – Hypotheses for Pink salmon location
- 16 – What determines first ocean winter survival
- 17 – Salmon returns to British Columbia in 2019 and 2020
- 18 – Results and relationships of environmental DNA measurements



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**Extended abstracts will be published by NPAFC**

# The Third NPAFC-IYS Workshop on *Linkages between Pacific Salmon Production and Environmental Changes*

**May 22–24, 2021**  
**Hakodate Arena,**  
**Hakodate, Japan**

Due to COVID-19 Pandemic, the workshop has been postponed from May 2020 to May 2021.

Abstracts that have been already accepted are not required to be resubmitted. Call for paper is reopened. The deadline for updates or new abstracts is no later than

**January 15, 2021**

See details at the NPAFC Newsletter #48, p. 42-48 at <https://npafc.org/wp-content/uploads/Newsletters/NWSL-48.pdf>



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# Future IYS-related meetings

- NPAFC/PICES session on *Implementing a collaborative, integrated ecosystem high seas survey program ...*, 28 October 2020
- IYS Salmonscape workshops TBA, 2020
- Hybrid-Virtual Conference on *Winter ecology of Pacific salmon*, 8-10 February 2021



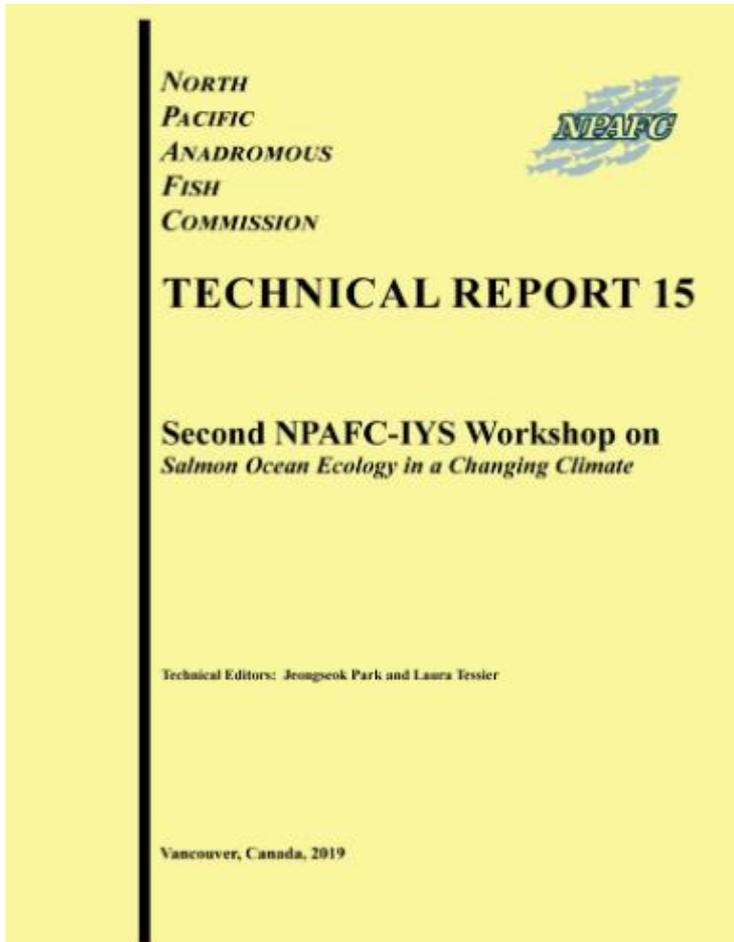
- The IYS WG and NPSC meetings, Vancouver, February 2021
- Third NPAFC-IYS Workshop, Hakodate, Japan, 22-24 May 2021



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# Publications: Proceedings of the 2<sup>nd</sup> NPAFC-IYS Workshop on *Pacific Salmon Production in a Changing Climate*

May 18-20, 2019, Portland, Oregon, U.S.A. in partnership with Salmon Ocean Ecology Meeting (SOEM)



More than 150 participants from the NPAFC member countries and China

The Technical Report is available at

<https://npafc.org/technical-report/>

Workshop presentations – at

<https://npafc.org/workshop-presentations-2019/>



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# NPAFC and IYS on social media

**162** posts in Facebook and **244** tweets in Twitter in 2020 to date

Find NPAFC also on Wikipedia and LinkedIn!



International Year of the Salmon - North Pacific

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IYS 2020 NORTH PACIFIC PHOTO CHALLENGE 📷 📷

We are living in unprecedented times, but one thing is for certain – salmon will always return to spawn.

From September \_ to October 31, 2020 submit your photos with a short story about what salmon mean to your community for a chance to win a \$500 grand prize and have your photos featured in a special photo story on the International Year of the Salmon website.

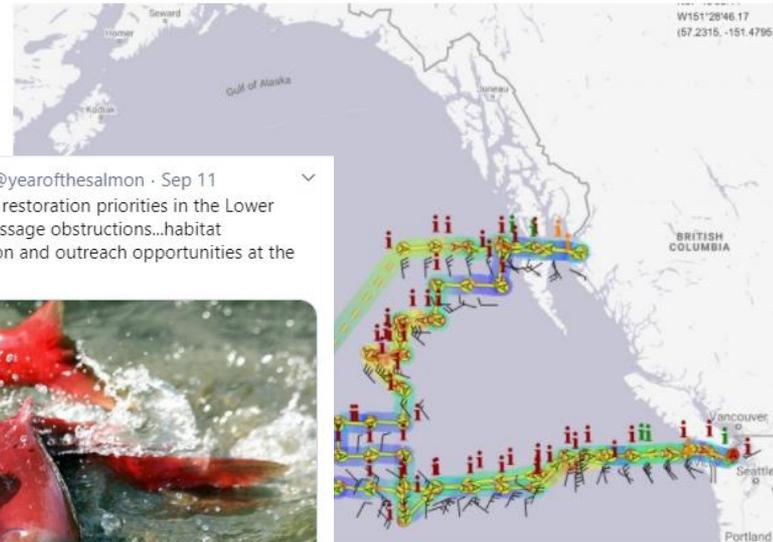
For more information, visit <http://yearofthesalmon.org/2020photo/> ... Ещѐ

## Where is the Vessel now?

Vessel Route

We receive the vessel's coordinates daily. This map shows the vessel's progress to date – April 7, 2020 (arrival)

Note: each feather on the arrow is 10 knots of wind



2020 NORTH PACIFIC PHOTO CHALLENGE



ENTER FOR A CHANCE TO WIN A \$500 GRAND PRIZE



Year of the Salmon - North Pacific @yearofthesalmon · Sep 11

Funding [includes] stock assessment... restoration priorities in the Lower Skeena watershed, clearing salmon passage obstructions...habitat rehabilitation, and expanding education and outreach opportunities at the community level 🐟 🌿 🏠



Grants awarded to 12 northern B.C. salmon conservation projects - Smit... Pacific Salmon Foundation funding is channeled through the Community Salmon Program

📍 interior-news.com



@yearofthesalmon



Facebook.com/NPAFC



@internationalyearofthesalmon

### SALMON IN YOUR COMMUNITY

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For more information, visit





**Healthy salmon stocks are the great aim, the great aspiration, and the great hope of the NPAFC**



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