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**Report of the International Year of the Salmon  
North Pacific Steering Committee Meeting**

by

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(CSRS)

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# Report of the International Year of the Salmon North Pacific Steering Committee Meeting

International Year of the Salmon Working Group  
Committee on Scientific Research and Statistics

**Keywords:** Future, collaboration, outreach, research, governance, funding strategy, planning

## Abstract

The following outlines the key results from the meeting of the North Pacific Steering Committee (NPSC) on February 28 and March 1, 2017, to discuss the International Year of the Salmon (IYS). The IYS is an intensive burst of internationally coordinated, interdisciplinary, scientific research and outreach focused on salmon, and their importance to people conceived to address the needs of salmon in a period of unprecedented environmental uncertainty and social and economic change. New technologies, better shared knowledge, improved analyses, and more effective outreach/communication and timely management decisions are needed to sustain salmon to the greatest degree possible in a rapidly changing world. The IYS is a seven-year initiative that began in 2016 with four phases covering planning (with a kick-off Event/Symposium in 2018), research, outreach, and analysis and reporting.

The IYS initiative follows from a proposal prepared by an IYS Working Group (IYS-WG), the NPAFC and the North Atlantic Salmon Conservation Organization (NASCO), and approved by the two Regional Fisheries Management Organizations at their respective 2016 Annual Meetings. A subsequent meeting of the IYS Coordinating Committee, involving members from both Regional Fisheries Management Organisations, established terms of reference for Steering Committees to oversee activities in the Pacific and Atlantic. The NPSC meeting was organized and hosted by the NPAFC and convened in Richmond, Canada and its 43 participants comprised a wide spectrum of interests from the North Pacific. The meeting's purpose was to further plan the IYS, and its approach featured a number of presentations on key topics followed by extensive plenary discussions.

The results of the meeting, described in this report, underscore broad support for the IYS. In terms of governance, it was proposed that there should be a 12–15 person NPSC with representation from the NPAFC member countries, indigenous peoples and core partners, as well as lead subject matter experts from the six IYS themes. Allowances should be made for creating a smaller executive group and creating a broader North Pacific IYS network. There was overall support for the funding strategy, which proposed distinguishing between funding strategies for immediate short term (e.g., symposium, website, branding, and planning) and long term activities (e.g., projects, meetings, reporting). This included setting up an administrative secretariat for the North Pacific and potentially the Coordinating Committee. With regards to IYS planning, there was support for adopting a results-based planning approach, as well as a strong recommendation to develop an IYS problem statement. Additionally, planning for IYS activities should pursue a catalytic role to stimulate and encourage new research ideas. Finally, the participants supported an IYS symposium launch in the fall of 2018 which did not conflict with other major meetings such as PICES, and preferred that this take place in North America with Vancouver and Kamloops as top choices. London was also being put forward as a possible location for the symposium by the Atlantic region, with some support from meeting participants.

## List of Acronyms

IYS	International Year of the Salmon
IYS-SG	International Year of the Salmon Study Group
IYS-WG	International Year of the Salmon Working Group
ICC	International Year of the Salmon Coordinating Committee
NGO	Non-governmental Organization
NPAFC	North Pacific Anadromous Fish Commission
NASC	North Atlantic Steering Committee
NPSC	North Pacific Steering Committee
NASCO	North Atlantic Salmon Conservation Organization
PICES	North Pacific Marine Science Organization
PSC	Pacific Salmon Commission
PSF	Pacific Salmon Foundation
SSC	International Year of the Salmon Symposium Steering Committee

## Background

In 2012, a proposal was made to the NPAFC by Canada to establish a major research initiative based on the idea of an International Year of the Salmon (Beamish 2012). Discussions ensued within the NPAFC leading to the creation of the IYS Study Group (IYS-SG) in 2013, which held a scoping workshop in early 2015 to assist with the development of IYS research themes (IYS-SG 2015a). Following this meeting, a compelling rationale for the IYS was developed by the IYS-SG (IYS-SG 2015b) that was well-received at the NPAFC 2015 Annual Meeting where it was agreed to further scope the IYS and refine research activities. An IYS Working Group was formed. The IYS-WG convened a second scoping workshop in April 2016. During this meeting, further progress was made towards planning for IYS implementation, including seeking early views on funding sources and strategies, identifying potential partners, and delineating a governance structure involving the lead organizations of the IYS, NPAFC and NASCO (IYS-WG 2016b). Following the second scoping meeting, the IYS-WG prepared the Outline Proposal of the IYS (IYS-WG 2016a), which was accepted by NPAFC and NASCO at the 2016 annual meetings of both organizations in May and June 2016, respectively. Fisheries and Oceans Canada (DFO) subsequently provided funding through a Partnership Fund to facilitate coordination between NPAFC and NASCO to continue planning towards the IYS.

In September 2016, the IYS Coordinating Committee was formed by NPAFC and NASCO, with one of their first priorities to finalize the IYS governance model. A draft governance document was produced by the Coordinating Committee, including terms of reference for itself, two Regional Steering Committees (NPSC and North Atlantic Steering Committee), and the Symposium Steering Committee. The Coordinating Committee would be responsible for coordinating planning, implementation, and administration of the IYS and reviewing its progress at the salmosphere<sup>1</sup> level. Some activities included determining salmosphere research and outreach priorities, developing an IYS brand and website, and criteria for IYS endorsement. A distributed governance model was agreed upon, with all decisions of the Coordinating Committee based on recommendations from the Regional Steering Committees, and wherever possible organized as a range of options so as to allow for some discretion by the Coordinating Committee to take decisions in the best interests of the IYS at the salmosphere level. In addition to making recommendations to the Coordinating Committee, the NPSC would be responsible for coordinating the planning, implementation, and administration of the IYS in the North Pacific region. Activities of the NPSC included: engaging core partners, identifying outreach and research priorities, reviewing outreach and research proposals, developing research plans, and coordinating fundraising for activities in the North

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<sup>1</sup> The current and future geographic range of salmon in the Subarctic and Arctic.

Pacific. Additional duties included developing outreach activities, target audiences, and messages in this region.

This document is the report of the first meeting of the NPSC. In addition to IYS-WG members, others contributed to the drafting of this report, including: Madeline Young (rapporteur), Andrew Stegemann (facilitator), George Iwama, Paul Sprout, Jeongseok Park and Vladimir Radchenko (NPAFC Secretariat).

## **DAY 1**

### **Welcome, Agenda Review & Introductions**

The North Pacific Steering Committee Meeting (hereafter, the meeting) was called to order by the IYS Coordinator Mark Saunders (NPAFC, Canada) at 9 am on Feb 28, 2017, at the Vancouver Airport Marriot Hotel in Richmond, BC, Canada. Welcome addresses were made by Debora Sparrow (Musqueam First Nation), Vladimir Radchenko (Executive Director, NPAFC), and Carmel Lowe (Regional Director of Science, DFO Pacific Region). The meeting was attended by 44 people including IYS-WG members and other invitees (Table 1). The meeting was facilitated by Andrew Stegemann, who began the meeting by reviewing the agenda (Table 2), objectives, and meeting logistics. Roundtable introductions of meeting participants concluded the introductory session of the meeting.

### **Objectives**

The purpose of the two-day meeting was to convene government, academic, NGO, First Nations and industry partners to engage in planning towards implementation of the IYS in the North Pacific. Participants considered proposed governance arrangements, development of an IYS funding strategy, and engaged in the continued development of planning for the IYS. The specific goals of the meeting were to:

1. Give an update on the IYS initiative, scope and purpose
2. Confirm the IYS governance arrangements, including the process for formalizing membership of the IYS North Pacific Steering Committee
3. Consider approaches to and engagement of partners in planning, communications and fund development.

### **Update on the status of the IYS**

The IYS Coordinator began the meeting with a presentation on the current status of the IYS, with the aim of providing context and expanding on the case for the initiative. The IYS governance structure was reviewed, which consisted of the IYS Coordinating Committee and the North Pacific and Atlantic Steering Committees. The potential to develop and involve regional or local entities was noted. Additionally, a Symposium Steering Committee would plan the 2018 Event/Symposium. All financial and administrative decision control would be through NPAFC and NASCO Commissions (the two lead IYS organizations), and the governance and planning model was designed to be largely decentralized and not hierarchical. Funding for the IYS initiative would not be sought up front for the entire initiative but through a “call to action” tied mostly to specific projects. It was observed that an IYS Funding Strategy would be discussed at the meeting. Furthermore it was highlighted that a results-based planning framework was under development and this would guide planning research and outreach activities at the local, regional, basin and hemispheric scales.

The IYS coordinator identified the participants in the IYS:

- NPAFC and NASCO Parties, including: Canada, USA, Russian Federation, Japan, Korea, Denmark (in respect of the Faroe Islands and Greenland), the European Union, and Norway
- PICES, ICES, Pacific Salmon Commission
- Universities (UBC, U-Vic, SFU)

- NGOs (Pacific Salmon Foundation, Wild Salmon Center, Tula Foundation, Atlantic Salmon Federation, Ocean Networks Canada, Genome BC)
- Indigenous peoples/First Nations (First Nations Fisheries Council, Columbia River Inter-Tribal Fish Commission)

Activities that have occurred since June 2016 included:

- Approval of funding from NPAFC and NASCO for an IYS logo, brand, website, and funding strategy
- The ICC convened and has been working on the development of the IYS logo and drafting a governance document for the IYS
- The North Atlantic Steering Committee met in London, England, in November 2016
- A three-day IYS-DFO workshop convened in January 2017 to establish a national network of salmon researchers with emphasis on IYS planning priorities
- Japan is currently planning a chum management symposium

Next steps in IYS planning were outlined:

- Planning the 2018 IYS Launch Event/Symposium (members of the SSC have been named and will likely convene shortly after this meeting)
- Developing website, brand, and social media sites
- Implementing SharePoint web-based environment for committees and work groups
- Outreach and research themes
- Completing funding strategy/business model

Following the status update of the IYS, Jonathan Moore (SFU) gave a presentation on a new initiative funded by the Gordon and Betty Moore Foundation—The Wild Salmon Network. The main objective of the network is to connect and catalyze Pacific salmon science through three main actions: the formation of working groups to synthesize research and catalyze collaboration on emerging issues in salmon science, host symposia/conferences to connect scientists and practitioners, and launch a website as an online portal for policy-relevant salmon science. Overall, the initiative aims to make research more accessible to people outside the science community.

Some concern was expressed by meeting participants over avoiding salmon fatigue due to too many independent salmon networks and conferences in the same area requiring funding. Suggestions included integration at the level of funding and for the Symposium Steering Committee to reach out to similar initiatives to ensure alignment where possible.

### **Increasing variability in environmental conditions and salmon fisheries in the North Pacific in 2015 and 2016—Presentations by Skip McKinnell and Richard Brodeur**

#### *Hunting Extrema in the Salty Salmosphere*

As a result of higher than normal sea surface temperatures in the North Pacific from 2013–2016 (i.e., “the Blob”), the Pacific Salmon Commission (PSC) asked its Committee on Scientific Cooperation to investigate anomalies in 2015/16 environmental conditions and salmon fisheries in the North Pacific. Skip McKinnell (Salmoforsk International Environmental Consulting) was engaged to carry out this work and he was supported by funds provided through the DFO and the Pacific Salmon Foundation. This information was considered pertinent to the work of the IYS and Dr. McKinnell was invited to present highlights of his findings during the NPSC meeting.

McKinnell observed that environmental conditions that were examined included atmospheric pressure, air and

sea temperature, chlorophyll, zooplankton, and offshore vs. coastal conditions. Air and sea temperature extrema were found to occur in the salmosphere for a lengthy duration of three years. The largest extrema occurred in the Bering Sea, with similar but slightly less extreme events occurring on the North American continental shelf. There was also a coincidence of extreme basin (Pacific) and regional (North Pacific) atmospheric pressure patterns occurring at this time. The winter of 2015/2016 was a classical major El Niño event that fits a period of approximately 19 years, with all of the ocean-atmosphere teleconnections that have occurred in the past; the severity (duration) of these events, however, appears to be increasing.

With respect to extrema in salmon biology (i.e., abundance, run timing, and size), McKinnell noted that the results were based on analyses of online data compiled over a six-week period. A total of 69 species/timing/stock groups were analyzed, 57 (83%) of which had at least one extremum in 2015 or 2016. Overall, there were few widespread common timing/abundance patterns. Fraser test fisheries were found to have the most extrema in salmon biology, but further analysis was necessary. In contrast, there were relatively few extrema in the Columbia River, which was the southernmost group examined. Additionally, all body size extrema were small when they occurred. It was observed that the consequences of these extrema for adult abundances have yet to be seen; extrema from 2014–2016 were likely to be short-lived and similar phenomena have occurred previously without leaving any permanent effects. Fundamental changes, such as decreasing catches of Rivers Inlet sockeye salmon (the second largest sockeye stock in BC), which have been determined to have a marine cause, represent a greater threat than recent extreme ocean-climate events. Additionally, species that spread the risk across multiple ages can more easily endure temporary setbacks.

#### *Recent Surface Warming and Its Effects on Salmon and the Marine Environment*

To further highlight recent extreme events in the North Pacific and underscore the importance of the IYS, Richard Brodeur (NWMSC) gave a presentation on ocean surface warming in 2015 and 2016 and its effects on salmon and marine environments in the Pacific Northwest. Biological responses to warmer ocean temperatures have been widespread and substantial on all trophic levels; impacts of two or three successive warm years are expected to be felt for several years to come. Anomalies in northern and southern copepods, as well as earlier and more widespread spawning of some species of forage fish (e.g., anchovies and sardines) have been observed. Northern shifts in the distributions of some species have also occurred, resulting in a shift from crustacean-dominated ecosystems to jellyfish-dominated ecosystems along the coast. Unusual salmon observations in 2015 were discussed, including low abundance, small body size and low fecundity of Interior Fraser and Salish Sea coho, as well as low returns of Columbia and Oregon coast coho; this was in contrast to abnormally high Oregon coast Chinook returns. In 2016, Alaska pink salmon and Fraser sockeye returns were the lowest on record, while Fraser River chum returns were the highest in over two decades. Low returns, due to poor ocean conditions for West Coast salmon that entered the ocean in 2015 and 2016, with lags for adult returns, are anticipated. The biggest concern was for stocks/species that entered the ocean in 2015, with effects to continue with 2017 returns. Long term forecasts suggested reduced productivity for salmon in Pacific Northwest, with perhaps increased productivity in Alaska. Moreover, another El Niño was predicted for 2017 summer and fall, which would likely result in continuing negative effects on salmon in the Pacific Northwest.

#### **Review and discussion of IYS and North Pacific Steering Committee governance**

In this session of the meeting, IYS and NPSC governance was reviewed by Mark Saunders, the IYS Coordinator. IYS governance has been designed as a decentralized and distributed governance model, with financial and administrative decision control through NPAFC and NASCO, or their potential partners who may contribute their own funds to IYS activities, within the respective regions. The IYS Coordinating Committee was composed of representatives from NPSC and the North Atlantic Steering Committee and would include members from the NPAFC and NASCO and possibly other potential partners of IYS. This structure would allow for substantial flexibility within the two regions to develop regional or local entities. Additionally, a Symposium Steering

Committee would plan the 2018 Event/Symposium. The Symposium Committee membership objectives (Appendix A) have been preliminarily prepared by the Coordinating Committee and were briefly reviewed.

In the ensuing discussions, suggestions were made regarding the composition of the NPSC. An ideal size of 12–15 people was suggested, with the possibility of a smaller “executive group” of 5–6 people that would meet more regularly and whose membership could be expected to continue for the entire terms of the IYS (i.e., 7–10 years). Suggestions were made that the NPSC membership and expertise be broad. It was proposed to have member associated with each IYS theme, in addition to one representative from the NPAFC Secretariat and each NPAFC Party. However, it was also observed that it may be beneficial to have more than one person under each theme to distribute the workload. It was suggested that membership of the NPSC should be determined by the NPAFC; this was countered by concerns that this may restrict membership to salmonid researchers and that the NPSC could benefit from membership from a more broadly encompassing research community. Another suggestion included engaging a larger advisory group which could provide support and advice to the NPSC with less commitment required from participants. The need for broader representation under the SSC was also stated, with a suggestion to include academic groups with experience planning similar events.

First Nations involvement in the NPSC was discussed. Representatives from the First Nations Fisheries Council (FNFC) stated that they were interested in the IYS, but unsure of what their role and involvement might entail. The FNFC has limited time and resources and members normally work at the community/watershed level. Moreover, they would be less interested in the scientific process of the IYS, and more interested in how scientific findings from the initiative would impact salmon policy and management. Broader discussions included questions around what First Nations specific involvement in the IYS would look like. A suggestion was made to engage tribes in the USA and contact the National Tribal Caucus.

A common theme throughout discussions of IYS governance was concern over the workload of those currently involved with planning the initiative. It was stated that in the short-term, there was a practical need for a few dedicated individuals to begin planning the IYS Symposium.

### **IYS Funding Strategy review and discussion**

Paul Sprout (Canada) gave a presentation and led discussions to support the preparation of an IYS funding strategy to support the work of the NPSC by:

1. Reviewing assumptions and considering important questions in developing a funding strategy
2. Clarifying activities that need to be undertaken and supported in a funding strategy
3. Discussing next steps in preparing a funding strategy

The presentation began by emphasizing the underlying assumption that any funding strategy must respect the IYS governance which envisaged decision-making on funding coming, for the most part, at the regional/RFMO, and party/jurisdictional level. Sprout further noted that there was no single, centralized dispensing or controlling of funds for IYS implementation, and thus, within the two regions there may be a number of organizations potentially providing funds for IYS activities subject to their interests, commitments and timeframes. Consistent with the Outline Proposal, the NPSC would financially support some limited activities at the salmosphere level (IYS logo, information hub etc.) but would provide leadership and funds for planning (including research), engagement and communication, at the North Pacific level. It was noted that several activities were time sensitive while others would take place over the mid to longer term.

The governance structure and its implication for funding raised key suggestion in developing a funding strategy:

- Focus the initial strategy to support the efforts of the NPSC at the salmosphere and at the North Pacific levels particularly those activities that were more urgent and pressing

- Prepare a further strategy (or second part to the funding strategy) on the longer-term funding needs that were specific to the North Pacific and which would require additional leadership to plan, engage and advance
- Ensure that there was an ongoing and dedicated administrative body/secretariat that would support NPSC efforts for the duration of the IYS

Sprout expanded on the immediate activities and noted these included planning, organizing, and executing the IYS Symposium, preparing and endorsing the IYS brand, and securing capacity to support the, still in progress, IYS planning. In the longer term, it was proposed that resources could be sought for activities with more mid to late term outcomes. These included an integrated and accessible information system, ongoing IYS communications and supporting a concluding symposium and reporting.

In concluding, the presenter noted that a review of the list of activities should be undertaken and a process and plan be established to implement the most time sensitive activities, and pinning down and securing the funding to support an IYS secretariat. Next steps were to prepare the funding strategy building on the discussion and observations, outlining the funding objectives and actions and highlighting metrics to evaluate their performance.

During plenary discussion, the most pressing activities identified by meeting participants included planning for the IYS Symposium and formation of an IYS administrative body/secretariat. Symposium planning was identified as a standard task requiring a few experienced people with time dedicated to complete the job. The need for an IYS secretariat was not addressed in the Outline Proposal, but was deemed critical by meeting participants. There would ideally be a secretariat for the NPSC, one for the North Atlantic region, as well as a secretariat for the IYS Coordinating Committee to ensure items at the salmosphere level are completed.

There was also a strong concurrence among meeting participants over the need for an “IYS problem statement” that would provide a concise description of the issues the IYS will address and would clearly indicate what makes the initiative unique. The clear problem statement, as well as a clear value statement (i.e., what IYS will do), was necessary to properly brand the initiative. It would be used to better attract funders and give weight to what it means to have the IYS brand associated with an organization or project. Emphasis was also given to the catalytic nature of the IYS, as it would have a role in rallying existing initiatives and drawing them into the initiative. Lastly, Kamloops, Canada, was suggested as a possible location for the IYS Symposium due to the potential timing overlap with the Adam’s River sockeye run in the fall of 2018.

### **Planning for the IYS—Overview of impact planning**

A two-level results-based planning framework (‘Ultimate Goal and Performance Accountability Process’) is proposed for the IYS to assist with planning and communication of what will be done collectively across and at the regional, basin, and hemispheric (salmoisphere) scales. In the next session of the meeting, the IYS Coordinator and meeting facilitator gave an overview of impact planning, and feedback was requested on a draft of the Ultimate Goal and Performance Accountability Process for the IYS.

The ultimate goal process is a system for understanding the common ends organizations in a geographic area are collectively working towards:

- Ultimate goal: A picture of a desired future that is hard, but possible to obtain.
- Result: A condition of well-being for people families, communities, and/or nature written in a way anyone can understand. The results help explain the ultimate goal.
- Indicator: A measure that helps quantify the achievement of our results.

Performance accountability is a system to assess and enhance performance of multiple organizations towards the achievement of a series of outcomes. Outcomes are defined as a set of circumstances that, when brought together, are likely to contribute to achieving the results. Impact measures help quantify the achievement of outcomes (i.e., is anyone or anything better off as a result of the actions we take?). Impact measures have to be developed for all IYS outcomes to provide a compelling rationale for funding the work and quantifying the performance of the initiative.

The draft Ultimate Goal and Performance Accountability Process for the IYS was put forward as follows:

*Ultimate Goal:* Salmon and people are resilient in a changing world.

*Results:*

- Salmon and people are able to maintain their genetic diversity
- Salmon have access to hospitable habitat where possible, including habitat that best enables them to take refuge from the impacts of climate change
- People understand and manage their impacts on salmon
- Salmon sustain ecosystems and fisheries to the greatest degree possible

*IYS outcomes:*

- **Status of salmon:** The present status of salmon and their environments is understood.
- **Salmon in a changing salmosphere:** The effects of natural environmental variability and human factors affecting salmon distribution and abundance are understood and quantified.
- **New frontiers:** New technologies and analytical methods are advanced and applied to salmon research. Research is carried out to fill gaps in poorly studied regions of the salmosphere.
- **Human dimensions:** Salmon dependent communities, indigenous peoples, youth, harvesters, academics and resource managers collaborate across the salmosphere to develop decision making tools and arrangements that support the resilience of people and salmon.
- **Information systems:** Freely available information systems contain historic and current data about salmon and their environment
- **Salmon outreach and communication:** People understand the value of healthy salmon populations and engage to ensure salmon and their varied habitats are conserved and restored against the backdrop of increasing environmental change.

*Examples of impact measures:*

Impact Measure	Relevant IYS Outcomes
% of salmon populations whose status is reported using a consistent convention.	Status of salmon, human dimensions, salmon in a changing salmosphere, information systems
% of environmental and salmon data holdings available on an open, common platform.	Information systems, status of salmon, human dimensions, salmon outreach and communication
% of fisheries management plans informed by information on environmental variability.	Salmon in a changing salmosphere, status of salmon, human dimensions

The facilitator emphasized to meeting participants that the statements presented are draft examples, and will require fine-tuning. The presentation was to be distributed for comments and in-depth performance accountability planning for the IYS was to be conducted after the workshop, including the development of impact measures and action plans. General feedback from participants indicated that it was a good foundation and that it is reasonable to expect that through taking a salmosphere approach that improves our ability to see success under the IYS outcomes we will be better equipped to rationally manage salmon. A comment on the ultimate goal was to avoid phrasing around the idea of recovering salmon as it is something that cannot necessarily be controlled. In addition, it was noted that care should be taken to clarify that the ultimate goal is not something that is reasonably expected to be reached after the 5–7 years of the IYS initiative; rather it serves as a ‘north star’ for all organizations working on salmon within the IYS to head towards.

## **DAY 2**

### **Welcome and Review of Day 1**

The IYS Coordinator began the second day of the meeting with a summary of day 1. Presentations from Skip McKinnell and Richard Brodeur highlighted the extremes experienced in the environment and salmon in 2015 and 2016, emphasizing the need for the tools and collaboration to understand and manage these impacts. Suggestions on IYS governance included developing a 12–15 person NPSC with representation from the NPAFC member countries, indigenous peoples and core partners, as well as lead subject matter experts from the six IYS themes. Skills sets of members should also be considered in order to include members with expertise in areas of communication, fund raising, etc. Adding several broad thinking scientists in an advisory capacity should also be considered to ensure the IYS considers the full spectrum of science. A smaller executive group of approximately five people may also be formed that would meet more regularly and be committed to 5–7 years of work for the IYS. Additionally, a broader North Pacific IYS network should be considered. There was overall support for the funding strategy, which proposed distinguishing between funding strategies for immediate short term (e.g., symposium, website, branding, and planning) and long term activities (e.g., projects, meetings, reporting). There was also a need for an administrative secretariat for the North Pacific and potentially the Coordinating Committee. With regards to IYS planning, there was support for a results-based planning approach, as well as strong support for development of an IYS problem statement. Additionally, planning for IYS activities that would make a difference needs to commence, as well as building on the catalytic role of the IYS. Moreover, managers and indigenous people, as well as others under the human dimension and outreach element need to be involved with IYS planning from the outset. Other outcomes from day 1 included recognition that coordination of other salmon meetings and symposia was important. Jonathan Moore (SFU) reported three year Moore Foundation funding for a Wild Salmon Network, where there could be a potential link to the IYS Symposium.

### **Planning for the IYS—Developing actions through a “turning the curve exercise”**

The meeting facilitator began the next session of the meeting with a review of the Ultimate Goal and Performance Accountability Process for the IYS that was introduced on the previous day. The goal for this session of the meeting was to take participants through a ‘Turning the Curve’ exercise as an example of how to use impact measures to develop action plans. An example impact measure was presented to meeting participants (see below). There will eventually be a number of impact measures under each IYS outcome that will be developed by a dedicated team of experts; for this exercise, only one draft example was used. To begin the exercise, a baseline of the measure was established, including its history, its current state, and what would happen in the future if nothing was done differently. Next, participants were asked to brainstorm causes (i.e., why the measure is not where we want it to be), partners that need to be engaged in order to do better, as well as actions that can be taken do better and ultimately “turn the curve”. Next, participants were asked to rank actions from low to high based on specificity (is the idea specific enough to be implemented?), leverage (how much of a

difference will the action make on our impact measure?), value (is it ethical and consistent with our values?), and reach (is it feasible and affordable? Can it actually be done and when?). Lastly, participants were asked to match partners to actions that ranked the highest.

To note, this exercise was for illustration purposes only to demonstrate the power of impact measures in both setting priorities and supporting the creation of collaborative action plans. An actual ‘turning the curve’ process would involve only people who have a role to play in improving under the impact measure, and would be more thorough in terms of unveiling the causes and potential actions to take.

*Impact measure:* % of salmon data available on an open, common platform

*Causes*

- Lack of awareness of where data are
- It is expensive to put data together in one place
- Data holding databases in existence have not been inventoried (what is available is not well known)
- Standards of inter-operability protocols do not exist so data can “talk to each other” (metadata management)
- Lack of universal definitions for the data we have
- Lack of an integrated-collaborative approach

*Potential partners*

- Major data holders
- Government (regional jurisdictions)
- First Nations
- RFMOs
- NCEAS (National Center for Ecological Analysis and Synthesis) and other NGOs
- Universities
- The Hakai Institute
- Database engineers
- Organizations with large data computing ability

<i>Actions</i>	<b>Specificity</b>	<b>Leverage</b>	<b>Value</b>	<b>Reach</b>
• Working group to figure out best approach (scope project)	M	L	H	H
• Support NCEAS and stop <ul style="list-style-type: none"> <li>○ Better understand NCEAS</li> <li>○ What is the scope of this support?</li> </ul>	H	M– H	L	M
• Provide incentives for sharing data <ul style="list-style-type: none"> <li>○ E.g. money, resources, people</li> </ul>	M	M	H	M
• Determine best practices—learn from practitioners across the salmoshpere	M	M	H	H
• Determine a collaborative vision and research questions accepted by the broader community	L	L–M	H	M

- Ensure the proper resources exist to get the job done H M–H H H
  - Choose a sub-area that we can use as a pilot H M–H H H
    - Determine sub area
  - Integrate physical and biological data through the IYS in a way that increases our predictive capability M H H M
- 

*Match partners to actions*

e.g., Action: Choose a sub-area that we can use as a pilot

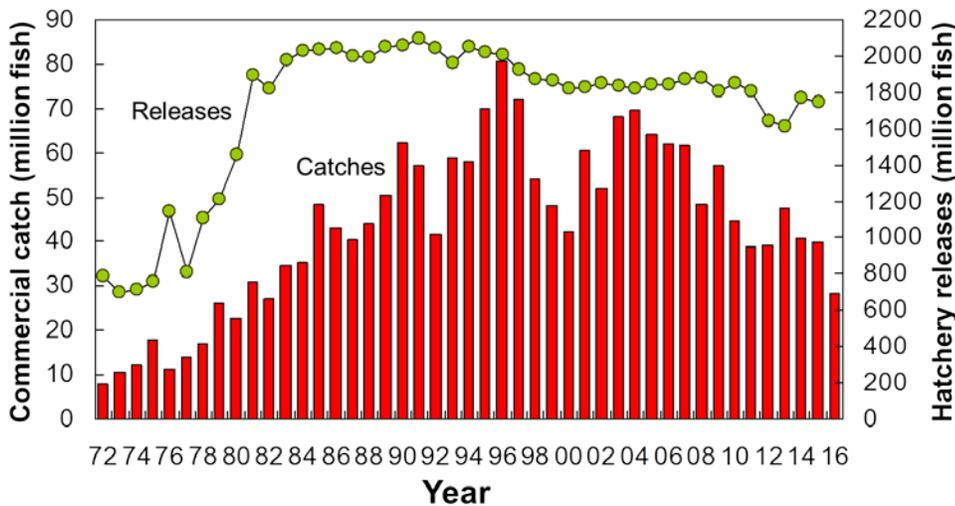
Potential partners:

- Data holders
- Information engineers
- Consultant to take on project with working group

The facilitator noted that multiple reiterations of actions to make them better or stronger was an important part of the process in developing action plans.

**Planning for the IYS—Next steps and discussion**

The IYS Coordinator introduced Shigehiko Urawa (Japan), who presented a proposal for a local IYS symposium in Tokyo, entitled ‘Sustainable Management of Chum Salmon in Changing Environments’. The proposed date of the symposium was March 26, 2018 (one day during the 2018 Spring Annual Meeting of the Japanese Society of Fisheries Science, JSFS), and the proposed location was the Tokyo University of Marine Science and Technology, Shinagawa, Tokyo, Japan. The symposium is to be hosted by the Japanese Society of Fisheries Science, and co-sponsored by the Salmon Science Society.



**Figure 1.** Coastal Commercial Catches of Chum Salmon in Japan, 1972–2016.

The total commercial catch of chum salmon in Japan peaked with over 80 million fish in 1996, but decreased to 28 million fish (= \$500 million) in 2016 (**Figure 1**). The purpose of the symposium was to endorse effective IYS projects for the sustainable salmon management in Japan and would encourage scientists and the public to:

- 1) comprehend the vision of IYS program;
- 2) understand the present status of chum salmon populations and their habitats;
- 3) assess effects of environmental variability on chum salmon distribution and survival;
- 4) evaluate new research technologies to advance salmon science; and
- 5) identify research topics endorsed by IYS for the forecast of chum salmon production, and their sustainable management.

Requests to the IYS NPSC made by Japan regarding the 2018 IYS Local Symposium in Tokyo were to support the symposium as a co-sponsor, to use the IYS logo, and to assist with sending Richard Beamish (Canada) to the symposium to give a keynote presentation. Participants were supportive of these requests and it was agreed that other local symposiums should be encouraged in other regions.

With respect to next steps in planning for the IYS, the IYS Coordinator was to confirm support for the results-based planning framework with the ICC and NASC. Additionally, small teams of subject matter experts would need to be identified for each theme in order to identify impact measures and develop action plans. Participants were asked to identify people who may be interested in participating under each theme (Table 2).

### **2018 Kick-off event/symposium**

For the final session of the meeting, George Iwama (UBC) led a discussion on the timing, location, and overall theme of the 2018 IYS Event/Symposium. Regarding timing, it was agreed that the target date should be late October or November to avoid the field season. It was also noted that overlap with other major meetings should be avoided—particularly the 2018 PICES Annual Meeting, which is planned to take place from October 25–November 4. There was some interest in hosting the Event/Symposium (or a related IYS cultural event) in Kamloops, British Columbia, to take advantage of the 2018 Adam’s River sockeye salmon run, which would likely run from October to mid-November. However, there was some concern that Kamloops was too small and remote to support the Symposium. The need for a major cultural celebration of salmon to be incorporated into IYS Event/Symposium was brought forward by multiple meeting participants, as it would draw in funders and remind politicians and decision makers about the importance of salmon. One option was to embed a smaller science symposium within a larger cultural celebration. Another option would be to hold a separate science symposium in early 2019; however, it was recognized that splitting the events might complicate planning. Further suggestions included the hosting multiple, smaller, symposia with a focus on different IYS themes throughout the time period of the IYS. It would also be necessary to approach organizations with similar initiatives or meetings to include an IYS component or to be co-branded with the IYS. There was also a suggestion to have an artist associated with the IYS, and it was indicated that Ray Troll has expressed interest in participating. Overall, there was strong support for the Event/Symposium to take place in North America, with Vancouver the top choice, and some interest in Kamloops, as well as a suggestion for Boston. London was another option that was being put forward by the Atlantic region. The IYS Coordinator noted that this discussion would be taken to the ICC, where a final decision would be made.

### **Concluding roundtable**

The meeting concluded with a roundtable of remarks from meeting participants:

- We need a series of ‘signature events’ or ‘signature projects’ to leverage the IYS and to spur something different and innovative.
- The IYS outcomes are the appropriate ones.
- We cannot wait for the symposium to kick off major science projects. Planning needs to begin now.

- The Pacific Salmon Foundation can help acquire funds for a big event that is a celebration of salmon (especially if it happens in BC).
- There is a need to move quickly to articulate the vision for the IYS, where it adds value to existing activities, and what is already happening with respect to salmon research and outreach.
- IYS is a great initiative, and can allow local groups to raise the profile on their own efforts and ideally get more support for them.
- USA tribal policymakers would be impressed at the holistic look of the IYS, but would also be interested in how it may impact salmon management and people who rely upon the salmon.
- The major difference the IYS brings is the international scope and focus it would bring.
- There is a lot of work to be done, but not a lot of time. This really highlights the need for assistance, and secretariat/administration support.
- There are three key pieces to this: outreach and engagement and bringing attention to the huge economic and cultural impact salmon have - a signature event like getting into the high seas, and ideally the integration of physical and biological sciences is important.
- ICES and PICES would certainly be open to a joint meeting (a co-branded event). This has happened in the past.
- We need to involve early-career scientists; maybe even high school aged given this will be about a 7-year initiative.

### **Wrap up and next steps**

Closing comments were given by Carmel Lowe and Vladimir Radchenko. The IYS Coordinator thanked Skip McKinnell and Richard Brodeur for their presentations, the NPAFC Secretariat staff for their hard work in organizing the meeting, and Paul Sprout, Andrew Stegemann, Vladimir Radchenko, and George Iwama as the planning team for the IYS. All participants were thanked and the meeting was concluded.

### **Summary of key points**

IYS governance:

- The NPSC should be composed of 12–15 people with representation from NPAFC member countries, indigenous peoples, and core partners, as well as lead subject matter experts under each of the IYS themes
  - Several broad thinking scientists may be included in an advisory capacity to ensure the IYS considers the full spectrum of science
  - A smaller executive group of 5–6 people may also be formed that would meet more regularly and be committed to 5–7 years of work for the IYS
- A broader North Pacific IYS network should be considered

IYS funding strategy:

- Overall support for a funding strategy that separates strategies for immediate short-term needs (e.g., symposium, website, branding, planning) and long-term activities (e.g., projects, meetings, reporting)
- An administrative secretariat was needed for the North Pacific and potentially the Coordinating Committee

IYS planning and next steps:

- Strong support for the development of a results-based planning framework and an IYS problem statement
- Planning for unique, high-impact IYS activities needs to begin, as well as building on the catalytic role of the initiative

- There was a need to involve managers and indigenous peoples (as well as other under the human dimension theme) in the planning of the IYS from the outset
- A local IYS symposium on the sustainable management of chum salmon in changing environments was being planned for March 25 or 26, 2016 in Tokyo, Japan
  - NPSC will co-sponsor the symposium
  - Other local IYS symposiums should be encouraged

#### IYS Event/Symposium

- 2018 Event/Symposium should ideally be planned for late October or November but should not overlap with the 2018 PICES Annual Meeting (October 25–November 4)
- A major cultural celebration of salmon should be incorporated into the event in order to draw in funders and remind politicians and decision makers about the importance of salmon
  - One option: embed a smaller science symposium within a larger cultural celebration
- In addition to the kick-off IYS Event/Symposium, multiple smaller symposia with a focus on different IYS themes could be hosted throughout the duration of the IYS
- Other initiatives or meetings similar to the IYS should be approached to incorporate an IYS component or to be co-branded with the IYS
- Among meeting participants, there was strong support for the location of the Event/Symposium to take place in North America, with Vancouver the top choice, and some interest in Kamloops

#### References

Beamish, R.J. 2012. A proposal to establish an International Year of the Salmon. NPAFC Doc. 1425. 16 pp. Fisheries and Oceans Canada, Pacific Biological Station (Available at [www.npafc.org](http://www.npafc.org))

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International Year of the Salmon Study Group (IYS-SG). 2015b. Proposal for an International Year of the Salmon (IYS). Report of the Committee on Scientific Research and Statistics (CSRS). NPAFC Doc. 1609 Appendix 7. ([http://www.npafc.org/new/science\\_IYS.html](http://www.npafc.org/new/science_IYS.html))

International Year of the Salmon Working Group (IYS-WG). 2016a. Outline proposal for an International Year of the Salmon (IYS) ‘Salmon and People in a Changing World’. NPAFC Doc. 1663. 9 pp. International Year of the Salmon Working Group, Committee on Scientific Research and Statistics (Available at <http://www.npafc.org>).

International Year of the Salmon Working Group (IYS-WG). 2016b. Report of the International Year of the Salmon 2016 Scoping Workshop. NPAFC Doc. 1658. 22 pp. International Year of the Salmon Working Group, Committee on Scientific Research and Statistics (Available at [www.npafc.org](http://www.npafc.org)).

**Table 1.** Participants at the North Pacific Steering Committee Meeting, February 28 and March 1, 2017, listed in alphabetical order by last name.

	<b>Name</b>	<b>Role</b>	<b>Organization</b>	<b>Country</b>
1	Hal Batchelder	Participant	North Pacific Marine Science Organization (PICES)	Canada
2	Dick Beamish	Participant	Pacific Biological Station, Fisheries and Oceans Canada	Canada
3	Allan Berezny	Participant	University of British Columbia	Canada
4	Richard Brodeur	Participant	National Marine Fisheries Service	USA
5	Sera Choi	IYW-WG Member	Korea Fisheries Resources Agency	Korea
6	Andrew Day	Participant	Vancouver Aquarium	Canada
7	John Field	Participant	Pacific Salmon Commission	Canada
8	Sue Grant	Participant	Fisheries and Oceans Canada, Fraser River Stock Assessment	Canada
9	Andrew Gray	IYS-WG Member	National Marine Fisheries Supervisor	USA
10	Scott Hinch	Participant	University of British Columbia, Oceans Tracking Network	Canada
11	Brian Hunt	Participant	University of British Columbia, Tula Foundation	Canada
12	Jim Irvine	IYS-WG member	Fisheries and Oceans Canada, Pacific Biological Station	Canada
13	George Iwama	IYS Science Advisor	University of British Columbia	Canada
14	Francis Juanes	Participant	University of Victoria	Canada
15	Ju Kyoung Kim	IYS-WG Member	Korea Fisheries Resources Agency	Korea
16	Carmel Lowe	Participant	Fisheries and Oceans Canada	Canada
17	Deana Machin	Participant	First Nations Fisheries Council of	Canada

			British Columbia	
18	Mike Matylewich	Participant	Columbia river Inter-Tribal Fish Commission	USA
19	Skip McKinnell	Participant	Salmoforsk International Environmental Consulting	Canada
20	Megan McPhee	Participant	University of Alaska Fairbanks	USA
21	Doug Mecum	IWS-WG Member	National Marine Fisheries Service	USA
22	Igor Melnikov	IWS-WG Member	Pacific Scientific Research Center (TINRO-Center)	Russia
23	Jonathan Moore	Participant	Simon Fraser University	Canada
24	Kate Moran	Participant	Ocean Networks Canada	Canada
25	Dion Oxman	IYW-WG Member	Alaska Department of Fish and Game	USA
26	Evgeny Pakhomov	Participant	University of British Columbia	Canada
27	Jeongseok Park	Organizer	North Pacific Anadromous Fish Commission	Canada
28	Eric Peterson	Participant	University of British Columbia, Tula Foundation	Canada
29	Vladimir Radchenko	Organizer	North Pacific Anadromous Fish Commission	Canada
30	Brian Riddell	Participant	Pacific Salmon Foundation	Canada
31	Rachael Ritchie	Participant	Genome BC	Canada
32	Akash Sastri	Participant	Ocean Networks Canada	Canada
33	Shunpei Sato	IYS-WG Member	Japan Fisheries Research and Education Agency	Japan
34	Mark Saunders	IYS-WG Chairperson, IYS Coordinator	North Pacific Anadromous Fish Commission	Canada
35	Michael Schmidt	Participant	Long Live the Kings	USA
36	Matthew Sloat	Participant	Wild Salmon Center	USA
37	Paul Sprout	IYS Business		Canada

		Consultant		
38	Andrew Stegemann	Meeting Facilitator		Canada
39	Craig Stephen	Participant	Canadian Health Wildlife Cooperative	Canada
40	Kengo Suzuki	IYS-WG Member	Japan Fisheries Research and Education Agency	Japan
41	Shigehiko Urawa	IYS-WG Member	Japan Fisheries Research and Education Agency	Japan
42	Jacques White	Participant	Long Live the Kings	USA
43	Madeline Young	Meeting Rapporteur	North Pacific Anadromous Fish Commission	Canada

**Table 2.** International Year of the Salmon North Pacific Steering Committee Meeting Agenda (February 28 and March 1, 2017, Richmond, BC, Canada).

<b>Tuesday, February 28—Day 1</b>	
<b>9:00 – 10:00</b>	Welcome, Agenda Review & Introductions <ul style="list-style-type: none"> <li>• NPAFC welcome from Vladimir Radchenko; First Nations welcome from Debra Sparrow; DFO welcome</li> <li>• Agenda review and roundtable introductions</li> </ul>
<b>9:30 – 10:45</b>	Planning for the IYS: developing actions through a ‘turning the curve exercise’
10:45 – 11:00	Break
<b>11:00 – 12:00</b>	Increasing variability in environmental conditions and salmon fisheries in the North Pacific in 2015 and 2016—Presentations by Skip McKinnell and Richard Brodeur
12:00 – 1:00	Lunch
<b>1:00 – 2:00</b>	Review and discussion of the IYS and North Pacific Steering Committee governance
<b>2:15 – 3:15</b>	IYS Funding Strategy review and discussion
<b>3:15 – 4:15</b>	Planning for the IYS—Overview of impact planning
4:15 – 5:45	Free time for participants
5:45	Bus leaves for reception
6:00 – 9:00	Stand-up reception with food at Catch Kitchen + Bar
<b>Wednesday, March 1—Day 2</b>	
<b>9:00 – 9:30</b>	Welcome and Review of Day 1
<b>9:30 – 10:45</b>	Planning for the IYS: developing actions through a ‘turning the curve’ exercise
10:45 – 11:00	Break
<b>11:00 – 12:15</b>	Planning for the IYS—Next steps and discussion
12:15 – 1:15	Lunch
<b>1:15 – 2:00</b>	2018 Kick-off event/symposium
<b>2:00 – 2:45</b>	Concluding roundtable
<b>2:45 – 3:00</b>	Wrap up and next steps

**Table 3.** Suggested people to work under IYS themes.**Table 3a.** New Frontiers.

<b>Name</b>	<b>Title/Organization</b>	<b>Country</b>
George Iwama (ME)	UBC	Canada
Rachel Ritchie (ME)	Genome BC	Canada
Kristy-Miller Saunders	DFO, PBS	Canada
Philippe Tortell	UBC (satellite imagery/chlorophyll)	Canada
Michael Banks	Oregon State University (OSU)	USA
Scott Hinch	UBC	Canada
David Welch	Kintama Research Services	Canada
Steve Trumble	Baylor University	USA
Maycra Costa	UVic (Remote Sensing)	Canada
Tony Farrell	UBC	Canada
Colin Brauner	UBC	Canada
Tilman Benfey	UNB	Canada
Dion Oxman	Alaska Department of Fish and Game	USA
Shunpei Sato	Japan Fisheries Research and Education Agency (FRA)	Japan
Strahan Tucker	DFO, PBS	Canada
Sang-Gyu Kim	Korea Fisheries Resources Agency (FIRA)	Korea

**Table 3b.** Information Systems.

<b>Name</b>	<b>Title/Organization</b>	<b>Country</b>
Eric Peterson (ME)	Hakai (Tula Foundation)	Canada
Benoît Pirene	Oceans Networks Canada	Canada
Valeriy Shevlyakov	TINRO	Russia
Scott Akenhead	S4S Solutions – Roundtable – Salmonosphere.org	Canada
Scott Carlye	S4S Solutions – Roundtable – Salmonosphere.org	Canada
Michael Schmidt	Deputy Director, Live the Kings (LLTK)	USA
Catherine Michelsens	Director of Modelling and Data Management, PSC	Canada
Molly McCammon	Executive Director, Alaska Ocean Observing System (AOOS)	USA
Peter Fox	Professor and Tetherless World Research Constellation Chair, Rensselaer Polytechnic Institute	USA
	State of Alaska’s Salmon and People (SASAP)/NCEAS	USA
	(Matthew Sloat [Wild Salmon Center] can help coordinate)	
Terry Curran	DFO (retired), member of Advisory Group of the Strait of Georgia Data Centre (SGDC)	Canada
Kathleen Jones	ADFG	USA
Raymond Ng	Director, Data Science Institute, UBC	Canada

**Table 3c. Human Dimensions.**

<b>Name</b>	<b>Title/Organization</b>	<b>Country</b>
Jessica Black, Courtney Corathers, Carrie Stevens	Center for Salmon and Society, UAF	USA
(Megan McPhee can help coordinate (ME))		
Maia Hoeberechts	Associate Director, User Services, Ocean Networks Canada	Canada
Karma Norman	Social Scientist, NWFSC	USA
Steve Langdon	Professor Emeritus, UAA	USA
(Governance/co-tribal management)		
Mike Williams	Kusko River ITFC	USA
(Governance co-tribal management)		
Susan O'Neil	Senior Conservation Planning Manager, LLTK	USA
(Large-scale decision-making tools)		
Ralph Matthews	Department of Sociology, UBC	Canada
	Institute for the Oceans and Fisheries (IOF) – Aboriginal Fisheries Research Unit	Canada
	Central Coast Indigenous Resource Alliance (CCIRA)	Canada
Deana Machin (ME)	Executive Director, FNFC	Canada
Kathryn Sobosinski	NWFSC/Long Live the Kings	USA
Brian Burke	NWFSC	USA
Sue Grant	Research Biologist, DFO, Fraser River Stock Assessment	Canada
(Ecosystem indicators for understanding eco impacts and forecasting)		
Mike Matylewich	Fisheries Management Director, Columbia River Inter-Tribal Fish Commission (CRITFC)	USA

**Table 3d. Status of Salmon.**

<b>Name</b>	<b>Title/Organization</b>	<b>Country</b>
Matt Sloat (ME)	Director of Science, Wild Salmon Center	USA
Peter Westley	Assistant Professor, UAF	USA
Olga Temnykh	Pacific Scientific Research Fisheries Centre (TINRO)	Russia
Brain Riddell (ME)	President and CEO, PSF	Canada
Randall Peterman	Professor Emeritus, Quantitative Fisheries Research Group, SFU	Canada
Sue Grant	Research Biologist, DFO, Fraser River Stock Assessment	Canada
Kim Hyatt	Research Scientist, DFO (PBS)	Canada
Kengo Suzuki	Senior Researcher, FRA	Japan
Ju Kyoung Kim	Scientist, FIRA	Korea

**Table 3e.** Salmon in a Changing Salmosphere

<b>Name</b>	<b>Title/Organization</b>	<b>Country</b>
Matt Sloat (ME)	Director of Science, Wild Salmon Center	USA
Megan McPhee and colleagues at UAF/UAS	Assistant Professor, School of Fisheries and Ocean Sciences, UAF	USA
Jonathan Moore	Associate Professor, SFU	Canada
	Salmon Network	
Vjacheslav Shuntov	Principle Research Scientist, TIRNO	Russia
Brendan Connors	Sr. Systems Ecologist and Lead - Fisheries & Aquatic Sciences, ESSA	Canada
	Adjunct Professor, SFU	
	Quantitative Fisheries Research Group, SFU	Canada
Mike Malick	Ph.D. Candidate, SFU	Canada
Carrie Holt	DFO (PBS)	Canada
Jim Irvine (ME > 60 yrs)	Research Scientist, DFO (PBS)	Canada
Laurie Weitkamp (and colleagues)	Research Fisheries Biologist, NWFSC	USA
Charles Hannah	DFO, IOS	Canada
Louis Botsford	UC Davis	USA
Peter Ross	DFO, IOS	Canada
Villy Christensen	Director, Global Ocean Modeling, UBC, IOF	Canada
Jim Murphy	NOAA, Auke Bay (Salmon Ocean Ecology and Bycatch Assessment (SOEBA))	USA
William Cheung	Associate Professor, UBC, IOF	Canada
Shigehiko Urawa	Research Specialist, FRA	Japan
Brain Wells	SWFSC, Fisheries Ecology Division	USA
Dave Beauchamp	Washington Cooperative Fish and Wildlife Research Unit Leader, USGS	USA
Jackie King	Research Scientist, DFO (PBS)	Canada
Gord Sterritt (Executive Director)	Upper Fraser Fisheries Conservation Alliance (UFFCA)	Canada
Peter Nicklin (Stock Management Biologist)		
Dave Levy	Independent BC fisheries consultant	Canada
Wanli Ou	Program Operations Manager, FNFC	Canada
Sukyung Kang	NFRDI	Korea

**Table 3f.** Salmon Outreach and Communication.

<b>Name</b>	<b>Title/Organization</b>	<b>Country</b>
Erin Harrington	The Salmon Project	USA
Leslie Elliott	Communications & Marketing Manager, Ocean Networks Canada (ONC)	Canada
	Wild Salmon Center	USA
Andrew Day	Vice President and Executive Director, Vancouver Aquarium	Canada
Jacques White	Executive Director, LLTK	USA
	NPRB (ask Molly McCammon)	USA
Brian Riddell (ME)	President and CEO, PSF	Canada
Higher education – Megan McPhee (ME)	Center for Salmon and Society, UAF	USA
Deana Machin (ME)	FNFC	Canada
Sera Choi	FIRA	Korea
Gary Smith	Smith and Stark Strategic Solutions, NPAFC Representative	USA

## **Appendix A**

### **International Year of the Salmon**

#### **Terms of Reference for the IYS Coordinating Committee, Symposium Steering Committee and Regional Steering Committees**

**Version: 5**

February 2017

## **Terms of Reference for the IYS Coordinating Committee, Symposium Steering Committee and Regional Steering Committees**

The International Year of the Salmon (IYS) is a collaborative, international initiative for elevating the capacity of outreach and research to meet the challenges facing salmon, and the communities associated with them, in a rapidly changing world. The governance of the IYS needs to be inclusive, flexible and supportive and its success will depend on the involvement of a wide range of partners over multiple scales. It is recognised that there may be different issues affecting salmon around the salmosphere (i.e. North Pacific Ocean, North Atlantic Ocean and Baltic Sea), different research priorities and a different focus of activities in different regions. The IYS will be adaptable in scale depending on funding received and support for regional/RFMO and party/jurisdiction specific initiatives. This document lays out the governance model as envisaged in the Outline Proposal, IYS(16)2, agreed by both NASCO and NPAFC (the lead organisations) but it is recognised that this structure may need to be reviewed occasionally for its adequacy and effectiveness, depending on how the IYS initiative develops..

It is anticipated that most of the IYS activities will be undertaken at the regional/RFMO and party/jurisdiction levels and there will be a range of objectives that will need to be coordinated at different levels (salmosphere, regional/RFMO (i.e. North Pacific, North Atlantic or Baltic) and within, and where appropriate between, individual Parties/jurisdictions. Benefits may be gained from involving organisations concerned with the Arctic.

## *Terms of Reference for the IYS Coordinating Committee*

1. The NPAFC and NASCO, as the lead organizations, jointly establish the IYS Coordinating Committee to remain active for the effective duration of the IYS.
2. The Coordinating Committee shall consist of:
  - (a) not more than four appointed representatives from each lead organization, including a representative of the Secretariats of each lead organization and preferably a mixture of managers, scientists and outreach specialists. The Coordinating Committee will appoint one Co-Chair from among the representatives of each of the two lead organizations. Current membership of the Coordinating Committee is shown in Annex A;
  - (b) the Coordinating Committee may co-opt, as required, additional representatives to serve on the Coordinating Committee who have expertise relevant to a specific activity being undertaken by the Coordinating Committee, and as mutually agreed by the representatives of the lead organizations.
3. The Coordinating Committee's mandate is to coordinate the planning, implementation and administration of the IYS and review its progress at the salmosphere level. The Coordinating Committee will undertake the following activities:
  - develop an IYS brand (logo, slogan and messages) and guidelines for its use;
  - develop, maintain and possibly host IYS web pages, possibly including templates for use by participants in the IYS;
  - develop and distribute newsletters, posters, brochures and other materials concerning IYS activities at a salmosphere level;
  - define broad outreach principles;
  - develop criteria for use of the IYS logo in research projects, outreach and other activities;
  - facilitate the identification of research priorities and review of research proposals at a salmosphere level, recognising that most IYS research is expected to be at a regional/RFMO or party/jurisdiction level;
  - coordinate fundraising activities in support of the IYS Coordinating Committee functions;
  - facilitate the IYS international symposia through dedicated Symposia Steering Committees;
  - establish a hub for compilation and sharing of information on IYS activities;
  - establish procedures of reporting and report to lead organizations; and
  - such other tasks as may be identified by the lead organisations.

4. The Coordinating Committee will undertake these activities in accordance with recommendations from the Regional Steering Committees and it will, therefore, need to plan and organize its work in order to allow for proper consultation with the Steering Committees before decisions are taken. Wherever possible, recommendations from the Regional Steering Committees should be framed as a range of options so as to allow some discretion by the Coordinating Committee to take decisions in the best interest of the IYS at a salmosphere level.
5. The Co-Chairs of the Coordinating Committee, or their designee, will report to their respective lead organisations and regional Steering Committee on the work of the Coordinating Committee.
6. The Coordinating Committee should work, wherever possible, by correspondence or meet remotely as deemed necessary by the Co-Chairs but should meet in person annually. Guidance on the planning for and conduct of the meetings of the Coordinating Committee is contained in Annex B.
7. The Coordinating Committee will operate by consensus of the lead organisations
8. The costs incurred by each Coordinating Committee member in participating in the Committee's work, including any fees for service, should be borne by the Party appointing the Committee member or the Committee member's organization.
9. The Coordinating Committee may incur costs, including engaging professional support, in accordance with budgetary provision and spending plans made by the lead organisations or funds raised from other sources and made available to the Coordinating Committee through the lead organisations. The Executive Director / Secretary of each lead organization shall ensure that the receipt and expenditure of funds are consistent with that lead organisation's Financial Rules.

## *Terms of Reference for the North Pacific Steering Committee*

1. NPAFC as the lead organization for the North Pacific establishes the IYS North Pacific Steering Committee to remain active for the effective duration of the IYS.
2. The North Pacific Steering Committee shall consist of:
  - (a) One representative from each NPAFC party, a representative of the NPAFC Secretariat, and invited representatives from core partners. It would be desirable to have both scientists and managers involved
  - (b) and ideally representatives with experience of outreach initiatives and additional experts, as needed to support IYS functions. Current membership of the North Pacific Steering Committee is shown in Annex C;
  - (c) The North Pacific Steering Committee may co-opt, as required, additional representatives to serve on the North Pacific Steering Committee who have expertise relevant to a specific activity being undertaken by the Committee.
  - (d) The North Pacific Steering Committee may designate a Chairperson or Co-Chairpersons and establish working groups or other subordinate body or person as it requires to fulfill its tasks.
3. The North Pacific Steering Committee's mandate is to coordinate the planning, implementation and administration of the IYS and review its progress in the North Pacific. The North Pacific Committee will undertake the following activities:
  - engage core partners;
  - resolve species, life stages and geographical areas of the North Pacific Ocean to be included in the IYS, in addition to those identified in section 5 of the Outline Proposal;
  - develop criteria for IYS endorsement, identify outreach and research priorities, review outreach and research proposals, identify research priorities and develop research plans for activities engaged at the basin and local scale; including ensuring that IYS data sets, once developed, are archived and available in public archives;
  - develop outreach activities, target audiences and messages;
  - coordinate fundraising in support of its functions and activities;
  - make recommendations to the Coordinating Committee to support its work, wherever possible framed as a range of options so as to allow some discretion by the Coordinating Committee to take decisions in the best interest of the IYS at a salmosphere level;
  - review progress of the IYS at the basin/local level; and
  - such other tasks as may be identified by the lead organisations.

4. The Chair of the North Pacific Steering Committee will report to NPAFC and the Coordinating Committee on the work of the North Pacific Steering Committee.
5. The North Pacific Steering Committee will operate by consensus.
6. The costs incurred by each North Pacific Steering Committee member in participating in the Committee's work, including any fees for service, should be borne by the organization appointing the Committee member, if otherwise will not be decided by the NPAFC.
7. The North Pacific Steering Committee may incur costs, including engaging professional support, in accordance with budgetary provision and spending plans made by NPAFC or funds raised from other sources and made available to the North Pacific Steering Committee through the NPAFC. The NPAFC Executive Director shall ensure that the receipt and expenditure of funds are consistent with NPAFC's Financial Rules.

## *Terms of Reference for the North Atlantic Steering Committee*

1. NASCO as the lead organization for the North Atlantic establishes the IYS North Atlantic Steering Committee to remain active for the effective duration of the IYS.
2. The North Atlantic Steering Committee shall consist of:
  - (a) One representative from each NASCO party, a representative of the NASCO Secretariat, and invited representatives from core partners. It would be desirable to have both scientists and managers involved and ideally representatives with experience of outreach initiatives and additional experts, as needed to support IYS functions. Current membership of the North Atlantic Steering Committee is shown in Annex D;
  - (b) The North Atlantic Steering Committee may co-opt, as required, additional representatives to serve on the North Atlantic Steering Committee who have expertise relevant to a specific activity being undertaken by the Committee.
3. The North Atlantic Steering Committee's mandate is to coordinate the planning, implementation and administration of the IYS and review its progress in the North Atlantic Ocean. The North Atlantic Committee will undertake the following activities relating to Atlantic salmon:
  - engage core partners;
  - resolve species, life stages and geographical areas of the North Atlantic Ocean to be included in the IYS, in addition to those identified in section 5 of the Outline Proposal;
  - through the International Atlantic Salmon Research Board, identify research priorities, review research proposals and coordinate any research programmes implemented;
  - develop outreach activities, target audiences and messages;
  - coordinate fundraising in support of its functions and activities;
  - make recommendations to the Coordinating Committee to support its work, wherever possible framed as a range of options so as to allow some discretion by the Coordinating Committee to take decisions in the best interest of the IYS at a salmosphere level; and
  - such other tasks as may be identified by the lead organisations.
4. The Chair of the North Atlantic Steering Committee will report to NASCO and the Coordinating Committee on the work of the North Atlantic Steering Committee.
5. The North Atlantic Steering Committee will operate by consensus.
6. The costs incurred by each North Atlantic Steering Committee member in participating in the Committee's work, including any fees for service, should be borne by the Party appointing the Committee member.
7. The North Atlantic Steering Committee may incur costs, including engaging professional support, in accordance with budgetary provision and spending plans made by NASCO or funds raised from other sources and made available to the North Atlantic Steering Committee through the NASCO. The Secretary of NASCO shall ensure that the receipt and expenditure of funds are consistent with NASCO's Financial Rules.

## *Terms of Reference for the IYS Symposium Steering Committee*

1. The NPAFC and NASCO, as the lead organizations, jointly establish the IYS Symposium Steering Committee.
2. The Symposium Steering Committee shall consist of:
  - (a) not more than three representatives from each lead organization, including one representative of the Secretariats of each lead organization, and one representative from any co-convening organisation. It would be desirable to have both managers and scientists involved with subject matter for each theme. The Symposium Steering Committee will appoint one Co-Chair from among the representatives of each of the two lead organizations. Current membership of the Symposium Steering Committee is shown in Annex E;
  - (b) the Symposium Steering Committee may co-opt additional representatives with specific expertise to serve on the Symposium Steering Committee as required.
3. The Symposium Steering Committee's mandate is to plan for, organize and run an international symposium in Autumn 2018 to launch the IYS consistent with the vision, themes and scope of the IYS. The Symposium Steering Committee will undertake the following activities:
  - agreeing on the dates and venue for the symposium;
  - developing objectives and the programme, including identifying and inviting keynote (invited) speakers and soliciting contributed papers;
  - establishing a web page for registrations;
  - seeking sponsors and supporters;
  - dealing with all financial matters;
  - making arrangements for publication of the proceedings; and
  - other tasks to ensure a well-run, prestigious and well reported symposium.
4. The Co-Chairs of the Symposium Steering Committee, or their designee, will report to the Coordinating Committee on the work of the Symposium Steering Committee.
5. The Symposium Steering Committee will operate by consensus of the lead organisations.
6. The costs incurred by each Symposium Steering Committee member in participating in the Committee's work, including any fees for service, should be borne by the Party appointing the Committee member.
7. The Symposium Steering Committee may incur costs, including engaging professional support, in accordance with budgetary provision and spending plans made by the lead organisations or funds raised from other sources and made available to the Symposium Steering Committee through the lead organisations. The Executive Director / Secretary of each lead organization shall ensure that the receipt and expenditure of funds are consistent with that lead organisation's Financial Rules.

***Members of the IYS Coordinating Committee***

- Dr Peter Hutchinson (NASCO Secretariat)
- Dr Carmel Lowe (NPAFC)
- Mr Doug Mecum (NPAFC)
- Mr Dan Morris (NASCO), Co-Chair
- Mr Mark Saunders (NPAFC), Co-Chair
- Dr Vladimir Radchenko (NPAFC Secretariat)

### *IYS Coordinating Committee Guidelines on Preparation for and Conduct of Meetings*

This guidance is intended to support the work of the Coordinating Committee, to provide an approach for tracking the Committee's documents, to make its meetings and intersessional coordination effective and to ensure that the work of the Committee is reported for dissemination to the lead organisations and Regional Steering Committees. This guidance can be modified in the future, with the agreement of the members of the Coordinating Committee.

#### **1. Convening the Coordinating Committee**

- 1.1 The Co-Chairs will agree on the need for, and timing of, Coordination Committee meetings through consultation with the members of the Committee. Members of the Committee will be given at least one month's prior notice of meetings and a Draft Agenda will be distributed at that time with annotations on the issues to be discussed.
- 1.2 In developing the Draft Agenda, the Co-Chairs will solicit input from the Coordination Committee members. The Co-Chairs will collaborate in developing the Draft Agenda taking account of this input.
- 1.3 The Co-Chairs will confer as necessary between meetings and may call meetings at short notice if the need arises.

#### **2. Conduct of Coordinating Committee meetings**

- 2.1 The Co-Chairs will alternate in chairing meetings except that for a meeting in person the Co-Chairs will agree how to allocate responsibility for chairing different sessions or agenda items.
- 2.2 Meetings that are conducted by telephone or other remote means will have a scheduled duration no more than two hours.
- 2.3 All documents for consideration by the Coordinating Committee will be allocated a sequential number reflecting the origin of the document, the year and its number. Thus, documents originating in NPAFC will be labelled NPCC(year)number e.g. NPCC(16)1. The file name may be annotated to describe the document e.g. NPCC(16)1\_DraftAgenda. Similarly, documents originating in NASCO would be labelled NACC(year)number e.g. NACC(16)1. Documents agreed by the Coordinating Committee would be labelled ICC(year)number e.g. ICC(16)1.

#### **3. Reporting of Coordinating Committee meetings**

- 3.1 A Rapporteur will be appointed from among the Committee members and will be a representative of the lead organisation that is not chairing the meeting, normally from that lead organisation's Secretariat. The meeting reports should provide a summary and key points of the deliberations, without detailed attribution, detail any task assignments or questions for resolution and details of the meeting, such as time, date, and attendance. The Chair and Rapporteur will agree a Draft Report for circulation to all Committee members for comment. The Chair and Rapporteur for that meeting will then finalise the report in the light of the feedback received prior to adoption of the report by the Coordinating Committee.

***Members of the IYS North Pacific Steering Committee***

(will be reviewed as proposed at the NPSC meeting)

- Mr. Mark Saunders Chair (NPAFC IYS WG Chair, DFO) IYS Coordinator (Pacific)
- Dr. Vladimir Radchenko (NPAFC Secretariat)
- Mr. Doug Mecum (NPAFC, NOAA, NMFS)
- Dr. Shunpei Sato (NPAFC IYS WG, FRA)
- Dr. Kengo Suzuki (NPAFC IYS WG, FRA)
- Dr. Shigehiko Urawa (NPAFC IYS WG, FRA)
- Dr. Ju Kyoung Kim (NPAFC IYS WG, FIRA)
- Dr. Do Hyun Lee (NPAFC IYS WG, FIRA)
- Dr. Igor Melnikov (NPAFC IYS WG, TINRO-Center)
- Dr. Dion Oxman (NPAFC IYS WG, ADF&G)
- Dr. Richard Brodeur (NWFSC, NOAA, USA)
- Dr. Hal Batchelder (PICES, Canada)
- Mr. John Field (Pacific Salmon Commission, Canada)
- Dr. Dick Beamish (DFO, emeritus)
- Dr. Andrew Day (Vancouver Aquarium)
- Dr. Randy Fisher (PSMFC)
- Dr. George Iwama/Dr. Allan Berezny/Dr. Evgeny Pakhomov (UBC/IOF)
- Dr. Jim Irvine (DFO)
- Dr. Francis Juanes (UVic)
- Ms. Sara LaBorde/ Mr.Mathew Sloat (Wild Salmon Center)
- Dr. Megan McPhee (UAF)
- Dr. Kate Moran/Dr. Akash Sastri (Ocean Networks Canada)
- Dr. Randall Peterman (SFU)
- Dr. Brian Hunt/Mr. Eric Peterson (UBC/Tula)
- Dr. Rachael Ritchie (GenomeBC)
- Dr. Brian Riddell (Pacific Salmon Foundation)
- Deana Machin (First Nations Fisheries Council)
- Mike Matylewich (Columbia River Inter-Tribal Fish Commission)
- Dr. David Carlson (World Meteorological Association)
- Mr. Jacques White/Dr. Michael Schmidt (Long Live the Kings)
- Dr. Craig Stephens (Can. Wildlife Health Cooperative)
- Dr. Scott Hinch (Ocean Tracking Network/UBC)
- Dr. Jonathan Moore (SFU)

***Members of the IYS North Atlantic Steering Committee***

- Ms Francesca Arena (European Union)
- Mr Raoul Bierach (Norway)
- Mr Doug Bliss (Canada)
- Dr Darius Campbell (OSPAR Commission)
- Ms Kim Damon-Randall (USA)
- Mr Konstantin Drevetnyak (Russian Federation)
- Dr Cathal Gallagher (EIFAAC)
- Mr Joannes Hansen (Denmark (in respect of the Faroes Island and Greenland))
- Dr Peter Hutchinson (NASCO)
- Mr Paul Knight (NASCO's accredited NGOs)
- Mr Dan Morris (USA)
- Dr Niall O'Maoileidigh (ICES)

*Members of the IYS Symposium Steering Committee*

- Mr Tony Blanchard (NASCO)
- Dr Ciaran Byrne (NASCO)
- Dr Nancy Davis (NPAFC Secretariat), replaced by Jeongseok Park since February 1<sup>st</sup>, 2017
- Mr Mark Saunders (NPAFC)
- Dr Shigehiko Urawa (NPAFC)
- Dr Peter Hutchinson (NASCO Secretariat)
- Dr Hal Batchelder (PICES), pending CC approval