# North Pacific Anadromous Fish Commission

## Annual Report 2017

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I. Introduction
I. Introduction

The Annual Report summarizes the activities of the Commission in the 2017. The Report provides descriptions of the IYS Working Group and North Pacific Steering Committee meetings on 28 February–2 March 2017, the email Joint Patrol Schedule Meeting (JPSM) on February 14–16, 2017 and includes all major discussions taken place and documents approved at the 25th Annual Meeting of the Commission (May 15–19, 2017). The Report also contains a description of the Commission’s activities after the 25th Annual Meeting in May 2017. Some of the NPAFC activities described in this Report were presented by the Executive Director to the Commission at the 2018 NPAFC Annual Meeting in Khabarovsk, Russia in May 2018.
II. General Information
II. 1. Foundation & Goals of the NPAFC

The North Pacific Anadromous Fish Commission (NPAFC) was established under the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (hereafter the Convention), signed by Canada, Japan, the Russian Federation and the United States of America (original Parties) at Moscow on February 11, 1992. Thereafter, Japan ratified the Convention on May–26, Russian Federation–on November 4, Canada–on November 6, and the United States–on November 9, 1992. The Convention entered into force on February 16, 1993. On May 27, 2003, the Republic of Korea deposited its instrument of accession to the Convention and became the fifth member of the NPAFC.

The NPAFC promotes the conservation of salmonids and ecologically related species in the North Pacific Ocean and its adjacent seas. General description of the Commission's goal, structure, and activities is available in four NPAFC languages at http://npafc.org/about/
II.2. Convention Area

The Convention for the conservation of anadromous stocks in the North Pacific Ocean pertains to the area of the North Pacific Ocean and its adjacent seas, north of 33 degrees North Latitude in international waters (high-seas) beyond the 200-mile zones of the coastal States. The activities under this Convention, for scientific purposes, may extend farther southward in the North Pacific Ocean and its adjacent seas in areas beyond the 200-mile zones.

Map credit: modified from ©FAO 2016 (http://www.fao.org/fishery/rfb/npafc)
II. 3. Species

Anadromous fish migrate from freshwater where they hatch to the ocean where they spend most of their lives and grow large before returning to freshwater to spawn. Common anadromous fish include salmon, smelt, sturgeon, and lamprey.

Six species of Pacific salmon (pink, chum, sockeye, coho, Chinook, and cherry) and steelhead trout are covered by the Convention. These species are characterized by different levels of their abundance in different regions, but they are equally important with regard to the Convention. Detailed description of ocean ecology of listed species is available in the recently published NPAFC Anniversary book – Beamish, R.J. (Ed.). The ocean ecology of Pacific salmon and trout. American Fisheries Society, 1,090 pp. ISBN-13: 978-1-934874-45-5

Brief description of anadromous salmon species protected by the Convention, are available at http://npafc.org/species/

Pink Salmon

Pink salmon are the most abundant species of Pacific salmon and originate both in Asia and North America. Upon emergence, pink salmon fry migrate quickly to the sea and grow rapidly as they make extensive feeding migrations.

Pink salmon have a fixed two-year life cycle. After eighteen months in the ocean, maturing fish return to their river of origin to spawn. An odd-year dominance cycle of pink salmon exists in many regions of the North Pacific, meaning that the number of adults returning to freshwater in an odd-numbered year is much higher than the number returning in an even-numbered year. Adults are the smallest Pacific salmon and range from 45–55 cm in length and 1.0–2.5 Kg in weight. Pink salmon die after spawning (semelparous).

How to distinguish the ocean phase: Pink salmon have large oval black spots on the back (dorsolaterally) of the body and on both lobes of the tail fin. Scales are very small. A large hump develops on the back of maturing males. The meat is pink, relatively soft, and is relatively low in fat content compared with Chinook and sockeye salmon.

### Scientific name
- **Oncorhynchus gorbuscha**

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<thead>
<tr>
<th>Language</th>
<th>Name</th>
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<tbody>
<tr>
<td>English</td>
<td>Pink salmon</td>
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<tr>
<td></td>
<td>Other common names: Humpy salmon, Humpback salmon</td>
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<tr>
<td>Japanese</td>
<td>カラフトマス (Karafutosi)</td>
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<tr>
<td>Korean</td>
<td>금사연어 (Gopsayeoneo)</td>
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<tr>
<td>Russian</td>
<td>Горбуша (Gorbusha)</td>
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Chum Salmon

Chum salmon are the second most abundant species of Pacific salmon and originate both in Asia and North America. The fish spawn in streams and the fry migrate to the sea soon after emergence from the gravel.

Immature chum salmon distribute themselves widely over the North Pacific Ocean, and the maturing adults return to the home streams in summer or autumn at various ages, usually after spending 2 to 5 winters at sea. Adults have been reported up to 108.8 cm in length and 20.8 kg in weight. Chum salmon die after spawning (semelparous).

**How to distinguish the ocean phase:** Chum salmon do not have spots on the body or tail. The tail fin has distinct silver streaks. Compared with other Pacific salmon, the caudal peduncle is relatively narrow and the pupil of the eye is relatively large. The meat is pale pink, slightly firm, and relatively low in fat content compared with Chinook and sockeye salmon.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Onchorhynchus gorbuscha</th>
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<tbody>
<tr>
<td>English</td>
<td>Chum salmon</td>
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<tr>
<td>Other common names:</td>
<td>Dog salmon</td>
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<tr>
<td>Japanese</td>
<td>シロザケ (Shirozake)</td>
</tr>
<tr>
<td>Korean</td>
<td>연어 (Yeoneo)</td>
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<tr>
<td>Russian</td>
<td>Keta (Keta)</td>
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Sockeye Salmon

Sockeye salmon are the third most abundant species of Pacific salmon and originate both in Asia and North America. Typically juvenile sockeye salmon utilize lakes for rearing areas for one to three years after emergence from the gravel, but some populations can utilize stream areas for rearing and may migrate to sea soon after emergence.

Sockeye salmon spend 1–4 years in the ocean before returning to fresh water to spawn. Body size of adults is variable, but can range 45-60 cm in length and 1.6–3.2 Kg in weight. Sockeye salmon die after spawning (semelparous).

**How to distinguish the ocean phase:** Sockeye salmon do not have black spots present on the body or tail. Scales are neatly arranged in regular rows on the body. Meat color is bright red, relatively firm, and high in fat content compared to chum and pink salmon.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Onchorhynchus nerka</th>
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<tr>
<td>English</td>
<td>Sockeye salmon</td>
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<tr>
<td>Other common names:</td>
<td>Red salmon, Bluebacks</td>
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<tr>
<td>Japanese</td>
<td>ベニザケ (Benizake)</td>
</tr>
<tr>
<td>Korean</td>
<td>홍연어 (Hongyeoneo)</td>
</tr>
<tr>
<td>Russian</td>
<td>Нерка (Nerka)</td>
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</table>
**Coho Salmon**

Coho salmon originate both in Asia and North America. Coho salmon fry generally remain in freshwater for one to two years and then migrate to the ocean. After approximately 18 months at sea, the fish return to their freshwater spawning areas.

The adult size is variable with lengths ranging from 40–88 cm and weights from 1.2–6.8 kg. Coho salmon die after spawning (semelparous).

**How to distinguish the ocean phase:** Coho salmon have small black spots on the back that may also be present on the upper lobe of the tail. The tail has bright but not well-demarcated silver coloration. The caudal peduncle is relatively broad and the base of the teeth in the lower jaw is white. The meat is pink and firm and can have a drier texture than other Pacific salmon species when cooked.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>English</th>
<th>Other common names: Silver salmon</th>
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</thead>
<tbody>
<tr>
<td>Oncorhynchus kisutch</td>
<td>Coho salmon</td>
<td></td>
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<table>
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<tr>
<th>Japanese</th>
<th>코호라쉬 (Kohokushe)</th>
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<tr>
<td>Korean</td>
<td>은연어 (Eunyeoneo)</td>
</tr>
<tr>
<td>Russian</td>
<td>Кижуч (Kishutch)</td>
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</tbody>
</table>

**Chinook Salmon**

Chinook salmon originate both in Asia and in North America. Chinook salmon are not as abundant as chum, pink, and sockeye salmon and can grow to a body size larger than other Pacific Salmon. The length of adults varies from 58 to 89 cm, or larger. The typical weight range of the Chinook salmon is 4.5 to 22.5 kg. Their life history includes an array of variations.

"Stream-type" Chinook salmon spend one year as fry or parr in fresh water before migrating to the sea. Typically, this type will return to their natal river in the spring or summer several months prior to spawning. "Ocean-type" Chinook salmon migrate to sea during their first year of life, normally within three months after emergence from the river gravel, and return to their natal river in the fall shortly before spawning.

**How to distinguish the ocean phase:** Chinook salmon have small round black spots on the back and both lobes of the tail fin and black color along the base of the teeth in the lower jaw. Meat color is pink, although some Chinook salmon have white meat due to the difference in how they process pigments in the food they consume. The meat is quite firm and has a relatively high fat content compared to chum and pink salmon.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>English</th>
<th>Other common names: King salmon, Spring salmon, Blackmouth, Tyee</th>
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<tbody>
<tr>
<td>Oncorhynchus tsawytscha</td>
<td>Chinook salmon</td>
<td></td>
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</table>

<table>
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<tr>
<th>Japanese</th>
<th>マスノスケ (Masunosuke)</th>
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<tbody>
<tr>
<td>Korean</td>
<td>왕연어 (Wangyeoneo)</td>
</tr>
<tr>
<td>Russian</td>
<td>Чавыча (Tshawytscha)</td>
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</table>
Cherry Salmon

Cherry salmon originate only in Asia. Most of them mature at three or four years of age, after spending one or more years in rivers and one winter in the ocean. The size of adults varies greatly, generally 50 cm or more in length and 2–2.5 Kg or more in weight.

They return to the natal river in March–May, spend the summer in the river, and move to headwaters for spawning in the fall.

How to distinguish the ocean phase: Cherry salmon most closely resemble coho salmon. Cherry salmon have small black spots on the back and a dark underlying hue under its silvery scales. The meat is bright red and has a firm texture, and it is more moist and fatty than coho salmon.

Steelhead Trout

Steelhead trout is the anadromous form of rainbow trout. Steelhead trout originate both North America and Asia. Most steelhead remain in freshwater for 2–3 years, spend 2–3 years in the ocean, and return to the natal river to spawn. Typical sizes of adults range 50–58 cm in length and 1.4–6.8 Kg in weight. Some steelhead may spawn more than once (iteroparous).

How to distinguish the ocean phase: Steelhead trout have small black spots present on the head, back, and tail fin. Silver marking on the tail is confined to the center area. The head is relatively small and the tail relatively large as compared to Pacific salmon. The tail is not forked. Meat is light pink and the texture is firm.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Oncorhynchus masou</th>
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<tbody>
<tr>
<td>English</td>
<td>Cherry salmon</td>
</tr>
<tr>
<td>Japanese</td>
<td>サクラマス (Sakuramasu)</td>
</tr>
<tr>
<td>Other common names:</td>
<td>マス (Masu salmon)</td>
</tr>
<tr>
<td>Korean</td>
<td>시마연어 (Simayeoneo)</td>
</tr>
<tr>
<td>Russian</td>
<td>Сима (Sima)</td>
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<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Oncorhynchus mykiss</th>
</tr>
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<tbody>
<tr>
<td>English</td>
<td>Steelhead trout</td>
</tr>
<tr>
<td>Japanese</td>
<td>スチールヘッド・トラウト (Steelhead)</td>
</tr>
<tr>
<td>Korean</td>
<td>무지개송어 (Steelhead Songeo)</td>
</tr>
<tr>
<td>Russian</td>
<td>Стальноголовая форель, микижа (Raduzhnaya forel)</td>
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How Atlantic Salmon is Different from Pacific Salmon

Atlantic salmon is one species *Salmo salar* (Pacific salmon comprise six species.)

Prior to introductions by humans, Atlantic salmon historical distribution is the North Atlantic, breeding in rivers of Western Europe, Iceland, Greenland, and the East coast of North America.

Atlantic salmon is iteroparous, unlike Pacific salmon which is semelparous. Iteroparous means that Atlantic salmon, like steelhead, can survive spawning, return to the ocean, and repeat the migration to freshwater and spawn more than once.

Ocean-run Atlantic salmon have large conspicuous black spots above the lateral line, and on the top and sides of the head on the gill cover. Pacific salmon do not have black spots on the gill cover.

The North Atlantic Salmon Conservation Organization is the international organization responsible for the conservation, restoration, and national management of wild Atlantic salmon stocks (NASCO; http://www.nasco.int/).

Wild Atlantic salmon catch comprises less than 0.1% of farmed Atlantic salmon harvest while wild Pacific salmon catch exceeds farmed Pacific salmon production (mostly coho and Chinook) by more than 5 times.
II. 4. Scientific Research

The goal of the NPAFC Convention is the conservation of anadromous populations in the North Pacific Ocean. To achieve this goal, the Commission needs the best available scientific information on the condition of anadromous populations, ecologically related species, and their marine ecosystems. Thus, the Commission’s mission in scientific research is to promote the acquisition, analysis, and dissemination of scientific information pertaining to anadromous populations and ecologically related species in the ocean; to coordinate efforts to conserve anadromous populations in the ocean; and to establish an effective mechanism of international cooperation to promote the conservation of anadromous populations in the ocean.

Over the past several decades, there have been significant variations in the marine production of Asian and North American anadromous salmon populations that are linked to climate change. There is a strong need for international cooperative research that provides better scientific information on the ecological mechanisms regulating production of anadromous populations, climate impacts on Pacific salmon populations, and the utility of using salmon populations as indicators of conditions in North Pacific marine ecosystems.

For those purposes, the Commission established the CSRS, which usually holds its meetings during the annual meetings of the Commission. Scientists may also meet between annual meetings, at symposia and workshops.

At CSRS, the Parties submit their scientific research plans for salmon and they report on results of their previous scientific research, catch data, and fry, juvenile, and smolt releases, and discuss cooperation research among the Parties. Science Subcommittee (SSC) and several Working Groups have been established under CSRS in order to facilitate their discussions for cooperation.

SSC formulates and reviews the implementation of the NPAFC Science Plan, which is a long-term plan for cooperative scientific research. At the 2016 Annual Meeting, the CSRS considered the 2016–2020 NPAFC Science Plan drafted by the Science Subcommittee (Doc. 1665). The 2016–2020 NPAFC Science Plan is aligned to a large extent with the proposed International Year of the Salmon (IYS) program (2016–2022), but there are differences due to the greater geographic extent and additional salmonid species within the IYS initiatives. The NPAFC Science Plan has five research themes:

- Status of Pacific salmon and steelhead trout;
- Pacific salmon and steelhead trout in a changing North Pacific Ocean;
- New technologies;
- Management systems; and
- Integrated information systems.

Relevant approaches to cooperative research under the Science Plan will include collection and synthesis of existing data and associated metadata to generate and test specific hypotheses, integration of ecological monitoring programs in the ocean using research vessels and/or remote sensing, conceptual and quantitative modeling, process-oriented field and laboratory studies, and retrospective analyses. Scientific results from cooperative studies will progressively reduce major gaps in knowledge with respect to the research themes, as well as make significant contributions to the IYS initiative in collaboration with other partners including PICES and NASCO. New scientific information will also contribute to effective enforcement activities by member nations to protect Pacific salmon from illegal, unreported, and unregulated (IUU) fishing in the Convention Area.

The CSRS also coordinates cooperation with other international organizations, such as the North Atlantic Salmon Conservation Organization (NASCO), North Pacific Fisheries Commission (NPFC), North Pacific Marine Science Organization (PICES), Pacific Salmon Commission (PSC), and others.
Four working groups currently function within the CSRS. The Working Group on Stock Assessment (WGSA) meets mainly to summarize and discuss the latest statistical information on Pacific salmon catches and hatchery releases. In 2017, WGSA members provided various examples of anomalous results of salmon fisheries and studies and agreed that the frequency of these events is increasing. Parties agreed to produce and present a multi-country report with a joint overview of stock status (with a view to updating it to become a peer reviewed document at the proposed IYS Symposium in late 2018). It was agreed that the WGSA would generate an updated status assessment in time for the 2018 Annual Meeting. Each country would designate one primary contact who would be responsible for providing appropriate data sets from their country and be a co-author on the publication.

The Working Group on Salmon Marking (WGSM) considered a status of the Otolith Mark Database, proposed mark plans for brood year 2017, otolith release reports for brood years 2016 and 2017 (preliminary), tagging activities, and WGSM contribution to the 2016–2020 NPAFC Science Plan implementation. WGSM co-chairpersons together with the NPAFC Secretariat worked on functionality and designs for the interactive mapping system (IMS). Preliminary cost estimates from several software developers were obtained. A final layout of the IMS, budget, and a detailed proposal will be submitted to the F&A at the 2018 Annual Meeting. The tentative implementation date is before the 2019 Annual Meeting, to coincide with the IYS focal year.

Upon the Secretariat’s request, WGSM and, then, CSRS recommended postponing the decision 16S/4 implementation (The committee recommended to make the disk tag-recovery database be open to the public without request through the public area of the NPAFC website) until an interactive visual mapping system would be developed to illustrate tag returns. The Commission approved the CSRS recommendation by e-mail on March 15, 2017.

Two potential tasks were identified for the Working Group on Stock Identification (WGSI) in 2017: (1) review of stock identification research and genetic baseline activities, and (2) genetic sampling protocols. WGSI considered and discussed results of stock identification studies of samples collected in the Bering Sea, Sea of Okhotsk, Gulf of Alaska, Puget Sound, and several North American rivers including the Yukon River. After discussion on genetic sampling protocol, it was decided that follow-up modifications to be made for distribution via e-mail communications among working group members.

The International Year of the Salmon Working Group (IYS WG) is only group that met intersessionally in Vancouver, BC on 2 March 2017. At the Annual Meeting in May, the IYS WG members discussed potential NPAFC activities aligned with the Science Plan and IYS research, the IYS opening event, and a local symposium to be held in Japan on sustainable management of chum salmon in changing environments. The concept of IYS North Pacific Secretariat was also endorsed. Proposals for high seas cruises in late winter 2019 were presented. The IYS WG Work Plan was adopted.


On July 31 and August 11, 2017, the NPAFC statistical data files and statistics metadata report respectively were updated with the information on Pacific salmon catches and hatchery releases in 2016. Data sets were verified by comparison with available published information and clarifications by the CSRS Points of Contact.

Several scientific articles and reviews were published in the semi-annual Newsletter issues Nos. 41 and 42. They include a topical article Exploring the “Salmosphere”: Challenges and Opportunities in Managing Salmon in the North Atlantic by Peter Hutchinson and Daniel Morris (NASCO), new article in a series of biological monitoring of key salmon populations: Northeast Pacific Resident Orca Population Recovery: Is the Key Tied to Restoring Chinook Salmon Abundance by Madeline Young, Steelhead Trout in British Columbia by William Stanbury, Fraser Sockeye in Heat by Sue Grant, and two articles on the IYS planning phase by Mark Saunders (Planning an International Year of the Salmon) and Madeline Young (A Brief History of Scoping and Planning the International Year of the Salmon in the North Pacific).
II. 5. Enforcement in 2017

In accordance with the decision of the Commission at the 2016 Annual Meeting, the Joint Patrol Schedule Meeting (JPSM) was convened by email on 14–16 February 2017, with the NPAFC Secretariat as a convener. The Secretariat prepared, in cooperation with the Parties’ Meeting Points of Contact, a meeting schedule and procedure that were approved by the ENFO Points of Contacts by email on 20 January 2017. Based on the Parties’ contributions, the Secretariat compiled a combined patrol scheme for 2017. The Parties reviewed the combined schedule of ship patrols, aircraft flights, and radar satellite surveillance to ensure broad coverage in the Convention Area throughout the high threat season. Later, ENFO reviewed, revised, and submitted the JPSM report (NPAFC Doc. 1677 Rev. 1) for adoption by the Commission at the 25th Annual Meeting.

More than four million square miles of the North Pacific Ocean are monitored by efforts of the NPAFC Member countries every year, with more than 100 days of ship and 500 hours of aerial patrols and the use of radar satellite surveillance. In 2017, Canadian, Japanese, Russian, and US maritime surveillance aircrafts conducted several deployments, resulting in more than 580 patrol hours and sighting more than 1,500 fishing vessels. No drift net fishing vessels were observed.

Japanese, Russian and US patrol vessels conducted patrols for a total of more than 110 days. More than 1,800 fishing vessels were visually identified conducting legitimate fishing activity during the ships' patrols. Canada provided radar satellite coverage of the NPAFC Convention Area, with a total of 6,203 contacts recorded through acquisitions.

In total, the cooperative enforcement efforts of the NPAFC Parties resulted in the detection of 49 vessels conducting directed drift net fishing operations for salmon in the Convention Area in 1993–2017. Of those vessels, 21 were apprehended (Table 1).

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Table 1. Statistics of detection and apprehension of vessels conducting directed drift net fishing operations for salmon in the NPAFC Convention Area by the enforcement agencies of Contracting Parties, 1993–2017.

There are several examples of the fruitful international cooperation between the Parties during the patrol season. Canadian CP-140 Aurora and American HC-130 aircrafts were deployed from Japan that significantly increase their surveillance capacity. Logistical support to the air patrols was provided from a Fisheries and Oceans Canada (DFO) Analyst and a staff from the US Coast Guard District 17 in Juneau, Alaska. Officers from China Coast Guard’s (CCG) Fishery Law Enforcement Division were onboard the USCG Cutter DOUGLAS MUNRO during patrolling the NPAFC Convention Area from June through September 2017 for a total of 91 days. The US Coast Guard District 17 partnered with the Eastern Arctic Directorate of Russian FSB to coordinate response and consequence to seven IUU transshipment vessels operating in the North Pacific Ocean and the Bering Sea.

Cooperation and joint actions between the Sakhalin Directorate of Russian FSB, the Department of Fisheries and Forestry of the Hokkaido Prefectural Government (Hokkaido DFF), and the Headquarters of the 1st District of Japan Coast Guard (JCG) occurred on January 18, 2017. An IUU fishing vessel, F/V OYSTER, was sighted by onshore inspection units of the FSB in territorial waters of the Russian Federation. A surface patrolling vessel, Hokou Maru, from the Hokkaido DFF was the first to take F/V OYSTER under surveillance. F/V OYSTER was blocked by Hokou Maru in the Japanese EEZ, until the FSB and the 1st District of JCG arrived to record evidence in the Russian EEZ.

The Committee on Enforcement conducted one face-to-face and a few electronic meetings in 2017. A one-day face-to-face meeting ENFO meeting was conducted during the 25th NPAFC Annual Meeting in Victoria. During the patrol season, the ENFO Parties participated in nine biweekly e-mail conferences to exchange information on results and plans for patrolling the Convention Area (see in detail in Section VI. The Commission’s activities after the 25th Annual Meeting).

The list of apprehended illegal salmon fishing vessels on the Enforcement Activities web page of the NPAFC website was revised and amended based on the NPAFC archive. Enforcement statistics was clarified, and narrative was re-written in four Commission’s languages with addition of previously missing information. Upon the Commission’s approval on October 6, 2017, the web page was updated (see at http://npafc.org/enforcement-activities/).
II. 6. Statistics

The time series of catch and hatchery release statistics are a useful tool for researchers interested in Pacific salmon and steelhead production under conditions of changing ocean climate and ecosystems. In this Report, all statistical data presentation is based on the NPAFC data files content that was first compiled in 2014 and verified in 2017–2018.

Commercial catch and hatchery release statistics are available for all the Commission member countries. Sport and subsistence catch data are available for Canada, Russia, and USA. Depending on the reporting area, some catch statistics are available for the period starting in 1925 and some hatchery release statistics are available starting from 1952. The last year reported in the data files is 2016. For the latest statistics (preliminary), a request should be sent to the NPAFC Secretariat.


Commercial Salmon Catch

The average annual total catch of Pacific salmon and steelhead trout by the NPAFC member countries between 1993 and 2017 was 908,649 metric tonnes (mt). Since the world capture fisheries catch estimates reached 90.4 million mt in 2017, Pacific salmon represented 1.01% (by weight) of marine fisheries harvest.

In 2017, the overall Pacific salmon catch was 460,670 thousand fish or 924,847 mt. In the last five odd-numbered years, Pacific salmon and steelhead trout commercial catch by the NPAFC member countries varied between 924,847 and 1,137,689 mt with the least value in 2017 while it consistently exceeded 1 million mt in previous five cycles. That is mostly due to unexpectedly poor return of chum salmon in Japan, whose harvest value (67,645 mt) dropped below the Russian and Alaska chum salmon catches. There are four minimal amount records in 2017: chum salmon catch by all countries and salmon catch by Japan both by number of fish and total catch weight.

Overall Pacific salmon commercial catch in 2017 occurred less than the 2015 result by 56,000 thousand fish and 114,000 metric tons. Catches decreased for all salmon species but cherry salmon. Average individual weight of sockeye, pink, chum, and Chinook occurred to be slightly higher in 2017 than in 2015 while for coho and steelhead trout – slightly less. Despite a moderate increase, an average individual weight of sockeye does not reach 2.5 kg in the third year in a row that may be an evidence of unfavorable environmental conditions for sockeye salmon of major fishery stocks at the high-seas.

The number of released salmon juveniles decreased by 255 million fish in 2017, after the historical high in 2014. Ratio between species and countries remains relatively stable. Chum salmon contributed 64.1%, pink salmon – 24.7%, sockeye – 4.9%, Chinook – 4.4%, coho – 1.4%, steelhead – 0.4%, and cherry – 0.2% of total released fry numbers. Portion of chum salmon continues to grow gradually while portions of other salmon species decrease.

Please refer to Tables 2–7 and Figures 1–6 for annual commercial catch of salmon and steelhead trout in number of fish and weight in tonnes by country and species, 1993–2017.
Table 2. Annual commercial catch of salmon and steelhead trout by country in thousands of fish, 1993–2017.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Canada</th>
<th>Japan</th>
<th>Republic of Korea</th>
<th>Russia</th>
<th>United States</th>
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Note: 2006–2017 catches do not include catch by foreign fleets operating in the Russian EEZ.

Fig. 1. Annual commercial catch of salmon and steelhead trout by country in millions of fish, 1993–2017.
Table 3. Annual commercial catch of salmon and steelhead trout by country in tonnes (round weight), 1993–2017.

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<tr>
<th>Year</th>
<th>Total</th>
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<th>Russia</th>
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Note: 2006–2017 catches do not include by foreign fleets operating in the Russian EEZ.

Fig. 2. Annual commercial catch of salmon and steelhead trout by country in thousands of tonnes (round weight), 1993–2017.

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<th>Year</th>
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<th>Coho</th>
<th>Chinook</th>
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Note: 2006–2017 catches do not include catch by foreign fleets operating in the Russian EEZ; 1993–2001 catches do not include catch by Korea; the count of cherry salmon is underestimated.

Fig 3. Annual commercial catch of salmon and steelhead trout by species in millions of fish, 1993–2017.
Table 5. Annual commercial catch of salmon and steelhead trout by species in tonnes (round weight), 1993–2017.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Steelhead</th>
<th>Cherry</th>
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<td>112,888</td>
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<td>8,813</td>
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<tr>
<td>2003</td>
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<td>392,533</td>
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Note: 2006–2017 catches do not include catch by foreign fleets operating in the Russian EEZ; yearly totals from 1993 to 2013 include Korean catches.

Fig. 4. Annual commercial catch of salmon and steelhead trout by species in thousands of tonnes (round weight), 1993–2017.

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<th>Year</th>
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<th>Canada</th>
<th>Japan</th>
<th>Republic of Korea</th>
<th>Russia</th>
<th>United States</th>
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Fig. 5. Annual hatchery releases of salmon and steelhead trout by country in millions of fish, 1993–2017.

<table>
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<th>Year</th>
<th>Total</th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Steelhead</th>
<th>Cherry</th>
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| % 93-17 | 100.00 | 5.01 | 27.10 | 59.94 | 1.87 | 5.30 | 0.50 | 0.29 |

Fig. 6. Annual hatchery releases of salmon and steelhead by species in millions of fish, 1993–2017.
III. Meetings of the IYS Working Group & North Pacific Steering Committee in 2017
As the IYS Working Group was formed at the 23rd Annual Meeting in Kobe, Japan, it convened a second scoping workshop in April 2016. During the workshop, 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. Following the second scoping meeting, the IYS WG prepared the Outline Proposal of the IYS, 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 the DFO 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—the North Pacific Steering Committee (NPSC) and the North Atlantic Steering Committee—and the Symposium Steering Committee. While the Coordinating Committee is responsible for coordinating planning, implementation, and administration of the IYS and reviewing its progress at the salmosphere level, the NPSC is responsible for the same activities 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 Pacific. Additional duties included developing outreach activities, target audiences, and messages in this region.

### III. 1. Time and Place of the Meetings

The meeting of the North Pacific Steering Committee was held at the Vancouver Airport Marriott Hotel in Richmond, BC, Canada on 28 February and 1 March 2017. 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

The International Year of the Salmon Working Group (IYS-WG) met on March 2, 2017, at the same venue in Richmond, BC, Canada. The purpose of the one-day meeting was to consider the progress made during the North Pacific Steering Committee (NPSC) Meeting held during the previous two days and to determine the next steps of the IYS-WG with respect to the development of research and outreach plans that reflect NPAFC priorities.

### III. 2. Participants

The NPSC meeting was attended by 43 people including IYS WG members and other invitees. Table 8. The 2017 NPSC meeting participants listed in alphabetical order of the last name.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
<th>City &amp; Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hal Batchelder</td>
<td>Participant</td>
<td>North Pacific Marine Science Organization (PICES)</td>
<td>Canada</td>
</tr>
<tr>
<td>Dick Beamish</td>
<td>Participant</td>
<td>Pacific Biological Station, Fisheries and Oceans Canada</td>
<td>Canada</td>
</tr>
<tr>
<td>Allan Berezny</td>
<td>Participant</td>
<td>University of British Columbia</td>
<td>Canada</td>
</tr>
<tr>
<td>Richard Brodeur</td>
<td>Participant</td>
<td>National Marine Fisheries Service</td>
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<tr>
<td>Sera Choi</td>
<td>IYS-WG Member</td>
<td>Korea Fisheries Resources Agency</td>
<td>Korea</td>
</tr>
<tr>
<td>Andrew Day</td>
<td>Participant</td>
<td>Vancouver Aquarium</td>
<td>Canada</td>
</tr>
<tr>
<td>John Field</td>
<td>Participant</td>
<td>Pacific Salmon Commission</td>
<td>Canada</td>
</tr>
<tr>
<td>Sue Grant</td>
<td>Participant</td>
<td>Fisheries and Oceans Canada, Fraser River Stock Assessment</td>
<td>Canada</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Organization</td>
<td>City &amp; Country</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Andrew Gray</td>
<td>IYS-WG Member</td>
<td>National Marine Fisheries Supervisor</td>
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<tr>
<td>Scott Hinch</td>
<td>Participant</td>
<td>University of British Columbia, Oceans Tracking Network</td>
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<tr>
<td>Brian Hunt</td>
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<td>University of British Columbia, Tula Foundation</td>
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<tr>
<td>Jim Irvine</td>
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<tr>
<td>George Iwama</td>
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<td>University of British Columbia</td>
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<tr>
<td>Francis Juanes</td>
<td>Participant</td>
<td>University of Victoria</td>
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<tr>
<td>Ju Kyoung Kim</td>
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<td>Korea Fisheries Resources Agency</td>
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<tr>
<td>Carmel Lowe</td>
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<tr>
<td>Deana Machin</td>
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<td>First Nations Fisheries Council of British Columbia</td>
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<td>Mike Matylewich</td>
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<tr>
<td>Skip McKinnell</td>
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<td>Salmoforsk International Environmental Consulting</td>
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<td>Megan McPhee</td>
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<td>Doug Mecum</td>
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<tr>
<td>Igor Melnikov</td>
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<tr>
<td>Jonathan Moore</td>
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<tr>
<td>Kate Moran</td>
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<tr>
<td>Dion Oxman</td>
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<tr>
<td>Evgeny Pakhomov</td>
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<tr>
<td>Eric Peterson</td>
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<td>Brian Riddell</td>
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<td>Pacific Salmon Foundation</td>
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<tr>
<td>Rachael Ritchie</td>
<td>Participant</td>
<td>Genome BC</td>
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<tr>
<td>Akash Sastri</td>
<td>Participant</td>
<td>Ocean Networks Canada</td>
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<td>Shunpei Sato</td>
<td>IYS-WG Member</td>
<td>Japan Fisheries Research and Education Agency</td>
<td>Japan</td>
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<tr>
<td>Mark Saunders</td>
<td>IYS-WG Chairperson,</td>
<td>North Pacific Anadromous Fish Commission (NPAFC)</td>
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<td>Matthew Sloat</td>
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<td>Wild Salmon Center</td>
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<td>Paul Sprout</td>
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<td>Andrew Stegemann</td>
<td>Meeting Facilitator</td>
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<td>Sapporo, Japan</td>
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<tr>
<td>Craig Stephen</td>
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<td>Kengo Suzuki</td>
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<td>Jacques White</td>
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<tr>
<td>Madeline Young</td>
<td>Meeting Rapporteur</td>
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On 2 March 2017, the IYS WG meeting participants included Mark Saunders (Chairperson) and Jim Irvine from Canada, Shigehiko Urawa, Kengo Suzuki, and Shunpei Sato from Japan, Ju Kyoung Kim and Sera Choi from Korea, Igor Melnikov from Russia, and Andrew Gray and Dion Oxman from the United States. Other participants included Andrew Stegemann (NPSC meeting facilitator), Allan Berezny and George Iwama (both UBC), Madeline Young, Jeongseok Park and Vladimir Radchenko (all NPAFC).

III. 3. Agenda

The NPSC meeting was facilitated by Andrew Stegemann, who began the meeting by reviewing the agenda, objectives, and meeting logistics. Roundtable introductions of meeting participants concluded the introductory session of the meeting.

Table 9. International Year of the Salmon North Pacific Steering Committee Meeting Agenda (February 28 and March 1, 2017, Richmond, BC, Canada)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td><strong>First Day:</strong></td>
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<tr>
<td>9:00 – 10:00</td>
<td>Welcome, Agenda Review &amp; Introductions</td>
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<tr>
<td>9:00 – 10:00</td>
<td>• NPAFC welcome from Vladimir Radchenko; First Nations welcome from Debra Sparrow; DFO welcome</td>
</tr>
<tr>
<td>9:00 – 10:00</td>
<td>• Agenda review and roundtable introductions</td>
</tr>
<tr>
<td>9:30 – 10:45</td>
<td>Planning for the IYS: developing actions through a ‘turning the curve exercise’</td>
</tr>
<tr>
<td>10:45 – 11:00</td>
<td>Break</td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>Increasing variability in environmental conditions and salmon fisheries in the North Pacific in 2015 and 2016—Presentations by Skip McKinnell and Richard Brodeur</td>
</tr>
<tr>
<td>12:00 – 1:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 – 2:00</td>
<td>Review and discussion of the IYS and North Pacific Steering Committee governance</td>
</tr>
<tr>
<td>2:15 – 3:15</td>
<td>IYS Funding Strategy review and discussion</td>
</tr>
<tr>
<td>3:15 – 4:15</td>
<td>Planning for the IYS—Overview of impact planning</td>
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<tr>
<td>4:15 – 5:45</td>
<td>Free time for participants</td>
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<tr>
<td>5:45</td>
<td>Bus leaves for reception</td>
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<tr>
<td>6:00 – 9:00</td>
<td>Stand-up reception with food at Catch Kitchen + Bar</td>
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<table>
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<th>Time</th>
<th>Activity</th>
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<td><strong>Second Day:</strong></td>
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<tr>
<td>9:00 – 9:30</td>
<td>Welcome and Review of Day 1</td>
</tr>
<tr>
<td>9:30 – 10:45</td>
<td>Planning for the IYS: developing actions through a ‘turning the curve exercise’</td>
</tr>
<tr>
<td>10:45 – 11:00</td>
<td>Break</td>
</tr>
<tr>
<td>11:00 – 12:15</td>
<td>Planning for the IYS—Next steps and discussion</td>
</tr>
<tr>
<td>12:15 – 1:15</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:15 – 2:00</td>
<td>2018 Kick-off event/symposium</td>
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<tr>
<td>2:00 – 2:45</td>
<td>Concluding roundtable</td>
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<tr>
<td>2:45 – 3:00</td>
<td>Wrap up &amp; next steps</td>
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The IYS Working Group meeting agenda included the following items:

1. Welcome and opening remarks from the Chair and IYW-WG members
2. Review of the agenda
3. Review of the IYS-WG Terms of Reference
4. Consideration of NPAFC priorities and plans by IYS Research Theme/Science Theme
   a. Status of Pacific salmon and steelhead trout (status of salmon)
   b. Pacific salmon and steelhead trout in a changing North Pacific Ocean (salmon in the salmosphere)
   c. New technologies (new frontiers)
   d. Management systems
   e. Integrated information systems (information systems)
5. IYS 2018 Symposium/Event and proposed Japanese Symposium on the sustainable management of chum salmon in changing environments
6. Development of the IYS Work Plan
7. Other—IYS Secretariat, SharePoint Site.
8. Summary and Next Steps

There was general support for the agenda among participants, although a few suggestions were made. The need for a focused discussion on IYS themes was brought forward, including “signature projects” that could be carried out under each theme. Additionally, a request was made to include a discussion on possible formation of an IYS Secretariat. With consideration of these topics, the agenda was set.

III. 4. Outcome of Meetings

The The NPSC meeting report was presented to the CSRS in the NPAFC Doc. 1712 (see attached). The IYS Working Group meeting report is being released in the NPAFC Doc. 1729.

The results of the NPSC meeting 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.

The IYS WG reviewed the IYS WG Terms of Reference that had been adopted during the 2016 NPAFC Annual Meeting. Concern was expressed over the second bullet point, as once the NPSC was established, the IYS WG would no longer have a role in assisting with its development and coordination. The IYS WG would have a role in working within the NPAFC and reporting back to the Commission. Language was to be revised in the IYS WG Terms of Reference and brought forward at the IYS WG meeting in May 2017.

Focused discussions during the meeting outlined specific activities that could be carried out by NPAFC member countries under the IYS and how they could provide opportunities for further funding. The primary goals and research objectives of the 2016–2020 NPAFC Science Plan are explicitly linked to IYS research themes; as there is no IYS Science Plan, meeting participants reviewed the 2016–2020 NPAFC Science Plan to identify activities that were missing or activities that could be expanded to the broader North Pacific or salmosphere under the IYS. Some activities could be completed by the NPAFC, while others would require partners. Additionally, it was noted that some projects would fall under multiple IYS research themes/NPAFC science themes. The need for signature projects was highlighted, which were defined as compelling, high impact projects that will keep the momentum of the IYS going while additional projects are planned. These big projects would demand funds and would gather interest within the science community as well as the general public.
A list of potential research and outreach activities related to the IYS and the 2016–2020 NPAFC Science Plan was compiled as follows:

**Inventory of data sets (status of salmon)**
- IYS-WG would be responsible for facilitating the assembly of this information
- Would include information on where the data sets are located, who is responsible for them, and how to gain access
- May require collaboration (especially for steelhead data)

**Salmon Atlas (status of salmon, information systems)**
- A compelling signature project that could be completed for the 2018 Symposium
- The original Salmon Atlas was produced by the Wild Salmon Center using old technology and is now out of date
- The new format would be electronic and would allow user to obtain information specific to different rivers
- Hemispheric (both Pacific and Atlantic regions)
  - Consensus for the need for a Salmon Atlas in the Pacific
  - A similar project is currently underway in the Atlantic
- Will be a large undertaking and will require extensive GIS capacity

**Retrospective analyses (status of salmon)**
- There is a large amount of value in retrospective analyses (i.e., they do not require ship time and much of the heavy lifting has already been completed)
- Will likely require international collaboration and could provide an academic linkage
- Stores of coded wire tag data available going back decades (PSC, ADFG)
  - Could provide clues as to how fish and climate conditions have changed though time
- Decades worth of otolith and scale collections available (DFO and other agencies)
- Otolith studies
  - Number of ways otoliths can be used to reconstruct migration patterns
  - Chemical analyses are expensive, especially to run significant number of samples
    (could use small sample size and do visual checks instead)
- Scales studies
  - There are projects currently underway (e.g., recent publication on 39 years’ worth of scale growth measurements on Qualicum chum salmon)
  - Inexpensive but large investment of time and expertise
- A signature project using retrospective analyses could link oceanographic data to growth patterns in the North Pacific
  - Could frame as a “CSI” or “forensics” project to sell to the public and decision-makers

**Physical and chemical profiles can be created with new high seas collections of otoliths and scales (new technologies).**

**Modelling (changing salmosphere)**
- Hemispheric
- There needs to be a larger discussion about how coupling could work
  - World Meteorological Organization should be engaged
    (not currently focused in North Pacific, but could potentially be persuaded to do more)
- Japanese research on magnetic fields and salmon migration
  - Compelling, interesting projects that could attract physicists, physiologists, etc.

Projects under “new technologies” will relate to other themes (e.g., status of salmon and salmon in a changing salmosphere)
- Genomics studies are fundamental pillars for understanding populations
  - Marine and aquatic genomics are research areas of strength and there is already a lot of collaboration
- Status of genetic diversity of Pacific salmon (differences in wild and hatchery fish, wild/hatchery interactions)
- Salmon survival projects
  - Comparison of caloric content of salmon juveniles and salmon one year later
  - A gain of 25–27% leads to an increased chance of survival
  - A gain of only 10–15% (colder years) leads to a significant drop in survival
  - A scientific document will be presented to the NPAFC at the Annual Meeting in May
Development of modern information systems (new technologies & information systems)
- e.g., Roundtable – designed to assemble and organize many different types of information, including data
- Bring in big IT companies
  - Session at the 2018 Symposium?
  - Oracle Canada as a sponsor?

New paradigms in management systems that better integrate science (human dimension)
- Include managers and policy makers from across the hemisphere

Information Systems
- Need a way to structure information that is going to be generated from the IYS
- Escapements need to be captured
- Connect with other NPAFC Working Groups
  - Working Group on Salmon Marking (A preproposal for a Tag Recovery Interactive Mapping Project will be presented at the 2017 NPAFC Annual Meeting)

Communication and Outreach
- Include a major outreach component with all projects (live streaming?)
- Need a coordinated outreach approach between the Pacific and Atlantic
  - Apply planning approach
  - Strategic campaigns to help with fundraising and to influence the public
- Lots of outreach potential with high seas research
- YouTube clips, Ted Talks, etc.
  - Important ways to relay information to younger people
- Communication Plan
  - Material around high level goals needs to be completed
  - Also, should speak to projects under development

During discussions on IYS and NPAFC Science Plan related activities, a proposal was brought forward by Russia for extensive winter and summer surveys across the North Pacific. The concept was unanimously supported by all participants and it was indicated that all NPAFC member countries would be invited to participate in the research cruises. There is a requirement for five vessels, three of which could be chartered from Russia. Two additional vessels are required, there is a possibility that a Japanese vessel would be available in 2019 and a new Canadian research vessel would come on-line in 2019. To facilitate the Russian proposal, further discussions were planned to be at the 2017 CSRS meeting.
IV. 2017 Joint Patrol Schedule Meeting
IV. 2017 Joint Patrol Schedule Meeting

IV. 1. Time and agenda of the email Meeting

The Committee on Enforcement Joint Patrol Schedule Meeting (JPSM) was held virtually by e-mail communication from February 14–16, 2017.

The Secretariat welcomed all participants at the 2017 JPSM, explained the meeting procedures, and proposed to adopt the agenda. The JPSM agenda is restricted to discussion and coordination of the 2017 Joint Scheme of Patrolling among the Parties.

IV. 2. Participants

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<tr>
<th>From NPAFC Parties</th>
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<tbody>
<tr>
<td>Canada</td>
<td>Gary Miller*</td>
<td>Brent Napier</td>
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<td></td>
<td>Blair Thexton</td>
<td>United States</td>
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<tr>
<td>Russia</td>
<td>Vladimir Alekseev *</td>
<td>John McKenzie*</td>
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<td></td>
<td>Lane Munroe</td>
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<tr>
<td>Japan</td>
<td>Manabu Baba*</td>
<td>NPAFC Secretariat</td>
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<tr>
<td>Korea</td>
<td>Sohan Bae</td>
<td>Jennifer Chang</td>
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<td></td>
<td>Sang Dae Jeong</td>
<td>Jeongseok Park</td>
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<td></td>
<td>Jihyun Kim</td>
<td>Vladimir Radchenko</td>
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<td>Seunghyun Kim</td>
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<td></td>
<td>Taehi Lee</td>
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<td></td>
<td>Chan Soo Park*</td>
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<td>Sejong Park</td>
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* - Meeting Points of Contact (MPoC)

IV. 3. Coordination of the 2017 NPAFC Joint Patrol Schedule

The Secretariat prepared, in cooperation with the Parties' Meeting Points of Contact, a meeting schedule and procedure that were approved by the ENFO Points of Contacts by e-mail on 20 January 2017.

Secure JPSM webpage was created by the Secretariat to facilitate communications. Four Parties' tentative schedule was submitted and uploaded on the JPSM webpage on the first day of the meeting. Korean Party may inform on their patrol schedule, when it will be determined.

The Secretariat e-mailed a summary of the meeting days and transmitted it through the secure JPSM webpage. Then, the Secretariat prepared the JPSM report (NPAFC Doc. 1677) and distributed it to the NPAFC Points of Contact with the Circular Letter No. 362 of 15 March 2017.

At the 25th NPAFC Annual Meeting, Canada and the US proposed updates to their enforcement schedules and agreed to work with the Secretariat for inclusion in the posted report. On 19 May 2017, Doc. 1677 was re-issued as Revision 1.

The Secretariat uploaded the revised joint patrol schedule to the IIS website and notified all ENFO members of the updated patrol schedule. ENFO reviewed and the Commission adopted the joint patrol schedule at the 25th NPAFC Annual Meeting, as appended (Appendix 1).
V. 25th Annual Meeting
V. 25th Annual Meeting

V.1. Time and Place of the Meeting

The Twenty-fifth Annual Meeting of the Commission was held at the Victoria Conference Center (VCC), Victoria, British Columbia, Canada, on 15–19 May 2017. Plenary sessions were presided over by Dr. Carmel Lowe, President of the Commission.

The Committee on Enforcement (ENFO) met on May 16, with Mr. Phillip Thorne of the United States as Chairperson.

The Committee on Scientific Research and Statistics (CSRS) met on May 16–18, with Dr. Igor Melnikov of the Russian Federation as Chairperson.

The Committee on Finance and Administration (F&A) met on May 17 and 18, with Mr. Junichiro Okamoto of Japan as Chairperson.
V.2. Participants

Canada

Representatives

George Hungerford
Carmel Lowe (NPAFC President)

Advisers and Experts

Terry Beacham
Mike Carlson
Darren Goetz
Sue Grant
Trevor Gray

John Holmes (Head of Delegation)
Carrie Holt
James Irvine
Kate Johnson
Jackie King
Kristi Miller-Saunders

Brent Napier
Chrys Neville
Rebecca Reid
Blair Thexton
Arlene Tompkins

Japan

Representatives

Masaki Hoshina
Junichiro Okamoto (Head of Delegation)

Advisers and Experts

Manabu Baba
Masa-aki Fukuwaka
Yukimasa Ishida

Yasuyuki Miyakoshi
Yuta Oda
Toshihiko Saito

Shunpei Sato
Kengo Suzuki
Tadayoshi Tojima

Shigehiko Urawa

Republic of Korea

Representatives

Suam Kim (NPAFC Vice President)
Chan Soo Park (Head of Delegation)

Advisers and Experts

Kwan Eui Hong
Cheol-Ho Kim

Ju Kyoung Kim
Na Ri Kim

Sang Gyu Kim
Seong-Min Yun

Russian Federation

Representatives

Mikhail Glubokovsky (Head of Delegation)

Advisers and Experts

Elena Akinicheva
Alexander Bugaev
Anastasia Khrustaleva

Nataliya Klovach
Igor Melnikov
Svetlana Naydenko

Viktor Ovchinnikov
Nina Shpigalskaya
Olga Temnykh

Vladimir Volobuev
United States

Representatives

Earl Krygier
Douglas Mecum (Alternate, Head of Delegation)
Gary Smith

Advisers and Experts

Patrick Barelli  Ed Farley  Lane Munroe  William Templin
H. Lee Blankenship  Andrew Gray  Kate Myers  Philip Thorne
Colin Brinkman  Jeff Guyon  Erik Neatherlin  Kenneth Warheit
Lance Campbell  Terr Lederhouse  Dion Oxman
Todd Dubois  Niel Moeller  Jim Seeb
Wil Ellis  Andrew Munro  Lisa Seeb

Observers

Ministry of Agriculture of British Columbia, Canada ............................... Mike Turner
International Pacific Halibut Commission (IPHC) ................................. David Wilson
North Pacific Marine Science Organization (PICES) ............................... Robin Brown
North Pacific Fisheries Commission (NPFC) ........................................ Dae-Yeon Moon
Northwest Atlantic Fisheries Organization (NAFO) ....................... Terra Lederhouse
Pacific Salmon Commission (PSC) .............................................................. John Field
Pacific Salmon Commission (PSC) ....................................................... Fiona Martens

Guests

Richard Beamish
Sylvie Lapointe
Vince O'Shea
Fran Ulmer
Viacheslav Zilanov

Secretariat

Vladimir Radchenko ......................... Executive Director
Jeongseok Park ................................. Deputy Director
Jennifer Chang ................................ Administrative Officer
Alanna Harlton ................................. Web & Publications Manager
Maria Artiushkina .......................... Administrative Assistant

Temporary Assistants

Moira Galbraith
Leanna Quon-Turple
V. 3. Agenda

First Session: 2017 May 15, Monday 09:00

Agenda for the Commission’s Plenary Sessions
1. Opening by the President of NPAFC, Dr. Carmel Lowe
2. Opening addresses, introduction and report on delegation memberships
3. Introduction of observers
4. Adoption of agenda
5. Meeting procedures
   (a) Attendance at meetings
   (b) Schedule of sessions
   (c) Press policy
   (d) Minutes
6. Executive Director’s report
7. Consideration of enforcement
   (a) Review activities contrary to provisions of the Convention and enforcement actions taken by the Parties (Article IX, 2 and 5)
   (b) Review of the report of Joint Patrol Schedule Meeting (JPSM), February 14–16, 2017
   (c) Review progress on Port State Measures (PSM) (LoA Recommendation #24)
   (d) Review progress on development of recommendations on stricter treatment of non-contracting party vessels conducting IUU activities in the Convention Area
   (e) Joint ENFO/CSRS working group proposal, meeting format and related issues
   (f) Cooperation with relevant international organizations and invitations to state or entity (Article IX, 9 and 10)
   (g) Biweekly email conferences
   (h) Review of Parties’ proposals on joint projects to be financed by the Commission
   (i) Updating of ENFO Points of Contact Lists
   (j) Future meetings
   (k) Adoption of ENFO Report
8. Consideration of scientific research and statistics
   (a) Review of 2016 salmon catches and enhancement production (Article VII, 2 and 3, ToR 3)
   (b) Review of scientific research activities in relation to the 2016-2020 NPAFC Science Plan Components (Article VII, and IX, 6 and 8, ToR 3 and 13)
   (c) Coordination of scientific research activities (Article IX, 6 and 8, ToR 1 and 8)
   (d) Cooperation with relevant international organizations and invitations to state or entity (Article IX, 9 and 10, ToR 14 and 15)
   (e) Status Reports on Projects (ToR 9; Rules of Procedure 25)
   (f) Joint Session with the Committee on Enforcement (Article VII, 1, ToR 4 and 5)
V.4. Opening Remarks

There were addresses of welcome and statements by the NPAFC President, Representatives of the Republic of Korea, Japan, Russia, the United States, and Canada.

Opening remarks by NPAFC President, Dr. Carmel Lowe:

Good Morning Representatives, Advisors, Delegates, Observers and Distinguished Guests

My name is Carmel Lowe and I am President of the North Pacific Anadromous Fish Commission—or NPAFC in short. I will be chairing today’s plenary session to open what is a very special anniversary meeting for our organization, its 25th Annual Meeting anniversary.

But first, as the Canadian Representative, and on behalf of the Government of Canada it is my very special pleasure to welcome you here to Canada and to our host city Victoria, capital city of the province of British Columbia. I understand that this is the third time that Victoria has hosted the NPAFC Annual Meeting—a record that now matches Vladivostok—which is the only another city to have hosted three NPAFC annual meetings.

Some of you may be new to NPAFC, I myself have been part of this important Commission for just 3 years, but I know that there are many in the audience that have been part of the NPAFC family since its inception in 1992 and will recall that the Commission’s first annual meeting was held at the Waterfront Centre Hotel in Vancouver in November 1993. So somehow it seems very fitting that we are here in Canada’s west coast once again some 25 years later for this milestone meeting of the Commission.

Speaking of milestones, I would be remiss if I didn’t mention that Canada celebrates its 150th Anniversary as a nation this year, and there are numerous cultural and social activities planned to mark the occasion happening all across this city, province and country so whether you are a local or visiting from afar I hope you have an opportunity to partake in some of them during your stay here.

Now anniversaries are a time to take stock of the achievements of past and to set out ambitious plans to be pursued in the future. Achievements represent the progress that has been made against objectives and, in the case of the NPAFC, the primary objective is to promote the conservation of anadromous fish stocks that spawn and rear in the waters of the NPAFC Member Countries and
migrate into the Convention Area. I don't propose to detail the many significant achievements that have been accomplished through the collaborative efforts of the NPAFC Member Countries over the past 25 years in these short opening remarks—rather I invite you to come to this afternoon's session which will showcase many of them and which if you do, I am confident that you will leave seriously impressed.

Nonetheless, despite our many achievements and the unqualified success of integrated enforcement in the NPAFC Convention Area, trends in total Pacific salmon catches over the recent past show increasing variability and many signature salmon stocks, such as Fraser River sockeye, have demonstrated historic low rates of return in one year only to be followed shortly after by record high return rates. And looking ahead there are many challenges that threaten the conservation and sustainability of anadromous fish, some new and some not so new, so the work of the NPAFC is certainly not yet done!

Understanding of concepts such as Climate change was very much nascent some 25 years ago but now it has matured to the point that we understand it to represent one of the most significant threats to the sustainability of anadromous fish stocks throughout their entire range but most specifically their southern ranges. Similarly, coastal developments around the Pacific Rim have expanded enormously over the last 25 years and further expansions are anticipated in the years ahead. These developments have led to destruction of critical spawning and juvenile rearing habitats for most anadromous fishes. Technological developments have permitted the tracking and catching of fishes much more efficiently and abundantly than ever before and at the same time they have afforded vessels illegally engaged in such activities new abilities to defy conventional detection approaches.

It is clear that to tackle these and other challenges facing anadromous fishes that we do indeed need ambitious plans. But plans alone will not be enough; they will need to be coupled with a fierce commitment to implementation including securing the required resources. We will need to augment our efforts as independent Parties in the NPAFC, as a collective of Parties in the Commission and we will need to forge new partnerships with other organizations that have contributions to make.

Daunting as this might seem, the good news is we are not starting from scratch. NPAFC has a rich history of building and implementing bold plans and productive partnerships. International Year of the Salmon, or IYS in brief, is one of our biggest and boldest program plans to date. It has now advanced to the point where it sets out a unified and comprehensive framework to address the challenges I just described (and then some) so that anadromous fish and the peoples that depend upon them will be resilient to the threats I just described and perhaps others that we do not yet know about. So we have a skeleton so to speak, now it is time to put meat on its bones. Over the course of our meeting this week, you will hear a lot more about IYS and plans for it will be further advanced by the IYS Working Group. I hope you will consider how you as an individual or the organizations that you represent can contribute, fatten out our skeleton so to speak—and deliver the rapid results that are needed to ensure the future healthy and productivity of these iconic species and the communities that depend upon them.

The 25th Annual Meeting begins with this plenary session and continues until Friday. Whether you have come as a Representative, Advisor or Delegate, I encourage your active and constructive participation throughout these proceedings. To our Observers and Distinguished Guests, I thank you for your interest, participation and co-operation. And a deep thanks to the Dr. Radchenko and the staff of the Secretariat for their tireless efforts to ensure both a successful meeting and continued productive work throughout the year. It goes without saying that the work of this Commission would not be possible without their dedication. Finally, I would like to thank the interpreters for their exceptional service throughout this meeting. I hope that each and every one of you will join me at tonight’s reception to raise a toast to NPAFC.

I now declare the 25th Annual Meeting of NPAFC open and will close my remarks by extending my very best wishes to each and every one of you for a successful meeting.

Opening remarks by Mr. Chan Soo Park, Head of the Korean delegation:

Madam President Carmel Lowe, Executive Director Vladimir Radchenko, Distinguished Delegates and Observers, Ladies and Gentlemen,

My name is Chan Soo Park, newly assigned to lead the Korean delegation as a successor to the current Deputy Director Jeongseok Park. First of all, on behalf of the Ministry of Oceans and Fisheries of Republic of Korea, I would like to give my highest regards to the Government of Canada and the Secretariat for organizing the 25th Annual Meeting.
Given that up to 26 million tonnes of fishery products derived from illegal, unreported and unregulated (IUU) fishing are distributed worldwide resulting in a maximum of $2.3 billion damage to the globe, the importance of combating IUU fishing cannot be over emphasized.

In this sense, the FAO Port State Measure Agreement finally entered into force in June 2016. Korea deposited its instrument of accession in January 2016. However, since 2014, even far before acceding to the Agreement, Korea had participated in the international efforts to fight against IUU fishing by carrying out port inspections in conformity with the standard set forth in the Agreement and made tireless efforts to transform itself into an exemplary fishing nation.

The role that NPAFC has played since 1993 in the field of conservation and management of anadromous fish in the North Pacific is significant. In particular, the implementation of unique enforcement activities by Member States using aircrafts, ships and radar satellites differentiates NPAFC from other RFMOs when it comes to IUU deterrent policies. To join a collective effort together, the Ministry of Oceans and Fisheries seeks a way to utilize its patrol ship in the Convention Area in collaboration with other relevant authorities in Korea (Navy, Coast Guard, etc.).

In addition to enforcement activities, Member States put their continuous efforts to conserve anadromous fish by releasing salmon from hatcheries. Since Korea initiated the first salmon release program in 1967, the operation has continued. 27,650,000 fish were released last year and Korea considers the expansion of the figure. Rendering support and assistance to the IYS now in preparation for the launch, Korea will participate in this project as much as possible.

I wish for a fruitful dialogue between Members for the next five days. Congratulating Dr. Loh-Lee Low for receiving the 2017 NPAFC award, once again, I extend my deepest appreciations to the Secretariat staff engaged in the preparation for this meeting.

Finally, let me introduce the members of the Korean delegation.

Opening remarks by Mr. Junichiro Okamoto, Head of the Japanese delegation:

Madam President, Distinguished Delegates, Observers, Ladies and Gentlemen,

I am Junichiro Okamoto, Head of the Japanese delegation. On behalf of the Japanese delegation, I would like to express our appreciation to the Government of Canada for hosting the 25th Annual Meeting of NPAFC in this beautiful city, Victoria.

Since the inception of the NPAFC, the Parties have been dedicating their efforts to both enforcement and scientific research activities to promote the conservation of anadromous stocks in the North Pacific Ocean under the Convention.

Enforcement activities have been efficient and effective under the framework of information exchange among the Parties. Our proactive enforcement activities through swift information exchange have brought about some remarkable achievements.

As for the scientific research, based on the NPAFC Science Plan, many beneficial research programs have been developed through cooperation among the Parties. Japan has been continuing its effort to develop and conduct further beneficial researches. We have committed ourselves to continue our efforts through cooperation with international organizations as well as other Parties.

I would like to take this opportunity to express our respects to Dr. Lowe, President of the NPAFC, and the Chairpersons of its three committees. We believe that we will have meaningful discussions under your strong leadership. I assure you of the fullest cooperation of my delegation in making these meetings run smoothly and efficiently.

Let me also express our appreciation to all the staff of the Secretariat for your hard work and contributions to NPAFC activities. It goes without saying that we owe it much to the Executive Director, Dr. Vladimir Radchenko, and his staff that our activities have been meaningful and successful. We deeply appreciate Dr. Radchenko for his dedication to the NPAFC. I also appreciate the interpreters for their service at this Meeting.

Here, let me spare some time for introducing our members. Firstly, this is Mr. Hoshina, Co-Head of the Japanese delegation with me. From Japan Fisheries Agency, this is Mr. Baba and Mr. Oda. From Japan Fisheries Research and Education Agency, Dr. Fukuwaka, Dr. Urawa, Dr. Saito, Dr. Suzuki, Dr. Sato, Mr. Tojima, and Dr. Ishida. From Salmon and Freshwater Fisheries Research Institute, Hokkaido Research Organization, Dr. Miyakoshi.
Finally, Madam President, I conclude my speech by hoping that this year’s 25th Anniversary Meeting will be successful. Thank you.

**Opening remarks by Dr. Mikhail Glubokovsky, Head of the Russian delegation:**

Dear Heads and Members of Delegations:

I am happy to meet all of you at the 25th Anniversary Annual Meeting of the NPAFC. The beautiful city of Victoria welcomed us with a warm weather. Comparing to the snowfall that we had in Moscow a few days ago, the weather here, in spite of rain, is wonderful.

I have to note with regrets that Pacific salmon catches in Russia have been declining in recent years compared to levels from 2009–2011. In 2017, we also expect a decline in salmon catches in Russia, despite the fact that, in general, odd years are more productive in the most regions of the Russian Far East. This may be related to climatic and oceanological changes in the North Pacific Ocean. Besides, we observe that main stocks of pink salmon—the most abundant species of Pacific salmon in Russia—are shifting northwards likely due to this species exhibiting a weaker homing response compared to other species of Pacific salmon.

I would like to draw your attention to one more aspect related to both Pacific and Atlantic salmon. The problem is the interception of Atlantic salmon migrating along the coast of Norway by Norwegian fishers. The Sami Parliament plays a negative role in this issue. At the same time, the interception of transit salmon is illegal, according to the UN Convention.

The second concern is the growth of salmon aquaculture production in Norway that has exceeded the level of total salmon harvest by all countries of North Pacific—about 1.2 million tons. There are ambitious plans to increase a production of aquaculture salmon in Norway to 5 million tons. This is a serious threat to Pacific salmon market. These problems should remain on the NPAFC radar.

At the moment, the border service representatives are not here. However, they are present with us virtually. We hope that they can join us for a full-fledged meeting.

**Opening remarks by Mr. Douglas Mecum, Head of the United States delegation:**

Madam President, Distinguished Delegates, Observers, Ladies and Gentlemen,

My name is Doug Mecum, and I am the Head of the US Delegation and the Deputy Regional Administrator of the Alaska Region of the National Marine Fisheries Service. The US delegation thanks the Canadian Party for hosting the 25th Anniversary Meeting of the North Pacific Anadromous Fish Commission in the “Garden City” of Victoria, British Columbia. We look forward to learning more about the history and vibrant culture of this beautiful city with its rugged shorelines, scenic beaches, temperate climate, and relaxed lifestyle.

At last year’s NPAFC meeting, the United States emphasized that understanding the effects of climate change on salmon production must be a critical element of our science plans. The anomalous pool of warm water in the northeast Pacific Ocean changed the marine ecosystem by altering system dynamics as well as the distribution and abundance of marine life in the Pacific Ocean and Salish Sea. In the Salish Sea, the warm pool altered the distribution of forage fish and had a negative impact on their survival. The impacts of the warm water pool on adult salmon varied across the North Pacific Ocean, but were generally negative. Lower than expected abundances were observed in coho salmon returns to the Columbia River and Oregon coast during 2015, as well as pink salmon and Chinook salmon returns across the Gulf of Alaska from southeast Alaska to the Alaska Peninsula during 2016. These low numbers of salmon in the California Current and Gulf of Alaska ecosystems are in contrast with the Bering Sea ecosystem where there have been relatively high returns of sockeye salmon to Bristol Bay, Alaska and larger numbers of returning Chinook salmon to the Yukon River. The United States continues to monitor the large marine ecosystems of the North Pacific Ocean with integrated ecosystem surveys in the Gulf of Alaska, Bering Sea and Arctic planned for the summer and early fall of 2017. These surveys are key to understanding the effects of environmental variability on Pacific salmon marine ecology and connect us to “Salmon in a changing salmosphere,” one of the key outcomes expected for International Year of the Salmon. The United States looks forward to continued discussions with our colleagues in NPAFC on Pacific salmon marine research coordination and planning during this historic 25th Anniversary Meeting.
The United States thanks all of the Parties for their high level of enforcement cooperation again during 2016. The US specifically extends a sincere thanks to the respective enforcement agencies from Japan, Russia, and Canada for providing aircraft and surveillance support during the US Coast Guard Cutter MELLON’s patrol in the Convention Area. Additionally, by holding ten bi-weekly enforcement meetings, all Parties during the enforcement season were able to coordinate efforts and expand the patrol areas of the NPAFC Convention Area by focusing efforts on multiple areas. I would like to note several of the multilateral efforts to address IUU threats. There was continued collaboration with Canada and Japan to support effective aerial surveillance patrols from northern Japan. The United States coordinated bilaterally with China to address the threat of large-scale high seas driftnet fishing in the NPAFC Convention Area by hosting six PRC shipriders onboard the USCGC MELLON during their high seas patrol. The United States believes that the close working relationships that the Parties have developed during the virtual joint patrol scheduling meetings have been absolutely critical to the successful planning and implementation of joint patrol efforts—this NPAFC best practice should be celebrated and continued. In that regard, the United States will soon commence high seas enforcement efforts and is looking forward to continued close collaboration with the partner countries in the NPAFC to achieve coordinated multilateral enforcement operations in 2017.

In closing, we anticipate a productive week ahead and we look forward to renewing and strengthening our relationships within the NPAFC, its committees, and the Parties. Now, please allow me to introduce the members of the US delegation.

Opening remarks by Dr. John Holmes, Head of the Canadian delegation:

Madam President, Distinguished Delegates, Observers, Ladies and Gentlemen:

My name is John Holmes, and I am the Head of the Canadian Delegation and Division Manager of the Aquatic Resources Research and Assessment Division in the Pacific Region of Fisheries and Oceans Canada. It is an honour for me to be welcoming all of you in beautiful Victoria for this very special Anniversary Meeting.

While this is my first NPAFC meeting, I have had the pleasure of becoming familiar with the Commission’s work, particularly over the last year. The conservation and scientific research of Pacific salmon is an issue that occupies much of my attention day to day.

Over its 25 years, the work of the Committee on Scientific Research and Statistics (CSRS) has contributed continually to Canada’s scientific assessments and management decisions for Pacific salmon. I expect that with the new science plan and the upcoming International Year of the Salmon (IYS), this contribution will become even greater. Canada is looking forward to cementing the NPAFC’s IYS plans and ensuring that the necessary funding is made available so that this initiative is a success. The growing collaboration taking place with other international organizations, the North Atlantic Salmon Conservation Organization (NASCO) and PICES in particular, will also serve to advance the shared conservation objectives of all NPAFC Parties.

The threat of illegal fishing for salmon in the North Pacific Ocean persists and the work of the Committee on Enforcement is as important as ever to combat such activities. I would like to take this opportunity to extend a specific thank you to Japan for their continued support in providing a staging location for our CP-140 Aurora patrol aircraft for the fifth consecutive year. Staging these patrols out of Japan is vital, as it allows us to increase surveillance coverage of the Convention Area significantly and therefore enhances our enforcement capability. It also demonstrates an excellent example of cooperation in this Commission.

In order to continue the positive work of this Commission, Canada notes the importance of the long-term fiscal sustainability of this organization, and its commitment to ensuring that its activities are efficient and effective.

I would also like to give an enormous thank you to the Secretariat staff for all their support and hard work in planning and executing this year’s meeting in Canada. As the Commission is only able to meet in person once a year, we must make the most of the time available and the Secretariat’s efforts help to ensure that the NPAFC’s work is effective and meaningful. Finally, I would like to thank the interpreters for their exceptional service throughout this meeting.

We look forward to a fruitful week ahead working with all of you, and hope that you are able to enjoy all that Victoria has to offer. Thank you.
Opening Address by Mr. Robin Brown (Observer from the North Pacific Marine Science Organization):

Madam President, Distinguished Delegates, Observers, Ladies and Gentlemen:

My name is Robin Brown and I am the Executive Secretary of PICES. On behalf of our Chairman, Dr. Chul Park, I would like to express our appreciation for the invitation to participate as an observer at the 25th Annual Meeting of the Commission and the opportunity to extend our congratulations on your 25th anniversary.

In many ways, PICES and NPAFC are organizational “fraternal twins”—born at the same time, with similar Contracting Parties, and similar geographic scope but with different and complementary mandates. Over the years, the two organizations have engaged in joint activities and many individuals have played important roles in both organizations.

PICES looks forward to continuing collaborations with NPAFC, with special interest in the development and implementation of the International Year of the Salmon program. We believe that PICES has useful and complementary expertise to contribute and that IYS will be a good fit with our program Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystem (FUTURE).

We wish you a most successful and productive meeting here in Victoria.

Opening Address by Mr. John Field (Observer from the Pacific Salmon Commission):

Good morning Ladies and Gentlemen, Distinguished Delegates, and Valued Colleagues.

My name is John Field, and I serve as the Executive Secretary of the Pacific Salmon Commission (PSC) in Vancouver, Canada.

I am honored to be invited here to the NPAFC’s 25th Annual Meeting as an observer. After serving several years as a US delegate to this organization, it is good to see so many familiar faces and old friends. I look forward to connecting with you, and to meeting new colleagues as the meeting unfolds.

While our two commissions are headquartered just blocks away from each other in Vancouver, there are some notable differences between us. The PSC has just two Parties, Canada and the United States, compared to your five. The PSC is focused on quota allocation and fisheries coordination, rather than your broader work on North Pacific fisheries enforcement and research. Nonetheless, I see we share several goals. Both Commissions aim to ensure range states reap the benefits of their conservation and habitat protection efforts. Both treaties aim to ensure clear communication between the Parties on catch levels, hatchery production, and emerging issues. And both organizations were established to ensure healthy, sustainable salmon populations for our member states and future generations.

Therefore, I’m pleased to report that communication between our commissions is stronger than ever. Mr. Mark Saunders and Dr. Carmel Lowe from Canada serve on the PSC’s Committee on Scientific Cooperation, ensuring timely exchange of views on emerging salmon science. Mr. Douglas Mecum from the United States serves on one of our five regional management panels, as well as our northern endowment fund committee. Finally, Dr. Vladimir Radchenko has invited me to participate in planning for the International Year of the Salmon since 2015, a rewarding experience that augments my quarterly meetings with him in Vancouver.

I look forward to continued cooperation between the world’s only two Pacific salmon treaty organizations, and invite you to examine the PSC display in the poster session this week. I also look forward to seeing how the International Year of the Salmon starts to crystallize next year and what it may hold for the Pacific Salmon Commission. But most importantly, I wish you a pleasant and productive meeting during your stay here in beautiful Victoria.
Opening Address by Dr. Dae-Yeon Moon (Observer from the North Pacific Fisheries Commission):

Good morning Dr. Carmel Lowe, President of North Pacific Anadromous Fish Commission, Dr. Vladimir Radchenko, Executive Director, Distinguished Delegates, Observers, and Ladies and Gentlemen.

I am Dae-Yeon Moon, Executive Secretary of the North Pacific Fisheries Commission. It is a great pleasure for me to attend this 25th Annual Meeting of NPAFC as an observer and I would like to thank all Members of NPAFC and the Secretariat for kindly inviting me to this important event in Victoria, Canada.

As you may be aware, the North Pacific Fisheries Commission (NPFC) is a newly established regional fisheries management organization, with the aim of the long-term conservation and sustainable use of fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur.

The NPFC is now entering the second year of its operation and is still at the early stage of development. It is notable, however, that the NPFC with cooperation of six Members, soon to increase to eight with the receipt of ratifications from the USA and Vanuatu, has made significant progress by adopting important Conservation and Management Measures (CMMs) which include Vessel Registration, limitation on the number of fishery vessels for Pacific saury, listing of IUU fishing activities, interim transshipment procedures, addressing vessels without nationality, Measures for the management of bottom fisheries and protection of vulnerable marine ecosystems (VMEs) in both the Northwestern and Northeastern Pacific Oceans, and limitation on fishing effort for chub mackerel.

As it is common to other RFMOs in their early development phase, the NPFC also is encouraged by the contact from other RFMOs to liaise and form cooperation agreements to enable an exchange of pertinent information on research, processes and operational activities.

We believe that cooperation with NPAFC, our neighboring RFMO with 25 years of long history in fisheries conservation and management, is one priority to be addressed as a high priority in the near future. We have already begun cooperating with NPAFC by exchanging attendance at annual meetings and Scientific Committee meetings and this initial step could lead us to more practical cooperation for areas of common interest.

As we noted last year at the 24th Annual Meeting of NPAFC, cooperation in Science and Compliance issues would be taken into consideration preferably as a high priority at this first phase of cooperation.

As for the Science, since we are sharing the North Pacific as a common Convention Area to a large extent, and also share the common objective to conserve fish resources, the exchange of scientific information gathered by each side, and information on fishing activities could save both organizations in effort and financial outputs to cover such a wide area as the North Pacific. The planned multinational survey in the North Pacific under International Year of Salmon (IYS) project presented by the NPAFC observer at the NPFC Scientific Committee meeting in Shanghai was met with high interest. The Scientific Committee highly recommended NPFC to take advantage of this survey and to formulate a plan for a cooperative research.

Another area for cooperation is the compliance component through which NPFC will implement its management scheme. NPFC took the compliance component of management very seriously as evidenced by the PrepCon work to establish interim and voluntary measures for the conservation and protection of the ecosystems, especially for the deep water fisheries. These interim measures are now enshrined in conservation and management measures. Another area of potential cooperation could be in the air surveillance of the North Pacific for NPAFC, and activity which could, through mutual cooperation benefit both RFMOs. This could be an idea for future discussions.

In July this year, in Sapporo, Japan, we will host the 3rd Annual Session of the Commission where participants will discuss cooperation with other organizations, consequently, in addition to our previous invitation, we also look forward to a representative from the NPAFC to assist us to facilitate such future cooperation.

Finally, I would like to congratulate you for the 25th Anniversary of the NPAFC Commission and wish a prosperous and glorious future.

Thank you very much.
V. 5. Executive Director’s Report

The ED report (NPAFC Doc. 1684) was submitted to the Parties prior to the meeting along with Circular Letter #364 of 29 March 2017. It describes the NPAFC events and activities of the 2015/2016 fiscal year to that date. Prior to the 25th Annual Meeting, the ED report was updated with addition of the latest relevant information (NPAFC Doc. 1684 Rev. 1).

The report reviewed the status of implementation of the Commission’s decisions and the committees’ recommendations that were approved by the Commission at the Twenty-fourth Annual Meeting. Executive Director presented information on cooperation with relevant international organizations, descriptions of the Commission’s activities in the areas of enforcement and scientific research and statistics, publications, and a summary of the Secretariat’s performance, including management of the Commission’s funds.

(a) Enforcement-related section of the ED report

This section of the ED report mainly covered the ENFO activities and events that took place in 2016, excluding information on seafood risk-based traceability program in the United States and the 2017 JPSM meeting (see section IV. 2017 Joint Patrol Schedule Meeting).

The NOAA Fisheries Communications continued to inform the NPAFC Secretariat on the US President’s initiative to combat IUU fishing and seafood fraud implementation including development of the US seafood traceability program, a commerce trusted trader program, a key element to ensure seafood traceability, the seafood import monitoring program, the List of Foreign Fisheries (LFF), and NOAA 2017 Biennial Report to Congress identifying countries with vessels reported to be engaged in IUU fishing. With a shifting focus from Pacific salmon to other marine resources, no information was requested and submitted by the Secretariat to NOAA in 2017.

Other enforcement-related activities are described in the “II.5. Enforcement in 2017” and “VI.1. Consideration of Enforcement” sections of this Annual Report.

(b) Science and Statistics in the ED report

Writings for the NPAFC anniversary book with the revised title, Ocean Ecology of Pacific Salmon and Trout was completed in 2017. On 31 December 2017, all chapter manuscripts were collected by publisher, the American Fisheries Society, and book publication was in progress. The book description is as follows:

“There has been great progress during the past two decades in the understanding of the ocean ecology of Pacific salmon and their response to climate-induced changes in their ocean environment. This book is a comprehensive summary and interpretation of the research published on the ocean ecology of six species of Pacific salmon (pink, chum, sockeye, coho, Chinook, and cherry salmon), steelhead, and coastal cutthroat trout by researchers in Canada, Japan, Korea, Russia, and the United States. The book includes a summary of standard Pacific salmon research techniques in the ocean, and relevant new information on the life history in fresh water. Each chapter is authored by well-known researchers from Pacific salmon-producing countries. The chapters for each species report on the recent knowledge of the marine life histories, including abundances, stock-specific distributions and migrations, feeding behaviour, trophic interactions, growth, survival, and enhancement activities. The book provides up-to-date scientific information on the ocean life of Pacific salmon as well as discussions about future research needs. It will be an invaluable source of information and a standard reference for scientists, teachers, students, and anyone interested in Pacific salmon”.

On July 31 and August 11, 2017, the NPAFC statistical data files and statistics metadata report respectively were updated with the information on Pacific salmon catches and hatchery releases in 2016. Data sets were verified by comparison with available published information and clarifications by the CSRS Points of Contact.

Cooperation with relevant international organizations

This section of the ED report begins from sub-chapter “Cooperation with UN and FAO”.

On 6 February 2017, the Secretariat received an invitation for the NPAFC to attend a third session of the Preparatory Committee established by General Assembly resolution 69/292 “Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction” (ABNJ) at the UN Headquarters from 27 March to 7 April 2017, and an advance preparatory meeting on 17 February 2017. One week earlier, the RSN Secretariat informed member organizations that Stefan Asmundsson (NEAFC) will attend the third session of the Preparatory Committee in New York from 27 March–7 April 2017 and, then, will be able to share information about the outcome of the meeting within the RSN network.

On 3 May 2017, the Secretariat received an invitation for the NPAFC to attend fourth session of the Preparatory Committee at the UN Headquarters from 10 to 21 July 2017, and an advance preparatory meeting on 30 May 2017. Upon the Preparation Committee’s recommendation, the UN General Assembly decided to convene an Intergovernmental Conference to consider elements and to elaborate the text of an international legally binding instrument under the United Nations Convention on the Law of Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, with a view to developing the instrument as soon as possible. The conference will meet for four sessions, with the first session to be convened from September 4 to 17, 2018. The second and third sessions will take place in 2019, and the fourth session in the first half of 2020. Prior to the Conference, a three-day organizational meeting will be held in New York, from April 16 to 18, 2018 (see https://www.un.org/bbnj/ for details).

Mentioned invitations were acknowledged but not taken up because such business trips are not budgeted neither for the 2015/16 nor 2016/17 fiscal years. Information on the status of the international legally-binding instrument under the UNCLOS related to conservation of the biological diversity of ABNJ is available from website at http://www.un.org/depts/los/biodiversity/prepcom.htm

On 9 February 2017, the FAO Fisheries and Aquaculture Department (FAD) requested that the NPAFC fill out a new questionnaire on the aquaculture provisions of the Code of Conduct for Responsible Fisheries. The Secretariat immediately responded with information that the NPAFC follows developing trends of the Regional Fishery Body Secretariat’s Network (RSN) and contributes a fair share in information exchange with FAO, UN DOALOS, and other relevant organizations. However, some provisions of the Code of Conduct for Responsible Fisheries are not applicable to the NPAFC mandate and activities. Keeping a statistics data file on hatchery releases of the Pacific salmon and steelhead trout is the only NPAFC activity related to aquaculture. At scientific meetings, member state experts regularly discuss carrying capacity of the North Pacific ecosystems in relation to necessity of hatchery release regulation. There is no mutually agreed opinion on this issue among the NPAFC member states and no recommendation developed to date.

That is why the questionnaire on the aquaculture provisions of the Code of Conduct for Responsible Fisheries is not applicable for the NPAFC activities. The NPAFC Secretariat does not keep information on aquaculture policy, management and development plans, and regulatory measures in the member states. The Secretariat also has no mandate to request general aquaculture-related information that does not pertain directly to the provisions of the NPAFC Convention. These circumstances prevent NPAFC Secretariat from filling out the questionnaire. Submitted information was accepted with thanks and note that corresponded remarks will be made in the Fisheries and Aquaculture Department’s database.

The Secretariat of the Regional Fishery Body Secretariats’ Network (RSN) requested the member organizations to share their opinions on the needs, objectives and expectations of the new FAO RFB/RSN website (http://www.fao.org/fishery/rfb/) as well as the wish-list of its functionalities. The Secretariat submitted a filled questionnaire on 18 February 2017, with recommendation to consider a new website of the Pacific Salmon Commission (http://www.psc.org/) as a good example.

At the RSN secretariat invitations of 12 April 2017, an article “Introducing the NPAFC Internship program for Early-Career Professionals” were prepared for the RSN Newsletter and published (http://www.fao.org/fi/static-media/MeetingDocuments/RSN/Newsletter/No13Dec2016.pdf) in May 2017.

On 10 October 2017, the FAO Expert Advisory Panel for the Assessment of Proposals to Amend Appendices I and II of CITES Concerning Commercially-exploited Aquatic Species informed the NPAFC of the outcomes from voting on proposals to amend a list of aquatic species/groups of species in Appendix II to the CITES by including following fish species/groups:
• Silky shark, *Carcharhinus falciformis*
• Bigeye thresher shark, *Alopias superciliosus*
• Sicklefin devil ray, *Mobula tarapacana* and spinetail devil ray, *Mobula japonica*
• Raya, *Potamotrygon motoro*
• Banggai cardinalfish, *Pterapogon kauderni*
• Clarion angelfish, *Holacanthus clarionensis*
• Family Nautilidae

Five of the proposals were adopted in Appendix II while proposals for Raya and Banggai cardinalfish were withdrawn. In a comment, it was mentioned that (1) Elasmobranchs (sharks and rays) are still in the CITES spotlight, and new species have been adopted in CITES Appendix II; (2) There is a new focus on ornamental fishes, that are also being given some level of welcome into CITES Appendix II listings; and (3) There was little to no listing focus on other species including Asian eels, sea cucumbers, corals, although these might be given attention at the next CITES Conference of Parties, which will likely be held in 2019 in Sri Lanka.

On 7 April 2017, the parties to the FAO Agreement on Port State Measures (PSMA) and relevant RFMOs were invited by the FAO Director-General to attend the 1st Meeting of the Parties to the 2009 *FAO Agreement on Port State Measures (PSMA) to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing* from 29 to 31 May 2017, followed by the 1st Meeting of the Ad Hoc Working Group, to be established under Article 21 of the Agreement, from 1 to 2 June 2017. The NPAFC Secretariat reported about this meeting to the NPAFC and ENFO Points of Contact on 10 April 2017. There are were no proposals were received regarding attendance of an NPAFC observer at the meeting.

On 10 April 2017, the RSN Chair, Driss Meski and the FAO RSN Secretariat invited RFMOs to an informal RSN inter-sessional meeting in the margins of the PSMA meeting. However, such business trip was not budgeted for the 2016/17 fiscal year.

In July 2017, the Secretariat received a letter from UN Assistant Secretary-General Mr. Stephen Mathias with request on information on capacity-building activities that could contribute to the second cycle of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects (hereinafter “the Regular Process”). Information on two projects, the Pacific Salmonid Catch and Hatchery Release Database and the International Year of the Salmon, was submitted with specification of time, scope, duration, objectives, web link, lead organization and partners as requested on 27 July 2017.

The Secretariat also received invitations to the NPAFC to attend the ninth (6–8 September 2017) and the tenth (28 February–1 March 2018) meetings of the Ad Hoc Working Group of the Whole of the Regular Process. The scope and structure of the assessments to be carried out in the second cycle of the Regular Process and guidelines for the second round of five regional workshops in 2018 were main topics of discussions at these meetings. Mentioned invitations were acknowledged but not taken up because such business trips are not budgeted.

In August 2017, the RSN Secretariat requested RFMOs to contribute to the preparation of the new edition of the State of the World Fisheries and Aquaculture (SOFIA) Report – 2018 that will be released in occasion of the forthcoming 33rd session of COFI in July 2018. Particular emphasis will be given to the role of RFMOs in combatting IUU fishing. A brief questionnaire was attached to the request. The Secretariat prepared a three-page document with the requested information and submitted before the deadline. Joint patrolling efforts, implementation of Port State Measures by NPAFC member countries, communications and information exchange via the Integrated Information System (IIS) and bi-weekly e-mail conferences, and collaboration with other RFMOs including NPFC and WCPFC were highlighted in the submitted document.

On 9 October 2017, Under-Secretary-General for Legal Affairs and United Nations Legal Counsel, Mr. Miguel de Serpa Soares requested the NPAFC to contribute to Part I of the UN Secretary-General Report on Oceans and Law of the Sea. The contribution should be dedicated to a specific topic *Anthropogenic Underwater Noise*. Since this scientific issue was not studied and/or reported in the frame of CSRS activities, three-page literature review on this topic was presented to UN Division for Ocean Affairs and the Law of the Sea (DOALOS) that might be useful in preparation of the report. It was mentioned that submitted review could not be considered as the NPAFC contribution. The UN Secretary-General Report on the Anthropogenic underwater noise was published in March 2018 while submitted literature review was not used.
The NPAFC-PICES contacts continued with attendance each other meetings. On 28 February–1 March 2017, PICES Deputy Executive Secretary, Dr. Hal Batchelder participated at the IYS North Pacific Steering Committee Meeting in Richmond, BC. To support the IYS project implementation, he proposed to organize a joint NPAFC/PICES topic session at the 2018 PICES Annual Meeting in Yokohama, Japan, on October 25–November 4, 2018. This proposal was not accepted by the IYS WG due to plans to conduct the IYS Symposium/Congress in Vancouver, BC earlier in October 2018.

After consultations with CSRS Chairperson, the Executive Director attended the 26th PICES Annual Meeting in Vladivostok, Russia, on 24–27 September 2017. Recent developments of the IYS project, other projects under the NPAFC-PICES Framework for Enhanced Scientific Cooperation in the North Pacific Ocean, and NPAFC publications of mutual interest were reported in a PowerPoint presentation to the PICES Science Board meeting. PICES was informed on the NPAFC decision to co-sponsor the 4th International Symposium on The Effects of Climate Change on the World's Oceans in Washington, DC, USA in June 2018. This information was well accepted.

The NPAFC Vice-President, Dr. Suam Kim, received the 2017 Wooster Award during the Opening Session of the 2017 PICES Annual Meeting in Vladivostok, Russia, on 25 September 2017. Dr. Kim plays an active role in many international organizations in the areas of marine fisheries science and oceanography, including NPAFC, PICES and CCALMR (see NPAFC Newsletter #43, p. 36).

Cooperation with the North Pacific Fisheries Commission (NPFC) continues to strengthen. On 27 February 2017, the NPFC invited delegated NPAFC representative(s) to the 2nd Scientific Committee meeting and Small Scientific Committee (SSC on Vulnerable Marine Ecosystems, on North Pacific Armorhead, and on Pacific Saury) meetings to be held in Shanghai, China, from 17-27 April 2017. NPAFC CSRS Chairperson Dr. Igor Melnikov served as an observer at the NPFC 2nd Scientific Committee meeting.

The NPFC also invited NPAFC to the 3rd Commission meeting and the Technical and Compliance Committee (TCC) meeting that was held in Sapporo, Japan from 10–15 July 2017. Upon the NPFC invitation and the Commission's decision, Mike Carlson from Canada attended the 2nd TCC Meeting on July 10–12, 2017, and the 3rd NPFC Annual Meeting in an observer capacity on 13–15 July 2017. Four Conservation and Management Measures (CMMs) were revised at the NPFC Annual Meeting: CMM on IUU Vessels, two CMMs on Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern and Northeastern Pacific Ocean, CMM on Chub Mackerel. Two new CMMs: one on Pacific saury, and the second on High Seas Boarding and Inspection Procedures were adopted. Members have developed the first NPFC IUU vessel list. A copy of this list was submitted to the NPAFC Secretariat and uploaded on the IIS website in January 2018. Several new NPFC policies and administrative documents have been adopted. On 30 August 2017, Mr. Carlson visited the Secretariat office to share his views and opinions on the NPAFC/NPFC cooperation prospects. He, then, reported on the NPFC meetings’ outcome at the ENFO session in May 2018.

In September 2017, NPFC Executive Secretary, Dr. Dae-Yeon Moon informed the NPAFC Executive Director about the NPFC intention to propose a Memorandum of Understanding (MoU) to the NPAFC. In December 2017, a draft MoU was received by the NPAFC Secretariat. As the Article IX of the Convention stipulates, the NPAFC has the authority to cooperate, as appropriate, with relevant international organizations, inter alia, to obtain best available information, including scientific advice, to further the attainment of the objectives of the Convention. After consultation with the NPFC President, Dr. Carmel Lowe, a draft MoU with NPFC is included into the Heads’ of Delegation (HoD) meeting agenda at the 2018 Annual Meeting.

The NPAFC and Pacific Salmon Commission (PSC) secretariats have continued a series of regular consultations in each other offices to exchange opinions and information, discuss matters of mutual interest, and develop a mutual stance on the key issues of Pacific salmon conservation. Four meetings (two at the NPAFC Secretariat office and two at the PSC Secretariat office) were conducted on 16 January, 21 March, 28 June, and 17 November 2017.

Collaboration with NASCO continued in 2017 mostly within the IYS framework.

In June 2017, the IYS WG Chairperson, Mr. Mark Saunders, Dr. George Iwama from UBC, and Dr. Jim Irvine from DFO attended the 34th NASCO Annual Meeting in Varberg, Sweden. The IYS matters were mostly considered at the International Atlantic Salmon Research Board (IASRB) meeting on 5 June 2017. Mr. Saunders provided an update on IYS activities in the North Pacific and indicated considerable NPAFC interest in hemispheric approach to salmon research and outreach. He informed NASCO that the IYS Secretariat had been established for the North Pacific to support planning and fund raising. Over the last year the governance model has been defined, a logo developed, and work has commenced on the IYS website. Among the main issues to discuss, Mr. Saunders listed the timing and scope of the IYS Symposium proposed for autumn 2018, a primer for planning IYS activities with impact measures for each IYS outcome, development of an inventory for research on salmon across the hemisphere. Several overlapping priorities in the
North Pacific and North Atlantic including understanding survival across life history stages, aquaculture/wild salmon interactions, expansion of the research inventory to cover the hemisphere, and the use of telemetry were listed as examples of potential areas of cooperation within the IYS framework. Mr. Saunders described some other research activities aligned with NPAFC’s Science Plan including and a large winter survey in the North Pacific Ocean that would involve five research vessels. NPAFC indicated they would like to work together intersessionally over the next months to manage joint interests. NASCO agreed that there is a need to identify what both organizations have in common, including developing a better understanding of how salmon habitats are changing, sharing data, a joint symposium and possibly research at the salmosphere level. The Scientific Advisory Group (SAG) of the IASRB considered that the development of some their projects like the ‘suspects model’ might be a valuable contribution to scientific cooperation on the hemispheric level.

In July 2017, NPAFC and NASCO have jointly applied and been awarded a two-year grant from the DFO Partnership Fund, which is to be used to further the IYS implementation. Together with funds allocated by the Commission, and the US Party’s contribution, the DFO contribution of C$74,500 per year is one of the main components of the IYS budget revenues. The Secretariat will present a yearly report to the DFO in early April 2018.

In September 2017, the 4th IYS Coordinating Committee (ICC) Meeting was held via conference call. The meeting agenda included development of the IYS logo, branding, and criteria for logo use; an IYS website and opening event; IYS key messages; preparation to the ICC face-to-face meeting, and ICC membership issues.

On 15 August 2017, the NPAFC President, Carmel Lowe, and the NASCO President, Jóannes Hansen, met in Nanaimo, BC, Canada, with the aim of advancing the NPAFC/NASCO partnership to implement the IYS. The Presidents confirmed the commitment of NPAFC and NASCO to work collaboratively towards the IYS initiative and agreed that the focus of the IYS partnership would be at the salmosphere level and on activities in either the Pacific, Atlantic or Baltic regions that would add value to the efforts toward the IYS implementation. They also recognized that there could be benefits from improved exchanges among scientists and managers working in all regions of the salmosphere. The meeting concluded with visiting the Johnstone Strait sockeye salmon test fishery, and the Mission and Qualark hydroacoustic counting sites on the Fraser River. The NPAFC President, Dr. Carmel Lowe, has been invited for a reciprocal visit to continue the exploration of other collaborative opportunities.

After NASCO membership in the IYS bodies changed, more time and effort were required to restore communications. It was mutually decided to create a technical working group under the ICC that completed a large amount of work prior and during the face-to-face meeting in Gloucester, MA, United States, in December 2017. The technical group, which consisted of NPAFC and NASCO Secretariat staff and ICC co-chairpersons, agreed a timetable for the next steps in the IYS planning and drafted discussion documents toward the meetings of the North Atlantic Steering Committee (NASC) and NPSC and a subsequent ICC meeting. A discussion document was developed with draft high-level IYS key messages. Another drafted discussion documents outline potential options for the launch event, website development including approval of an IYS website map, and options for coordinating the planning for hemispheric level outreach and research by theme. An IYS Communications Plan, including a social media campaign, was considered and preliminarily agreed to.

The Secretariat maintained collaboration with the Western and Central Pacific Fisheries Commission (WCPFC) in the framework of the Memorandum of Cooperation signed by both organizations in 2010. On 8 March 2017, the WCPFC distributed the 2017 WCPFC IUU vessel list, which included no new vessels and maintained those three from the previous year’s list. The WCPFC informed that, if any updates could be received by 1 August 2017, that they might be considered by the Technical and Compliance Committee (TCC) during its 13th TCC Regular Session in Pohnpei, Federated States of Micronesia, on 27 September to 3 October 2017.

In October 2017, Dr. Sung-Kwon Soh, Science Manager of the WCPFC, visited the Secretariat office. Two Secretariats discussed and shared current scientific and compliance issues and useful information on activities in the Pacific Ocean. Both the NPAFC and WCPFC have re-confirmed that the Memorandum of Cooperation (MOC) between the NPAFC and WCPFC was made in 2010, and they have committed continued expectation of mutual cooperation including reciprocal participation as observers in relevant meetings of each Commission, when available.

On 27 February 2017, the South Pacific Regional Fisheries Management Organization (SPRFMO) distributed the 2017 SPRFMO IUU vessel list adopted during the 5th SPRFMO Meeting that was held in Adelaide, Australia from 18 to 22 January 2017. The SPRFMO asked to publicize the IUU list on the NPAFC website in order to strengthen efforts in preventing, deterring and eliminating IUU fishing. As most of ENFO documentation is published through the IIS website, the SPRFMO 2017 IUU vessel list was uploaded there in the “News” section.
The Secretariat is also involved in a regular information exchange through the Caribbean Regional Fisheries Mechanism (CRFM) Secretariat network (news releases, CANARI Policy Briefs, consulting and other job opportunities, newsletters, announcements, briefing meetings, webinars and other events, PR, general discussions) and the NEREUS Program of the Nippon Foundation & UBC reports and electronic newsletter.

(d) NPAFC Performance Review

Most of the recommendations included in the List of Actions (LoA) on the Prioritized Recommendations from the NPAFC Performance Review Report (PRR) have been completed. Two actions were in progress under ENFO supervision at the time of 2017 Annual Meeting (Appendix 2).

At the 2017 Annual Meeting, ENFO recommended, in addition to the PSM Agreement agenda, to discuss expansion of cooperative investigative efforts beyond the focus towards catcher vessels. Currently, primary enforcement activity targets HSDN fishing vessels. This new proposal seeks to expand enforcement activities by directing investigation efforts towards transshipment vessels/suppliers. Recommendations included broader enforcement discussion of transshipment vessels, beneficial ownership, and individuals or organizations supporting the illegal HSDN vessels. Enforcement efforts would significantly aid member countries in leveraging the PSM Agreement and promote broader investigative activities to combat IUU fishing in the NPAFC Convention Area and beyond.

(e) Publications

The following publications were produced in 2017:

- NPAFC Technical Report No. 10
- Records of the Annual Meeting 2017 (in print)
- Annual Report 2016 (on CD-ROM and website)
- Newsletters No. 42 & 43 (on the website)
- Photo Album “The North Pacific Anadromous Fish Commission: 25 Years in Pictures”
- Anniversary Book (in press)

The NPAFC website has been kept up to date and webpages enhanced. The Secretariat continued to translate five key web pages into the Commission’s languages.

(f) Secretariat’s performance

During the reporting period, all Secretariat staff members performed their duties in accordance with the Rules of Procedure, Financial Rules, Staff Rules, decisions of the Commission, updated job descriptions, and Secretariat Business Plan. The work plans for the Secretariat staff was created and implemented.

Deputy Director, Dr. Nancy Davis retired on 31 December 2016. Upon the NPAFC President’s approval, Dr. Davis was contracted to extend her Deputy Director’s duties in January 2017 to ensure a smooth and effective business transfer with the new Deputy Director, Mr. Jeongseok Park, who arrived in Vancouver, BC on 21 January 2017.

Ms. Yuko Uchida was hired as Administrative Assistant on 1 November 2015 and resigned on 3 March 2017. A new Administrative Assistant, Ms. Maria Artiushkina, was selected from 197 applicants and hired on 1 March 2017.

Mr. Harold Belongilot was hired on 11 August 2015 as the Web/Publication Manager. On 20 January 2017, he sent a resignation letter with a notice period until the end of March 2017. New Web/Publication Manager, Ms. Alanna Harlton was hired on 29 March 2017.
V. 6. Consideration of Enforcement

At the 2017 Annual Meeting, the Commission received from Mr. Phillip Thorn, Chairperson of the Committee on Enforcement, the Report of the ENFO (Doc. 1731), which contained information on the committee’s cooperative efforts to conduct enforcement activities in the Convention Area. After review, the Commission adopted the ENFO report, including its recommendations.

V. 7. Consideration of Scientific Research and Statistics

At the 2017 Annual Meeting, the Commission received from Dr. Igor Melnikov, Chairperson of the Committee on Scientific Research and Statistics (CSRS), the Report of the CSRS (Doc. 1732). Report contains preliminary information on the Pacific salmon catches and enhancement production in 2016, and on multiyear trends of catches and hatchery releases. The report also contained information on cooperative scientific activities conducted by CSRS. After review, the Commission adopted the CSRS report, including its recommendations.

Salmon Catches

The Working Group on Stock Assessment, in cooperation with the Secretariat, summarized preliminary 2016 commercial salmon catches based on documents and emails received by the Commission (Table 10). The total catch of salmon in the North Pacific was 436.9 million fish or 852.9 thousand metric tonnes. Russia caught the largest proportion of the total catch (439.5 thousand metric tonnes, 51.5% of total weight), followed by the United States (280.4 thousand metric tonnes, 32.9% of total weight, most of which were caught in Alaska (271.8 thousand metric tonnes), Japan (111.3 thousand metric tonnes, 13.0%), Canada (21.5 thousand metric tonnes, 2.5%), and Korea (256 metric tonnes, < 1%). Pink and chum salmon made up the majority of the total catch (41.4% and 33.4% by weight, respectively), followed by sockeye salmon (21.5%), coho salmon (2.6%), Chinook salmon (0.9%), cherry salmon and steelhead trout (each comprised < 1% of the commercial catch by weight).

Table 10. Preliminary 2016 commercial salmon catches in Canada, Japan, Korea, Russia, and the United States. Commercial catches by foreign fleets in the Russian EEZ are not included. Japanese catch data are based on Fisheries Research Agency data sources, not official statistics. Commercial catch weight for Alaska is based on landed weight (Alaska Department of Fish and Game).

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<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Cherry</th>
<th>Steelhead</th>
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<td>-</td>
<td>-</td>
<td>0.085</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.085</td>
</tr>
<tr>
<td>Russia</td>
<td>21.159</td>
<td>214.120</td>
<td>38.834</td>
<td>2.705</td>
<td>0.151</td>
<td>0.006</td>
<td>-</td>
<td>276.975</td>
</tr>
<tr>
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<td>39.429</td>
<td>16.945</td>
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<td>1.088</td>
<td>0.053</td>
<td>115.107</td>
<td>112.954</td>
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<tr>
<td>Alaska</td>
<td>53.226</td>
<td>39.429</td>
<td>15.945</td>
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<td>0.434</td>
<td>-</td>
<td>0.001</td>
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<td>WOC</td>
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<td>0.000</td>
<td>1.000</td>
<td>0.404</td>
<td>0.654</td>
<td>-</td>
<td>0.052</td>
<td>2.153</td>
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<tr>
<td>Total</td>
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<td>264.478</td>
<td>88.381</td>
<td>7.303</td>
<td>1.454</td>
<td>0.006</td>
<td>0.053</td>
<td>436.861</td>
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</table>

WOC: Washington, Oregon, and California

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Cherry</th>
<th>Steelhead</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1.843</td>
<td>3.443</td>
<td>14.011</td>
<td>946</td>
<td>1.246</td>
<td>-</td>
<td>-</td>
<td>21,489</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
<td>14.160</td>
<td>95.911</td>
<td>2</td>
<td>7</td>
<td>1,187</td>
<td>0</td>
<td>111,269</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>256</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>256</td>
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<tr>
<td></td>
<td>Sockeye</td>
<td>Pinkx</td>
<td>Chum</td>
<td>Coho</td>
<td>Chinook</td>
<td>Cherry</td>
<td>Steelhead</td>
<td>Total</td>
</tr>
<tr>
<td>----------------</td>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
<td>---------</td>
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</tr>
<tr>
<td><strong>Russia</strong></td>
<td>50,016</td>
<td>264,998</td>
<td>116,636</td>
<td>6,990</td>
<td>820</td>
<td>9</td>
<td>-</td>
<td>439,469</td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td>131,274</td>
<td>70,583</td>
<td>58,457</td>
<td>14,473</td>
<td>5,444</td>
<td>-</td>
<td>182</td>
<td>280,413</td>
</tr>
<tr>
<td><strong>Alaska</strong></td>
<td>131,212</td>
<td>70,583</td>
<td>54,444</td>
<td>13,094</td>
<td>2,488</td>
<td>-</td>
<td>1</td>
<td>271,822</td>
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<tr>
<td><strong>WOC</strong></td>
<td>62</td>
<td>0</td>
<td>4,013</td>
<td>1,379</td>
<td>2,956</td>
<td>-</td>
<td>181</td>
<td>8,591</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>183,135</td>
<td>353,184</td>
<td>285,271</td>
<td>22,411</td>
<td>7,517</td>
<td>1,196</td>
<td>182</td>
<td>852,896</td>
</tr>
</tbody>
</table>

**WOC:** Washington, Oregon, and California

**Canada (Doc. 1714)**

This document reports updated catch estimates for 2015 and preliminary catch estimates for 2016 for the six major salmon species in British Columbia (BC) and Yukon fisheries. Catch is reported for commercial fisheries (numbers and total weight) in tidal waters and recreational (numbers only) and aboriginal fisheries (numbers only) in tidal and non-tidal waters. Catches include non-Canadian origin fish caught in BC and exclude Canadian origin fish caught in fisheries outside BC.

**Japan (Doc. 1693)**

The commercial catches in coastal and offshore areas of Japan in 2016 totaled 38.4 million fish (111.3 thousand metric tonnes), including 29.3 million chum (95.9 thousand metric tonnes) and 9.2 million pink (14.2 thousand metric tonnes) salmon. The official specific statistics data may be available by the end of March 2018.

**Korea (Doc. 1708)**

Total catch of chum salmon in 2016 was 85,206 fish or 256.5 metric tonnes. Of these, 63,882 fish or 198.3 metric tonnes were caught from the coastal areas (i.e., mostly the set-net fishery) during commercial fisheries and 21,324 fish or 58.2 metric tonnes from rivers for hatchery purposes. Total catch of chum salmon (number) along the coasts (75.0%) was higher than in rivers (25.0%).

**Russia (Docs. 736 Rev. 2, 1724)**

A document revising 2002 catch statistics was submitted (Doc. 736 Rev. 2). In 2016, the total commercial catch of Pacific salmon in the Russian Far East was 277.0 million fish, or 439.5 thousand metric tonnes. The primary species caught were pink salmon (60.3% by weight), followed by chum (26.5%), sockeye salmon (11.4%) and coho salmon (1.6%) (Doc. 1724).

**United States**

**Alaska**

The Alaska salmon commercial harvest of all salmon species combined for 2016 totaled 113.0 million fish, or 271.8 thousand metric tonnes. The catch composition by landed weight in Alaska was 48.3% sockeye, 26.0% pink, 20.0% chum, 4.8% coho, and < 1% Chinook salmon.

**Washington, Oregon, and California**

The 2016 preliminary total commercial catches of salmon and steelhead trout landed in Washington, Oregon, and California was 2.2 million fish, or 8.6 thousand metric tonnes. The commercial catch composition by weight in Washington, Oregon, and California was 46.7% chum, 34.4% Chinook, 16.1% coho, 2.1% steelhead trout, and < 1% sockeye salmon.
Salmon Enhancement Production

The Working Group on Stock Assessment, in cooperation with the Secretariat, compiled preliminary estimates of 2016 hatchery releases of juvenile salmon and steelhead from documents and emails received by the Commission (Table 11).

The total number of hatchery fish released from NPAFC member countries in 2016 was 5.1 billion fish, a quantity that has been stable since 1993. In 2016, hatcheries released 1,959 million fish (38%) in the United States, 1,898 million (37%) in Japan, 967 million (19%) in Russia, 282 million (5.5%) in Canada, and 22 million (< 1%) in Korea. Hatchery releases were primarily chum (3,340 million, 65%) and pink salmon (1,227 million, 24%), followed by Chinook (238 million, 5%), sockeye (220 million, 4%), and coho salmon (76 million, 1.5%), steelhead trout (20 million, < 1%), and cherry salmon (8 million, < 1%).

Table 11. Preliminary 2016 hatchery releases in NPAFC member countries in millions of fish.

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Cherry</th>
<th>Steelhead</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>145.154</td>
<td>10.938</td>
<td>79.398</td>
<td>7.951</td>
<td>37.377</td>
<td>-</td>
<td>0.360</td>
<td>281.718</td>
</tr>
<tr>
<td>Japan</td>
<td>0.073</td>
<td>123.377</td>
<td>1,766.773</td>
<td>-</td>
<td>-</td>
<td>7.694</td>
<td>-</td>
<td>1,897.917</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>21.950</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>21.950</td>
</tr>
<tr>
<td>Russia</td>
<td>14.276</td>
<td>198.263</td>
<td>749.578</td>
<td>3.891</td>
<td>0.988</td>
<td>0.282</td>
<td>-</td>
<td>967.278</td>
</tr>
<tr>
<td>USA</td>
<td>60.558</td>
<td>894.315</td>
<td>721.441</td>
<td>63.901</td>
<td>199.565</td>
<td>-</td>
<td>19.488</td>
<td>1,959.268</td>
</tr>
<tr>
<td>Alaska</td>
<td>48.667</td>
<td>893.756</td>
<td>677.365</td>
<td>30.741</td>
<td>11.865</td>
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<td>WOCI</td>
<td>11.891</td>
<td>0.559</td>
<td>44.076</td>
<td>33.160</td>
<td>187.700</td>
<td>-</td>
<td>19.488</td>
<td>296.874</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>220.061</td>
<td>1,226.893</td>
<td>3,339.680</td>
<td>75.743</td>
<td>237.930</td>
<td>7.976</td>
<td>19.848</td>
<td>5,128.131</td>
</tr>
</tbody>
</table>

WOCI: Washington, Oregon, California, and Idaho

Canada (Doc. 1714)

This document summarizes release information for salmon including steelhead trout from Fisheries and Oceans Canada (DFO) and Freshwater Fisheries Society of BC enhancement facilities in BC during 2015 and 2016. Thermal marks are used to evaluate hatchery rearing and release strategies and are used to distinguish hatchery from wild fish in terminal fisheries. In 2016, releases totaled 282 million fish comprising sockeye salmon (51.5%, produced in spawning channels), chum salmon (28.4%), Chinook salmon (13.3%), pink salmon (3.9%), coho salmon (2.8%), and steelhead trout (< 1%). 2017 brood year: planning to mark fewer fish (66M salmon) as reported in Doc. 1723; applying unique thermal marks mostly in southern BC and released at 46 different locations; all duplication of marks has been resolved.

Japan (Doc. 1694)

Four species of anadromous Pacific salmon (chum, pink, cherry, and sockeye salmon) are currently enhanced in Japan. A total of 1,898 million young salmon were released from Japanese hatcheries in 2016, of which 1,767 million (93%) were chum salmon. Japanese hatcheries also released 123 million pink salmon fry (7% of total), 7,694 thousand cherry salmon (< 1%), and 73 thousand sockeye salmon (< 1%) in the spring and fall of 2016.

Korea (Doc. 1708)

The total number of chum salmon fry released was 22 million fish in 2016 (2015 brood year) and 18 million in 2017 (2016 brood year). No other salmon species were released.

Russia (Docs. 736 Rev. 2, 1724)

A document revising 2002 hatchery releases statistics was submitted (Doc. 736 Rev. 2).

In 2016, Russian hatcheries released 967 million Pacific salmon fry and smolts. Releases were comprised of 77.5% chum, 20.5% pink, 1.5% sockeye, and < 1% of each of coho, Chinook, and cherry salmon.
United States

Alaska
Alaskan hatcheries released 1.662 million salmon in 2016. Of the fish released, 53.8% were pink, 40.7% were chum, 2.9% were sockeye, 1.8% were coho, and < 1% were Chinook salmon.

Washington, Oregon, California, and Idaho
In 2016, releases for Washington, Oregon, California and Idaho totaled 296.9 million fish. These releases comprised 63.2% Chinook, 14.9% chum, and 11.2% coho salmon, 6.6% steelhead trout, 4.0% sockeye salmon.

Temporal Patterns of Pacific Salmon Abundance and Hatchery Releases

Pacific salmon abundance in the North Pacific, as indexed by aggregate commercial catches, remains near all-time high levels (Figure 7). The highest catches on record occurred during the five most recent odd-numbered years (i.e., 2007, 2009, 2011, 2013, and 2015) when more than one million tonnes were caught each year. There are more adult salmon caught in odd-numbered years because the most frequent species in the catch, pink salmon, is most abundant in odd-numbered years. The total catch in 2016 was 853 thousand tonnes, which shows a declining trend in the last several even-numbered years (2010, 2012, 2014, and 2016).

Pink and chum salmon dominate Asian catches. In general, catches remain at high levels and 2016 is within the same range of catches for even-numbered years in the last 10 years (Figure 8). Russia currently catches the largest proportion of the Asian catch, although in earlier years, Japan often caught a greater proportion. Catches by the Republic of Korea are relatively minor.

In North America, the relative abundance of salmon species varies with latitude. In Alaska, pink and sockeye salmon are the primary species, followed by chum salmon. In Canada, sockeye, pink, and chum salmon have historically comprised the largest catch, whereas in Washington, Oregon, and California, Chinook, chum and coho salmon are the most abundant species. In 2016, unusually low catches of pink salmon resulted in relatively low total catches of salmon in North America. Interannual variability in the catch of various species in North America has been more pronounced during the last decade than in previous decades (Figure 9).

North Pacific salmon hatchery statistics have been fairly stable since 1988 with approximately 5 billion fish released annually (Figure 10). Asian hatchery releases generally exceeded 2.5 billion releases annually since 1981 (Figure 11). Asian hatchery releases are predominately chum salmon. North American hatchery production has exceeded 2 billion releases since 1988. Pink and chum salmon are the primary species released from North American hatcheries, mostly from Alaska (Figure 12). Canadian enhanced sockeye salmon are largely produced in spawning channels. In Washington, Oregon, and California, Chinook salmon are the primary species produced.

Figure 7. North Pacific commercial catch (thousands of metric tonnes) of Pacific salmon by species from 1925 to 2016 (2016 catches are preliminary).
Figure 8. Asian commercial catch (thousands of metric tonnes) of Pacific salmon by species from 1925 to 2016 (2016 catches are preliminary).

Figure 9. North American commercial catch (thousands of metric tonnes) of Pacific salmon by species from 1925 to 2016 (2016 catches are preliminary).
Figure 10. Annual North Pacific hatchery releases (millions of fish) of Pacific salmon by member countries from 1971 to 2016.

Figure 11. Annual Asian hatchery releases (millions of fish) of Pacific salmon by species from 1952 to 2016.
Figure 12. Annual North American hatchery releases (millions of fish) of Pacific salmon by species from 1952 to 2016.
Abstracts of scientific documents submitted to the Commission between adjournment of the 2016 Annual Meeting and April 28, 2017 were compiled in Doc. 1725.

After Doc. 1725 was submitted, six documents (four new documents and two revised 2017 documents) were submitted for consideration at the 2017 CSRS meeting. The complete list of new documents submitted to the Commission after the 2016 Annual Meeting is provided in Doc. 1672.

In total, 49 documents were submitted for consideration by CSRS at the 2017 meeting. The number of documents pertaining to the 2016–2020 Science Plan components (some documents related to more than one component) and other topics includes the following:

- Status of Pacific salmon and steelhead trout: n=21
- Pacific salmon and steelhead trout in a changing North Pacific Ocean: n=15
- New technologies: n=22
- Management systems: n=5
- United States: n=11
- Integrated information systems: n=8
- Other topics: n=4

The number of documents submitted by the Parties or working groups includes the following:

- Canada: n=9
- Japan: n=13
- Korea: n=4
- Russia: n=9
- United States: n=10

The number of documents submitted by Working Groups:

- Working Group on Salmon Marking, n=2
- International Year of the Salmon (IYS) Working Group, n=2

Two documents submitted in 2016 were revised (Docs. 1639 Rev.1, 1647 Rev. 2), one document submitted in 2013 was revised (Doc. 1487 Rev. 2), and one document submitted in 2003 was revised (Doc. 736 Rev. 2).

Two documents were bibliographic references. Compilations of references were submitted by Japanese (Doc. 1687) and Russian (Doc. 1704) researchers in relation to the NPAFC Science Plan in 2016–2020.

In presentations to CSRS, each country provided a summary highlighting their research activities:

**Korea:**

Korea provided information on two research activities. The first research activity indicated that there have been many changes in catches and releases in Korea in recent years. The total catch in 2015 was 488 metric tonnes and in 2016 was 256.5 metric tonnes. The reason for the decrease in the catch is thought to be due to El Niño phenomenon in the North Pacific Ocean in 2016. Korean salmon migrates to the North Pacific. Also, in 2016, the amount of release was reduced. The second research activity was on stock identification. Populations within Korea were genetically similar, however there was a distance effect. Specifically, genetic distance increased with increasing geographical distance from Korea; samples were obtained from Japan, Alaska and British Columbia. In Korea, the genetic information of about 4,000 individual female salmon spawners, which returned to Namdae-cheon in 2016, was obtained. Korea will obtain genetic information on salmon returning to Namdae-cheon every year and plan to conduct research on returning salmon through parentage assignment using microsatellite DNA marker in the future. Through these studies, Korea will continue to monitor the genetic diversity of returning salmon to Korea.
Japan:

Japan provided two presentations. The first was a summary of results from research surveys conducted in the Bering Sea from the R/V Hokko maru. Four species of salmon were sampled and the CPUE of 2016 chum was higher than in 2014 and 2015. Higher CPUE of chum was due to abundance of ocean age one fish, however CPUE of ocean age two fish and ocean age three fish were low. Mean SST of survey area was the highest during 2007–2016 seasons. Mean biomass of zooplankton was relatively high, in particular, the increase of Hydrozoans was remarkable. Japan's second presentation summarized a monitoring program on the adult returns of chum and pink salmon. Research suggested that a low survival of the 2012 brood year of chum contributed to the low total catch in 2016 as same level as that in the early 1980s. Although pink catches have been low since 2011, the 2016 catch of Japanese pink salmon was the highest among the even-numbered years since 2004, which was higher than those in the recent dominant odd-numbered years of 2011, 2013 and 2015.

Russia:

Russia provided three presentations. The first highlighted the data on chum salmon stocks monitoring in continental coastal waters of the Sea of Okhotsk. The second presentation reported results of trawl surveys in the Sea of Okhotsk and northwestern Pacific water in 2016. The major purpose of survey in the Sea of Okhotsk was the estimation of juvenile Pacific salmon abundance to forecast their returns and possible catch in 2017. The estimation of anadromous pink salmon abundance in northwest Pacific was used to forecast returns and possible catches on the coasts of the Sea of Okhotsk in 2016. The third presentation investigated biochemical composition and energy content of salmonid fish in the Sea of Okhotsk.

United States:

The United States provided an overview of research conducted in marine ecosystems within Alaska and Washington in relation to the 2016–2020 NPAFC Science Plan. The US continues to conduct integrated ecosystem surveys within inside waters of southeast Alaska (annually, titled Southeast Coastal Monitoring), eastern Gulf of Alaska (odd years), southeastern Bering Sea (even years), northeastern Bering Sea (annually), and the Arctic (2017 and 2019). These surveys provide the basis for understanding climate change and variability on marine ecosystem dynamics and Pacific salmon marine ecology. The Southeast Coastal Monitoring survey has been conducted during May, June, July, and August from 1997 to present. The juvenile pink salmon catch per unit effort data from this survey is used in forecast models to predict the adult returns of pink salmon to southeast Alaska the following year. The juvenile pink salmon catch per unit effort data from 2016 indicate that the return of adult pink salmon to southeast Alaska will be approximately 42 million with a range of 28 to 64 million. Similarly, the US conducts integrated ecosystem research in the northeastern Bering Sea annually from 2002 to present; one outcome of this survey is a juvenile Chinook salmon abundance index that is used to predict adult returns of Canadian origin Chinook salmon to the Yukon River. Further, the US is working on a model that will hindcast climate and ocean conditions to 1970. These data are used as inputs into nutrient, phytoplankton, zooplankton models as well as bioenergetics models to estimate biomass of important forage for juvenile Chinook salmon and use as input into a bioenergetics models for juvenile Chinook salmon growth estimates. Estimates of growth (size) of juvenile Chinook salmon will be compared to the “back-calculated” size estimates from adult scales that are available from the 1970s to present. The US also conducts integrated ecosystem research in the Salish Sea and presented on their joint Salish Sea Marine Survival Project with Canada. The primary purpose of this research is to understand how the Salish Sea ecosystem is changing and how those changes have affected salmon and steelhead survival, growth, and migration. The project involves over 160 partners and includes research and monitoring of zooplankton and food web dynamics; disease and pathogens; toxics and contaminants; genome-wide associations; predator/prey interactions; and ecosystem modelling. Finally, the US presented information on bycatch of Chinook salmon and “other salmon” in US groundfish fisheries in the eastern Bering Sea and Gulf of Alaska.

Canada:

Canada presented highlights from six NPAFC Documents that documented research relevant to the Science Plan. In Doc. 1683, variation at 14 microsatellites was analysed for immature sockeye salmon in the Bering Sea. A 415-population baseline determined that Alaskan-origin salmon were the most abundant in the catch of immature individuals, comprising 85% of all fish caught, with most of these (80%) of Bristol Bay origin. Canadian-origin salmon accounted for an average of 3% of the catch,
while Russian-origin sockeye salmon accounted for 11% of the catch, with 382 individuals of the catch genotyped.

In Doc. 1718, molecular analysis of 46 salmon pathogens (viruses, bacteria, fungal and protozoan parasites) on juvenile migrating sockeye and Chinook salmon determined the distribution of pathogens in freshwater and early marine environments in southern BC. The majority were micro-parasites, many showing strong shifts in distribution in the early marine environment consistent with transmission, replication, and, for those with dramatic seasonal declines, the potential for associations with mortality.

In Doc. 1717, the authors explored the use of large datasets of North Pacific environmental correlates to improve forecasts of Fraser sockeye salmon returns in 2016 and abundances of pink and coho salmon in 2017. Single and multiple variable models used time series correlates of: El Niño indices, Fraser River discharge, relative sea level, sea surface temperature, sea surface salinity, wind stress, ocean current velocity, and earth magnetic field estimates.

In a study of chum salmon growth in southern British Columbia, Doc. 1713 provided evidence for climate and competition effects on body growth as measured by scales. Growth was reduced when the biomass of North American chum, sockeye and pink salmon was greatest, but this effect varied with strength of the North Pacific Gyre Oscillation (NPGO) and Pacific Decadal Oscillation (PDO).

Doc. 1722 described how in the past decade, Fraser sockeye productivity has generally improved. Although total returns for Fraser sockeye were low in 2015 and 2016, productivity was variable among populations, which was attributed to factors in both the freshwater and marine mechanisms.

In Doc. 1716 (Rev. 1), seasonal summaries of salmon catches and associated metadata during 1955–2014 confirmed relatively high abundances of chum and pink salmon; significant numbers of sockeye, coho and Chinook salmon and steelhead trout were also caught. Results will provide a useful comparison with findings from future sampling planned as part of the International Year of the Salmon, and a basis for the application of climate downscaling models to predict salmon abundance and distribution.

### Work plan itemization

The committee recommended the following Work Plan for the CSRS in 2017/2018.

<table>
<thead>
<tr>
<th>2017/2018 Work Plan Item</th>
<th>Terms of Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>review progress on the 2016–2020 Science Plan;</td>
</tr>
<tr>
<td>B</td>
<td>report on last year's salmon catches, escapement, and wild and artificial production of juvenile salmon;</td>
</tr>
<tr>
<td>C</td>
<td>review results of salmon stock assessment research and the condition of salmon stocks;</td>
</tr>
<tr>
<td>D</td>
<td>review and summarize results of this year's salmon research in the Convention Area and adjacent seas;</td>
</tr>
<tr>
<td>E</td>
<td>exchange biological samples as necessary;</td>
</tr>
<tr>
<td>F</td>
<td>review and summarize salmon research plans for next year in the Convention Area and adjacent seas;</td>
</tr>
<tr>
<td>G</td>
<td>propose data exchanges;</td>
</tr>
<tr>
<td>H</td>
<td>review any documents submitted to the Commission prior to this year's annual meeting;</td>
</tr>
<tr>
<td>I</td>
<td>the Parties will review any research proposals submitted in accordance with Article VII paragraph 6;</td>
</tr>
<tr>
<td>J</td>
<td>consider international collaboration with relevant organizations;</td>
</tr>
<tr>
<td>K</td>
<td>consider a report to the Commission.</td>
</tr>
</tbody>
</table>

The Parties summarized their respective national research plans for 2017 and presented proposed research cruise activities. Salmon cruise activities, including objectives, survey areas, and tentative dates are summarized in Appendix 3.

Major Canadian research activities organized according to the themes of 2016–2020 Science Plan were outlined in Doc. 1725 and highlighted in the Canadian review of research activities under Agenda 6.

Canadian cruise plans for salmon research for fiscal year 2017–2018 include an inshore program with sampling along and off the west coast of British Columbia and an inshore program with sampling conducted in the Salish Sea (encompassing the Strait of Georgia and Puget Sound) (Doc. 1721). These surveys are part of long-term research programs that were initiated in 1997–1998, however in 2017, the offshore program will begin integrating with other pelagic research programs to develop a synoptic pelagic...
survey on the continental shelf off the west coast of Vancouver Island. In addition, Canada will conduct up to two additional research projects in nearshore waters: (1) purse seine survey in Cowichan Bay and off Big Qualicum River on the east coast of Vancouver Island as part of a study examining factors contributing to mortality of juvenile Chinook salmon in southern British Columbia (May to August); (2) monthly mid-water trawl surveys in Howe Sound to describe the nearshore habitat distribution (< 30 m), prey selection and diet overlap of juvenile salmon from April to September (Appendix 3).

Japan’s national research plan is described in Doc. 1673. The plan includes three research topics:

J-1: Monitoring of major salmon populations
J-2: Salmon studies in the ocean
J-3: Development and application of techniques for studying stock-specific distribution and abundance

Japanese cruise plans for salmon research in 2017 are described in Doc. 1678. The Japan Fisheries Research and Education Agency R/V Hokko maru will conduct a summer monitoring survey for salmon and their habitat in the central Bering Sea. The Hokkaido University T/V Oshoro maru will complete two salmon researches in the western North Pacific Ocean in middle May, and the North Pacific Ocean and the Bering Sea between late June and early August (Appendix 3).

In addition, Japanese research vessels are scheduled to conduct nine research cruises for pelagic fishes and squids in the North Pacific Ocean in 2017 (Doc. 1679). These surveys have a possibility of incidental catch of salmon during fishing operations with driftnets or trawl nets. In the case of driftnet operations, the length of driftnets will be less than 2.5 km at sea.

The Korean 2017 research plan involves investigations of mortality and climate change effects on salmon (Doc. 1709). To reveal mechanisms of mass mortality of chum salmon during their early life in rivers and coastal areas in conjunction with return rate fluctuations, research will be conducted in the following five areas:

K-1: Identify prey and predator species for juvenile salmon in the rivers and coastal areas
K-2: Estimate stage-by-stage survival rate after releasing salmon to rivers and coastal areas
K-3: Monitor environmental factors in the river and coastal areas
K-4: Examine growth rate during the early life history using size, otolith, and DNA, and compare the growth rate between hatchery and wild juvenile salmon
K-5: Investigate the optimal release period for juvenile salmon

Climate change effects on salmon distribution, migration route, and abundance will also be investigated. This research includes:

- continuous monitoring of environmental conditions in the Korean waters
- climate change effects on the biological characteristics of chum salmon returning to Korean waters

Other studies will include otolith thermal marking of Korean chum salmon to provide information about growth, survival during the early ocean life stage, and hatchery origins from releases in 2017 (2016 brood year). A new multiplex PCR set using microsatellite loci of chum salmon will be developed to investigate genetic variation and population structure of Korean populations for stock identification. The genetic structure of non-anadromous and anadromous cherry salmon populations will be investigated using mitochondrial DNA to obtain baseline data for development of a strategy for conservation and management.

Korea has no plan for conducting ocean salmon surveys in 2017.

Current Russian salmon research is being conducted as described in Doc. 1231. Russian salmon studies in 2017 relevant to the NPAFC Science Plan for 2016–2020 include five components:

R-1: Status of Pacific salmon and steelhead trout (status of salmon)

(1) Monitoring key salmon populations returning to Russian Far East river systems

Russia will continue to monitor catch and escapement and hatchery releases for salmon populations returning to the coastal river systems. The monitoring program includes the following items:

- salmon catches and escapement
• timing and number of adult returns
• body size and age at maturity
• otolith mark studies to assess status of wild and hatchery stocks
• epidemiological studies of pathogenic organism

(2) Monitoring key salmon populations in the Marine and Ocean Ecosystem

Russian research activities on juvenile salmon will take place in coastal waters and estuary zone of Ozernaya River (Western Kamchatka), and deep-water areas in the Okhotsk and western Bering Seas. Oceanographic and plankton data as well as data on stomach content of salmon and other nekton species will be collected in major marine areas off the coasts of Kamchatka, and in the Far Eastern seas during summer–fall season. Juvenile salmon seasonal distribution, migration, population characteristics, and survival will be estimated through different approaches. Stock abundance, habitat conditions, feeding behavior, and trophic interactions of Pacific salmon juveniles and other major nekton species will be studied. Identification of pink salmon stocks in the Okhotsk Sea based on genetic (mtDNA) methods will be investigated to forecast of returns and possible catches of pink salmon in the following year.

Russian research activities on anadromous salmon will take place in the northwestern Pacific Ocean. The primary objective of this research is the estimation of anadromous pink salmon abundance for short-term forecasting of spawner returns and possible catches.

R-2: Pacific salmon and steelhead trout in changing North Pacific Ocean

In recent years, there have been increases in the abundance of salmon in some northern coasts of the Far Eastern seas. At the same time, a noticeable salmon abundance decrease is observed at the southern edges of distribution. These geographical shifts in salmon abundance may be related to climate-induced changes in environments operating at regional and local scales.

In 2017, Russia plans to continue studying the linkages between environmental changes and Pacific salmon production to understand and quantify the effects of environmental variability affecting salmon distribution and abundance in the Far Eastern seas and adjacent Pacific waters.

In 2017, Russia plans to conduct surveys in the northwestern Pacific Ocean, Okhotsk and Bering Seas. The information from previous surveys will be used to improve our understanding of how climate change will affect Pacific salmon production and ecosystems of the Far Eastern seas and adjacent Pacific waters.

R-3: New technologies

In 2017, Russia plans to continue development and application of stock identification methods and models for management of Pacific salmon.

Russian activities under this component of the NPAFC Science Plan in 2017 will include:
• identification of Asian stocks of pink salmon in the Okhotsk Sea based on genetic (mtDNA) methods
• creation of a chum salmon scale baseline (2015–2016) for the next analysis of stock composition from aggregations of immature and mature fish in the Russian EEZ
• otolith mark releases for assessment of wild and hatchery stocks in the Far East rivers and near-shore districts
• identification of Asian stocks of pink and chum salmon in the Okhotsk Sea based on otolith marking methods

Two Russian research vessels are scheduled to conduct salmon surveys in summer and fall 2017 (Doc. 1680). The R/V Professor Kaganovsky will conduct a summer monitoring survey in the Pacific waters between Kamchatka and Hokkaido in June–July (Appendix 3). The primary objectives are to collect biological information on plankton and nekton communities and describe the physical and biological oceanographic conditions in this region. The major purpose of these studies is the estimation of anadromous Pacific salmon abundance and biomass for short-term forecasting of their returns and possible catches on the coasts of the Sea of Okhotsk. The R/V TINRO and R/V Professor Kaganovsky will operate in the western Bering Sea and in the southern Okhotsk Sea respectively. The major purpose of these studies is the estimation of juvenile Pacific salmon abundance for forecasting of their returns and possible catch in the following years.
The United States national salmon research plan is identified in Doc. 1705 and follows the four components identified under the 2016–2020 Science Plan:

**U-1:** Migration and survival mechanisms of juvenile salmon in the ocean ecosystems:

Research activities will take place primarily in the coastal waters of the eastern Gulf of Alaska, eastern Bering Sea, and the US Arctic (BASIS)

**U-2:** Climate impacts on Pacific salmon production in the Bering Sea, Gulf of Alaska and the US Arctic:

Research activities encompass those listed under U-1 with emphasis on monitoring biological and physical environments (integrated ecosystem surveys) over a number of years to understand the impact of climate change and variability on salmon and groundfish (walleye pollock, Pacific cod, sablefish, rockfish) within the US eastern Pacific Ocean, Large Marine Ecosystems

**U-3:** Biological monitoring of key salmon populations:

Key populations monitored during the ocean surveys include Southeast Alaskan pink, chum, and Chinook salmon, eastern Gulf of Alaska shelf for Chinook salmon, western Alaska for Chinook and chum salmon, West Alaskan sockeye salmon, and stocks monitored at the NMFS Auke Creek Weir and Little Port Walter Marine Station.

**U-5:** Development and applications of stock identification methods and models for management of Pacific salmon:

Research activities are designed to find and apply markers capable of identifying populations of salmon migrating in the North Pacific Ocean and Bering Sea.

The United States cruise plans for 2017 were summarized in Doc. 1702 for Southeast Alaska (spring–summer), Doc. 1700 for Gulf of Alaska (summer) and Doc. 1726 for the northern Bering Sea (late summer). The survey vessels used will include R/V Sashin and F/V Northwest Explorer, and two chartered vessels (TBD) (Appendix 3).

In addition, a multiyear cruise series will be conducted in May, August, and early October 2017 and 2019. These cruises will survey the northern Bering, Chukchi, and Beaufort seas.

The CSRS considered requests for exchanges of samples and data. Each Party updated the list of sample and data requests (Appendix 4).

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**Review of Parties’ Proposals on Joint Projects to be Financed by the Commission**

The CSRS requested the Committee on Finance and Administration to approve use of the NPAFC fund to support the following four items:

Funding request for the International Year of the Salmon year 2 of the planning phase (Appendix 5).

The International Year of the Salmon initiative as proposed in NPAFC Document 1663 was approved by the NPAFC and the North Pacific Salmon Conservation Organization (NASCO) in mid-2016. The IYS was explicitly integrated into the new 2016–2020 NPAFC Science plan (Document 1665) with themes that have been linked to the Science Plan themes and CSRS Working Group activities. The NPAFC Working Group and the North Pacific Steering Committee, which includes IYS Working Group members met in late February 2017.

The Steering Committee and the Working Group endorsed a results-based planning approach that will convene small groups of experts to develop Signature Projects and detailed workplans for outreach and research themes. The experts will determine measurable indicators that need to change for each IYS theme/outcome and propose projects that will make a difference. The Steering Committee developed lists of potential experts to consider. Six small workshops are proposed in 2017/18 to conduct the planning. The IYS Coordinating Committee is considering a process for engaging Atlantic scientists in planning where there is a benefit to hemispheric collaboration.
In this second year of planning the emphasis will be on completing the work plans and engaging the Steering Committee in obtaining funding for the research projects as well as detailed planning of the opening Symposium/Congress. The Committees recognized that considerable effort that will be required to conduct the planning and coordination and recommended the establishment of an IYS Pacific Secretariat to conduct the work. The following request is for operating funds as well as resources to augment the NPAFC Secretariat with an IYS Director, Chief Scientist and a Coordinator. The Director will be responsible for overall management of the N. Pacific operations, the Chief Scientist will be responsible for engaging academic, government and non-government science organizations in the IYS and the development of high impact science projects. The Coordinator will assist with operations, administration, meeting planning, managing program records, the Office 365 collaborative IT environment and the planning of Science programs.

Total amount requested (Canadian dollars): $35.5K in 2017/18

Ongoing reserve fund request for annual travel to other international organizations (Appendix 6).

Workshop objectives are to: (1) improve knowledge of the distribution, growth and survival of Pacific salmon in the ocean (current status); (2) increase understanding of the causes of variations in Pacific salmon production (mechanisms); (3) anticipate future changes in the production of Pacific salmon and the marine ecosystems producing them (e.g. modelling); and (4) promote IYS activities. Improved understanding of the mechanisms that regulate the distribution and abundance of Pacific salmon will promote the conservation of anadromous populations in the North Pacific Ocean, allow for better forecasts of salmon production trends in the future, and enhance the sustainable fisheries management, food security, and economic security in member nations.

Total amount requested (Canadian dollars): $5,000

One-day symposium Sustainable Management of Chum Salmon in Changing Environments in Tokyo, Japan (Appendix 7).

Chum salmon migrate widely in the North Pacific Ocean and adjacent seas, and finally return to their natal river for spawning. In Japan, chum salmon enhancement was initiated in 1880s, and the adult returns increased from 1970s with a peak of 89 million fish in 1996 due to the improvement of hatchery technologies and ocean productivity. Thus, chum salmon are an indispensable coastal fisheries resource, but the recent adult returns have trended decreasing with considerable interannual and regional fluctuations.

In order to endorse effective IYS projects, the present symposium will encourage 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 future research topics associated with IYS for the forecast of chum salmon distribution and production, and their sustainable management.

Total amount requested (Canadian dollars): $6,500

Funding support for the 4th International Symposium on The Effects of Climate Change on the World’s Oceans to be held June 4–8, 2018 in Washington, DC, USA (Appendix 8).

The goal of the NPAFC Science Plan 2016–2020 is to “understand variations in Pacific salmon productivity in a changing climate”. NPAFC scientists include some of the world’s experts in salmon assessment, stock identification, and other salmon-related fields but not in oceanography and lower trophic levels. To better understand variations in salmon productivity requires better linkage with scientist in these latter fields, many of whom are members of PICES.

This request provides NPAFC the opportunity to continue discussions with other members of the ocean science and management community, as well as an opportunity to work with NASCO and other colleagues to advance the interest around IYS in a high profile international venue. It also continues a long series of collaborations between NPAFC and PICES formalized in 2014 with the “NPAFC-PICES Framework for Enhanced Scientific Cooperation in the North Pacific Ocean” (http://npafc.org/affiliates/)

Total amount requested (Canadian dollars): $7,500
V. 8. Consideration of Administrative and Fiscal Matters

The Commission received from Mr. J. Okamoto, Chairperson of the Committee on Finance and Administration (F&A), the Report of the F&A (Doc. 1733), which contained information relative to the administration and finances at the Commission. After review, the Commission adopted the F&A report, including its recommendations.

Among fiscal matters, the F&A considered the Auditor's Report (Doc 1674) covering the period July 2015 to June 2016 and the separate report itemizing expenditures of several accounts (Doc. 1675), Budget Projection for fiscal year beginning July 1, 2016, and Budget Estimate for Fiscal Year Beginning July 1, 2017 (Docs. 1620 Rev. 2, 1685). In accordance with Article XI 6. of the Convention, the committee recommended the reappointment of the Loewen Kruse Chartered Accountants as auditors for the 2016/17 fiscal year.

The Budget Forecast for Fiscal Year Beginning 1 July 2019 (Doc. 1685) was presented for the guidance of the Parties. In conformity with the Financial Rules, the Budget Forecast for the Fiscal Year beginning 1 July 2019 will be reviewed at the 2018 Annual Meeting in Khabarovsk, Russia.

In order to help F&A understand the current financial situation before approving the Financial Projection for the 2017/18 FY, the Secretariat provided a preliminary report on the status of appropriation and expenditure of the General Funds, Working Capital Fund, and the Special Fund on Scientific Research of the 2016/17 fiscal year. The table shared expenditures for the current fiscal year based on the actual expenses up to 31 March 2017, and projections from 1 April to 30 June 2017. Parties acknowledged the document for the current 2016/17 fiscal year.

The committee considered draft NPAFC Secretariat Business Plan for 2017–2021. The Business Plan lists the main objectives and expected results of the Secretariat’s activities and outlines key management measures to support the Commission’s effective operations including financial analysis and summaries of the Budget appropriation, estimate and forecast for four fiscal years. The previous NPAFC Secretariat Business Plan expired on June 30, 2017. The draft NPAFC Secretariat Business Plan for the Period: 1 July 2017–31 December 2020, was available on the NPAFC website, Members’ Area, since March 29, 2017. Circular Letter was submitted by the Secretariat informing all the NPAFC and F&A Points of Contact, that the document is available for download. The committee reviewed and adopted the Business Plan for 2017–2020.

Among other tasks, the committee tasked the Secretariat to prepare a background material for the interpreters’ pay rate revision, background materials on the pension plan policies for further discussion at the next Annual Meeting, background information to grade the Administrative Officer’s pay scale category, more detailed outline of the total cost breakdown of the PICES International Symposium on climate in order to determine how much CS7,500 will take part in the total expense, to organize the First NPAFC-IYS Workshop on *Pacific Salmon Production in a Changing Climate* together with organizing committee, etc.

In order to facilitate the communications between the F&A members and the Secretariat between meetings, the committee appointed a F&A Point of Contact from each Party as follows: for Korea, Chan Soo Park, for Japan, Yuta Oda, for Russia, Mikhail Glubokovsky and Vladimir Beliaev, for the United States, Colin Brinkman, and for Canada, John Holmes and Kate Johnson. The members will serve from the adjournment of the 2017 Annual Meeting. The names of members will be reviewed each year at the F&A meeting.

Management of the Commission's Budget

As reported in Doc. 1675 “Details of Items in the Auditors’ Report (NPAFC Doc. 1674)”, the 2015/2016 fiscal year ended with a surplus of $39,285 instead of a budgeted surplus of $13,700 (all figures are in Canadian funds).

Savings were made under every budget item. Travel item contributed the most significantly ($15,000) since DFO paid for Mark Saunders’ travel to the NASCO Annual meeting, the Iwate University reimbursed for Nancy Davis’ participation at the workshop, and COFI meeting moved since June to July 2016. Only three of fifteen interpreters travelled oversees to the Annual Meeting in Busan, it gave $12,000 of savings more. Headquarters contractual services were also economized. About $10,000 the Commission saved on Rentals due to kind the Lotte Hotel financial policy. Despite sharp strengthening of Korean won in a period between the 24th Annual Meeting and time of final countdown, the Lotte Hotel agreed to fix the price in US dollars that gave us additionally about 80% of saved amount under this agenda item. From $1,100 to $2,900, the Secretariat saved on communications, printing, supplies, equipment and miscellaneous.

New figures for 2016/2017 fiscal year became available in August 2017 after completion of auditing.

**NPAFC Internship**

The 2016/17 NPAFC Intern Ms. Young has completed the internship program on March 15, 2018. It included multitask support for the IYS project: preparing poster for the PICES Annual Meeting, compiling the NPAFC Technical Report #10 (IYS scoping meetings’ materials), attending IYS-related meetings and conference calls, making records for the DFO IYS Meeting and North Pacific Steering Committee Meeting in Richmond. She worked with the statistical data files, wrote an article on Northeast Pacific resident orca whale population recovery that influence local Chinook salmon stocks for the NPAFC Newsletter No. 41 (p. 10–17).

Second Intern, Mr. William Stanbury from Canada has also completed the internship program on March 15, 2017. It included multitask support for the NPAFC 25th Anniversary celebration: preparing the NPAFC timeline and several posters for the Anniversary exhibition, compiling list of 417 addressees for requests to contribute to the NPAFC Memory Book, designing and compiling the Memory Book from the scratch. He wrote an anniversary article for the RSN Newsletter, an NPAFC Newsletter article on biological monitoring of a key steelhead population in British Columbia (NPAFC Newsletter No. 41: 18–28).

Interns constructed the NPAFC Wikipedia page and compiled the NPAFC Facebook Page that will be regularly updated. Both interns participated in technical editing of scientific articles for the NPAFC Bulletin No. 6 and other projects performed by the Secretariat.

At the 2017 Annual meeting, Executive Director reported on the number of internship applications we received for the 2017 NPAFC Internship Program. The 2017 Internship was announced by the Secretariat through the NPAFC website, Newsletter No. 41 (page 48), by emails and through partner organization networks. The Secretariat received eighteen complete and five incomplete intern applications by the deadline of March 16, 2017. One of incomplete applications was later withdrawn.

Proceeding from the 2016 Internship experience, the Secretariat proposes having two interns for the 2017 program. Mr. Pavel Emelin from Russia was selected as the best candidate for the 2017 NPAFC Internship Program, and Ms. Caroline Graham from United States as the second intern.

**V. 9. 25th NPAFC Anniversary celebration**

The 25th NPAFC Anniversary celebration event included an inspiring First Nations welcome and dance by the Le-La-La Dancers, and welcoming messages by the Lt. Governor of BC, the Honourable Judith Guichon, and by Ms. Sylvie Lapointe, Acting Assistant Deputy Minister within the Fisheries and Oceans Canada. This was followed by welcoming addresses from the NPAFC President, Dr. Carmel Lowe, Representatives from the member countries, and Dr. Vladimir Radchenko, the Executive Director of the NPAFC.

Additional presentations by keynote speakers marked the special occasion, including the first NPAFC President (1993–1995), Dr. Viacheslav Zilanov; Ms. Fran Ulmer, Chairperson of the US Arctic Research Commission and past NPAFC President; renowned fisheries scientist and past NPAFC Science Panel Chair Dr. Richard Beamish; and, Captain Vincent O’Shea, US Coast Guard (USCG) retired and past NPAFC ENFO Chairperson. These speakers provided powerful testimonies as to the importance and promise of international cooperation on enforcement and scientific research.

**V. 10. News Releases**

The Commission reviewed and adopted the news releases proposed by the Secretariat and the Press Committee. (Appendix 9, i-vi).
V. 11. Closing Remarks

There were closing remarks of the Representatives of Korea, Japan, Russia, the United States, and Canada. Then, NPAFC President Dr. Carmel Lowe closed the session with an adjournment speech.

Closing remarks by Mr. Chan Soo Park, Head of the Korean delegation:

Dear Madam President Carmel Lowe, Executive Director Vladimir Radchenko, Ladies and Gentlemen,

On behalf of the Ministry of Oceans and Fisheries, I would like to express my sincere thanks to Madam President Carmel Lowe, Executive Director Vladimir Radchenko, CSRS, ENFO and F&A Chairpersons, Delegates, Observers, and Interpreters who have been working hard for a success of the Annual Meeting. I believe that this meeting is to conclude with a success thanks to all your support, and leadership.

I also thank Mr. Mark Saunders and scientists from member countries for their endeavors to launch the International Year of the Salmon (IYS). I am sure that such an effort will raise public awareness of salmon, beyond the success of the event, and greatly contribute to the conservation and management of anadromous fish in the future.

Lastly, I would like to extend my deepest appreciations to the staff members of the Secretariat: Jennifer Chang, Alanna Harlton, Mariia Artiushkina and Jeongseok Park, who commenced his new duty this February. I wish to see you all again at the next Annual Meeting, which will be held in Russia in May 2018.

Closing remarks by Mr. Junichiro Okamoto, Head of the Japanese delegation:

Dear Madam President, Chairpersons of the Committees, Distinguished Delegates, Observers, the Secretariat, the Canadian Party who hosted this Annual Meeting, and Interpreters,

At the closing of the NPAFC 25th Annual Meeting, I would like to make my remarks on behalf of the Japanese delegation.

During this Annual Meeting, as in previous years, we discussed a variety of issues in order to advance the activities of this Commission. We highly appreciate that we could reach certain agreement about various issues through devoted leadership of each Committee’s chairperson, with support from the Secretariat, and with the flexible and constructive approach of respective delegations towards mutual understandings.

For example, in the ENFO Committee, we actively exchanged opinions regarding the measures to eliminate IUU fishing.

In the CSRS Committee, we discussed new issues such as the involvement of the Commission and the big project “IYS” which just started now.

Regarding F&A Committee, with me as the chairperson, I believe that we addressed the direction about activities of the Commission for its 2017/18 FY with the balanced budget taking account of the sound and sustainable financial condition for the Commission.

We celebrated the 25th Anniversary of the NPAFC. Japan intends to continue its effort for the function of the Commission. I am confident that our next 25 years will be also fruitful.

The next annual meeting in 2018 will be held in Khabarovsk, Russia. I hope the meeting will be a wonderful one as this will be the first step towards the next 25 years.

I would like to express my gratitude to Madam President, Dr. Lowe, and the Chairpersons of the respective committees for their efficient management of the meeting.

I would also like to express my gratitude and thanks to Mr. Smith, who worked in cooperation with the Secretariat to organize the
Closing remarks by Dr. Mikhail Glubokovsky, Head of the Russian delegation:

Dear Madam President, Ladies and Gentlemen,

Our Commission became 25 years old. This is a beautiful age, age of the beginning of achievements. I hope that the next 25 years will be even more fruitful.

The celebration of the anniversary took place in a beautiful place in Victoria, a beloved city of Canadians. Everything was very well organized: First Nation group dances, greetings from VIPs, veterans of the Commission, and the Canadian Party reception with a spectacular sea view.

After the preparatory work, the real work began to implement the program of the International Year of the Salmon. At this session, I made some comments on the organization of the process. I will not repeat them now, but I hope that all of them will be taken into account.

I want to note a dedicated work of the committees, often beyond the normal working hours. Nevertheless, all issues were discussed and resolved. The reports of the committees are very good.

The Russian side thanks all delegations for striving for compromises. That is why we managed to come to an agreement on difficult issues.

I want to thank the Secretariat and the Executive Director, Vladimir Radchenko, for their impeccable work. I want to thank our President for the successful Annual Meeting.

Special thanks to the interpreters, who allowed us to better understand each other.

I want to express my gratitude to the Government of Canada for the opportunity to hold our meeting in the “Garden City” Victoria, which creates both a working and a festive mood. Welcome to Khabarovsk next year!

Closing remarks by Mr. Douglas Mecum, Head of the United States delegation:

Madam President, Fellow Representatives and Delegates, Ladies and Gentlemen. Upon completing a successful and productive meeting—a fitting commemoration of the 25th year of this organization—we extend our greatest thanks to our Canadian colleagues for their hospitality in the beautiful Garden City of Victoria.

The United States is happy to have participated in another very productive CSRS meeting where our scientists adopted a framework for an annual review of marine research results in relation to the NPAFC science plan and for integrated, collaborative science within the “International Year of the Salmon”. From warming oceans, to shrinking Arctic sea ice, to coastal droughts, our world is changing and we must respond. We have proven that our strong collaborative research efforts in the North Pacific Ocean can greatly improve our understanding of climate impacts on salmon. Healthy ecosystems produce high quality salmon that we humans rely on. Therefore, we have begun an important journey toward strengthening our climate science capacity that will assist us in identifying mechanisms of climate impacts on salmon marine ecology and to improve our understanding of possible shifts in salmon species distributions under future climate scenarios.

The US delegation is also pleased with the results of the Committee on Enforcement this year where, first and foremost, patrol efforts for 2016 and plans for 2017 were reviewed. The Parties affirmed that, collectively, they continue to deliver an aggressive, well-coordinated and effective patrol effort to combat IUU fishing with large-scale driftnets in the Convention Area. The Parties
scrutinized over 2,000 fishing vessels, two vessels were added to the NPAFC Vessel of Interest List, and a third was subject to
enforcement action by Russia after a Canadian flight detected potential illegal activity. Additionally, progress was made to determine
the best way to engage productively with NPFC to maximize the alignment of the enforcement component of both organizations.
The committee championed a new effort to expand cooperative investigative efforts and stricter treatment of non-contracting party
vessels conducting IUU activities in the Convention Area. Finally, the joint CSRS/ENFO meeting highlighted the best environmental
information available to aid in targeting high-seas driftnet activity and explored better ways for enforcement personnel to take
samples from seized salmon to aid in genetic testing.

The United States congratulates the Finance & Administration Committee on its perseverance through some difficult discussions.
I'm pleased that we were able to come to satisfactory conclusions on many funding decisions. The Secretariat continues to manage
the budget with great diligence and to conduct our meetings with great diplomacy. The overall condition of the budget remains
healthy and we are still adding to our financial reserves. We are pleased with the F&A's decision to authorize two intern positions for
the coming year. Of greatest importance, however, was the decision to provide additional funding to IYS. IYS is still in the critical but
uncertain early stages of development. Through F&A's decision, we supported what is the centerpiece of NPAFC's five-year science
plan and we enabled IYS to clarify key projects and seek outside sources of funding.

As we close out this successful meeting, I also want to touch on the 25th Anniversary Celebration earlier this week. I commend the
Secretariat as well as my colleague, Mr. Gary Smith, for organizing such an enjoyable and festive event. Many thanks to our Canadian
colleagues for arranging the captivating performance by the Le-La-La Dancers and the inspiring speeches from The Honorable Judith
Guichon and Ms. Sylvie Lapointe, along with the many former NPAFC leaders that continue to inspire us all—Ms. Fran Ulmer, Dr.
Viacheslav Zilanov, Capt. Vince O'Shea, and Dr. Dick Beamish. I also very much enjoyed the celebratory reception at the Pacific Fleet
Club, where we were granted a stunning panoramic view of Juan de Fuca Strait and the Olympic Mountains.

I want to congratulate Dr. Loh-Lee Low on receiving the NPAFC Award. Dr. Low's long service to NPAFC and his scientific
contributions are unmatched. I couldn't be more pleased that his achievements were recognized along with the 25th anniversary of our
distinguished organization.

In closing, we thank President Lowe for her skillful leadership this week, our committee chairpersons, Mr. Junichiro Okamoto, Dr.
Igor Melnikov, and Captain Phillip Thorne, and our many Sub-Committee and Working Group chairpersons for their hard work and
guidance. We also thank the NPAFC Secretariat—Executive Director Vladimir Radchenko, Deputy Director Jeongseok Park, Jennifer
Chang, Alanna Harlton, Mariia Artiushkina, and temporary assistants Moira Galbraith and Leanna Quon-Turple—for once again
executing a productive and effective meeting. And finally, we thank our interpreters for their important contribution to our increased
understanding of the nature of Pacific salmon.

Once again, we extend our sincere gratitude to Canada for hosting this 25th Annual Meeting in Victoria. On behalf of the United
States delegation, I wish you all a safe journey home and we look forward to seeing you at the 26th Annual Meeting of the NPAFC in
Khabarovsk, Russia. Thank You.

Closing remarks by Dr. John Holmes, Head of the Canadian delegation:

Madam President, Distinguished Delegates, Observers, Ladies and Gentlemen,

It was only a few days ago that I noted in my opening remarks that this was the first NPAFC meeting for me and many of my
colleagues. We did not know what to expect, but looked forward to learning more about the NPAFC, its work and members.

Canada would like to thank the President, Dr. Carmel Lowe, for her strong leadership, as well as the Chairpersons of the respective
committees and the interpreters for doing such a wonderful job and facilitating our work so seamlessly. Canada also thanks the
Secretariat and Mr. Gary Smith of the United States of America for organizing and leading the 25th Anniversary Celebration. It was a
unique lesson in the history of the NPAFC for many, especially newcomers.

Together we have accomplished much: we have strengthened cooperation between ENFO and CSRS, which will help conserve
salmon, the CSRS has continued to advance the International Year of the Salmon, our flagship science program, in significant
ways and we are moving forward in cooperation with NASCO on implementation. This is a testament to the efforts of all parties to
collaborate internally and externally as we pursue new frontiers for the sustainability of the species we, and the nations we represent,
care deeply about. Lastly, it is a tribute to the Secretariat and the member Parties that we can find ways to improve the functioning of the NPAFC and carry out our mission without sacrificing our financial stability.

My colleagues and I also wish to thank everyone in the Secretariat for their tireless efforts in preparing for this event, providing guidance during the meetings, and ensuring that all of our meetings ran smoothly.

On behalf of my colleagues and Canada, I thank all of you for coming to Victoria and I trust that you enjoyed the city when you had the chance. I thank the interpreters for their work in providing instantaneous translation which enable our frank and honest discussion that benefitted all of us and the NPAFC. In my experience, this is a unique aspect of the NPAFC. Most of all, I appreciate the willingness of fellow delegates to engage in the discussions needed to move us forward collectively. Many thanks and I hope you arrive safely at home, wherever that may be. Canada is looking forward to seeing all of you at the 26th Annual Meeting in Khabarovsk, Russia. Au revoir.

Closing remarks by Dr. Carmel Lowe, the NPAFC President

Heads of Delegation, Advisors, Delegates, Observers and Distinguished Guests,

I wish to say just a few final remarks after a long but very successful 25th Annual Meeting of our Commission here in Victoria. First and foremost, thanks to the efforts of Mr. Gary Smith and his team for a very enjoyable walk down memory lane and an opportunity to hear directly from those who built NPAFC into the successful organization we have today. Thanks also to all of the presenters at this wonderful celebration.

But then we got down to business and over the course of the last four days we have discussed many matters of vital importance to the future of NPAFC and the salmon that we are charged to protect. Our discussions were not easy, but in the tradition of cooperation and mutual respect, all parties were afforded opportunity to share their perspectives, and through the building of a common understanding we were able to reach consensus on significant issues. This would not have been possible without the leadership of our Chairs and so I thank, Dr. Igor Melnikov, Chairperson of CSRS, Capt. Phillip Thorne, Chairperson of ENFO and Mr. Junichiro Okamoto, Chairperson of our F&A, for their dedication and professionalism in working with their committee members to make this happen.

Within ENFO, plans have been advanced to further deter IUU fishing in the North Pacific Ocean, within CSRS, plans have been advanced to improve the sharing of scientific information that will help all Parties better understand the distribution and origin of salmon. We have taken another step forward by being able to better predict the future of salmon and support the resilience of the people who depend upon them through the efforts of our IYS Working Group. Our IYS plans for next year are among our most ambitious yet, and it will be important that we all play a part in building support for their implementation, in our own organizations, our own countries and in the international arena—we cannot achieve our goal alone. But I am very optimistic that we will achieve our objective.

So I will close my remarks with some thank you’s. First to Dr. Radchenko and the Secretariat who as usual have enabled this very successful meeting—we know how much work goes into ensuring our meetings run smoothly and we are deeply grateful to each of you. Next to the interpreters—we made you work very hard this year (!), but without you there is no way we could have achieved the levels of common understanding that we required to support our decisions. So thank you. Finally, I would like to thank each and every one of you for travelling to Victoria and for your committed efforts to advance our work.

I wish you all safe travels home and will look forward to meeting you next year in Khabarovsk in the Russian Federation for our 26th Annual Meeting. I now close the 25th Annual Meeting of NPAFC.

Adjournment

The 25th Annual Meeting of the North Pacific Anadromous Fish Commission was adjourned at 10:45 am on May 19, 2017.
VI. The Commission’s activities after the 25\textsuperscript{th} Annual Meeting
VI. The Commission's activities after the 25th Annual Meeting

VI. 1. Consideration of Enforcement

Nine e-mail conferences were conducted from mid-June to October 2017 (10 conferences in 2016). At the IIS Forum, the Secretariat created secure web pages to upload the Parties’ reports during the 2017 e-mail conferences. Four NPAFC member countries delivered 17 email reports: Japan—9, US—6; Canada and Russia—one report each. 88% of reports were prepared in accordance with the established template. No IUU fishing or vessel of interest sighting was reported.

VI. 2. Consideration of Scientific Research and Statistics

Implementation of the International Year of the Salmon Initiative

At the 25th NPAFC Annual Meeting in May 2017, where the Commission allocated C$35,500 to meet the requirement for operations related to the IYS in 2017/18 fiscal year, several milestones to evaluate implementation progress were set. Based on the milestones, the IYS-related business performance can be presented as follows:

(i) Administration of Pacific Steering Committee and participation in Symposium and Coordinating Committee operations including annual meetings and reports, website development and operations and communications and branding

M1. Manage contract for Website development

A joint statement of work was developed and accepted at the Third IYS Coordinating Committee meeting in March 2017 and a contract is in place with a Vancouver company, My Loud Speaker. In December 2017, a discussion document with proposed layout was developed by the ICC technical group, which was considered and accepted by the Coordinating and Steering Committees in January/February 2018. The IYS sitemap, principles of operation, management, hosting, archiving at the end of project were considered and agreed. One of the activities identified by the ICC at a salmosphere level is to develop, maintain and host IYS web pages, possibly including templates for use by participants in the IYS. On 6 March 2017, a conference call with the ICC technical group and My Loud Speaker representatives established a new website development timeline with work completion in June 2018.

M2. Complete brand use protocol

The IYS logo had been agreed intersessionally together with a document providing criteria governing its use (*Criteria governing the use of the International Year of the Salmon logo*), which was accepted by the ICC intersessionally by e-mail. Lapel pins with the IYS logo were produced prior to the NPSC meeting in Vancouver in February 2018. The IYS Graphic Standards Guide that provides guidance to ensure coherency and consistency of the IYS brand across all activities was approved by the ICC in October 2017. The IYS Presentation Template is widely used for the IYS-related PowerPoint presentations since September 2017.

M3. Attend NASCO annual meetings ... to review activities planned by NASCO Parties and NGOs during the IYS in 2019

See subsection V.5. Executive Director’s Report, (c) Cooperation with relevant international organizations, Collaboration with NASCO: Two signature projects with high potential were presented by Mark Saunders to the IYS WG after the NASCO Annual Meeting:

ROAM (RAFOS Ocean Acoustic Monitoring) project proposes to use existing SOFAR (Sound Fixing and Ranging) technology to track salmon in the high seas. Advantages of this method include increased ability to track salmon through their entire marine phase, the enhanced potential for basin-level collaboration, and an overall cheaper price tag. In October 2017, the NPAFC Secretariat hosted a webinar with a presentation by Tim Sheehan (US National Marine Fisheries Service) for interested participants in the Pacific Rim.

The Likely Suspects Framework is an accounting approach to identify likely bottlenecks across life history stages of salmon that is under development by the Atlantic Salmon Trust (AST). The Framework places candidate mortality factors within an overall spatio/temporal framework of Atlantic salmon throughout the smolt migration phase, both freshwater and marine, with a view to quantifying
the potential of each factor to influence survival.

(ii) Conduct detailed planning for Symposium event throughout the FY including:

M4. Secure venue and date by June

Despite the IYS Outline Proposal accepted by the NPAFC and NASCO at their 2016 Annual Meetings indicating that an international scientific symposium should be held in 2018 to launch the IYS, NASCO proposed to replace the Symposium by another opening event at the fourth ICC meeting in September 2017.

M5. Approve brochure, call for papers in June

The IYS brochure was prepared by Caroline Graham in December 2017. Due to changing of an opening event format, brochure does not mention the IYS Symposium. It briefly answers questions “Why do we need the IYS?”, “What is the goal?”, “How can you get involved?”, etc. It will be used for a side event at the COFI meeting and for other promotional purposes.

M6. Convene face to face or conference call meeting to confirm objectives, sessions, keynote speakers, session chairs (to be determined)

Options for the IYS opening event were developed by the ICC technical working group in December 2017, considered by the IYS WG, NASC and NPSC, and preliminarily agreed by the ICC. They will be proposed to the Commission after the IYS WG meeting report approval by CSRS in late March/April 2018. Options include the IYS announcement at a side event of the 33rd FAO COFI Meeting in Rome in July 2018, IYS ministerial announcements in October 2018 and events to launch the IYS across the hemisphere that may include salmon festivals, art, dance, competitions, concerts, conferences, lectures, storytelling, etc. The NPAFC Parties could attend at an IYS opening event in Vancouver, Canada that will be conducted with support of the Pacific Salmon Foundation in October 2018.

M7. Convene local organizing committee in June to assist with fund raising and full community engagement of all orders of government including indigenous people as well as business, NGO’s and the general public

The IYS WG recommendations, once approved by the CSRS and the Commission, contain a request to the Parties to work with their Ministerial teams to arrange the IYS ministerial announcements for October 2018. The Parties will also be requested to identify representatives to participate in the planning and coordination of the IYS opening event in Vancouver. The Secretariat will collect information and summarize a list of the IYS-related activities taking place in the NPAFC member countries.

(iii) Consider utility and broader applicability of results-based outreach and research plans by IYS theme/outcome through the Coordinating Committee

M8. Complete review of planning process by the Coordinating Committee and North Atlantic Steering Committee by July 15 [2017]

In August 2017, Mark Saunders described “Planning an International Year of the Salmon” in the NPAFC Newsletter article (see #42, p. 23-26). At the 2017 NASCO Annual Meeting, the IYS Special Session included talks on lessons learned from other international initiatives such as the International Year of the Coral Reef and World Fish Migration Day. It was confirmed that the result-based approach to the IYS proposed by the NPAFC is consistent with the NASCO view, the IASRB SAR and associated NGOs’ recommendations. A face-to-face meeting of the NPAFC and NASCO Presidents was set to discuss the IYS and future collaboration between two organizations (see section 1.3.5 (iii)). Following that, the ICC, steering committees and the IYS WG continued to work to agree approaches to complete the IYS website, communication key messages, plans for the launch of the IYS, a social media strategy, as well as a plan to conduct outreach and research planning at the salmospheric scale.

M9. NPSC to complete planning for 4 of 6 IYS Research themes/outreach themes by March 31 [2018]

A major emphasis of the workplan proposed for 2017/18 was to hold workshops to plan high-impact projects to reach the stated outcomes for the five research themes, as well as outreach. Since full funding was not available, four of the original eight workshops were planned (Memo F17-08 of July 5, 2017).

As for the NPSC meeting and integrated North Pacific survey planning (Planning Workshop #1), two small group meetings were
conducted in the Secretariat office in September 2017 and January 2018. The Secretariat explored all opportunities to engage the Parties to participate in the North Pacific High Seas Expedition signature project in 2019 that included an arrangement of the NPAFC President, Dr. Carmel Lowe, to meet with the Director General of the Fisheries Agency of Japan, Mr. Shigeto Hase, as well as e-mail communications with main scientists and managers in Canada, Korea, and the United States but regrettably so far to no avail. To date, the Parties have no cruise plan that may supplement the one-vessel Gulf of Alaska Expedition that is being organized by Dick Beamish for February–March 2019. Planning for this scientific cruise will be continued at the business meeting in TINRO-Center, Vladivostok, in late May 2018, after the 26th Annual Meeting.

Planning Workshop #2 on the Likely Suspects Framework project was organized in Edinburgh and completed in November 2017. Recognizing the significant benefits that could be realized from expanding the discussion to the wider salmosphere, five Pacific scientists attended the workshop (see details in Jim Irvine’s article A Workshop on Atlantic Salmon Mortality at Sea: Developing an Evidence-based “Likely Suspects” Framework in the NPAFC Newsletter #43, p. 27–28). The Secretariat staff were the point of contact for Pacific side and provided funding for two of the five participants.

A prospectus for the workshop on climate coupling (Planning Workshop #3) is drafted and the workshop will be held in April/May 2018. Salmon in a changing salmosphere. Besides, many aspects of research planning for the themes Status of Pacific salmon and steelhead trout and Salmon in a changing salmosphere will be considered at the First NPAFC-IYS Workshop on Pacific Salmon Production in a Changing Climate in Khabarovsk on May 26-27, 2018.

Planning Workshop #8 “Outreach in the North Atlantic, North Pacific and hemispheric scales” will be held in Edinburgh in late March 2018. The workshop objectives include identifying and developing outreach strategies and tools that could be used to engage the four identified audiences (i.e., general public/residents, knowledgeable public (e.g., anglers, industry, NGOs, Indigenous Peoples) decision-makers/politicians, and children/youth) in the conservation of salmon during the life of the IYS. An effective implementation plan for these strategies will also be developed. The expertise shared throughout the workshop will help equip Parties and jurisdictions to undertake the IYS outreach. From the Pacific side, outreach project leaders Ms. Rae Hull and Mr. Mark Glyde (NPSC) will attend the workshop.

To assist with the entire research and outreach planning process under the IYS, a 25-page discussion document International Year of the Salmon Prospectuses by Theme summarizing the desired outcome for each theme, the rationale, possible projects and funding sources has been developed for consideration by the IYS WG, the NPSC and the ICC.

(iv) Development of Signature Projects to build interest with potential partners and funders and demonstrate the type of work that can be accomplished through the IYS

At the NPSC meeting in Vancouver in February 2018, the Japanese Party’s proposal was accepted to form at least three Theme Counsel Groups under the IYS themes to streamline the development of the IYS signature projects. Considering research themes, the NPSC agreed to combine status of salmon and salmon in a changing salmosphere into one Theme Counsel Group, as well as combine new frontiers and information systems. To date, three of the IYS signature projects are considered: North Pacific winter expedition, ROAM (RAFOS Ocean Acoustic Monitoring), and Likely Suspects Framework.

In terms of personnel engaged for the IYS implementation, whose positions (as contractors) were approved by the Commission at the 2017 Annual Meeting, Chief Scientist Dr. George Iwama left his position to become the President of Quest University in Squamish, BC, Canada. Prior to leaving George was able to complete a submission to Canada’s Natural Sciences and Engineering Research Council for a C$40,000 initiative called CoastNet, a Coastal Community Sustainability Network which if funded will provide access to research funds to address IYS priorities for Pacific and Atlantic, salmon including the Human Dimension. Ms. Caroline Graham, a marine biologist originally from Nashville, Tennessee, USA, joined the NPAFC in September 2017 as an Intern assisting Mark Saunders and Madeline Young on the IYS initiative and worked till the end of March 2018.

After 2017 Annual Meeting to date, the “IYS Secretariat” staff conducted more than 70 meetings with active and potential partners to promote the initiative, involve new supporters, uncover new objectives and opportunities through the IYS implementation, etc. This list includes governmental institutions (DFO, National Marine Fisheries Service, United States Geological Survey), provincial authorities, First nation organizations, universities, IGOs and NGOs, research and outreach programs, etc.
VI. 3. Consideration of Administrative and Fiscal Matters

2016/17 fiscal year Auditors’ Report and selection of an auditor

In July 2017, the Loewen Kruse Chartered Accountants conducted the audit of the commission’s financial statements for the year ended June 30th. After the draft review and approval, the Auditor’s report was finally received on 2 August 2017.

The Auditors’ Report (Doc. 1737) and the separate report itemizing expenditures of several accounts (Doc. 1738) were sent to the F&A Points of Contact on 25 August 2017 for their review. The reports were approved and the Loewen Kruse Chartered Accountants (LK) was re-appointed as the auditor for the 2017/18 fiscal year by e-mail on 8 September 2017.

Comparing the Auditor’s report figures with the working document “Financial situation of current fiscal year” distributed at the 25th Annual Meeting in Victoria, the General Fund savings totaled by $55,481 higher than expected. The Commission spent less money for the 2017 Annual Meeting including contractual services, rentals, handouts, and overtime. Additionally, Canada contributed C$10,000 to cover Annual Meeting expenditures partially. Some IYS-related expenditures were covered from Canadian and US contribution to the Special Purpose Fund.

Working Capital Fund balance also increased from the higher surplus and reached $463,560 instead of projected $410,024 (see Table 12). One Intern’s stipend in 2016/17 fiscal year was covered from the DFO Partnership Fund. Other Moving Fund expenses were similar to projected ones.

As it was reported at the 25th Annual Meeting, discrepancy between fair value of the Pension Plan assets, administered through the International Fisheries Commissions Pension Society, and accrued benefit obligation (or liability) notably increased and reached C$186,661. The IFCPS Pension Plan administrator, Mercer Canada recommend starting to repay unfunded Pension Plan liability with the repayment term up to 10 years. For the NPAFC, it means increase of monthly payment in about $1,200. Currently, the Commission as an employer pays to the pension fund about $2,800 per month. Employer/employees payment ratio is 52.8/47.2% for three quarters of the current fiscal year. Since 2017, the IFCPS implements a three-year plan of gradual increase of employees’ portion till 50%.

Vacation pay for the staff unused leave totaled C$31,795 as at 30 June 2017, versus $36,944 at the same date of 2016 and $37,690 of 2015.

According to the auditor’s opinion, the financial statements present fairly, in all material respects, the financial position of the Commission as at June 30, 2017, and its financial performance and its cash flows for the fiscal year 2016/2017 are in accordance with the financial rules of the NPAFC Handbook.

Increasing communication to public via the Internet tools and social media

In November 2016, a Facebook Page was created for the NPAFC and 10 news pieces were posted till mid-May 2017. Since the adjournment of the 25th Annual Meeting to the end of 2017, 50 news items were posted in total, mostly after Ms. Caroline Graham joined the Secretariat staff as Intern in September. The salmon-related news, the NPAFC announcements, promotional videos, etc. are available for public viewing from this social media platform. A Facebook page for the IYS was created in November 2017.

Wikipedia page (https://en.wikipedia.org/wiki/North_Pacific_Anadromous_Fish_Commission) for the Commission is regularly updated with inclusion of new information about the Convention, the Commission's history and organizational structure, science and enforcement, and the IYS, publications, etc.

Increasing communication to audience from the NPAFC member countries

Gradual increase of number of visits to the NPAFC website reflects a growing public interest to the Commission’s activities and projects. In 2017, the most significant growth is observed from Canadian visitors, which is typical as a member country hosting the Annual Meeting (more than twofold in comparison with 2014, see Table 12). Another reason for this increase reflects Canada’s involvement in the IYS implementation which attracted people from the Atlantic coast. There is also a positive consequence for uploading multilanguage contents onto the NPAFC website.
### Table 12. Number of visits to the NPAFC website in 2014–2017 by member countries

<table>
<thead>
<tr>
<th>Country</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>5,136</td>
<td>43.30%</td>
<td>7,459</td>
<td>42.00%</td>
</tr>
<tr>
<td>Canada</td>
<td>2,859</td>
<td>24.10%</td>
<td>4,465</td>
<td>25.10%</td>
</tr>
<tr>
<td>Japan</td>
<td>1,191</td>
<td>10.00%</td>
<td>2,327</td>
<td>13.10%</td>
</tr>
<tr>
<td>Russia</td>
<td>758</td>
<td>6.40%</td>
<td>930</td>
<td>5.20%</td>
</tr>
<tr>
<td>Korea</td>
<td>320</td>
<td>2.70%</td>
<td>456</td>
<td>2.60%</td>
</tr>
<tr>
<td>Totals</td>
<td>10,264</td>
<td>100%</td>
<td>15,637</td>
<td>100%</td>
</tr>
</tbody>
</table>

In 2014–2016, from 86.4% to 88.0% of all the visits (new and returning visitors) to the NPAFC website were by people in member countries. In 2017, this proportion reached 90.0%.

### Opening Ceremony of the World Fisheries University (WFU) Pilot Programme

On 7 September 2017, the World Fisheries University Pilot Programme Opening Ceremony was held at the Pukyong National University in Busan, Republic of Korea. Many RFMOs were invited to take part in the ceremony along with the support in travel funds. The NPAFC Deputy Director attended the ceremony on behalf of the Commission.

### Promotional lectures on the NPAFC activities and projects including the IYS

Executive Director delivered three promotional lectures to international audiences using the vacation leave and sponsored invitation opportunities:

- Upon invitation of the Russian Federal agency for fisheries, panel session talk *The International Year of the Salmon (IYS) – initiative project* of the NPAFC was delivered at the Global Fishery Forum & Seafood Expo 2017 in St. Petersburg on September 14, 2017
- Upon invitation of the Primorskiy Krai government, the same talk was presented at the International Fisheries Congress in Vladivostok on October 5, 2017
- Upon invitation of the Association *The Union of Fishing Collective Farms and Enterprises of the Sakhalin Oblast* (ASRKS), plenary talk on pink salmon stock dynamics, hatchery propagation and the IYS framework as a tool to overcome challenges in salmon research and management was delivered at the salmon conference in Yuzhno-Sakhalinsk, SakhNIRO in early November 2017

The Secretariat is also involved in a regular information exchange through several communication networks:

- The Caribbean Regional Fisheries Mechanism (CRFM) Secretariat network (Scientific Issue 2015, news releases, CANARI Policy Briefs, consulting and other job opportunities, newsletters, announcements, briefing meetings, webinars and other events, PR, general discussions)
- NEREUS Program of the Nippon Foundation & UBC reports and electronic newsletter.

In general, effectiveness of NPAFC communications to the community and the world in 2017 was maintained on a relevant level.
Table 13. Statement of Operations for the fiscal year ended 30 June 2017 (after the Auditor’s Report - 2017)

**NORTH PACIFIC ANADROMOUS FISH COMMISSION**

**Statement of Operations**

**Year Ended June 30, 2017**

<table>
<thead>
<tr>
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<tbody>
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<td>REVENUE</td>
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<td>181,793</td>
<td>35,000</td>
<td>196,793</td>
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<td>Contributions from contracting parties</td>
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<td>Sponsorships and registration fees</td>
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<tr>
<td>Levies</td>
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<td>64,446</td>
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<td>64,446</td>
<td>53,154</td>
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<td>51</td>
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<td>EXPENSES</td>
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<td>Personnel services</td>
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<td>85,785</td>
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<td>570,350</td>
<td>545,903</td>
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<td>Communication</td>
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<td>143,739</td>
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<td>55,689</td>
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<td>2016 IYS Scoping meeting</td>
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<td>2017 IYS from NPAFC Fund</td>
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<td>117,090</td>
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<td>2017 IYS from DFO Partnership Fund</td>
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<td></td>
<td></td>
<td>98,737</td>
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<td>Severance pay</td>
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<td>764,391</td>
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<td>1,122,220</td>
<td>942,851</td>
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<tr>
<td><strong>EXCESS (DEFICIENCY) OF REVENUE OVER EXPENSES FOR THE YEAR - page 5</strong></td>
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<td>$ 153,105</td>
<td><strong>(131,590)</strong></td>
<td>$ 35,051</td>
<td>$ 56,596</td>
<td>$ 25,322</td>
<td></td>
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</tbody>
</table>
Presidents

Vyacheslav Zilanov
1993–1995

Koji Imamura
1995–1997
2003–2005

David Bevan
1997–1999

Fran Ulmer
1999–2001

Anatoly Makoedov
2001–2003

Guy Beaupré
2005–2007

Dohyung Koo
2007–2008

Suam Kim
2008–2009

James Balsiger
2009–2011

Vladimir Belyaev
2011–2014

Junichiro Okamoto
2014–2016

Carmel Lowe
2016–Present
Representatives

Canada

Victor Rabinovitch
1993–1994

Darlene Weir
1993–1994

Garnet Jones
1993–1999

Gary Williamson
1994–1997

David Bevan
1996–2002

Gerry Kristianson
1997–2012

Russ Jones
1999–2008

Guy Beaupré
2002–2012

George Hungerford
2012–Present

Terry Tebb
2012–2016

Robin Brown
2013–2015

Carmel Lowe
2015–Present
Representatives
(Participated at the Annual Meeting)

Japan

Masahiro Ishikawa
1993–1994

Koji Imamura
1993–2009

Seiichi Yoshida
1994–1995

Satoshi Watanabe
1995–1997

Shuji Ishida
1997–1999

Ryozo Kaminokado†
1999–2000

Shiro Yuge
2000–2002

Tomofumi Kume
2004–2005

Yoshimi Suenaga
2005–2006

Daishiro Nagahata
2006–2009

Yukihiro Sakamoto
2009–2010

Junichiro Okamoto
2009–Present

Shingo Kurohagi
2011–2012

Shigeto Hase
2012–2016

Masaki Hoshina
2016–Present

Ryozo Kaminokado†
1999–2000

Shiro Yuge
2000–2002

Tomofumi Kume
2004–2005

Yoshimi Suenaga
2005–2006

Daishiro Nagahata
2006–2009

Yukihiro Sakamoto
2009–2010

Junichiro Okamoto
2009–Present

Shingo Kurohagi
2011–2012

Shigeto Hase
2012–2016

Masaki Hoshina
2016–Present
Representatives

Korea

Joon Suk Kang 2003–2004
Bong Se Oh 2003–2004
Dong Yeob Yang 2003–2004
Chong Rok Park 2004–2005

Sukyung Kang 2004–2009
Yang Soo Kim 2004–2006
Yong Kuk Lee 2005–2006
Chiguk Ahn 2006–2007

Dohyung Koo 2007–2008
Ki Baik Seong 2007–2012
Suam Kim 2008–2009
2017–Present

Jang-Woo Seo 2010–2012
Ju Young Kim 2012–2016
Bundo Yoon 2012–2013
Do Hyun Lee 2016–Present
Korea

Chan Soo Park
2017–Present
Representatives

Russia

Vyacheslav Zilanov
1993–1997

Vladimir Fedorenko
1993–1999

Vladimir Pautov
1993–2001

Vladimir Izmailov
1996–2001

Sergey Dyagilev
2001–2006

Anatoly Makoedov
2001–2006

Sergey Sinyakov
2001–2006

Mikhail Glubokovskiy
2006–2009
2015–2017

Sergey Maksimov
2006–2010

Vladimir Belyaev
2009–Present

Kirill Kolonchin
2017–Present
Committee Chairpersons

CSRS Chairpersons

Leo Margolis†
1993–1995

Loh-Lee Low
1995–1997
2003–2005
2014–2016

Oleg Gritsenko†
1997–1999

Yukimasa Ishida
1999–2001
2007–2009

Richard Beamish
2001–2003

Vladimir Karpenko
2005–2007

Jin Yeong Kim
2009–2011

Mark Saunders
2011–2014

Igor Melnikov
2016–Present
ENFO Chairpersons

Vincent O'Shea
1999–2001

Dennis Brock
1993*, 1997–1999

Igor Kypalov
2001–2003

Vladimir Izmalov
1994–1996

Takashi Kato
2003–2004

Satoshi Watanabe
1996–1997

Akihiro Mizukawa
2004–2005

Koji Miyaura
2005

Mike Cerne
2005–2007

Robert Martinolich
2007–2009

Paul Steele
2009

Jun Imanura
2009–2011

Jeongseok Park
2011–2014

Alexey Monakhov
2014–2015

Oleg Volkov
2015–2016

* – as a Chairman of the Sub-Committee on Enforcement within Committee on Enforcement, Finance and Administration (CEFA)
Committee Chairpersons

ENFO Chairpersons

Philip Thorne 2016

Steven White 2016–Present
F & A Chairpersons

Richard Lauber
1993–1996

Vladimir Izmailov
1996–1997

Shuji Ishida
1997–1999

Ryozo Kaminokado†
1999

Aaron Sarna
1999–2000

Gerry Kristianson

James Balsiger
2001–2003

Vladimir Shevlyakov
2003–2005

Koji Miyaura
2005–2006

Kazuaki Tanaka
2006–2007

Hiromi Isa
2007

Sergey Maksimov
2007–2009

Gary Smith
2011–2014

Jeongseok Park
2014–2016

Junichiro Okamoto
2016–Present
Executive Directors

Shigeto Hase
1993–1994
(Interim Executive Director)

Irina Shestakova
1994–1999

Vladimir Fedorenko
1999–2013

Vladimir Radchenko
2013–Present

Deputy Directors

Wakako Morris
1993–1994
(Interim Deputy Director)

Hisashi Endo
1994–1997

Hiroko Omori
1997–2000

Yoshikyo Kondo
2000–2003

Toshinori Uoya
2003–2006

Shigehiko Urawa
2006–2010

Nancy Davis
2010–2017

Jeongseok Park
2017–Present
Secretariat

Interns

Yuka Ogata
2011 Jan–Jul

Yulia Simakova
2014-2015

Minho Kang
2015-2016

William Stanbury
2016-2017

Madeline Young
2016-2017

Caroline Graham
2017- Present

Pavel Emelin
2017- Present

Trainee

Youngho Park
2012 - 2013
VIII. Meeting and Events
1994
April I. Shestakova takes office as Executive Director, replacing S. Hase, Interim Executive Director.
July H. Endo takes office as Deputy Director.
October 2-15 2nd Annual Meeting of the Commission in Vladivostok, Russia.

1995
March 6-10 Research Planning and Coordinating Meeting, Seattle, Washington, USA
November 5-10 3rd Annual Meeting of the Commission in Seattle, Washington, USA

1996
October 21-25 4th Annual Meeting of the Commission in Tokyo, Japan
October 28-29 International Symposium on Assessment and Status of Pacific Rim Salmon Stocks in Sapporo, Japan

1997
January L. Margolis passes away. (Canadian scientist and First CSRS Chairman)
February 11 F&A Working Group Meeting in Vancouver, Canada
March 4-6 Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada
October 27-31 5th Annual Meeting of the Commission in Victoria, Canada

1998
March 24-25 Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada
March 26-27 Workshop “Climate change and Salmon Production” in Vancouver, Canada
May Office relocated from UBC campus to Downtown Vancouver.
November 6 NPAFC and PICES sign MOU.
November 1-6 6th Annual Meeting of the Commission in Moscow, Russia

1999
March 16-19 Enforcement Standardization Symposium in Kodiak, Alaska, USA
March 24-26 Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada
July V. Fedorenko takes office as Executive Director.
July R. Carlson passes away. (American marine fisheries biologist)
October 24-29 7th Annual Meeting of the Commission in Juneau, Alaska, USA
November 1-2 International Symposium “Recent Changes in Ocean Production of Pacific Salmon” in Juneau, Alaska, USA
March 24-25 Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada

March 26-27 Workshop “Climate change and Salmon Production” in Vancouver, Canada

May Office relocated from UBC campus to Downtown Vancouver.

November 6 NPAFC and PICES sign MOU.

November 1-6 6th Annual Meeting of the Commission in Moscow, Russia

October 29 International Workshop “Factors Affecting Production of Juvenile Salmon: Comparative Studies on Juvenile Salmon Ecology between the East and West North Pacific Ocean” in Tokyo, Japan

October 29 International Workshop “Factors Affecting Production of Juvenile Salmon: Comparative Studies on Juvenile Salmon Ecology between the East and West North Pacific Ocean” in Tokyo, Japan

October 29 International Workshop “Factors Affecting Production of Juvenile Salmon: Comparative Studies on Juvenile Salmon Ecology between the East and West North Pacific Ocean” in Tokyo, Japan

October 30- November 2 8th Annual Meeting of the Commission in Tokyo, Japan

November NPAFC 5 year Science Plan was adopted.

December Y. Kondo takes office as Deputy Director

March 1-3 Enforcement Planning and Coordinating Meeting (EPCM) in Tokyo, Japan

March 23-26 NPAFC Co-sponsors El Niño Conference in La Jolla, CA, USA

March 27-28 Research Planning and Coordinating Meeting (RPCM) in La Jolla, California, USA

October 28- November 2 9th Annual Meeting of the Commission in Victoria, Canada

January 28-February 1 NPAFC Co-sponsors Stock Enhancement and Sea Ranching Symposium in Kobe, Japan.

March 12-13 Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada

March 14-15 Joint Meeting of IBSFC, ICES, NASCO, NPAFC, PICES on “Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea” in Vancouver, Canada

May 14-17 Enforcement Evaluation and Coordination Meeting (EECM) in Petropavlovsk-Kamchatsky, Russia

May 7-9 Enforcement Evaluation and Coordination Meeting (EECM) in Kodiak, Alaska, USA

May 27 Republic of Korea became the fifth member of the Commission.

May 29-30 Research Planning and Coordinating Meeting (RPCM) in Seattle, Washington, USA

May 30 Bering-Aleutian Salmon International Survey Working Group Meeting in Seattle Washington, USA

October 23-31 11th Annual Meeting of the Commission in Honolulu, Hawaii, USA

November 1-2 International Workshop on “Application of Stock Identification in Defining Marine Distribution and Migration of Salmon” in Honolulu, Hawaii, USA

December T. Uoya takes office as Deputy Director.
Meeting and Events—26 Years of History

2004

May 12-13 Research Planning and Coordinating Meeting (RPCM) in Petropavlovsk-Kamchatsky, Russia
May 14 Bering-Aleutian Salmon International Survey (BASIS) Working Group Meeting in Petropavlovsk-Kamchatsky, Russia
May 26-27 Enforcement Evaluation and Coordination Meeting (EECM) in Kushiro City, Hokkaido, Japan
October The NPAFC Public Lecture “Pacific Salmon: a Gift from the Sea” took place in Sapporo, Hokkaido, Japan
October 24-27 12th Annual Meeting of the Commission in Nanaimo, BC, Canada

2005

April 21-22 Research Planning and Coordinating Meeting (RPCM) in Nanaimo, BC, Canada
May 18-19 Enforcement Evaluation and Coordination Meeting (EECM) in Vladivostok, Russia
October New NPAFC Science Plan 2006-2010 was approved.

2006

February 28-March 1 Enforcement Evaluation and Coordination Meeting (EECM) in Juneau, Alaska, USA
March 2 Enforcement Symposium in Juneau, Alaska, USA
April 24-25 Research Planning and Coordinating Meeting (RPCM) in Sapporo, Hokkaido, Japan
October 23-27 14th Annual Meeting of the Commission in Vancouver, BC, Canada
November 17-21 16th Annual Meeting of the Commission in Seattle, WA, USA
December S. Urawa takes office as Deputy Director.

2007

February 28-March 1 Enforcement Evaluation and Coordination Meeting (EECM) in Busan, Republic of Korea
April 25-27 Research Planning and Coordinating Meeting (RPCM) in Honolulu, Hawaii, USA
October Long-Term Monitoring and Research Project funded by Moore Foundation was started.
October 8-12 15th Annual Meeting of the Commission in Vladivostok, Russia

2008

February 27-29 Enforcement Evaluation and Coordination Meeting (EECM) and North Pacific IUU Tripartite Meeting in Vancouver, BC, Canada
April 7-9 First Meeting for the Long-Term Monitoring and Research Project (LRMP) in Sokcho, Republic of Korea
April 10-11 Research Planning and Coordinating Meeting (RPCM) in Sokcho, Republic of Korea

2004

February 28-March 1 Enforcement Evaluation and Coordination Meeting (EECM) in Juneau, Alaska, USA
March 2 Enforcement Symposium in Juneau, Alaska, USA
April 24-25 Research Planning and Coordinating Meeting (RPCM) in Sapporo, Hokkaido, Japan
October 23-27 14th Annual Meeting of the Commission in Vancouver, BC, Canada
November 17-21 16th Annual Meeting of the Commission in Seattle, WA, USA
December S. Urawa takes office as Deputy Director.
2009
February 23-25
Enforcement Evaluation and Coordination Meeting (EECM) and 2nd Enforcement Workshop in Fukuoka, Japan
April 21-23
Research Planning and Coordinating Meeting (RPCM) in Yuzhno-Sakhalinsk, Russia
June 18-20
Third Meeting of the Long-Term Research and Monitoring Plan (LRMP) in Hon-Shiogama, Japan
November 2-6
17th Annual Meeting of the Commission in Niigata, Japan
December 1
Deputy Director’s term in office of S. Urawa extended for one year.

2010
April 20-21 Enforcement Evaluation and Coordination Meeting (EECM) in Yuzhno-Sakhalinsk, Russia
May 19-20 Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada
November 1-5
18th Annual Meeting of the Commission in Busan, Korea
December 1
N. Davis takes office as Deputy Director

2011
January - July
The first NPAFC intern Ms. Y. Ogata from Japan, worked at the NPAFC Secretariat.
February 23-24
Enforcement Evaluation and Coordination Meeting (EECM) in Honolulu, Hawaii, USA
October 23-28
19th Annual Meeting of the Commission in Nanaimo, BC, Canada
October 7-12
20th Annual Meeting of the Commission in St. Petersburg, Russia

2012
January
The first NPAFC trainee Mr. Youngho Park from Korea starts working at the Secretariat
March 27-28
Enforcement Evaluation and Coordination Meeting (EECM) and Enforcement Workshop on “Procedures of Interception and Seizure of Vessels of Interest on the High Seas” in Jeju Island, Korea
April 10-18 Research Planning and Coordinating Meeting (RPCM) by email communication
October 30-31
NPAFC International Workshop on Explanations for the High Abundance of Pink and Chum Salmon and Future Trends in Nanaimo, BC, Canada
2013

March 26-27 Committee on Enforcement (ENFO) Meeting in Vancouver, British Columbia, Canada
April 23-24 Committee on Scientific Research and Statistics (CSRS) Meeting in Honolulu, Hawaii, USA
April 25-26 NPAFC 3rd International Workshop on Migration and Survival Mechanisms of Juvenile Salmon and Steelhead in Ocean Ecosystems in Honolulu, Hawaii, USA

June 30 Vladimir Fedorenko retires after 14 years of service
July 1 Vladimir Radchenko takes office as Executive Director
September 23-27 Committee on Finance and Administration (F&A) Meeting by email communication
November 12-15 21st Annual Meeting by email communication

2014

March 11-14 Virtual Enforcement Evaluation and Coordination Meeting (EECM) by email communication
May 12-16 22nd Annual Meeting of the Commission in Portland, Oregon, USA

May 2-5 Joint Patrol Schedule Meeting (JPSM) by email communication
May 11-15 23rd Annual Meeting of the Commission in Kobe, Japan
May 17-19 The NPAFC-PICES Collaborative Workshop on Linkages between the winter distribution of Pacific salmon and their ecosystems, Yeosu, Republic of Korea

September 8 Second NPAFC intern, Ms. Yulia Simakova from Russia starts working at the Secretariat
October 17 NPAFC-PICES Collaborative Workshop on Linkages between the winter distribution of Pacific salmon and their ecosystems, Yeosu, Republic of Korea.

2015

February 17-19 The International Year of the Salmon (IYS) Scoping Meeting in Vancouver, BC, Canada

March 2-5 Joint Patrol Schedule Meeting (JPSM) by email communication
May 11-15 23rd Annual Meeting of the Commission in Kobe, Japan
May 17-19 The NPAFC International Symposium on Pacific Salmon and Steelhead Production in a Changing Climate: Past, Present, and Future in the Kobe International Conference Center, Kobe, Japan

October 1 Third NPAFC intern, Mr. Minho Kang from Republic of Korea starts working at the Secretariat
December 1 Ms. Wakako Morris takes annual leave with consequent retirement on January 15, 2016, after 30 years of service at the INPFC and NPAFC Secretariats.
February 29–March 3
Joint Patrol Schedule Meeting (JPSM) by e-mail communication
March 15–16
The 2nd International Year of the Salmon (IYS) Scoping Meeting in Vancouver, BC, Canada
May 16–20
24th Annual Meeting of the Commission in Busan, Republic of Korea
May 20
the 2016–2020 NPAFC Science Plan is adopted
September 6
Fourth NPAFC intern, Ms. Madeline Young from Canada starts working at the Secretariat
September 19
Fifth NPAFC intern, Mr. William (Bill) Stanbury from Canada starts working at the Secretariat

February 14–16
Joint Patrol Schedule Meeting (JPSM) by e-mail communication
February 28–March 2
The 2017 IYS Working Group and North Pacific Steering Committee (NPSC) meetings, Richmond, BC, Canada
May 15–19
25th Annual Meeting of the Commission in Victoria, BC, Canada
May 15
25th NPAFC Anniversary Celebration
August 14–17
NASCO President, Jóannes Hansen visit to NPAFC
September 15
Sixth NPAFC intern, Ms. Caroline Graham from the United States starts working at the Secretariat
December 1
Seventh NPAFC intern, Mr. Pavel Emelin from Russia starts working at the Secretariat
## Joint Scheme of Patrolling 2017

<table>
<thead>
<tr>
<th>Month</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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<td>Canada</td>
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<td>United States</td>
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**Legend:**
- Red: Aircraft
- Blue: Surface
- Yellow: Aircraft in mid-air
- Orange: Radar or satellite

**Notes:**
- July 16 - July 27: Intensive flying period
- 180-200 flight hours intended for patrols
- From June 16 to August 22
- P3 and JCS: Aircraft - P3 168 hours (18 days), JCS 16 hours (2 days) / patrol trip
- To be announced
- Surface support will be provided by the US CM (NAVY 0817 JS)
## List of Actions on Prioritized Recommendations from the NPAFC Performance Review Report

### Committee on Scientific Research and Statistics (CSRS) Completed in 2014

<table>
<thead>
<tr>
<th>Recommendation #</th>
<th>Recommendation by PRC</th>
<th>2011</th>
<th>Decisions by CSRS</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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</thead>
<tbody>
<tr>
<td><strong>2</strong></td>
<td>Data in the Statistical Yearbook should be made available in true electronic formats.</td>
<td>The Secretariat will develop options and costs for making data available in electronic form and will develop an implementation plan in cooperation with the WGSAs by the 2012 Annual Meeting.</td>
<td>Creation of a single NPAFC statistical data file (1926-2011) to replace the statistical yearbooks and the WGSAs time series data files was approved. The task is scheduled to be completed by May 2014.</td>
<td></td>
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<td><strong>Completed</strong></td>
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<tr>
<td><strong>3</strong></td>
<td>Reporting of non-anadromous species in the Statistical Yearbook should be discontinued.</td>
<td>Tables on non-anadromous species in the Statistical Yearbook, i.e., Tables 32-37, on the website and in the hard copy will no longer be included, effective immediately.</td>
<td>Statistical Yearbook tables on non-anadromous species (Tables 32-37) have been eliminated.</td>
<td></td>
<td><strong>Completed</strong></td>
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<td><strong>5</strong></td>
<td>Periodic comprehensive overviews and reports of North Pacific salmonid stock status should be continued.</td>
<td>The WGSAs agreed to reassessments approximately every 5 years and data updates (not analysis or text) approximately every two years. Next data update is planned for 2012.</td>
<td>Data update was reported in NPAFC Doc. 1422 at the 2012 CSRS meeting. Reassessments will be reported approximately every 5 years and updates reported approximately every 2 years.</td>
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<td><strong>Completed</strong></td>
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<td><strong>6</strong></td>
<td>The Commission should re-visit and reassess the CSRS ToR and the need for the current working groups. How do they fit in with the future vision for NPAFC-coordinated research?</td>
<td>The CSRS supports the recommendation. CSRS PoCs with assistance of the Secretariat and in consultation with working groups (WGs) assess the existence of WGs and examine the CSRS and WGs ToRs. The purpose will be a simultaneous implementation of #6, 14, 16, and 21. This includes consideration of a preamble to CSRS ToR, revise the CSRS ToR, associate CSRS agenda items with its ToR, need for current WGs, and creation/updating of ToR for all the sub-committees and WGs. A report will be drafted by the Secretariat in cooperation with the CSRS PoCs and WGs that summarizes the revised structure (if any) of sub-committees and WGs and the updated ToR for the CSRS and WGs. This report will be placed on the CSRS webpage as a working document by mid-September 2012. The working document will be discussed and revised, if necessary, by the CSRS at the 2012 Annual Meeting.</td>
<td>Revised ToR for the CSRS, Science Sub-Committee, and WGs were adopted at the 2012 Annual Meeting. The revised ToR for these groups were listed in Doc. 1441 Appendix 2 and implemented at the close of the 2012 Annual Meeting. The potential WGs reorganization will be considered as appropriate in the future. (See also #14, 16, and 21.)</td>
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<td><strong>Completed</strong></td>
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<td>Recommendation #</td>
<td>Recommendation by PRC</td>
<td>Decisions by CSRS</td>
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<td>7</td>
<td>The Commission should re-assess requirements, resources, and commitments to the multiple databases established by the CSRS working groups. Consideration should be given to direct support and housing by the Secretariat.</td>
<td>The CSRS made its decision on moving working-group databases to the Secretariat on a case-by-case basis. The CSRS supports moving the INPFC/NPAFC tag release and recovery data files and historical statistical data to the Secretariat. However, the CSRS does not support moving the otolith-mark database currently supported by ADF&amp;G or BASIS databases currently supported by the national Parties to the Secretariat. Converting the tag-recovery data files to a database and determining formats for submission of new data by the WGST should be completed by the 2012 Annual Meeting. The plan for compilation of statistics into a database(s) will be completed by the Secretariat in cooperation with the WGSA by the 2012 Annual Meeting. (See #2 above.)</td>
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<td>The INPFC/NPAFC disk tag release and recovery data were transferred to the Secretariat in 2012. A plan was approved to transfer archival tag data to the Secretariat by spring 2014. Transfer of statistical data files are described under #2.</td>
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<td>The archival tag data are accessible in the Members’ Area of the NPAFC website.</td>
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<td>10</td>
<td>The Commission should consider a program to compare at-sea sampling methods and develop conversion factors or at least clarify their differences, in the context of being able to compare results among member States.</td>
<td>Intercalibration of gear and comparisons of at-sea sampling methods is an important and continuing process. Experimental work will continue for specific programs as the need arises. A report on comparisons of at-sea sampling methods that summarizes previous CSRS-related work on this topic is currently available on the web.</td>
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<td>A report on comparison of at-sea sampling methods was finalized and available on the NPAFC website. When further experimental work is required for intercalibration of gear for specific programs, it will be done as the need arises.</td>
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<td>14</td>
<td>CSRS Agenda items should be linked with the appropriate ToR.</td>
<td>Implementation of #6, 14, 16, and 21 will be done simultaneously. (See #6 above.)</td>
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<td>See #6, 16, and 21.</td>
<td>Completed</td>
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<td>Recommendation #</td>
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<td>16</td>
<td>The CSRS should seek opportunities to provide advice, both internally and externally, in regards to issues affecting the conservation of anadromous stocks in the Convention Area. In this context, it would be helpful for the CSRS to identify its main “goals” or purposes in relation to the Convention, as a preface to its ToR (i.e., what is the CSRS trying to accomplish?)</td>
<td>Implementation of #6, 14, 16, and 21 will be done simultaneously. (See #6 above.)</td>
<td>See #6, 14, and 21.</td>
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<td>18</td>
<td>The CSRS should be requested to examine specifically the issue of incidental takes of salmon in the North Pacific to determine if it is an issue, and if so, make recommendations on how these may be mitigated.</td>
<td>The CSRS supported the recommendation in principle, but could not reach a consensus about whether incidental takes of salmon could only be considered within the Convention Area, or if waters adjacent to the Convention Area could also be considered. The Secretariat with the assistance and cooperation of the CSRS PoCs will investigate the ToR for reporting incidental catches within the Convention Area and adjacent waters and report on this information at the 2012 Annual Meeting. A decision will be made at that time about further consideration of this recommendation.</td>
<td>CSRS decided it would be useful for each Party to provide full information of all salmon catches from their fisheries, and identify incidental catches where possible. The Commission adopted the recommendation that the Parties annually provide a full accounting of all catches.</td>
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<td>21</td>
<td>The ToR and objectives for all CSRS WGs should be made more explicit, as has been done for some but not all CSRS WGs (see Table 2.4 of Performance Review Report). This would provide each WG with a clear set of goals and a clear standard against which progress towards these goals can be determined.</td>
<td>The CSRS supports the recommendation. Implementation of #6, 14, 16, and 21 will be done simultaneously. (See #6 above.)</td>
<td>See #6, 14, and 16.</td>
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<td>24</td>
<td>The Commission should encourage the Parties to become parties to the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, and ENFO should analyze that applicability of the Agreement to the NPAFC context and provide recommendations to the Commission thereon.</td>
<td>1. Parties will report on their accession to the Agreement at 2012 Annual Meeting.</td>
<td>Each Party will give a proposal at 2013 Annual ENFO Meeting.</td>
<td>Revisit the issue at 2014 Annual Meeting.</td>
<td>Revisit the issue at 2015 Annual Meeting.</td>
<td>Revisit the issue at 2017 Annual Meeting. Republic of Korea and USA ratified the PSMA in February 2016.</td>
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<tr>
<td>31</td>
<td>The agendas of EECM and ENFO should be reviewed to ensure better rationalization of activities and resources and to avoid the duplication in discussion and reporting that currently occurs.</td>
<td>Depending on the decision at the 2011 Annual Meeting (whether or not to hold Annual Meetings and Interim Meetings together), ENFO will develop recommendations on this issue at 2012 EECM.</td>
<td>EECMs are no longer conducted after 2012.</td>
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<td>Completed</td>
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<td>34</td>
<td>ENFO-ToR should be reviewed and updated to better reflect the contemporary enforcement needs of the Commission.</td>
<td>New version of ENFO-ToR will be drafted and presented to the Commission for approval by 2013 Annual Meeting.</td>
<td>This item was combined with #38.</td>
<td>This item was combined with item #38.</td>
<td>New ENFO ToR was adopted.</td>
<td>In progress</td>
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<td>36</td>
<td>The Commission should consider the rationale and <em>modus operandi</em> for how best to engage with the new North Pacific RFMO.</td>
<td>Memorandum of Cooperation between the two organizations will be drafted and presented for approval by the Commission tentatively at 2013 Annual Meeting, depending on the time of formation of the new organization.</td>
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<td>The organization is not yet formed.</td>
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<td>The organization is formed, but wait until the NPFC Secretariat is in full operation.</td>
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<td>Collaborative enforcement strategy with NPFC will be discussed at the NPFC 2015 Annual Meeting.</td>
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<td>Enforcement collaboration has been proposed to NPFC. Development of collaborative strategy will be discussed at the NPAFC 2017 Annual Meeting.</td>
</tr>
<tr>
<td>38</td>
<td>ENFO should be tasked with preparing a study on the possible further contribution of the NPAFC to the implementation of the IPOA-IUU.</td>
<td>The results of a study should be incorporated into a revised ENFO-ToR by 2013 Annual Meeting.</td>
<td>New ToR will be discussed at 2013 ENFO meeting.</td>
<td></td>
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<tr>
<td>Recommendation #</td>
<td>Recommendation by PRC</td>
<td>Decisions by F&amp;A</td>
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</table>
| 39              | The Commission should consider amending the terminology used in the Rules of Procedure (RoP) to refer to ‘Representatives’ as ‘Commissioners’ or to otherwise clarify RoP 9-11 to bring them into line with current practice. | 1. RoP 9-11: no changes will be made.  
2. RoP 7 (re-voting): The committee suggested the following amendment: “Commission vote may be cast by any one Representative or alternate Representative from each Party. A committee vote may be cast by a Representative or by an advisor designated for that purpose”.  
3. Keep ‘Representative’, not to change to ‘Commissioner’. |
<p>| 42              | The Commission should develop a policy on the provision of interpretation at its meetings for new member states and any possible future cooperating non-contracting parties. | All Parties agreed to develop a policy: “During the meetings of NPAFC, the Commission will use only the languages of the existing Parties of the Commission, i.e., a new member will be provided with the interpretation services for its language if it is other than the current languages. As for non-Contracting Member, the interpretation services or a delegation room at the meetings will not be provided”. Such provision will be reflected in the minutes of the Annual Meeting, not by changing the Rules of Procedure. |
| 43              | The Commission should consider amending RoP 5a to reduce the notice period required for the seating of observers and consider other ways in which to make the Commission more open to individuals or representatives of other organizations. | Change the application deadline from 120 days to 90 days and change the Parties’ consideration of the application from 90 days to 30 days. |
| 44              | Consideration should be given to clarifying the use of an uncapitalized ‘r’ in Staff Rule 22. | Change from “representative” to “Representative.” |
| 46              | The Commission should turn its mind to a definitive clarification of RoP 19 (a) and the hiring process for the Deputy Director. | Retain the Status Quo; no changes from the current hiring process for the time being. However, during the process of hiring new Executive Director clarify what is expected of the Deputy Director as acting Executive Director, should the necessity arise. |</p>
<table>
<thead>
<tr>
<th>Recommendation #</th>
<th>Recommendation by PRC</th>
<th>Decisions by F&amp;A</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>The Commission should establish a publications committee to review the efficacy and format of Commission publications and the website in order to fully consolidate the gains to be achieved by the increasing use of electronic and online publishing possibilities.</td>
<td>Create a Publication Policy Working Group (PPWG), which will consist of one representative from ENFO and F&amp;A, and two from CSRS. The working group will be under the auspices of the Secretariat. Since the majority of the issues will be CSRS-related, the Deputy Director will be in charge of the group from the Secretariat.</td>
<td></td>
<td>PPWG was created (Doc. 1442 Appendix 4).</td>
</tr>
<tr>
<td>49</td>
<td>Consideration should be given to increasing the IT capacity, both in terms of physical hardware and in terms of personnel, within the Secretariat.</td>
<td>IIS and Otolith Database will remain in Russia and ADF&amp;G, USA respectively. Another database to be placed in the Secretariat will be transferred without having to increase physical hardware. Temporary IT personnel may be hired for short-term projects.</td>
<td></td>
<td>See #51</td>
</tr>
<tr>
<td>50</td>
<td>Professional assistance should be engaged to properly address the issue of publicity for the Commission and to ensure maximum public relations gains.</td>
<td>The Secretariat will deal with this issue in-house, coordinating with the new Chairperson of the F&amp;A to clarify goals and objectives.</td>
<td></td>
<td>Goals and objectives were clarified. Future issues will be combined with PPWG (#47).</td>
</tr>
<tr>
<td>51</td>
<td>The Parties should consider increasing administrative support within the Secretariat to meet the increasing demands being made on Secretariat staff and to ensure the Secretariat’s ability to carry out strategic projects of importance to the Commission.</td>
<td>Defer the decision until the 2012 Annual Meeting with more detailed explanation from the Secretariat regarding hiring additional staff, cost, timing, and cost of transfer/convension of database(s) requested by CSRS.</td>
<td></td>
<td>Hiring of an additional staff was approved.</td>
</tr>
<tr>
<td>53</td>
<td>The F&amp;A should establish a working group to examine the mid- to long-term translation and interpretation needs of the Commission and the financial implications thereof.</td>
<td>The committee considered such a step to be unnecessary at this time.</td>
<td></td>
<td>Completed</td>
</tr>
<tr>
<td>54</td>
<td>The Commission should consider the establishment of a working group to consider its future and clearly articulate its objectives and goals for the future. In doing so, the Parties should consider prioritizing current and future expenditures to focus on core Commission activities, rather than curtailing those core activities.</td>
<td>It was agreed that no working group is necessary, but that this item should be on the agenda of each committee at future meetings.</td>
<td></td>
<td>Completed</td>
</tr>
</tbody>
</table>
### Abbreviations for CSRS

- **ADF&G**: Alaska Department of Fish and Game
- **BASIS**: Bering-Aleutian Salmon International Survey
- **INPFC**: International North Pacific Fisheries Commission
- **PoC**: Points of Contact
- **PRC**: Performance Review Committee
- **ToR**: Terms of Reference
- **WGs**: Working Groups
- **WGSA**: Working Group on Stock Assessment
- **WGST**: Working Group on Salmon Tagging

### Abbreviations for ENFO

- **EECM**: Enforcement Evaluation and Coordination Meeting
- **IPOA-IUU**: International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
- **NPFC**: North Pacific Fisheries Commission
- **PRC**: Performance Review Committee
- **PPWG**: Port State Measures Agreement
- **PSMA**: Port State Management Agreement
- **RFMO**: Regional Fisheries Management Organization
- **ToR**: Terms of Reference

### Abbreviations for Committee F&A

- **ADF&G**: Alaska Department of Fish and Game
- **IIS**: Integrated Information System
- **PPWG**: Publication Policy Working Group
- **PRC**: Performance Review Committee
- **RoP**: Rules of Procedure
## Research Vessel Cruise Plans in 2017 and a Future Cruise

<table>
<thead>
<tr>
<th>Party/Program</th>
<th>Survey Region</th>
<th>Vessel and Tentative Dates</th>
<th>Research Focus</th>
<th>Contact</th>
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</thead>
<tbody>
<tr>
<td>Canada/ DFO Nanaimo</td>
<td>Canada EEZ: waters surrounding Vancouver Island and central coast of British Columbia, (Strait of Georgia, Gulf Islands, Eastern Discovery Islands, Johnstone Strait, Western Discovery Islands, Queen Charlotte Sound track lines), and Puget Sound</td>
<td><strong>The chartered commercial trawl vessel:</strong> June 19–July 5; September 15–October 16, 2017 (preliminary schedule).</td>
<td><strong>Trawl surveys</strong> (250 Trawl): Biological information on salmon and the associated fish community, DNA samples for stock identification and data on migration timing and distribution of juvenile salmon, possible interactions between juvenile salmon and other pelagic species, oceanographic conditions, zooplankton biomass and community composition will be collected. The objective of summer surveys are to provide biomass estimates of pelagic fish assemblages, examine species distribution and association with oceanographic conditions and prey communities, collect oceanographic data and provide zooplankton sampling, collect biological samples, including tissue collection for DNA analyses and identification of juvenile salmon stocks, and enumerate stomach contents of juvenile salmon, Pacific herring and Pacific sardine for predator-prey and bioenergetics studies. The objective of autumn surveys is to collect biological samples of juvenile salmon for investigating condition and estimating summer growth, and collect tissue for DNA analyses and identification of Canadian juvenile salmon in order to determine fall distribution.</td>
<td>Chrys Neville, DFO, Nanaimo, <a href="mailto:chrys.neville@dfo-mpo.gc.ca">chrys.neville@dfo-mpo.gc.ca</a>; <strong>NPAFC Doc. 1721</strong></td>
</tr>
<tr>
<td>Canada/ DFO Nanaimo</td>
<td>Canada EEZ: Howe Sound</td>
<td><strong>CCGS Neocaligus:</strong> April 17–21, May 16–20, June 21–25, July 17–21, August 22–26, September 26–October 1, 2017</td>
<td><strong>Trawl surveys</strong> (180 Trawl): The primary objective of these surveys will be to investigate the distribution and migration of juvenile salmon in these nearshore areas.</td>
<td>Jackie King, DFO, Nanaimo, <a href="mailto:jackie.king@dfo-mpo.gc.ca">jackie.king@dfo-mpo.gc.ca</a>; <strong>NPAFC Doc. 1721</strong></td>
</tr>
<tr>
<td>Party/Program</td>
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<tr>
<td>Canada/DFO Nanaimo</td>
<td>Canada EEZ: Cowichan Bay and Big Qualicum River</td>
<td>Chartered vessel (not yet named): Cowichan Bay: May 9–10, June 5–6, July 10–11, August 21–22, 2017 Big Qualicum: June 8–9 July 13–14, 2017</td>
<td>Purse seine surveys: The primary objective of the purse seine surveys will be to examine changes in condition and growth of both hatchery-reared and wild Chinook salmon during the early marine period. The surveys will be conducted monthly between May and August. This work is part of a Canada/US collaborative program examining factors regulating early marine survival of juvenile Chinook and coho salmon.</td>
<td>Chrys Neville, DFO, Nanaimo, <a href="mailto:chrys.neville@dfo-mpo.gc.ca">chrys.neville@dfo-mpo.gc.ca</a>; NPAFC Doc. 1721</td>
</tr>
<tr>
<td>Japan/FRA Sapporo</td>
<td>NPAFC Convention Area: central Bering Sea</td>
<td>R/V Hokko maru: July 19–August 11, 2017</td>
<td>Surface/mid-water trawl survey: hook-and-line gear will also be used. The objective is to examine salmon abundance and distribution.</td>
<td>Kengo Suzuki, HNFRI, <a href="mailto:skengo@affrc.go.jp">skengo@affrc.go.jp</a>; NPAFC Doc. 1678</td>
</tr>
<tr>
<td>Japan/ Hokkaido University</td>
<td>NPAFC Convention Area: North Pacific Ocean; Bering Sea including the southern Chukchi Sea</td>
<td>T/V Oshoro maru: Western North Pacific: May 12–23, 2017; June 18–August 2, 2017</td>
<td>Gillnets, longline, hook-and-line and squid jiggig gear will be used. The objective is to examine distribution and ecology of salmon and other pelagic fishes. A research gillnet less than 2.5 km in length will be used; Longline, hook-and-line and mid-water/bottom/frame trawl gear will be used. The objective is to examine distribution and ecology of salmon and other pelagic fishes</td>
<td>Kengo Suzuki, HNFRI, <a href="mailto:skengo@affrc.go.jp">skengo@affrc.go.jp</a>; NPAFC Doc. 1678</td>
</tr>
<tr>
<td>Russia/TINRO-Center</td>
<td>Russian EEZ and NPAFC Convention Area: northwestern North Pacific</td>
<td>R/V Professor Kaganovsky June 1–July 10, 2017</td>
<td>Midwater trawl (model RT/TM 80/396 m) survey: The primary objectives are to collect biological information on plankton and nekton communities, and describe the physical and biological oceanographic conditions in this region. The major purpose of these studies is the estimation of anadromous Pacific salmon abundance and biomass for short-term forecasting of their returns and possible catch.</td>
<td>Olga Temnykh, TINRO-Center, <a href="mailto:olga.tenmykh@tinro-center.ru">olga.tenmykh@tinro-center.ru</a>; NPAFC Doc. 1680</td>
</tr>
<tr>
<td>Party/Program</td>
<td>Survey Region</td>
<td>Vessel and Tentative Dates</td>
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<tr>
<td>Russia/ TINRO-Center</td>
<td>Russian EEZ: western Bering Sea; southern Okhotsk Sea</td>
<td>R/V TINRO: September 5–30, 2017; October–November, 2017</td>
<td>Midwater trawl (model RT/TM 80/396 m) survey: The major purpose is estimation of catadromous Pacific salmon abundance and biomass for forecasting returns and possible catch in subsequent years. Studies of salmon distribution, salmon food habits, dependence of salmon feeding on biomass and composition of plankton and nekton communities, changes of biological condition of salmon during the catadromous migrations and foraging, salmon spatial differentiation, structure of stocks contributing to the mixture, and influence of the abiotic environment on salmon are planned.</td>
<td>Olga Temnykh, TINRO-Center, <a href="mailto:olga.temnykh@tinro-center.ru">olga.temnykh@tinro-center.ru</a>; NPAFC Doc. 1680</td>
</tr>
<tr>
<td>USA/ NMFS, Southeast Alaska Coastal Monitoring</td>
<td>US EEZ: northern region of Southeast Alaska</td>
<td>R/V Sashin: May 22–23; June 26; July 24; August 28–29, 2017 F/V Northwest Explorer: June 24–July 1; July 26–August 2, 2017</td>
<td>Summer cruises of the F/V Northwest Explorer will be surface trawl surveys: sampling will include CTD, chlorophyll and nutrients, zooplankton, and fish abundance and distribution. The objective of Southeast Coastal Monitoring Project research to study the habitat use and early marine ecology of juvenile (age-0) Pacific salmon and associated epipelagic ichthyofauna in Southeast Alaska and in the Gulf of Alaska ecosystem. The May to August cruise of the R/V Sashin will focus on oceanography (it is not a trawl survey).</td>
<td>James Murphy, NMFS, NOAA, Auke Bay Labs, <a href="mailto:jim.murphy@noaa.gov">jim.murphy@noaa.gov</a>; NPAFC Doc. 1702</td>
</tr>
<tr>
<td>USA/ NMFS, Gulf of Alaska Project</td>
<td>US EEZ: Gulf of Alaska off the coast of southeast Alaska</td>
<td>Chartered stern-ramp trawl vessel (not yet named): Cruise Leg 1a: June 30; July 15, 2017 Cruise Leg 1b: July 15; 16–30, 2017 Cruise Leg 2: August 1; 2–18, 2017</td>
<td>Midwater rope trawl surveys: objectives are to provide key ecological data on pelagic ecosystems, examine oceanographic transport mechanisms, measure lower trophic level production, and quantify age-0 marine fish and juvenile salmon distribution and ecology.</td>
<td>Jamal Moss, NMFS, NOAA, Auke Bay Labs, <a href="mailto:jamal.moss@noaa.gov">jamal.moss@noaa.gov</a>; NPAFC Doc. 1700</td>
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<tr>
<td>Party/Program</td>
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<tr>
<td>USA/AFSC/ADFG/USFWS/UAF/APU</td>
<td>US EEZ: Northern Bering Sea, including Norton Sound and Bering Sea Strait</td>
<td>Chartered stern-ramp trawl vessel (not yet named): August 25–September 13, 2017</td>
<td><strong>Surface rope trawl surveys:</strong> Primary objectives of the survey will be to: (1) Estimate abundance, distribution, size, and stock-structure of juvenile Chinook salmon in the coastal Northeast Bering Sea shelf; (2) Collect information on the pelagic fish ecosystem in the coastal Northeast Bering Sea shelf; (3) Collect electronic oceanographic data and water samples for temperature, salinity, chlorophyll a, nutrients, and particulate organic carbon with a SBE9-11 CTD and Niskin bottles, and; (4) Collect zooplankton and ichthyoplankton samples with a 20 cm (150 µm mesh) and 60 cm (505 µm mesh) cm bongo array.</td>
<td>James Murphy, NMFS, NOAA, Auke Bay Labs, <a href="mailto:jim.murphy@noaa.gov">jim.murphy@noaa.gov</a>; NPAFC Doc. 1726</td>
</tr>
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## Sample and Data Requests (2017 CSRS Meeting)

<table>
<thead>
<tr>
<th>Request No.</th>
<th>Requesting Party</th>
<th>Requested Party</th>
<th>Request</th>
<th>Research Purpose</th>
<th>Contact Persons</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C16-01</td>
<td>Canada</td>
<td>Japan</td>
<td>Sockeye salmon tissues collected from immature fish caught during the 2016 Japanese central Bering Sea salmon research cruise.</td>
<td>Evaluate stock composition of sockeye salmon distributed in the central Bering Sea in 2016.</td>
<td>Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>)</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>C17-01</td>
<td>Canada</td>
<td>Japan</td>
<td>Sockeye salmon tissues collected from immature fish caught during the 2017 Japanese central Bering Sea salmon research cruise.</td>
<td>Evaluate stock composition of sockeye salmon distributed in the central Bering Sea in 2017.</td>
<td>Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>)</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>K16-01</td>
<td>Korea</td>
<td>Canada, Japan, Japan, Russia, USA</td>
<td>Chum salmon genetic samples collected from two spawning populations (anywhere, but apart from each other, if possible). Genetic sample of 1 g of fin clip preserved in alcohol. Number of fish sampled should approach 100 fish from each population.</td>
<td>Stock analysis of chum salmon based on microsatellite DNA markers for Korean stock identification.</td>
<td>Sang Gyu Kim (<a href="mailto:sgkim@fira.or.kr">sgkim@fira.or.kr</a>) contacts Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>) for Canada, Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>) for Japan, Alexander Bugaev (<a href="mailto:bugaev.a.v@kamnirou.ru">bugaev.a.v@kamnirou.ru</a>) for Russia, William Templin (<a href="mailto:bill.templin@alaska.gov">bill.templin@alaska.gov</a>) for USA.</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>K16-02</td>
<td>Korea</td>
<td>Japan, Russia</td>
<td>Cherry salmon and non-anadromous cherry salmon, genetic samples collected from at least two spawning populations (anywhere but apart from each other, if possible). Genetic sample requested is 1 g of fin clip preserved in alcohol. Number of fish sampled should approach 100 fish from each population.</td>
<td>Stock analysis of cherry salmon based on mitochondrial DNA sequences for Korean stock identification.</td>
<td>Sang Gyu Kim (<a href="mailto:sgkim@fira.or.kr">sgkim@fira.or.kr</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>) for Japan, Alexander Bugaev (<a href="mailto:bugaev.a.v@kamnirou.ru">bugaev.a.v@kamnirou.ru</a>) for Russia.</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>Request No.</td>
<td>Requesting Party</td>
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<td>Contact Persons</td>
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<tr>
<td>R15-01</td>
<td>Russia</td>
<td>USA</td>
<td><strong>Pink salmon genetic samples</strong> (tissues) requested from adult fish for odd- and even-year runs. Samples from these geographical regions: Kodiak Island, Aleutian Islands, Northwest Alaska (Nome River, Snake River), South central Alaska (AFK Hatchery, Koppen Creek). Require tissues samples for 2–3 principal stocks for every region (1 samples 100 fish).</td>
<td>Development of SNP baseline data</td>
<td>Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniror.ru">bugaev.a.v@kamniror.ru</a>) contacts William Templin (<a href="mailto:bill.templin@alaska.gov">bill.templin@alaska.gov</a>)</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>R15-02</td>
<td>Russia</td>
<td>Canada</td>
<td><strong>Pink salmon</strong> genetic samples (tissues) requested from adult fish for odd- and even-year runs. Samples from these geographical regions: Skeena River, Fraser River, Queen Charlotte Islands, Vancouver Islands, North coast, Central coast, South coast. Require tissues samples from 2–3 principal stocks for every region (1 samples 100 fish).</td>
<td>Development of SNP baseline data</td>
<td>Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniror.ru">bugaev.a.v@kamniror.ru</a>) contacts Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>)</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>R15-04</td>
<td>Russia</td>
<td>USA</td>
<td><strong>Sockeye salmon genetic samples</strong> (tissues) requested from adult fish. Samples from these geographical regions: Norton Sound, Northwest Bristol Bay, and Yukon and Kuskokwin rivers, Southeast Bristol Bay, Alaska Peninsula, Kodiak Island, Aleutian Islands, Western Gulf of Alaska, State of Washington. Require tissues samples for 2–3 principal stocks for every region (1 samples 100 fish).</td>
<td>Development of SNP baseline data</td>
<td>Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniror.ru">bugaev.a.v@kamniror.ru</a>) contacts William Templin (<a href="mailto:bill.templin@alaska.gov">bill.templin@alaska.gov</a>)</td>
<td>Request was completed.</td>
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<tr>
<td>R15-05</td>
<td>Russia</td>
<td>Canada</td>
<td>Sockeye salmon genetic samples (tissues) requested from adult fish. Samples from these geographical regions: Skeena River, Fraser River, Nass River, Queen Charlotte Islands, Vancouver Islands, North coast, Central coast, South coast. Require tissues samples for 2–3 principal stocks for every region (1 samples 100 fish).</td>
<td>Development of SNP baseline data</td>
<td>Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniro.ru">bugaev.a.v@kamniro.ru</a>) contacts Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>)</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>U07-05</td>
<td>USA</td>
<td>Canada, Japan, Russia</td>
<td>Steelhead genetics samples (fin preserved in ethanol) from North Pacific sampling.</td>
<td>Ocean distribution of steelhead</td>
<td>Ken Warheit (<a href="mailto:kenneth.warheit@dfw.wa.gov">kenneth.warheit@dfw.wa.gov</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>) for Japan, Maxim Koval (<a href="mailto:koval.m.v@kamniro.ru">koval.m.v@kamniro.ru</a>) for Russia, and Marc Trudel (<a href="mailto:marc.trudel@dfo-mpo.gc.ca">marc.trudel@dfo-mpo.gc.ca</a>) for Canada</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>U13-02</td>
<td>USA</td>
<td>Canada</td>
<td>Anadromous sockeye salmon and non-anadromous kokanee (O. nerka); one collection of anadromous and one collection of non-anadromous samples from non-interbreeding, but from proximal locations (for example adjacent drainages); genetic sample of 1 g of fin clip or other somatic tissue preserved in alcohol at room temperature. Number of fish sampled should approach 100 fish per collection.</td>
<td>Ocean distribution of steelhead</td>
<td>Jim Seeb (<a href="mailto:jseeb@uw.edu">jseeb@uw.edu</a>) contacts Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>) for Canada.</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>UC15-01</td>
<td>USA &amp; Canada</td>
<td>Russia</td>
<td>Pink salmon genetic samples from six (6) stocks of each lineage from spawning locations across the northern and arctic extent of the species range in Asia (north of the Haylulya River). Paired even- and odd-year samples are not necessary when not available. Tissue samples should be of sufficient size to share between nations. The sample size of each collection should approach 100 fish.</td>
<td>Baseline development</td>
<td>Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>) for Canada and Lisa Seeb (<a href="mailto:lseeb@uw.edu">lseeb@uw.edu</a>) for US contacts Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniro.ru">bugaev.a.v@kamniro.ru</a>) for Russia</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>Request No.</td>
<td>Requesting Party</td>
<td>Requested Party</td>
<td>Request</td>
<td>Research Purpose</td>
<td>Contact Persons</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>U16-02</td>
<td>USA</td>
<td>Japan</td>
<td>Chinook and sockeye salmon tissues collected during the 2016 Japanese Bering Sea salmon research cruise.</td>
<td>Investigate Chinook and sockeye salmon distribution in the central Bering Sea in 2015.</td>
<td>Jim Seeb (<a href="mailto:jseeb@u.washington.edu">jseeb@u.washington.edu</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>)</td>
<td>Request was completed.</td>
</tr>
<tr>
<td>U17-01</td>
<td>USA</td>
<td>Russia</td>
<td>Coho salmon genetic samples (tissues) requested from adult fish. Additional samples (n=50) from another year from locations already provided: Apuka R., Avacha R., Bolshaya R., Kikhchik R., Kukhtui R., Listuenuichnaya R., Pymta R., Vorovskaya R., Zhupanova R.</td>
<td>Development of SNP baseline data</td>
<td>William Templin (<a href="mailto:bill.templin@alaska.gov">bill.templin@alaska.gov</a>) contacts Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniro.ru">bugaev.a.v@kamniro.ru</a>)</td>
<td></td>
</tr>
<tr>
<td>U17-02</td>
<td>USA</td>
<td>Canada</td>
<td>Sockeye salmon genetic samples (tissues) requested from adult fish (n=100) from the following locations: Sproat Lake (Barkley Sound), Henderson (Barkley Sound), Nimpkish Lake (NVI), Sakinaw Lake (Strait of Georgia), Phillips River (S Mainland), Klinaklini River (S Mainland), Owikeno Lake (Central Coast), Long Lake (Central Coast).</td>
<td>Development of SNP baseline data</td>
<td>William Templin (<a href="mailto:bill.templin@alaska.gov">bill.templin@alaska.gov</a>) contacts Terry Beacham (<a href="mailto:terry.beacham@dfo-mpo.gc.ca">terry.beacham@dfo-mpo.gc.ca</a>)</td>
<td></td>
</tr>
<tr>
<td>U17-03</td>
<td>USA</td>
<td>Japan</td>
<td>Chinook and sockeye salmon tissues collected during the 2017 Japanese Bering Sea salmon research cruise.</td>
<td>Investigate Chinook and sockeye salmon distribution in the central Bering Sea in 2017.</td>
<td>Jim Seeb (<a href="mailto:jseeb@u.washington.edu">jseeb@u.washington.edu</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>)</td>
<td></td>
</tr>
<tr>
<td>U17-04</td>
<td>USA</td>
<td>Japan</td>
<td>Steelhead genetics samples (fin preserved in ethanol) from North Pacific sampling in 2017.</td>
<td>Ocean distribution of steelhead</td>
<td>Ken Warheit (<a href="mailto:kenneth.warheit@dfw.wa.gov">kenneth.warheit@dfw.wa.gov</a>) contacts Shunpei Sato (<a href="mailto:shuns@affrc.go.jp">shuns@affrc.go.jp</a>) for Japan</td>
<td></td>
</tr>
<tr>
<td>Request No.</td>
<td>Requesting Party</td>
<td>Requested Party</td>
<td>Request</td>
<td>Research Purpose</td>
<td>Contact Persons</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
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<td>-----------------</td>
<td>---------</td>
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</tr>
<tr>
<td>R17-01</td>
<td>Russia</td>
<td>USA/Canada</td>
<td>Sockeye salmon genetic samples (tissues) requested from adult fish (n=100). Samples from next water objects: Columbia River, Fraser River, Skeena River, Nass River, Henderson Lake, Sproat Lake, Great Central Lake, Babine Lake, Taku River.</td>
<td>Development of SNP baseline data</td>
<td>Alexander Bugaev (<a href="mailto:bugaev.a.v@kamniro.ru">bugaev.a.v@kamniro.ru</a>) contacts William Templin (<a href="mailto:bill.templin@alaska.gov">bill.templin@alaska.gov</a>)</td>
<td>----------</td>
</tr>
</tbody>
</table>
NPAFC FUNDING REQUEST FORM

This form is to be used by CSRS or ENFO when requesting funds from F&A

Date: May 18, 2017

Project requests for NPAFC funds must fall within the mandate of Commission activities and highlight expected benefits, if funded. These funds are not expected to subsidize or offset budgets for the normal operations of each Party. Approved projects must improve understanding of the biology or promote the sustainability or protection of Pacific salmon. Projects must be completed within specific timeframes and not be funded on an ongoing basis. Approval requires a consensus of all Parties.

Requesting Committee: CSRS

Title of Request: Funding request for the International Year of the Salmon (IYS) year 2 of the planning phase.

Relevance to committee's Terms of Reference, Science Plan, etc.

The International Year of the Salmon initiative as proposed in NPAFC Document 1663 was approved by the NPAFC and the North Pacific Salmon Conservation Organization (NASCO) in mid-2016. The IYS was explicitly integrated into the new 2016–2020 NPAFC Science plan (Document 1665) with themes that have been linked to the Science Plan themes and CSRS Working Group activities. The NPAFC Working Group and the North Pacific Steering Committee, which includes IYS Working Group members met in late February 2017.

The Steering Committee and the Working Group endorsed a results-based planning approach that will convene small groups of experts to develop Signature Projects and detailed workplans for outreach and research themes. The experts will determine measurable indicators that need to change for each IYS theme/outcome and propose projects that will make a difference. The Steering Committee developed lists of potential experts to consider. Six small workshops are proposed in 2017/18 to conduct the planning. The IYS Coordinating Committee is considering a process for engaging Atlantic scientists in planning where there is a benefit to hemispheric collaboration.

In this second year of planning the emphasis will be on completing the work plans and engaging the Steering Committee in obtaining funding for the research projects as well as detailed planning of the opening Symposium/Congress. The Committees recognized that considerable effort that will be required to conduct the planning and coordination and recommended the establishment of an IYS Pacific Secretariat to conduct the work. The following request is for operating funds as well as resources to augment the NPAFC Secretariat with an IYS Director, Chief Scientist and a Coordinator. The Director will be responsible for overall management of the N. Pacific operations, the Chief Scientist will be responsible for engaging academic, government and non-government science organizations in the IYS and the development of high impact science projects. The Coordinator will assist with operations, administration, meeting planning, managing program records, the Office 365 collaborative IT environment and the planning of Science programs.

Total amount requested (Canadian dollars): $35.5K in 2017/18

The table below provides a breakdown of the expense items and the projected income. The total projected operational expenses for the IYS in the North Pacific including expenses shared with NASCO totals $524.5K.
At the present time the projected income is $299.5K with contributions from the United States ($75K), Canada ($75K), the University of British Columbia ($50K) coupled with $64.5K in previously allocated NPAFC Working Capital fund, $25K in remaining IYS Special purpose funds provided by the United States and $10K in NGO funding (to be confirmed) for expedition planning.

This leaves a shortfall of $225K.

Recognizing the challenges facing the Parties to fully address this shortfall at the present time, the CSRS requests $35.5K to provide funding to meet the requirements for operations in the first three quarters of the fiscal year. They request that the Commission, working with the Secretariat staff pursue contributions from the Parties and other sources to address the remaining $189.5K shortfall.

<table>
<thead>
<tr>
<th>NPAFC Expenses</th>
<th>Full Funding 2017/18</th>
<th>Funding for 3 Quarters</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPAFC Salaries for NP IYS Director (100K), Chief Scientist (100K) &amp; Coordinator (57K)</td>
<td>$257,000 $190,000</td>
<td>$67,000</td>
<td></td>
</tr>
<tr>
<td>NPAFC Domestic and international Travel to support IYS development</td>
<td>$72,500 $30,000</td>
<td>$42,500</td>
<td></td>
</tr>
<tr>
<td>NPAFC Planning for IYS themes/outcomes - facilitation, venue and travel for 5 workshops @$20K</td>
<td>$100,000 $20,000</td>
<td>$80,000</td>
<td></td>
</tr>
<tr>
<td>NPAFC-N Pacific Steering Committee - meeting</td>
<td>$20,000 $20,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>NPAFC Communications - communication plans, materials - 10K contract, 5K brochures</td>
<td>$15,000 $15,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>NPAFC High Seas Winter Expedition - planning ($50K)</td>
<td>$10,000 $10,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>NPAFC Website (15K + NPAFC share of 30K contracted webmaster)</td>
<td>$15,000 $15,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Symposium - Committee travel (10K), Venue hold (12.5K +NPAFC share of 25K), planning contract (12.5K share of 25K)</td>
<td>$35,000 $35,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$524,500 $335,000</td>
<td>$189,500</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NPAFC Income</th>
<th>Amount FY2017-18</th>
<th>Unfunded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request from F&amp;A</td>
<td>Unfunded</td>
<td>$35,500</td>
</tr>
<tr>
<td>Canadian Partnership fund notional</td>
<td>Funded</td>
<td>$75,000 $75,000</td>
</tr>
<tr>
<td>United States national</td>
<td>Funded</td>
<td>$75,000 $75,000</td>
</tr>
<tr>
<td>University of British Columbia</td>
<td>Funded</td>
<td>$50,000 $50,000</td>
</tr>
<tr>
<td>NPAFC IYS Special purpose fund (in-hand from United States contribution in 2016/17)</td>
<td>Funded</td>
<td>$25,000 $25,000</td>
</tr>
<tr>
<td>NPAFC Working Capital fund (in-hand previously approved for IYS in 2017/18 for Symposium 32.5K and NP Steering meeting 31.5K) see NPAFC Decision 16F/7 at the 2016 NPAFC annual meeting in Busan, Korea</td>
<td>Funded</td>
<td>$64,500 $64,500</td>
</tr>
<tr>
<td>High Seas Expedition - private funding (not yet in hand)</td>
<td>Unfunded</td>
<td>$10,000 $10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$335,000 $335,000</td>
<td><strong>Deficit/Surplus</strong> $189,500 $189,500</td>
</tr>
</tbody>
</table>

**Date(s) of Expenditure:**

Milestones M1–M7 are in the current FY and provided for information:

- Administration of Pacific Steering Committee and participation in Symposium and Coordinating Committee operations including annual meetings and reports, website development and operations and communications and branding.
  
  **M1** Manage contract for Website development May–July
  
  **M2** Complete brand use protocol June
  
  **M3** Attend NASCO annual meetings in June including NASCO mini symposium to review activities planned by NASCO Parties and NGOs during the IYS in 2019.

- Conduct detailed planning for Symposium event throughout the FY including:
  
  **M4** Secure venue and date by June
  
  **M5** Approve brochure, call for papers in June
  
  **M6** Convene face to face or conference call meeting to confirm objectives, sessions, keynote speakers, session chairpersons. TBD
  
  **M7** Convene local organizing committee in June to assist with fund raising and full community engagement of all orders of government including indigenous people as well as business, NGO’s and the general public.
• Consider utility and broader applicability of results-based outreach and research plans by IYS theme/outcome through the Coordinating Committee.
  
  **M8** Complete review of planning process by the Coordinating Committee and North Atlantic Steering Committee by July 15
  
  **M9** NPSC to complete planning for 4 of 6 IYS Research themes/outreach themes March 31

• Steering Committee to consider development of Signature Projects to build interest with potential partners and funders and demonstrate the type of work that can be accomplished through the IYS. Examples could include the North Pacific winter expedition, an atlas of salmon distribution, a State of the North Atlantic Salmon report, etc.

**Expected benefits to the Commission:**

The IYS is a mechanism to engage partners in the work of the NPAFC Science Plan. This has the potential to lever the current investments in science by the parties and significantly enhance the progress and outcomes required to understand and manage salmon effectively in a rapidly changing environment. The Coordinating Committee and the North Pacific Steering Committee will facilitate planning the activities and work to find the resources required. While donors and funders external to the Parties are showing strong interest in funding specific projects but are less inclined to fund IYS management infrastructure.

**Supplementary Information (abstract, project organization, timeframe, etc.):**

A draft agenda for an IYS North Pacific Steering Committee Research Planning and Coordination meeting is provided below. The CSRS is also requesting the assistance of F&A in identifying IYS champions at the Commission level.

In addition to providing excellent direction to the IYS Coordinating and Steering Committee, C. Lowe and D. Mecum were able to champion the IYS at a high level within the Canadian and United States governments respectively. As champions they were able to ensure effective high level engagement of the IYS with government, academia, non-governmental organizations and the private sector within their countries. The IYS overall could benefit from similar champions from Japan, Korea, and Russia to assist the Working Group members with engagement, communication and fundraising.
International Year of the Salmon (IYS)
IYS North Pacific Steering Committee Research Planning and Coordination meeting

DRAFT AGENDA

Purpose: To convene a meeting of the IYS North Pacific Steering Committee to review progress in 2017 and develop funding strategies for Signature Projects and research theme projects identified by expert teams.

Dates: 2 days in early 2018

Location:
To be determined

Day 1
- Welcome and introductions
- Review meeting objectives
- Review of IYS progress

Day 2
- Discussion of funding strategies for outreach and IYS outcomes/Research themes
- IYS Symposium linkages to research themes
- Wrap up and Next steps

Participants: North Pacific Steering Committee including IYS-Working Group, one lead expert per research theme and one ICES and NASCO Science Board representative.

Deliverables:
- Meeting report
- Research workplans and funding strategies for IYS in the North Pacific

To be completed by F&A:
If accepted, funds will be charged to:

- Working Capital Funds $___________
- SFSR Funds $___________
- General Funds $___________
- Others $___________
Proposal for 2018 NPAFC-IYS Workshop

Title: The First NPAFC-IYS Workshop on Pacific Salmon Production in a Changing Climate

Date: May 26–27, 2018

Venue: The Boutique Hotel (or Parus Hotel), Khabarovsk, Russia

Co-sponsor: The International Year of the Salmon (IYS) North Pacific Steering Committee (NPSC, under proposal)

Organizing Committee members: Ed Farley (USA), Jim Irvine (Canada), Ju Kyoung Kim (Korea), Svetlana Naydenko, *Alexander Bugaev, Denis Kotsuk (Russia), *Shigehiko Urawa (Japan), Mark Saunders (IYS NPSC Chairperson), and Jeongseok Park (NPAFC Secretariat)

(*Co-Chairpersons)

Background:
Pacific salmon are biologically and economically important for North Pacific Rim countries, however they are facing unpredictable future: e.g., considerable reduction in salmon habitats and survivals may be caused by warming ocean conditions. The North Pacific Anadromous Fish Commission (NPAFC) and North Atlantic Salmon Conservation Organization (NASCO) are leading an ambitious program “International Year of the Salmon (IYS)” with focal year in 2019. The IYS is an international framework for collaborative research and outreach to ensure that salmon and their habitats are conserved against increasing environmental variability. The IYS program is assimilated in the 2016–2020 NPAFC Science Plan, whose research themes are (1) Status of Pacific salmon and steelhead trout; (2) Pacific salmon and steelhead trout in a changing North Pacific Ocean; (3) New technologies; (4) Management systems; and (5) Integrated information systems.

Purpose:
Workshop objectives are to: (1) improve knowledge of the distribution, growth and survival of Pacific salmon in the ocean (current status); (2) increase understanding of the causes of variations in Pacific salmon production (mechanisms); (3) anticipate future changes in the production of Pacific salmon and the marine ecosystems producing them (e.g. modelling); and (4) promote IYS activities. Improved understanding of the mechanisms that regulate the distribution and abundance of Pacific salmon will promote the conservation of anadromous populations in the North Pacific Ocean, allow for better forecasts of salmon production trends in the future, and enhance the sustainable fisheries management, food security, and economic security in member nations.

Topic Sessions:
(1) Status of Pacific salmon and steelhead trout
(2) Pacific salmon and steelhead trout in a changing North Pacific Ocean
(3) New technologies
(4) Management systems
(5) Integrated information systems

Oral and Poster Presentations:
The workshop will be conducted by oral and poster presentations basically in English. Sessions will be comprised of contributed presentations, which will be selected for oral or poster presentation.
Abstracts:
- Abstracts for oral and poster presentations must be received by December 31, 2017 at the NPAFC Secretariat by e-mail (secretariat@npafc.org).
- Abstracts must be prepared according to guidelines and sample format set by NPAFC Secretariat.
- The Organizing Committee will select abstracts by the end of January 2018, and authors will be notified of the results by the NPAFC Secretariat.
- Presenters who had their abstracts selected will receive guidelines for their oral or poster presentations and a formatting guide for extended abstracts from the NPAFC Secretariat.

Workshop Proceedings:
Oral and poster presenters are asked to submit an extended abstract that is due at the time of the workshop. The extended abstracts will be compiled into the workshop proceedings and issued as a NPAFC Technical Report after the workshop. The Technical Report will be available online at the NPAFC website.

Important Dates:
June 2017: First announcement of workshop and call for papers
December 31, 2017: Abstract submission due
Late-January 2018: Announcement of abstract selection to authors
Early-February 2018: Second announcement of workshop and registrations
Early-February 2018: Workshop and hotel registrations open
Late-March 2018: Workshop and hotel registrations due
May 26–27, 2018: Workshop and extended abstracts due

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Appendix 7 (1/2)

NPAFC FUNDING REQUEST FORM

This form is to be used by CSRS or ENFO when requesting funds from F&A

Date: May 16, 2017

Project requests for NPAFC funds must fall within the mandate of Commission activities and highlight expected benefits, if funded. These funds are not expected to subsidize or offset budgets for the normal operations of each Party. Approved projects must improve understanding of the biology or promote the sustainability or protection of Pacific salmon. Projects must be completed within specific timeframes and not be funded on an ongoing basis. Approval requires a consensus of all Parties.

Requesting Committee: CSRS

Title of Request: Funding request for IYS local symposium in Tokyo, March 26, 2018

Relevance to committee's Terms of Reference, Science Plan, etc.

The International Year of the Salmon (IYS) initiative approved by CSRS is integrated into the 2016–2020 NPAFC Science Plan. To promote IYS activities in the North Pacific regions, the IYS North Pacific Steering Committee (NPSC) including the IYS Working Group members has agreed to: (1) endorse the local IYS Symposium “Sustainable Management of Chum Salmon in Changing Environments”, being held on March 26, 2018 during the Annual Meeting of Japanese Society of Fisheries Science (Appendix 8), and (2) send Dr. Richard Beamish to the symposium to give a keynote presentation entitled “International Year of the Salmon: a research initiative for better understanding the mechanisms to regulate Pacific salmon production” (Doc. 1712, Report of the IYS NPSC Meeting, Richmond, B.C., February 28 and March 1, 2017). The IYS NPSC has agreed that such local symposia should be encouraged in other regions. The SSC has also recommended that NPAFC-IYS workshop be held in member countries once a year in conjunction with the NPAFC Annual Meeting, in order to review the research progress under the NPAFC Science Plan and to enhance IYS research and outreaches.

Total amount requested (Canadian dollars): $6,500

Breakdown:

- Travel for R. Beamish
  (estimated total for airfare, hotel, per diem and ground travel) $5,000
- Interpretation Service (9 hours, English/Japanese) $1,500

The Japanese Society of Fisheries Science will provide a meeting room, support staffs and equipment for the symposium. The symposium will be open to the public without administration fee.

Date(s) of Expenditure: March 2018

Expected benefits to the Commission:

It is an obligation that the Parties endeavor to cooperate in scientific exchanges such as seminars, workshops and, as appropriate, exchanges of scientific personnel necessary to achieve the objectives of this Convention (Article VII 5). Most member countries are challenged to meet the increasing variability in Pacific salmon production associated with climate change. The IYS is an international framework for collaborative research and outreach to ensure that salmon and their habitats are conserved against
increasing environmental variability. The support of 2018 local IYS symposium in Tokyo will advertise the IYS program and explore opportunities to stimulate IYS funding, cooperative research and outreach activities for the conservation of anadromous salmon in a climate change.

Supplementary Information (abstract, project organization, timeframe, etc.):

The symposium program is presented in CSRS Report Appendix 8. In order to promote effective IYS projects, the present symposium will encourage 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 future research topics associated with IYS for the forecast of chum salmon distribution and production, and their sustainable management. The program includes one keynote presentation (in English) and 14 oral presentations (in Japanese), which cover the first three themes (Status of salmon, Salmon in changing environments, and New technologies) identified in the IYS initiative as well as in the 2016–2020 NPAFC Science Plan. English/Japanese translation service is essential for the keynote presentation, because the symposium is open to the public. The Japanese presentations will be also translated in English for R. Beamish, who is expected to give advice to Japanese scientists and report the outreach of symposium to the Commission. The suggested interpreter is M. Ota (Tokyo, Japan).

To be completed by F&A:
If accepted, funds will be charged to:

☐ Working Capital Funds $______________
☐ SFSR Funds $______________
☐ General Funds $______________
☐ Others $______________

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NPAFC FUNDING REQUEST FORM

This form is to be used by CSRS or ENFO when requesting funds from F&A

Date: May 18, 2017

Project requests for NPAFC funds must fall within the mandate of Commission activities and highlight expected benefits, if funded. These funds are not expected to subsidize or offset budgets for the normal operations of each Party. Approved projects must improve understanding of the biology or promote the sustainability or protection of Pacific salmon. Projects must be completed within specific timeframes and not be funded on an ongoing basis. Approval requires a consensus of all Parties.

Requesting Committee: CSRS

Title of Request: Funding support for the 4th International Symposium on The Effects of Climate Change on the World’s Oceans to be held June 4–8, 2018 in Washington, D.C., USA

Relevance to committee's Terms of Reference, Science Plan, etc.
The goal of the NPAFC Science Plan 2016–2020 is to “understand variations in Pacific salmon productivity in a changing climate”. NPAFC scientists include some of the world’s experts in salmon assessment, stock identification, and other salmon-related fields but not in oceanography and lower trophic levels. To better understand variations in salmon productivity requires better linkage with scientists in these latter fields, many of whom are members of PICES.

This request provides NPAFC the opportunity to continue discussions with other members of the ocean science and management community, as well as an opportunity to work with NASCO and other colleagues to advance the interest around IYS in a high profile international venue. It also continues a long series of collaborations between NPAFC and PICES formalized in 2014 with the “NPAFC-PICES Framework for Enhanced Scientific Cooperation in the North Pacific Ocean” (http://www.npafc.org/new/about_organizations.html).

Total amount requested (Canadian dollars): $7,500

There is considerable flexibility around how this support might be utilized (support for Early Career Scientists; support for Invited Speakers; offsetting other costs of the symposium).

Date(s) of Expenditure: Before May 2018

Expected benefits to the Commission:
Historically, NPAFC has supported symposia in this series when they were held in NPAFC member countries:

- NPAFC co-sponsored the International Symposium on the Effects of Climate Change on the World’s Oceans in Yeosu, Republic of Korea, in 2012—The NPAFC contribution was C$5,000.
- NPAFC co-sponsored the International Symposium on Climate Change Effects on Fish and Fisheries in Sendai, Japan, in 2010—The NPAFC contribution was C$6,000.

Primary international sponsors for this series of symposia to date are PICES, ICES, IOC-UNESCO, and FAO. The local sponsor is NOAA Fisheries. These organizations are joined by a growing list of co-
sponsoring organizations and programs, including Fisheries and Oceans Canada, IAEA, NOAA, SOLAS, and IMBeR.

Co-sponsoring organizations will be listed on the symposium website and be included in promotional materials as a “Co-Sponsoring Organization”. This is an opportunity for NPAFC to be an official sponsor of the symposium. NPAFC will also have the opportunity to help shape the symposium.

Supplementary Information (abstract, project organization, timeframe, etc.):
Not available to date.

To be completed by F&A:
If accepted, funds will be charged to:

- Working Capital Funds $_________
- SFSR Funds $_________
- General Funds $_________
- Others $_________

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FOR IMMEDIATE RELEASE

NORTH PACIFIC ANADROMOUS FISH COMMISSION CELEBRATES 25 YEARS OF INTERNATIONAL COOPERATION AND SALMON CONSERVATION

Victoria, B.C., Canada (May 19, 2017)—The 25th Annual Meeting of the North Pacific Anadromous Fish Commission (NPAFC) was held from May 15–19, 2017, in Victoria, B.C., Canada. The Annual Meeting marked the 25th Anniversary of the NPAFC that was established in 1993. A historic celebration event, held on Monday, May 15, at the Victoria Conference Centre, included 120 policy makers, scientists, and enforcement personnel from the five member countries and special invited speakers who recounted NPAFC’s many successes in salmon conservation through international cooperation on science and enforcement as well as future perspectives on protection and sustainable management of salmon in the NPAFC Convention Area.

The celebration event included an inspiring First Nations welcome and dance by Le-La-La Dancers, and welcoming messages by the Lt. Governor of B.C., the Honourable Judith Guichon, and by Ms. Sylvie Lapointe, Acting Assistant Deputy Minister within Fisheries and Oceans Canada. This was followed by welcoming addresses from NPAFC President Dr. Carmel Lowe, Representatives from the member countries, and Dr. Vladimir Radchenko, Executive Director of the NPAFC.

Additional presentations by keynote speakers marked the special occasion, including the first NPAFC President (1993–1995), Dr. Viacheslav Zilanov; Ms. Fran Ulmer, Chairperson of the U.S. Arctic Research Commission and past NPAFC President; renowned fisheries scientist and past NPAFC Science Panel Chair Dr. Richard Beamish; and, Captain Vincent O’Shea, U.S. Coast Guard (USCG) retired and past NPAFC Enforcement Committee Chairperson. These speakers provided powerful testimony as to the importance and promise of international cooperation on enforcement and scientific research.

This year the Commission presented Dr. Loh-Lee Low with the prestigious NPAFC Award for his significant contributions to the NPAFC since its inception. Dr. Low, who recently retired from a long and distinguished career at the U.S. National Marine Fisheries Service’s Alaska Fisheries Science Center, was given the NPAFC Award in recognition of his sustained scientific contributions to the Commission’s mission to conserve and manage anadromous salmon and steelhead stocks in the North Pacific Ocean.

At the Commission’s enforcement meetings, multilateral cooperative enforcement operations and regular information exchanges between NPAFC-member enforcement agencies were reviewed. Patrols by Canadian and U.S. fisheries enforcement aircrafts from airports in Japan helped maximize operational effectiveness. In a bilateral arrangement, the USCG hosted People’s Republic of China Coast Guard law enforcement officers aboard a USCG cutter to further increase the effectiveness of ship patrols.

At the Commission’s scientific meetings, leading salmon researchers from member countries reviewed and compiled commercial catch statistics, reviewed the research progress for the NPAFC 2016–2020 Science Plan, and continued their efforts to promote and implement the International Year of the Salmon—an important, seven-year research, education, and outreach initiative that draws support from...
the NPAFC parties, the North Atlantic Salmon Conservation Organization, as well as State, private, and non-governmental organizations concerned with the sustainable use and protection of salmon.

The five-day NPAFC Annual Meeting closed with an invitation from the Russian Party to host the 2018 Annual Meeting in Khabarovsk, Russian Federation.

-END-

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About NPAFC

The NPAFC is an international organization that promotes the conservation of salmon (chum, coho, pink, sockeye, Chinook, and cherry salmon) and steelhead trout in the North Pacific and its adjacent seas, and serves as a venue for cooperation in and coordination of scientific research and enforcement activities. The NPAFC Convention Area is located in international waters north of 33°N latitude in the North Pacific, Bering Sea and the Sea of Okhotsk. NPAFC member countries include Canada, Japan, Republic of Korea, Russian Federation, and the United States of America.
FOR IMMEDIATE RELEASE

INTERNATIONAL COLLABORATION IS KEY ELEMENT FOR SUCCESS IN COMBATING ILLEGAL FISHING IN THE NORTH PACIFIC

Victoria, B.C., Canada (May 19, 2017)—At the Annual Meeting of the North Pacific Anadromous Fish Commission (NPAFC), fisheries enforcement representatives from member countries (Canada, Japan, Republic of Korea, Russia, and the United States) reported on successful 2016 efforts to combat IUU (illegal, unreported, and unregulated) fishing on the high seas of the North Pacific. The Parties scrutinized over 2,000 fishing vessels, arrested one, and watch-listed two others.

Vessels fishing on the high seas historically used largescale high-seas driftnets—a gear that is now internationally banned due to the high rates of bycatch of non-target species, including salmon. The Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean further prohibits fishing for salmon within the high seas of the North Pacific Ocean. The NPAFC member Parties have achieved a unique forum for successful and efficient enforcement of these conservation measures within the NPAFC Convention Area. These efforts have brought pressure on fishing vessels and their flag states that have drastically reduced high-seas driftnet and salmon fishing within the North Pacific.

In 2016, Canada and the United States conducted joint fisheries enforcement patrols using Canadian aircraft from facilities in Japan and U.S. Coast Guard (USCG) vessels to help maximize patrol duration and range. In a bilateral arrangement, the United States hosted People’s Republic of China Coast Guard law enforcement officers aboard a USCG cutter to further increase enforcement effectiveness of ship patrols. The coordinated enforcement efforts of the member countries in 2016 covered significant portions of the NPAFC Convention Area, over 548 hours of aircraft patrols, and more than 218 ship days, to deter and interrupt IUU activity.

Through these patrols, 2,225 fishing vessels were sighted and one vessel was interdicted. Canadian patrol aircraft sighted the Fishing Vessel MYS URUMPET which was suspected of using large-scale driftnets within the Russian exclusive economic zone. The sighting information was relayed to Russian Authorities, resulting in fines for the vessel master equivalent to US$30,000 and inspection of five additional vessels.

In addition, two vessels were added to the NPAFC Vessel of Interest List subsequent to the results of the sharing of sighting reports during the 2016 patrol period. F/V 海达[Haida]705, under the People’s Republic of China flag, was sighted by Fisheries Agency of Japan patrol vessel to be equipped with driftnet gear (net tube, rollers) and carried radio buoys used for driftnets within the Convention Area. Through coordination with Russia, U.S. Coast Guard patrol aircraft sighted the refrigerated cargo ship Fabian, unflagged with vessel name painted over and showing signs of suspicious activity within the NPAFC Convention Area in the Bering Sea.

Member Parties also discussed the status of acceptance of the FAO Port State Measures Agreement. This international agreement is designed to harmonize and strengthen controls and deter illicit activity by
preventing illegally caught fish from entering the global marketplace. The Agreement went into force on June 5, 2016. Currently, 46 members have formally deposited their instruments of adherence. Republic of Korea acceded on January 14, 2016; and the U.S. ratified on February 26, 2016. Effective and consistent application of this Agreement by nations will add a new level of deterrent by decreasing the profitability of illegal transshipping of fish at sea and in port.

Ongoing efforts to curtail the large-scale high-seas driftnet threat by continuing a constant vigilance at sea and in port is crucial for sustainable fisheries management and the conservation of salmon in the North Pacific. Multilateral enforcement operations coordinated in the NPAFC area, regular information exchanges between NPAFC-member enforcement agencies, and a consistent enforcement presence in the North Pacific all act as effective deterrents against IUU fishing activities.

-END-

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The NPAFC Convention Area is located in international waters north of 33°N in the North Pacific, Bering Sea and the Sea of Okhotsk.

FOR IMMEDIATE RELEASE

HIGH SEAS PACIFIC SALMON RESEARCH REVIEWED AND PLANNED AT NPAFC ANNUAL MEETING

Victoria, B.C., Canada (May 19, 2017)—International scientific experts of the North Pacific Anadromous Fish Commission (NPAFC) member countries (Canada, Japan, Republic of Korea, Russia, and the United States) completed a five-day meeting in Victoria, Canada, to review current information related to salmon abundance and biology at the Commission’s 25th Annual Meeting.

In addition to presenting salmon catch and hatchery statistics, scientists planned, reviewed, and coordinated exchanges of scientific data and samples, and assessed scientific studies of Pacific salmon and steelhead in international waters and adjacent areas of the North Pacific.

Salmon research cruise plans for 2017 were discussed. These will include salmon surveys in the Gulf of Alaska, the Bering Sea, the northwestern and central North Pacific, and the southern Okhotsk Sea. Research cruises will employ survey vessels from a variety of sources including government, university, and chartered fishing boats. Research survey objectives vary by season and location, and include data-gathering on topics such as, migration timing, abundance, distribution, survival, marine ecology, run size forecasting, stock identification, and salmon growth and body condition.

Corresponding to the 2016–2020 NPAFC Science Plan and the International Year of the Salmon (IYS) initiative, a preliminary proposal of Interactive Mapping System (IMS) for the high-seas salmonid tag-recovery database was examined, and Parties agreed to develop IMS as part of the NPAFC website. By providing a dynamic display of information, the IMS will help users visualize and understand the ocean distribution and movement patterns of Pacific salmon and steelhead trout through graphical representation of tag recovery data. Users will be able to employ online drop down boxes to search and display data associated with tag recoveries by species, age class, maturity, origin, and season.

As a proposal of Signature Project to the International Year of the Salmon (IYS), large scale winter and summer expeditions, utilizing up to five research vessels deployed simultaneously across the North Pacific Ocean, was discussed. It is expected that NPAFC member countries will have the opportunity to make significant progress in understanding the marine life history period of Pacific salmon through a year of intensive coordinated research in the North Pacific Ocean.

The current 2016–2020 NPAFC Science Plan, which is relevant to the NPAFC’s primary objective of promoting the conservation of anadromous populations of Pacific salmon and steelhead trout within the Convention Area, is integrated with the International Year of the Salmon (IYS) initiative. To review the research progress for the NPAFC Science Plan, and to promote IYS activities and outreachs in member countries, it was agreed that a series of NPAFC-IYS workshops are planned in association with the NPAFC annual meetings. The first NPAFC-IYS Workshop on “Pacific Salmon Production in a Changing Climate” will be held in Khabarovsk, Russia on May 26–27, 2018, following the 26th NPAFC Annual Meeting. The objectives of the workshop are to: (1) improve knowledge of the distribution, growth and survival of Pacific salmon in the ocean (current status); (2) increase understanding of the
causes of variations in Pacific salmon production (mechanisms); (3) anticipate future changes in the production of Pacific salmon and the marine ecosystems producing them (e.g. modelling), and; (4) promote IYS activities. Improved understanding of the mechanisms that regulate the distribution and abundance of Pacific salmon will promote the conservation of anadromous populations in the North Pacific Ocean, allow for better forecasts of salmon production trends in the future, and enhance sustainable fisheries management, food security, and economic security in member nations.

-END-

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FOR IMMEDIATE RELEASE

NORTH PACIFIC SALMON CATCHES REMAIN HIGH IN THE WEST BUT DECLINE IN THE EAST

Victoria, B.C., Canada (May 19, 2017)– The North Pacific Anadromous Fish Commission (NPAFC) announced preliminary North Pacific-wide total salmon catches for 2016, as reported by its member countries Canada, Japan, Republic of Korea, Russia, and the United States. Pacific salmon abundance in the North Pacific, as indexed by aggregate commercial catches, remains at near all-time high levels. A total of 0.85 million metric tonnes (439.5 million fish) was caught in 2016, slightly less than previous even-numbered years. Salmon catches tend to be less in even than odd-numbered years because the most frequent species in the catch, pink salmon, are less abundant in even-numbered years.

The member nations’ portions of the total catch included 51% by Russia (439.5 thousand metric tonnes), 33% by the United States (280.4 thousand metric tonnes; Alaska—271.8 thousand metric tonnes), 13% by Japan (111.3 thousand metric tonnes), 3% by Canada (21.5 thousand metric tonnes), and less than 1% by Korea (256 metric tonnes).

Pink salmon constituted the majority of the total commercial catch (41% by weight) followed by chum (33%) and sockeye salmon (21%). Coho comprised 3% of the catch, Chinook salmon was 1%, and each of cherry salmon and steelhead trout were < 1% of the catch by weight.

In North America, the relative abundance of salmon species varies from north to south. In Alaska, pink and sockeye salmon are the primary species, followed by chum salmon. In Canada, sockeye, pink, and chum salmon have historically comprised the largest catch, while in Washington, Oregon, and California, Chinook, chum and coho salmon are the most abundant species. In 2016, unusually low catches of pink salmon resulted in relatively low total catches of salmon in North America.

Hatchery releases of salmon and steelhead from NPAFC member countries totaled approximately 5.1 billion fish in 2016, similar to numbers over the last three decades. Hatcheries released 1,959 million fish (38% of the total) in the United States, 1,898 million (37%) in Japan, 967 million (19%) in Russia, 282 million (6%) in Canada, and 22 million (< 1%) in Korea.

Hatchery releases were mostly chum (3,340 million, 65%) and pink salmon (1,227 million, 24%), followed by Chinook (238 million, 5%), sockeye (220 million, 4%), and coho salmon (76 million, 2%), steelhead trout (20 million, less than 1%), and cherry salmon (8 million, less than 1%).
Table 1. Preliminary 2016 commercial salmon catches in Canada, Japan, Korea, Russia, and the United States. Commercial catches by foreign fleets in the Russian EEZ are not included. Japanese catch data are based on Fisheries Research Agency data sources, not official statistics. Commercial catch weight for Alaska is based on landed weight (Alaska Department of Fish and Game).

(a) Preliminary 2016 commercial catch in millions of fish.

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Cherry</th>
<th>Steelhead</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0.758</td>
<td>1.759</td>
<td>3.262</td>
<td>0.274</td>
<td>0.214</td>
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<td>-</td>
<td>6.267</td>
</tr>
<tr>
<td>Japan</td>
<td>0.000</td>
<td>9.170</td>
<td>29.255</td>
<td>0.001</td>
<td>0.001</td>
<td>-</td>
<td>0.000</td>
<td>38.427</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>0.085</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.085</td>
</tr>
<tr>
<td>Russia</td>
<td>21.159</td>
<td>214.120</td>
<td>38.834</td>
<td>2.705</td>
<td>0.151</td>
<td>0.006</td>
<td>-</td>
<td>276.975</td>
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<tr>
<td>USA</td>
<td>53.269</td>
<td>39.429</td>
<td>16.945</td>
<td>4.323</td>
<td>1.088</td>
<td>0.053</td>
<td>-</td>
<td>115.107</td>
</tr>
<tr>
<td>Alaska</td>
<td>53.226</td>
<td>39.429</td>
<td>15.945</td>
<td>3.919</td>
<td>0.434</td>
<td>0.006</td>
<td>-</td>
<td>112.954</td>
</tr>
<tr>
<td>WOC</td>
<td>0.043</td>
<td>0.000</td>
<td>1.000</td>
<td>0.404</td>
<td>0.654</td>
<td>-</td>
<td>0.052</td>
<td>2.153</td>
</tr>
<tr>
<td>Total</td>
<td>75.186</td>
<td>264.478</td>
<td>88.381</td>
<td>7.303</td>
<td>1.454</td>
<td>0.006</td>
<td>0.053</td>
<td>436.861</td>
</tr>
</tbody>
</table>

WOC: Washington, Oregon, and California

(b) Preliminary 2016 commercial catch in metric tonnes (round weight).

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Cherry</th>
<th>Steelhead</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1,843</td>
<td>3,443</td>
<td>14,011</td>
<td>946</td>
<td>1,246</td>
<td>-</td>
<td>-</td>
<td>21,489</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
<td>14,160</td>
<td>95,911</td>
<td>2</td>
<td>7</td>
<td>1,187</td>
<td>0</td>
<td>111,269</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>256</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>256</td>
</tr>
<tr>
<td>Russia</td>
<td>50,016</td>
<td>264,998</td>
<td>116,636</td>
<td>6,990</td>
<td>-</td>
<td>9</td>
<td>-</td>
<td>439,469</td>
</tr>
<tr>
<td>USA</td>
<td>131,274</td>
<td>70,583</td>
<td>58,457</td>
<td>14,473</td>
<td>5,444</td>
<td>-</td>
<td>182</td>
<td>280,413</td>
</tr>
<tr>
<td>Alaska</td>
<td>131,212</td>
<td>70,583</td>
<td>54,444</td>
<td>13,094</td>
<td>2,488</td>
<td>-</td>
<td>1</td>
<td>271,822</td>
</tr>
<tr>
<td>WOC</td>
<td>62</td>
<td>0</td>
<td>4,013</td>
<td>1,379</td>
<td>2,956</td>
<td>-</td>
<td>181</td>
<td>8,591</td>
</tr>
<tr>
<td>Total</td>
<td>183,135</td>
<td>353,184</td>
<td>285,271</td>
<td>22,411</td>
<td>7,517</td>
<td>1,196</td>
<td>182</td>
<td>852,896</td>
</tr>
</tbody>
</table>

WOC: Washington, Oregon, and California

Table 2. Preliminary 2016 hatchery releases in NPAFC member countries in millions of fish.

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Coho</th>
<th>Chinook</th>
<th>Cherry</th>
<th>Steelhead</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>145.154</td>
<td>10.938</td>
<td>79.938</td>
<td>7.951</td>
<td>37.377</td>
<td>-</td>
<td>0.360</td>
<td>281.718</td>
</tr>
<tr>
<td>Japan</td>
<td>0.073</td>
<td>123.377</td>
<td>1,766.773</td>
<td>-</td>
<td>-</td>
<td>7.694</td>
<td>-</td>
<td>1,897.917</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>21.950</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>21.950</td>
</tr>
<tr>
<td>Russia</td>
<td>14.276</td>
<td>198.263</td>
<td>749.578</td>
<td>3.891</td>
<td>0.988</td>
<td>0.282</td>
<td>-</td>
<td>967.278</td>
</tr>
<tr>
<td>USA</td>
<td>60.558</td>
<td>894.315</td>
<td>721.441</td>
<td>63.906</td>
<td>199.565</td>
<td>-</td>
<td>19.488</td>
<td>1,959.268</td>
</tr>
<tr>
<td>Alaska</td>
<td>48.667</td>
<td>893.756</td>
<td>677.365</td>
<td>30.741</td>
<td>11.865</td>
<td>-</td>
<td>-</td>
<td>1,662.394</td>
</tr>
<tr>
<td>WOCI</td>
<td>11.891</td>
<td>0.559</td>
<td>44.076</td>
<td>33.160</td>
<td>187.700</td>
<td>-</td>
<td>19.488</td>
<td>296.874</td>
</tr>
<tr>
<td>Total</td>
<td>220.061</td>
<td>1,226.893</td>
<td>3,339.680</td>
<td>75.743</td>
<td>237.930</td>
<td>7.976</td>
<td>19.848</td>
<td>5,128.131</td>
</tr>
</tbody>
</table>

WOCI: Washington, Oregon, California, and Idaho
Figure 1. North Pacific commercial catch (thousands of metric tonnes) of Pacific salmon by species from 1925 to 2016 (2016 catches are preliminary).

Figure 2. Asian commercial catch (thousands of metric tonnes) of Pacific salmon by species from 1925 to 2016 (2016 catches are preliminary).
Figure 3. North American commercial catch (thousands of metric tonnes) of Pacific salmon by species from 1925 to 2016 (2016 catches are preliminary).

Figure 4. Annual North Pacific hatchery releases (millions of fish) of Pacific salmon by member countries from 1952 to 2016.
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FOR IMMEDIATE RELEASE

NPAFC INTERNATIONAL AWARD FOR SALMON AND STEELHEAD CONSERVATION
PRESENTED TO DR. LOH-LEE LOW

Victoria, B.C., Canada (May 19, 2017)–Dr. Loh-Lee Low received the 2017 North Pacific Anadromous Fish Commission Award at the Commission’s 25th Annual Meeting. He is retired from the Alaska Fisheries Center and Regional Office, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Seattle, Washington, USA.

Dr. Low was selected for the award in recognition of his sustained scientific contributions to the Commission’s mission to conserve and manage anadromous salmon and steelhead stocks in the North Pacific Ocean and its adjacent seas. He contributed substantially to the functioning of the Commission’s Committee on Scientific Research and Statistics (CSRS). He chaired the deliberations of the CSRS for three 2-year terms in 1995–1997, 2003–2005, and 2014–2016. He fostered cooperation and scientific achievements of the salmon scientists of the Commission through his guidance and improvement of salmon research activities in the high seas of the North Pacific Ocean. Dr. Low was also involved in activities in framework of many other international commissions and including PICES, NPFC, and the Convention on the Conservation and Management of the Pollock resources in the central Bering Sea, bilateral fisheries negotiations, etc.

Dr. Low stated, “It is indeed a great privilege to have been a part of this prestigious Intergovernmental Organization and to be honored with this distinguished North Pacific Anadromous Fish Commission Award. I am grateful to the United States to have me as part of its delegations to the NPAFC. I extend my appreciation to my fellow salmon scientists from Canada, Japan, the Republic of Korea, the Russian Federation, and the United States of America who educated and assisted me to achieve. I thank the Commission and the delegates who granted me this award. It is indeed the highest honor for me.”

Established in 2011, the NPAFC Award is given to recognize an individual or group whose sustained and significant contributions in scientific research, enforcement, international cooperation, or management have helped improve the conservation of anadromous salmon and steelhead stocks in the North Pacific Ocean.
Dr. Loh-Lee Low is the recipient of the 2017 NPAFC Award.

-END-

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FOR IMMEDIATE RELEASE

PLANNING UNDERWAY IN EARNEST FOR THE INTERNATIONAL YEAR OF THE SALMON (IYS)

Victoria, BC, Canada (May 19, 2017)–Based on agreement reached at the 25th Annual Meeting of the North Pacific Anadromous Fish Commission (NPAFC), implementation of the International Year of the Salmon (IYS) continues in full force with a commitment of resources to support collaboration with partners across the northern hemisphere to plan a kick-off symposium event and to develop outreach and research plans, including a Signature Project winter expedition to the Gulf of Alaska.

While its focal year will be 2019, the IYS is in fact a bold seven-year outreach and research initiative. The IYS will create a hemispheric partnership to facilitate an intense burst of outreach and research that will fill knowledge gaps and catalyze new ways to generate and share knowledge necessary for the resilience of salmon and people in an uncertain future.

Salmon are an important biological and economic resource throughout their range, yet despite decades of significant management and research effort, the survival of salmon is challenged by intense social and environmental change. An effort beyond the capacity of any one group or country is required to protect this unique resource, which generated the momentum for organizing the IYS.

The planning phase of the IYS was officially launched in 2016 following the approval of a proposal prepared by the NPAFC and the North Atlantic Salmon Conservation Organization (NASCO), at the respective annual meetings of both Regional Fisheries Management Organizations. An IYS Coordinating Committee, involving members from both organizations, established terms of reference for Steering Committees to oversee activities in the Pacific and Atlantic regions.

On February 28 and March 1, 2017, the NPAFC hosted the first meeting of the North Pacific Steering Committee in Richmond, B.C., Canada, with participants comprising a wide spectrum of interests. Participants considered proposed governance arrangements as well as approaches to engagement of partners in planning, communications, and fund development.

In the coming months, core partners will be working with the NPAFC to plan and announce details of the opening symposium, the Gulf of Alaska Signature Project and detailed research plans. Organizations and individuals concerned with salmon, and interested in participating in this exciting initiative are encouraged to contact the NPAFC.
Representatives of intergovernmental and regional fisheries management organizations, governmental, non-profit, First Nations, and scientific organizations who participated in the IYS North Pacific Steering Committee Meeting held in Richmond, B.C., Canada, February 28 and March 1, 2017.

-END-

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Website: www.npafc.org

About NPAFC

The NPAFC is an international organization that promotes the conservation of salmon (chum, coho, pink, sockeye, Chinook, and cherry salmon) and steelhead trout in the North Pacific and its adjacent seas, and serves as a venue for cooperation in and coordination of scientific research and enforcement activities. The NPAFC Convention Area is located in international waters north of 33°N latitude in the North Pacific, Bering Sea and the Sea of Okhotsk. NPAFC member countries include Canada, Japan, Republic of Korea, Russian Federation, and the United States of America.
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