This Annual Report summarizes the activities of the Commission in 2008. The Report includes all major discussions, which took place at the Enforcement Evaluation and Coordination Meeting (EECM) and North Pacific IUU Tripartite Meeting in Vancouver, B.C., Canada (February 27-29, 2008), at the Research Planning and Coordinating Meeting (RPCM) in Sokcho, Republic of Korea (April 10-11, 2008), and at the Sixteenth Annual Meeting of the Commission and at the Bering-Aleutian Salmon International Survey (BASIS) Symposium in Seattle, WA, U.S.A. (November 17-25, 2008).

Secretariat
Suite 502, 889 West Pender Street
Vancouver, B.C., V6C 3B2, Canada
Tel: (604) 775-5550, (Fax: (604) 775-5577
E-mail: secretariat@npafc.org
Website: www.npafc.org
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INTRODUCTION

FOUNDATION AND 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, signed at Moscow on February 11, 1992 by Canada, Japan, the Russian Federation and the United States of America (original Parties). 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.

With development of the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, the process of establishment of the comprehensive international regime of conservation of salmon resources in the North Pacific Ocean has been completed.

The Convention is based on the recognition that anadromous stocks intermingle extensively during their migrations on the high seas of the North Pacific; that the States of origin have the primary interest in and responsibility for such stocks; that the fisheries for anadromous stocks should be conducted only in waters within the 200-mile zones and that the States of origin make expenditures and forego economic development opportunities to establish favourable conditions to conserve and manage these stocks.

The Convention also recognizes the importance of scientific research and establishment of an effective mechanism of international cooperation for the conservation of anadromous stocks in the North Pacific Ocean based on coordinating efforts.

The goal of conservation is consolidated by prohibition of directed fishing for anadromous fish in the Convention Area. Therefore the Convention represents an important instrument of collective responsibility and cooperative efforts of the Contracting Parties in protection and conservation of the North Pacific salmon resources.

The NPAFC promotes the conservation of salmonids in the North Pacific Ocean and its adjacent seas and serves as a forum for cooperation in and coordination of enforcement activities and scientific research.

The strength of this Commission lies in the shared purpose and active efforts of the Contracting Parties to ensure the conservation and sustainable utilization of North Pacific salmon resources for the benefit of domestic fishermen in their respective waters. As a result, the Commission in its brief history has become a model of positive and successful international cooperation.

NPAFC consists of three committees: Scientific Research and Statistics (CSRS), Enforcement (ENFO), and Finance and Administration (F&A); Science Sub-Committee (SSC), several Working Groups, and Secretariat. The Headquarters of the Commission is located at Vancouver, Canada.
The area to which the Convention applies is the waters of the North Pacific Ocean and its adjacent seas, north of 33° N.Lat. beyond the 200-mile zones of the coastal States. For scientific purposes the activities under the Convention may extend farther southward in the North Pacific Ocean beyond the 200-mile zones.
Anadromous fish is the fish that return to their spawning rivers from the ocean at certain seasons for breeding in fresh water. The following seven anadromous species are listed as species which migrate into the NPAFC Convention Area.

**Oncorhynchus keta**

(English Name) Chum salmon  
(Japanese Name) Shirozake  
(Korean Name) Yeoneo  
(Russian Name) Keta

Chum salmon are the second most abundant species of Pacific salmon whose origin is in Asia and North America. The fish spawn in different types of streams and the fries migrate directly to the sea soon after emergence. The immatures 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 from two through five years, and in some cases up to seven years. They all die after spawning. Individuals have been reported up to 108.8 cm in length and 20.8 kg in weight.

**Oncorhynchus kisutch**

(English Name) Coho salmon  
(Japanese Name) Ginzake  
(Korean Name) Eunyeoneo  
(Russian Name) Kizhutch

Coho salmon originate both in Asia and North America. The majority of coho mature during summer in their third year of life, having spent about four to six months in incubation and up to fifteen months rearing in fresh water followed by a sixteen-month growing period in sea water. They usually arrive at their rivers of origin during late summer and autumn to spawn. The adults die after spawning. The size of adult coho is variable with lengths ranging from 40-88 cm and weights from 1.2-6.8 kg.
**Oncorhynchus gorbuscha**

(English Name) Pink salmon  
(Japanese Name) Karafutomasu  
(Korean Name) Gopsayeoneo  
(Russian Name) Gorbusha

Pink salmon are the most abundant species of Pacific salmon and originate both in Asia and North America. Upon emergence, pink salmon fries migrate quickly to the sea and grow rapidly as they make extensive feeding migrations. After eighteen months in the ocean, the maturing fish return to their river of origin to spawn and die. Maturing adults range from 45-55 cm in length and 1.0-3.3 kg in weight.

**Oncorhynchus nerka**

(English Name) Sockeye salmon  
(Japanese Name) Benizake  
(Korean Name) Hongyeoneo  
(Russian Name) Nerka

Sockeye salmon are the third most abundant species of Pacific salmon and originate both in Asia and North America. They exhibit a greater variety of life history patterns than other Pacific salmon. Typical juvenile anadromous sockeye utilize lake rearing areas for one to three years after emergence from the gravel, but some populations utilize stream areas for rearing and may migrate to sea soon after emergence. They spend 1-4 years in the ocean before returning to fresh water to spawn and die in late summer and autumn. There is substantial size variation among populations. Some of the reported average sizes are 45-60 cm in length with weights of 1.6-3.2 kg.
**Oncorhynchus tchawytycha**

(English Name) Chinook salmon  
(Japanese Name) Masunosuke  
(Korean Name) Wangyeoneo  
(Russian Name) Tchawytcha

Chinook salmon are the largest of the *Oncorhynchus* spp. group and originate both in Asia and North America. Their life history includes broad variations. “Stream-type” chinook are typical of Asian populations, who spend one or more years as fry or parr in fresh water before migrating to sea, perform extensive offshore oceanic migrations, and return to their natal river in the spring or summer several months prior to spawning. “Ocean-type” chinook are typical of populations on the North American coast south of 56°N, who migrate to sea during their first year of life, normally within three months after emergence, spend most of their ocean lives in coastal waters, and return to their natal river in the fall a few days or weeks before spawning. The mean length in the year of migration varies from 58 to 89 cm. The typical weight range of the chinook is 4.5 to 22.5 kg.

**Oncorhynchus masou**

(English Name) Cherry salmon  
(Japanese Name) Sakuramasu  
(Korean Name) Simayeoneo  
(Russian Name) Sima

Cherry salmon are one of the smallest in the *Oncorhynchus* spp. group, and 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. They return to the natal river in March-May, spend the summer in the river, and move to headwaters for spawning in the fall. The size of spawners varies greatly; 35-70 cm or more in length and 0.3-5.0 kg or more in weight.
**Oncorhynchus mykiss**

<table>
<thead>
<tr>
<th>(English Name)</th>
<th>Steelhead trout</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Japanese Name)</td>
<td>Steelhead</td>
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<td>(Korean Name)</td>
<td>Songeo</td>
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<tr>
<td>(Russian Name)</td>
<td>Raduzhnaya forel</td>
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Steelhead trout are sea-run types of rainbow trout, and originate in North America. Most of them remain in fresh water for 2-3 years, spend 2-3 years in the ocean, and return to the natal river to spawn. Some return to spawn for a second or third time. The record size is 114 cm in length and 19.5 kg in weight.
The NPAFC provides a forum for cooperation among its member countries to promote scientific research, to coordinate the collection, exchange and analysis of scientific data, and to exchange statistical information on catch and effort regarding anadromous stocks and ecologically related species.

For those purposes, the Commission established the Committee on Scientific Research and Statistics (CSRS), which holds its meetings during the Annual Meetings of the Commission in autumn. Scientists also meet between the Annual Meetings, at the Research Planning and Coordinating Meeting (RPCM).

At CSRS and RPCM, the Parties submit their scientific research plans for salmon, report the results of their previous scientific researches and statistical data of their catches and fry releases, and discuss the scientific research cooperation among the Parties.

Science Sub-Committee (SSC) and several Working Groups have been established under CSRS in order to facilitate its discussions for cooperation.

SSC discusses the formulation and reviews the implementation of the NPAFC Science Plan, which is a long-term plan for cooperative scientific research and is currently approved for the period up to 2010. SSC also coordinates cooperation with other international organizations, such as North Pacific Marine Science Organization (PICES), North Atlantic Salmon Conservation Organization (NASCO) and others.

There are now five Working Groups including one ad hoc. The Working Group on Stock Assessment meets mainly to summarize and discuss the latest statistical information. The Working Group on Salmon Marking discusses coordination of marks to minimize duplication between countries and the development of a common database of mark releases. The goals of the ad hoc Working Group on Stock Identification are to develop, standardize, and disseminate genetic and other databases among the Parties to encourage the development of new genetic technologies and to facilitate the dissemination of statistical techniques. The Salmon Tagging Working Group was created in 2007 for coordination of high-seas salmon tagging and management of the INPFC-NPAFC salmon tagging database.

BASIS (Bering-Aleutian Salmon International Survey) Working Group is created to facilitate the latest cooperative research activities focused on 1) Bering Sea Salmon Research, 2) Juvenile Salmon Research in Eastern and Western North Pacific Waters, and 3) Winter Salmon Research.

About 10 research vessels are deployed annually for scientific research cruises. In many cases, they are joint cruises with the participation of scientists from the different member countries.

NPAFC publishes the statistical data on salmon catches provided by the member countries in a Statistical Yearbook. The proceedings of the NPAFC symposia and workshops are published in the NPAFC Bulletin series and Technical Report series respectively.
Snapshots from BASIS Research Cruises
Photo by the BASIS Working Group
**ENFORCEMENT**

The Convention prohibits direct fishing for anadromous fish (chum, coho, pink, sockeye, chinook, and cherry salmon, and steelhead trout) in the Convention Area. The incidental taking of anadromous fish is to be minimized to the maximum extent practicable, and the retention of anadromous fish taken incidentally during fishing activity directed at non-anadromous fish is prohibited, and any such anadromous fish shall be returned immediately to the sea.

The Convention has contributed to the implementation of the UN General Assembly resolution entitled “Large-scale pelagic drift-net fishing and its impact on the living marine resources of the world’s oceans and seas”, by prohibiting direct fishing for anadromous fish in high seas areas of the North Pacific Ocean, where salmon fishing had been mainly conducted by using driftnets.

Since the establishment of the NPAFC, the Parties have cooperated on the exchange of information regarding violation of the provisions of the Convention and on the exchange of enforcement plans and actions.

The agencies of Contracting Parties which are directly responsible for the planning and execution of enforcement activities within the Convention Area are:

- Department of Fisheries and Oceans of Canada and Department of National Defence, Canada;
- Fisheries Agency of Japan and Japan Coast Guard;
- Ministry of Food, Agriculture, Forestry and Fisheries of the Republic of Korea;
- Fisheries Agency of the Russian Federation and Federal Security Service of Russia
- United States National Marine Fisheries Service and United States Coast Guard

In 1993-2008, the cooperative enforcement efforts of the NPAFC Parties resulted in the detection of 41 vessels conducting directed driftnet fishing operations for salmon in the Convention Area. Of those vessels, 16 were apprehended (see the table).

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In 2006 the development of the Integrated Information System (IIS) was completed. The IIS allows the Parties to keep all electronic information about illegal or suspected vessels in the Convention Area on a closed website.

In 2007, the NPAFC Enforcement Committee initiated a program of cooperation with Technical Committee on Compliance (TCC) of the Western and Central Pacific Fisheries Commission (WCPFC) and the Fisheries Working Group (FWG) of the North Pacific Coast Guard Forum (NPGF). In 2008 the first ever International North Pacific IUU Workshop was held in Vancouver, B.C., Canada. Represented were ENFO of the NPAFC, FWG of the NPCGF, TCC of the WCPFC and the International Monitoring Control and Surveillance Network.

Despite the decline in illegal fishing operations within the Convention Area in recent years, the threat of illegal high seas fishing activities contrary to the provisions of the Convention continues, requiring the international community to remain vigilant in improving monitoring and enforcement efforts in the North Pacific.
Aurora CP-140 (Canada)

Citation V (Japan)

KA-27 (Russia)

C-130 (United States)
Commercial salmon catch by the Parties

The catch of Pacific salmon by all producing countries in 2007 was at the highest level on record, exceeding 1 million metric tonnes. Pink salmon amounted for 51% of the total number of fish caught, followed by chum (31%), sockeye (16%), coho (2%), chinook (1%) and cherry (masu) salmon.

<table>
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* Data for 2005–2007 are preliminary and do not include commercial catches by foreign fleets in the Russian EEZ.
Salmon Enhancement Production

More than 5 billion juvenile salmon were released from the hatcheries by the NPAFC member countries in 2007.

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* Data for 2005–2007 are preliminary.
I. ENFORCEMENT EVALUATION AND COORDINATION MEETING

1. TIME AND PLACE OF THE MEETING

The Enforcement Evaluation and Coordination Meeting (EECM) was held on February 27-28, 2008 at the Centre for Dialogue, Simon Fraser University in Vancouver, B.C., Canada. Mr. Robert Martinolich, Chairman of the Committee on Enforcement (ENFO) presided at the meeting.

2. PARTICIPANTS

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<th>United States</th>
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<td>Jeff Byam</td>
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<td>Curtis Wright</td>
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<td>Elena Goncharova</td>
<td>Vladimir Fedorenko</td>
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<td>Oleg Klebleev</td>
<td>Wakako Morris</td>
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<td>Oleg Lukyanov</td>
<td>Shigeihko Urawa</td>
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<td>Gennady Medvedev</td>
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<td>Arthur Stepanyan</td>
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R. Martinolich, ENFO Chair
Photo by NPAFC Secretariat

2008 EECM in session.
Photo by NPAFC Secretariat
3. **INFORMATION FROM THE CSRS**

S. Urawa, Deputy Director of the NPAFC presented scientific information relevant to help enforcement activities regarding 2008 salmon migration patterns and the areas possible for illegal activities. J. Irvine of Fisheries and Oceans Canada was also present to answer any scientific questions.

The United States asked to what degree sea surface temperature is an effective proxy for temperatures throughout the water column. S. Urawa acknowledged that the surface temperature cannot be relied on particularly during the summer season because there are indeed areas of cold water inversion under the surface. However, salmon are typically found between 0 to 50m in depth, so there is a correlation of sea surface and sub-surface temperatures in this depth range. Additionally, remote sensing [satellite imaging] is capable only of revealing surface temperatures, so this is the best available data for planning enforcement operations.

J. Irvine of Canada noted that there can be significant variance between surface and sub-surface temperatures, and that oceanographers are working on providing improved sub-surface temperature data.

It was questioned whether there are depth restrictions for salmon, and S. Urawa indicated that different species prefer different depths. Depth varies by species, season and time of day.

The United States requested further information on water sampling methods for stock identification of confiscated salmon so that USCG Kodiak Fisheries Training Center will be able to train and employ staff for sample collection. S. Urawa responded that NPAFC Stock ID Working Group may be able to compile a “user’s manual” of applicable information. If requested, the working group may be able to discuss at the next RPCM to suggest to create a manual for collecting samples.

Canada informed the committee that Canadian aircraft occasionally drop bathymetric temperature devices, which may be employed to contribute to this data collection effort.
4. Evaluation of Results of Enforcement Activities in 2007

K. Fox of the USCG Pacific Area Intelligence staff presented a 2008 HSDN Threat Assessment showing the details of findings, trends in HSDN fishing, threats descriptions for salmon, neon flying squid and albacore tuna. The presentation also outlined trends in HSDN activities, fishing gear, deployment methods, deceptive/defensive measures, as well as 2007 activity summary.

During this presentation it was noted that nets set in an East-West direction are typically targeting squid, while North-South sets typically target salmon. The United States questioned why this was the case, and K. Fox was unaware of the reasons driving this observed trend.

Japan

During Japanese enforcement patrols between June and November 2007, (including joint operations with the USCG), eight suspected HSDN vessels were identified. Japanese commercial fishing vessels reported sightings of two suspected HSDN fishing vessels, and the Japanese research vessel 58 Tomi-maru reported sightings of 12 suspected HSDN vessels. It should be noted that some of these sightings may be duplicate, or multiple reports of the same suspect vessel.

T. Tomita provided a PowerPoint presentation on additional three fishing vessel sightings by Toko-maru, the largest class patrol vessel in FAJ. Toko-maru conducted underway enforcement from Oct. 2-20, 2007 and discovered four fishing vessels configured for HSDN fishing. These HSDN vessels were operating amongst a legitimate squid fishing fleet.

The Georgian-flagged Zhouyuan 801 was also sighted on the high seas in position 42-48.2N/152-52.8E. Zhouyuan 801 was adorned with a red horse figurehead on the forward mast, which is typical of Chinese fishing vessels. This type of adornment is not generally associated with Taiwanese fishing vessels. Zhouyuan 801 was configured with a squid jigging apparatus, and the vessel’s hull was heavily soiled with squid-ink. The hull displayed abrasions typical of driftnet scar marks.

On Oct. 11, Japan sighted the Chinese fishing vessel Zheyuandong 802 (displayed on the vessel hull in Chinese characters), which was rigged for HSDN fishing.

On Oct. 13, Japan sighted HSDN vessel Shunfa 7 in position 42-16.3N/152-50.7E. Nationality of this vessel is assumed to be PRC, as the sister vessel Shunfa 8 was observed to be PRC-flagged last year.

Russia

Russia reported no additional enforcement activities since the 2007 Annual Meeting.

Russia proposed that all aircraft sorties be coordinated with cutter patrols in order to most effectively execute enforcement actions. Russia also proposed that all Party representatives coordinate the master patrol schedule according to the scientific information presented at this meeting.

United States

LCDR Lisa Ragone presented a summary of U.S. activities.

As a follow-up to discussions from the 2007 Annual Meeting, the USCG examined how historical interdictions of HSDN vessels targeting certain species correlated with sea surface temperatures/time of year. Results support the position that targeted HSDN fishing for salmon occurs earlier in the season and that illicit fishing effort switches to squid as the summer months progress.
USCG patrol effort increased in 2007 to 119 cutter days and 152 aircraft patrol hours. During the 2007 enforcement season, six Chinese vessels were seized by PRC ship-riders on board USCG cutters and were taken back to China for case prosecution. All the vessels were confiscated, and to date, five vessels have already been sold. The vessel owners were fined approx. $7,000, with one particularly egregious license violation resulting in a U.S. $14,000 fine. The most severe prosecutorial action against violators was that PRC high seas fishing licenses were permanently revoked. The USCG liaison officer to the U.S. embassy in Beijing was present at January 2008 ceremony in Shanghai during which seized HSDN fishing gear was publicly destroyed.

The U.S. Department of State is in communication with officials in the Indonesian Directorate of Surveillance and Control of Marine Resources to formalize HSDN enforcement mechanisms for Indonesian-flagged vessels.

National Marine Fisheries Services (NMFS) Special Agents participated a total of 166 hrs. of Canadian CP-140 flights in 2007. The United States agreed with the Russian proposal closely aligning surface and aircraft patrols to maximize enforcement efforts. The high-endurance U.S. Coast Guard Cutter (USCGC) MUNRO was scheduled to conduct a summer 2008 international engagement/IUU fishing patrol.

The United States encouraged Parties to issue Local Notices to Mariners prior to and during the high threat season. These notices advise mariners to look out for illegal salmon fishing in the Convention Area.

**Canada**

Canada reported no additional enforcement activities since the 2007 Annual Meeting.

Canada reported that the newly launched RadarSat II could increase surveillance capabilities and compliment existing enforcement activities, however further testing is required.

The Parties discussed plans and coordination of enforcement activities in 2008 and approved the 2008 Enforcement Schedule (Appendix 1).
5. **Cooperation with other International Organizations, States or Entities**

At the last Annual Meeting, the United States solicited the group’s views on inviting Indonesia as an observer. The United States noted that as Indonesia appears to conduct significant high seas fishing in and around the Convention Area, discussion on this issue is important.

Japan, Russia, and Canada had no objections to inviting Indonesia as an observer. Russia noted the need to create some mechanism for improved communication with Indonesia, to which the U.S. concurred. The Executive Director explained that a letter of invitation will be sent requesting Indonesia’s attendance as an observer to the 2008 Annual Meeting once approved by the ENFO Points of Contact.

Additionally, the Commission decided at the last Annual Meeting that representatives from the North Pacific Coast Guard Forum (NPCGF) and the Western and Central Pacific Fisheries Commission (WCPFC) be invited to this NPAFC EECM meeting. A joint North Pacific IUU Tripartite meeting with NPAFC, NPCGF and WCPFC was held immediately after this EECM’s adjournment.

China was invited as an observer to the tripartite meeting, but the Secretariat received no response.

6. **Recovery of Abandoned Driftnets (Briefing on the U.S. Ghost Net Program)**

Paul Niemeier of the United States delivered a PowerPoint presentation on the U.S. ghost net program. Mr. Niemeier solicited for interest from Parties to carry NOAA-funded satellite tracking buoys on board patrol vessels. These buoys would track the position of abandoned driftnets discovered at sea. **USCGC MUNRO** will carry these tracking buoys during the summer 2008 patrol, which will serve as a program prototype. The U.S. will report results and effectiveness of these buoys at the next Annual Meeting. In the interim, the U.S. will publish additional information on the satellite tracking buoy program on the U.S. NOAA website.

Russia emphasized that while tracking abandoned nets demonstrates important progress, the real focus should be on removing these nets from the ocean environment. The Chairman agreed with this statement and indicated that it may be beneficial to request some NPAFC funding at the next Annual Meeting.
7. **OTHER BUSINESS**

**(a) Creation of a List of IUU Vessels**

The group discussed creation of a List of NPAFC IUU Vessels: such a vessel list would be used internally by NPAFC Parties only as an enforcement tool within IIS.

Russia indicated that the Vessels of Interest (VOI) module within IIS has not been completed, but it may be available sooner if it could be done in a different format (that is already assembled, but involves less information). It was agreed that apprehensions and convictions that are not involving salmon interceptions should not be listed under this criteria.

The Executive Director suggested that it is important to be publicizing the successes of the organization; this would serve as a deterrent to other potential IUU fishers in and around the Convention Area. He proposed to upload the list of Apprehended Illegal Salmon Fishing Vessels on the NPAFC website and the lists of Suspected and Unidentified Vessels on IIS website.

The United States stated that once a vessel has been identified by an RFMO as a participant in IUU activities, it should be listed and publicized so that other nations and organizations could keep those vessels out of their ports, if they so desire. To this, Canada responded that, as this list would be a simple factual record of apprehended vessels there should be no issues with the U.S. suggestion, however cautioned that should the NPAFC wish to go beyond a simple listing of factual details, such as denying port access, further discussion on this matter would be required to ensure that appropriate criteria and procedures are developed.

The Secretariat tabled lists of the past IUU vessels (apprehended, suspected and sighted) and distributed to the Parties. The Parties were asked to review and correct/update the list by May 1, 2008 so that the information can be uploaded to the NPAFC and IIS websites.

**(b) Letter to Indonesia**

At the last Annual Meeting, it was decided that a letter be sent to the Indonesian Government detailing observed HSDN activities by several fishing vessels flying Indonesian flag. The letter was sent with the signature of the NPAFC President, Mr. D. Koo, on February 25, 2008.
II. NORTH PACIFIC IUU TRIPARTITE MEETING

1. TIME AND PLACE OF THE MEETING

The North Pacific IUU Tripartite Meeting was held on February 28, 2008 at the Centre for Dialogue, Simon Fraser University in Vancouver, B.C. Canada. Dale Jones, Chair of the International MCS Network, served as Chair, opened the meeting and welcomed the representatives of the North Pacific Anadromous Fish Commission (NPAFC), North Pacific Coast Guard Forum (NPCGF) and the Western and Central Pacific Fisheries Commission (WCPFC).

2. OPENING REMARKS AND INTRODUCTIONS

The Chair outlined meeting expectations that included: providing a general awareness of each organization, identifying overlap, information exchange and identifying potential areas for collaboration. The Chair outlined some possible key areas of future collaboration:

- Patrols to detect, interdict and deter to protect stocks
- Inspections to ensure compliance
- Investigations to pursue illegal harvest and trade
- Analysis/intelligence work

The Chair took the opportunity to provide an overview of the MCS Network and encouraged parties to visit the website (www.imcsnet.org).

The Chair invited opening statements from the representatives. Opening statements were made as follows:

(a) NPAFC

V. Fedorenko, Executive Director of the NPAFC, made a comprehensive presentation that provided background and outlined the organization’s goals, objectives and enforcement activities.

(b) NPCGF


(c) WCPFC

W. Sanford, the WCPFC’s Technical and Compliance Committee Chairman, provided opening remarks and introduced A. Richards of the WCPFC Secretariat.
EECM 2008 and North Pacific IUU Tripartite Meeting Participants
Photo by NPAFC Secretariat
3. **OVERVIEW (PARTIES/AGENCIES, CHARTER/MANDATE, ENFORCEMENT COMMITTEE, ETC.)**

LT P. Barelli provided a presentation on the NPAFC Convention *Article V: Authority and Jurisdiction* which detailed the NPAFC’s enforcement objectives and scope. He went on to explain the implications of the issue within the tripartite meeting context, citing commonalities (geography, membership and species) and shared challenges (participation, economic limitations, limited assets and differing National priorities).

R. Martinolich provided an overview of the NPCGF that outlined the relevant activities and mandate of the organization. He explained the relevance in relation to the other groups. CAPT G. Sundgaard detailed the work of the NPCGF’s Combined Operations Working Group and shared his views on the advantages of collaboration between organizations, notably how the strengths of the various organizations should be exploited.

Wendell Sanford outlined the mandate, evolution, special characteristics and operations of the newly formed WCPFC.

4. **MONITORING, CONTROL AND SURVEILLANCE ACTIVITIES (AUTHORITIES, BOARDING PROVISIONS, VMS, LAW ENFORCEMENT ACTIVITIES/CASE STUDY, ETC.)**

A. Richards of the WCPFC Secretariat provided an overview of the WCPFC Convention (Authorities and Responsibilities). He elaborated on the following elements:

- The WCPFC Convention has applied the principles of the UN Fish Stocks Agreement to the WCPO Region;
- MCS tools, some of which are in place and others being developed, that will form the regulatory framework for the Commission;
- MCS Tools:
  - Development of a Regional Observer Program, implementation of which is based on the use of existing regional, sub-regional and national observer programs;
  - Commission VMS (projected implementation, February 2009), will be co-located with FFA VMS at Sydney, Australia;
  - High Seas Boarding and Inspection Procedures (broad framework is in place);
  - WCPFC Record of Fishing Vessels is posted on the WCPFC website and WCPFC IUU Vessel List will soon be posted on the same website;
  - Transhipment Verification and port State measures are also being developed; and
  - Significant amount of work remains to fully operationalize the Commission’s MCS Scheme.

Russia requested clarification on the following three issues:

a) What measures were being taken within member State EEZ’s?

A. Richards indicated that some issues, e.g. determining the total allowable catch for highly migratory fish stocks within the Convention Area, apply to the entire Convention Area, including the EEZs of member States within the Convention Area, while others, e.g. boarding and inspection, apply only to the high seas in the Convention Area.

b) Who is involved in the inspection/enforcement process?

A. Richards explained that each member with registered enforcement platforms will be able to board and inspect vessels from member States. He added that there have been no boardings to date.

c) Is the VMS satellite based?

A. Richards responded that the current system is satellite based and works off of units fitted for the existing domestic systems.

The United States requested information on the following subjects:
a) In relation to VMS confidentiality agreements, where these with Coastal Nations or vessel owners? And what did they consist of?

A. Richards indicated that although the Commission has adopted a Confidentiality Agreement, separate rules and procedures for the protection of, access to and dissemination of non-public domain data for the purpose of compliance and enforcement activities on the high seas were in draft form and still being debated.

b) Was the WCPFC boarding and inspection regime ready to be implemented?

A. Richards responded that it is ready to be implemented as the corresponding Conservation and Management Measure is now in force.

Canada inquired as to whether the observer program would be managed centrally or individually by the member States and how it was envisaged that the deployment of observers would work?

A Richards clarified that the exact details of the Regional Observer Programme (ROP) were still being worked on but offered that the program would be based on aspects of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) model and those of sub-regional observer programs operating in the WCPO, together comprising the “WCPFC Hybrid Model”. Under this model, sharing of observer resources between the observer programs of member States and the ROP is a basic principle.

Japan questioned what members, if any, had registered enforcement assets.

A. Richards explained that, to date, three countries (French Polynesia, New Zealand and Canada) had enforcement vessels registered with the Commission.
5. **Future Opportunities for Cooperation**

The Chair remarked that despite differing mandates/objectives there were many shared commonalities (i.e. websites, observers, shiprider programs) and invited members to make suggestions regarding items that would merit future consideration.

R. Martinolich of the NPAFC highlighted the importance of multi-tasking and sharing assets, adding that there was great potential for cooperation and information sharing on such things as IUU suspect vessel lists.

CAPT G. Sundgaard of the NPCGF reiterated that there were opportunities present to capitalize on each organization’s strength to work towards protecting shared fish stocks.

W. Sanford of the WCPFC strongly endorses the cooperative control mechanism and suggested bi-annual meetings of the tripartite group.

T. Tomita of Japan saw great merit in focusing on the information exchange.

G. Medvedev of Russia voiced support for focusing on information exchange and continued participation of membership in joint meetings. Also, it is important that calendars should reflect upcoming events for planning purposes.

Capt. M. Inman of the United States was pleased that there was a good degree of cross-pollination between the various organizations given the potential for collaboration. He announced the planned CG deployment of the United States Coast Guard Cutter *MUNRO* and suggested that this asset, in cooperation with others, could coordinate to address multiple stock issues. He added that, in the future, work should be done to harmonize boarding procedures.

P. Steele of Canada agreed with the member comments and saw cooperation as a means of: avoiding duplication of efforts, maximizing use of available assets and learning from best practices. He also noted that there was an ongoing need to publicize the existence and potential of the MCS Network.
III. **Research Planning and Coordinating Meeting**

1. **Time and Place of the Meeting**

   The Research Planning and Coordinating Meeting (RPCM) was held on April 10-11 at the Hotel Maremons, Sokcho, Republic of Korea. Y. Ishida, the Chairman of the Committee on Scientific Research and Statistics (CSRS) presided at the meeting.

2. **Participants**

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<th>United States:</th>
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<td>Richard Beamish</td>
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<td>Tomonori Azumaya</td>
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RPCM 2008 Participants
Photo by NPAFC Secretariat

Y. Ishida, CSRS Chair
Photo by NPAFC Secretariat
3. 2008 NATIONAL RESEARCH PLANS AND CRUISE ACTIVITIES

(a) National Research Plans

Canada stated that the Canadian National Research Plan remains unchanged from those in the past several years.

Canada conducts and publishes studies on the biology and ecology of Pacific salmon to support the conservation and management of the stocks as well as to foster and contribute to international cooperative research. Areas of research include the impacts of climate change on salmon production, stock and species identification using DNA techniques, and studies on the biology, physiology and ecology of Pacific salmon.

The Japanese National Research Plan was submitted at the 15th (2007) Annual Meeting (Doc. 1073, pages 16–17), and no changes to the research plan are expected until 2010. The sampling stations and other details may be adjusted from year to year but those changes will be reported each year.

Korea reported that there are no changes to the Korean National Research Plan submitted at the 15th Annual Meeting (Docs. 1054 and 1073, pages 17–18).

There will be no changes to the Russian National Research Plan submitted at the 15th Annual Meeting (Docs. 1019 and 1073, pages 18–19) as it is for 5 years.

The United States Research Plan remains the same as that which was submitted at the 15th Annual Meeting (Doc. 1073, pages 20–21).

The Chairman suggested the Parties submit their 2009 National Research Plans to the Secretariat in advance of the 2008 Annual Meeting.

(b) Cruise Plans

Canada

Canada provided cruise plans for 2008–2009 by W.E. Ricker. Three surveys have been planned by the Canadian Program on High Seas Salmon for 2008–2009: a summer survey on June 18 – July 6, 2008, a fall survey on October 7 – November 15, 2008, and a winter survey on February 24 – March 24, 2009. The primary objectives of these surveys will be to (1) collect biological information on Pacific salmon and associated epipelagic fish community, (2) describe the ambient oceanographic conditions, and (3) quantify the biomass of zooplankton and describe the zooplankton species community composition in the coastal waters of British Columbia and Southeast Alaska.

In addition to the cruises described in document 1092, the Pacific Biological Station (PBS) will be conducting two major surveys (W.E. Ricker) as part of the Strait of Georgia Salmon Program in 2008–2009. The areas covered will include Queen Charlotte Strait and Sound and the surrounding inlets, the Strait of Georgia and surrounding inlets, the Strait of Juan de Fuca, and Puget Sound. The objectives of both surveys include: (1) collection of data on juvenile Pacific salmon abundance, size, distribution, and diet; (2) investigation of the relationships between these factors and trends in survival; (3) investigation of the influences of climate and ocean conditions throughout the North Pacific on trends in the survival of juvenile Pacific salmon; and (4) the influences of climate and ocean conditions on North Pacific marine ecosystems. As in 2003–2007, focus studies will continue to assess the potential impacts of sea lice on juvenile salmon growth and survival in the Broughton Archipelago (Knight and Kingcome Inlets) and surrounding (Rivers and Smith Inlets, Queen Charlotte Sound) areas. Otoliths and scales, and some clips for DNA analysis are collected from sub-samples of salmon catches. All coho and Chinook salmon are checked for coded-wire tags (CWTs), with positives returned to PBS for decoding and identification. All non-salmonid fishes are identified to the species level, life stage if possible, and enumerated. Size (fork lengths) and diet data are collected on non-salmonids when time permits. Within the Strait of Georgia
component of the surveys, plankton samples will continue to be collected via bongo nets at a number of standard sites. Finally, oceanographic data (salinity and temperature) are collected at least three times per day throughout all regions during the surveys, as well as at the plankton stations. Both surveys are conducted using a mid-water trawl, although parallel troll and seine surveys may also be conducted in the Broughton region as part of the sea lice research program.

The migration of juvenile salmon will also be studied on the west coast of North America, as part of the Pacific Ocean Shelf Tracking project (POST). Salmon smolts will be surgically tagged using small acoustic tags in rivers that drain into the Strait of Georgia such as the Fraser River. In 2008, acoustic receivers will be again placed across the continental shelf from Washington State to Alaska and across the Strait of Georgia in a series of lines to track the movement of tagged salmon. More details regarding this project can be found at www.postcoml.org and at www.coml.org/descrip/post.htm.

Japan

Japan reviewed salmon research cruise plans scheduled for the 2008/2009 fiscal year (Doc. 1085) and research cruises that may involve incidental takes of salmon (Doc. 1084). *Hokko maru* will conduct trawl sampling to survey the distribution, abundance and other biological characteristics of salmon in the North Pacific and Bering Sea basin during summer 2008. The survey will include a gear calibration effort between trawl (*Hokko maru*) and research gillnets (*Wakatake maru*). *Wakatake maru* will conduct traditional monitoring of salmon and their habitats in the central North Pacific and Bering Sea between early June and mid July. *Oshoro maru* will conduct an oceanographic and biological survey in the western North Pacific Ocean on May 7–20, and in the central North Pacific, Bering Sea and Chukchi Sea between June 2 and July 31. *Kaiun maru* will conduct research with gillnets to examine the distribution and ecology of neon flying squid, salmon and other pelagic fishes in the western and central North Pacific Ocean from early July to early August.

Russia

Russia described their research cruise plans (Doc. 1095). The main objective of their summer cruises is to study the return of salmon and their migrating routes in the North Pacific, Okhotsk Sea and western Bering Sea. SakhNIRO will conduct surveys of juvenile salmon near Sakhalin. KamchatNIRO will conduct trawl surveys near Kamchatka shores to predict the life history and behaviour of pink salmon.

United States

The United States presented cruise plans for the eastern Bering Sea (Doc. 1093) and Southeast Alaska coastal monitoring (SECM) for 2008 (Doc. 1094). The NOAA ship *Oscar Dyson* will be used to collect biological information on ecologically important fish species and provide descriptions of the physical and biological oceanographic conditions of the eastern Bering Sea waters during the fall of 2008. SECM research is scheduled to be conducted at four intervals from late May to late August at 13 core stations in the northern region of Southeast Alaska, and at eight stations in the southern region of Southeast Alaska during June and July. This sampling schedule is similar to that of 2005, 2006, and 2007. One additional component will involve another inter-vessel calibration of CPUE with the NOAA ship *John N. Cobb* and the RV *Medeia* in July.

The United States will continue the research in the Beaufort Sea this summer. The United States may have to take opportunities to collect data using other observer cruises. The United States invited two to three scientists on *Oscar Dyson*.

*John N. Cobb* will be decommissioned this fall and the United States is trying to obtain a vessel to replace *John N. Cobb*, however, the *Medeia* will be contracted until a replacement vessel is identified.

Korea
There will be four research plans for efforts focused on coastal areas on juvenile distribution, zooplankton biomass, nutrients, water properties such as temperature, salinity, etc. (Doc. 1054). The research may be adjusted depending on weather conditions.

4. **Exchange of Biological Samples and Data**

List of requests for samples and data is appended as Appendix 5.
5. **Reports from the Sub-Committee and Working Groups**

(a) **Science Sub-Committee (SSC)**

The first meeting of Long-term Research and Monitoring Project was held on April 7–9, 2008, under the chairmanship of B. Riddell. In the first day, participants made short presentations that identified linkages between climate and the population ecology of Pacific salmon. In day two, each participant summarized their views on regional and international monitoring and long term research issues. There was extensive discussion on day two that highlighted some important and common issues such as priorities of research and monitoring subjects, and management of international database. Day three was used to continue the discussion and to focus on one potential international project. The concept of an “International year of the salmon” received strong support. The discussion of the participants will be used to draft a preliminary long term research and monitoring plan.

There was a brief discussion of the bibliography that was distributed prior to the meeting.

There was general agreement that this first meeting accomplished the objective of using the existing knowledge of climate impacts on Pacific salmon to begin identifying research and monitoring priorities in order to improve Pacific salmon forecasts.

(b) **Working Group on Stock Assessment (WGSA)**

The Working Group on Stock Assessment discussed the following three items:

1) up-dating the historic catch data, 2) up-dating the catch and salmon release data on the NPAFC website, and 3) the development of a working paper on the state of Pacific salmon in the NPAFC member countries (up-date of NPAFC Doc. 723).

Catch statistics through 2006 have been provided by Korea, Russia, Japan, and the United States (Alaska and the southern US states). Data provided for the southern U.S. states are considered preliminary for the 2006 sport fisheries as the reporting remains incomplete. Canada reported that it had completed its review of past catch data and will be reporting on that review later.

The Secretariat requested assistance of the working group to update the statistical summary available on the NPAFC website. B. Riddell (Canada) volunteered that it would be most efficient if he and J. Irvine (working group chair) completed the tables and graphs identified by the Secretariat and circulate them to other members for verification. The final data would be provided to the Secretariat for inclusion in the website.

Most discussion was related to the lack of progress on the development of an expanded report on the state of Pacific salmon in the North Pacific. Members of the working group had agreed at the 2007 Annual Meeting to include additional data related to the state of salmon (e.g., numbers of spawning salmon, estimates of marine survival rates, etc) and to categorize the state of salmon from regions of the North Pacific. However, no progress has been made to-date. To assist in the development of an expanded revision of Doc. 723, B. Riddell recommended that he and J. Irvine prepare an outline of a report and a discussion of how to define categories of status for the other members to review. The outline would include specific questions for members to reply to and allow continued development of a document to be discussed by the working group at the 2008 Annual Meeting. This proposal was supported by all members of the working group.

Other business presented by members included: 1) A presentation from the State of Alaska on their forecasted catches in 2008. The forecast is for the 18th largest catch since 1960 and 2) the Secretariat identifying that with the reported 2007 preliminary catches provided by Russia, the total catch of Pacific salmon in 2007 exceeded one million metric tons and was the largest historical catch of Pacific salmon.

(c) **Working Group on Salmon Marking (WGSM)**
The Working Group discussed the status of the NPAFC Otolith Mark Database, marking plans for brood year 2008 salmon, and the success of designating thermal mark patterns for specific countries.

The chair presented a summary of hatchery releases of salmon for the last 14 years as well as a summary of the growth of otolith marking. The presentation also showed graphs depicting the portions of releases that have or do not have associated images in the database.

At this time, only Japan and Korea have all year 2007 releases in the database. United States has not submitted release information for States of Washington and Oregon for 2006 or 2007; Russian release data are not available for 2006 or 2007 releases; and release data from Canada for the years 2004 through 2007 have not been submitted. Images of otolith marks are also missing for all releases from the States of Washington and Oregon and recent years’ releases from Russia and Canada.

Country Reports:

- Canada expects to update release records soon.
- Japan reported that there may be some changes in their release plans.
- Korea reported that they had a single release in 2008 that represented about half of the production at Yangyang.
- United States reported that they had submitted three reports summarizing releases by release year for the years 2005, 2006, and 2007 (Alaska) and presented a summary of otolith marking in seven states ranging from Washington and Oregon to Minnesota. Only Washington, Oregon and California currently have anadromous releases of salmon.
- Russia reported their release plans by species for 2008 brood year. They are using thermal marking at seven hatcheries and dry marking at ten hatcheries; almost all groups are marked as eggs however in one instance they will be marking after the hatch.

The Secretariat presented a summary of ocean recoveries of otolith marked chum salmon in the Gulf of Alaska during the winter of 2006 as well as results of stock identification by DNA analysis.

(d) Ad Hoc Working Group on Stock Identification (WGSI)

The goals of the Working Group are to: 1) develop, standardize, and disseminate genetic and other databases among the Parties; 2) encourage the development of new genetic technologies; and 3) facilitate the dissemination of statistical techniques.

Most Working Group business has been resolved by correspondence. Tissue requests have been largely met, and much progress has been made on Pacific Rim data bases for SNPs. The United States and Japan made extensive progress on the SNP baseline for chum salmon but it is not reported.

Canada, Japan and Korea expressed interest in a pink salmon collaboration, but all Parties had concerns about funding and resources at this time. Canada offered the use of its existing microsatellite database, and the Parties were urged to explore this option.

The United States described their project to develop a SNP database for steelhead. They have access to 30 SNP assays at this time and anticipate many more in the near future.

The Parties have provided many samples to ADFG for SNP analysis. J. Seeb (U.S.A.) will consolidate these collections at the University of Washington laboratory for SNP analysis.

(e) BASIS Working Group (BASIS WG)

The BASIS Working Group discussed several items including:
i) **2008 BASIS Symposium**

The Secretariat provided a presentation to facilitate discussion on the working plan, adoption of the tentative program, and publication of the proceedings.

In addition, the proposal for the publication of the proceedings listed in Appendix 3 was adopted, however there was some discussion regarding the length of manuscripts accepted for publication. The proposal limits the length of papers to 10 pages, including text, figures, and tables and some members believe that this may negatively impact the scope of papers submitted to the symposium. With regard to this length limit, the working group decided to agree to the 10 page limit per paper as a guideline. Papers that exceed this limit will not be excluded from the Bulletin, but if the total page limit for the Bulletin is exceeded, the group will re-visit this issue during the 2009 RPCM and at the 2009 Annual Meeting.

ii) **Summary of BASIS 2002 to 2006**

The working group agreed to include a review for BASIS Phase I as an introduction to the Proceedings for the BASIS Symposium, NPAFC Bulletin No. 5. It was suggested the document include the reason why the BASIS program was initiated as reported in the Phase I research plan, a brief summary of the oceanographic conditions during the Phase I research, summary information on carrying capacity for salmon provided by Japan, Russia, and the United States. Other pertinent information gathered during the BASIS Symposium may also be included as a summary in the report. A brief discussion on what was learned during BASIS Phase I, in relation to long-term monitoring for Pacific salmon will also be included. E. Farley (U.S.A.) will work on this document with the help of BASIS Working Group members from other Parties. The review document for BASIS Phase I will be submitted for peer review for publication in Bulletin No. 5.

iii) **Development of Plan for BASIS Phase II**

At the 2007 CSRS meeting, the Chairman recommended that Parties revisit the draft BASIS Phase II plan and contribute to editing the draft document and to provide these suggestions/edits prior to the 2008 RPCM. No edits or suggestions were received prior to the 2008 RPCM; thus the chairman suggested adopting the draft plan and the working group agreed.

iv) **Other Items**

Members of the working group agreed to the suggestion by the CSRS Chairman, to create a web-based brochure on the NPAFC web site that would summarize pertinent results on salmon research provided at the BASIS Symposium. E. Farley (U.S.A.) will work with the Secretariat and BASIS Working Group members on developing this brochure after completion of the BASIS Symposium in November, 2008.

(f) **Working Group on Salmon Tagging (WGST)**

The Salmon Tagging Working Group had discussed by email communication on the terms of reference, NPAFC disc tag and poster, tag recovery procedures, tagging database, and other items. The terms of reference agreed by the WG are: 1) manage the high-seas tagging database including the current INPFC/NPAFC tagging data and the future tagging activities, 2) coordinate the high-seas tagging experiments, 3) collect the release and recovery information and distribute them among the Parties, 4) report the annual summary of the high-seas tagging activity to the CSRS, 5) format disc tags with NPAFC logo for its future use, and 6) encourage reporting tag recoveries from the public. Parties plan three tagging experiments in 2008; 1) Japan: 1,000 tags during the *Wakatake maru* cruise in June–July, 2) US: 200 tags during the *Oscar Dyson* cruise in September, and 3) Russia: 500 tags during the *TINRO* cruise in June–fall. The new NPAFC-logo tags will be used in these experiments and paper posters will be distributed to contact persons of Parties. The number of posters requested by the Parties has been increased to 1,000 in total (Canada: 250, Japan: 300, Korea: 50, Russia: 100, and USA: 300). The Secretariat will make efforts to accommodate these requests of increases from the original plan. Electronic version of the poster will also be made available. Tag recovery procedures, the format of tagging database, rewards for tag recovery reports, and future cooperative tagging programs were also discussed.
2008 RPCM in session.
Photo by NPAFC Secretariat
6. Scientific Information for Enforcement Activities

At the 2007 Annual Meeting, the ENFO requested that CSRS provides any scientific information to assist in the effective enforcement of IUU fishing in the Convention Area. During the EECM, held in Vancouver on February 27–29, 2008, S. Urawa (Secretariat) and J. Irvine (Canada) made a presentation on oceanography of the North Pacific Ocean, migration patterns of salmon, factors affecting salmon distribution, thermal limits of salmon distribution, overlap of salmon and other species, real-time satellite data, and stock identification of IUU fishing salmon. The ENFO members asked several questions such as relationships of water temperature and vertical migration of salmon, and requested CSRS to prepare a guideline of sampling methods for stock identification of confiscated salmon. The stock identification of confiscated salmon may be an example of good collaboration between CSRS and ENFO. The ad hoc Working Group on Stock Identification will prepare such guideline for training enforcement personnel.

Hatchery facility at Youngdong Inland Fisheries Research Institute. Photo by NPAFC Secretariat
III. SIXTEENTH ANNUAL MEETING OF THE COMMISSION

1. TIME AND PLACE OF THE MEETING

The Sixteenth Annual Meeting of the Commission was held at Washington State Convention and Trade Center in Seattle, WA, U.S.A. on November 17-21, 2008. Plenary sessions were held under the chair of Mr. Dohyung Koo and Dr. Suam Kim, Presidents of the Commission.

The Committee on Scientific Research and Statistics (CSRS) met on November 17-20, with Dr. Yukimasa Ishida of Japan as Chairman.

The Committee on Enforcement (ENFO) met on November 17 and 18, with Mr. Robert Martinolich of Canada as Chairman.

The Committee on Finance and Administration (F&A) met on November 19 and 20 with Dr. Sergey Maksimov of Russia as Chairman.

2. PARTICIPANTS
Persons participating in the meeting were as follows:

<table>
<thead>
<tr>
<th>Country</th>
<th>Representatives</th>
<th>Advisers and Experts</th>
<th>Secretariat:</th>
<th>Interpreters</th>
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<tr>
<td><strong>Canada</strong></td>
<td><strong>Guy Beaupré</strong> (Head of Delegation)</td>
<td><strong>Gerry Kristianson</strong></td>
<td><strong>Vladimir Fedorenko</strong> (Executive Director)</td>
<td><strong>Toshiko Adilman</strong></td>
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<td></td>
<td><strong>Terry Beacham</strong></td>
<td><strong>Richard Beamish</strong></td>
<td><strong>Shigehiko Urawa</strong> (Deputy Director)</td>
<td><strong>Hiromi Chino</strong></td>
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<td><strong>Jim Irvine</strong></td>
<td><strong>Chantal Lamadeline</strong></td>
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<td><strong>Robert Martinovich</strong></td>
<td><strong>Brent Napier</strong></td>
<td><strong>Denise McGrann-Pavlovic</strong> (Secretary)</td>
<td><strong>Mieko Kondo</strong></td>
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<td><strong>Brian Riddell</strong></td>
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<td><strong>Garth Sinclair</strong></td>
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<td><strong>Japan</strong></td>
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**Observers**

**States, Entities or IGOs**

- Alexander Bychkov (North Pacific Marine Science Organization, PICES)
- Ke-Yang Chen (Taiwan)
- Wei-Yang Lin (Taiwan)
- Chang-Meng Tsai (Taiwan)

**NGOs**

- Sarika Cullis-Suzuki (University of British Columbia)
- Eldon Ladd (Coastal Conservation Association)

**Secretariat:**

- Vladimir Fedorenko (Executive Director)
- Shigehiko Urawa (Deputy Director)
- Wakako Morris (Administrative Officer)
- Denise McGrann-Pavlovic (Secretary)
- John Brogan (Temporary Assistant)
- Ron Erickson (Temporary Assistant)
- Beth Matta (Temporary Assistant)
- Bruce Lawler (Technician)
- Chris Triantafilou (Technician)

**Interpreters**

**English/Japanese**

- Toshiko Adilman
- Hiromi Chino
- Ikumi Graham
- Mieko Kondo
- Yuko Yasutake

**English/Korean**

- Sangsook Lee
- Yun Hyang Lee
- Jacki Noh
- Susan Ritchie
- Chunghee Ryu
Katherine Myers
Paul Niemeier
Jeff Passer
Lisa Ragone
Jim Seeb
Lisa Seeb
Butch Smith
Jay Stinson
Brad Soule
Eric Volk
Robert Walker
Sewall Young

English/Russian
Andre Falaleyev
Natalie Latter
Paulina Mashnik
Julia Mogilev
Michael Wasserman
3. **AGENDA**

(1) **Opening by the President of NPAFC, Mr. Dohyung Koo**
(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) Exchange of information on activities contrary to provisions of the Convention (Article IX 2.)
   (b) Review and evaluation of enforcement actions (Article IX 5.)
   (c) Review of the report of 2008 Enforcement Evaluation and Coordination Meeting (EECM) and North Pacific Tripartite Meeting
   (d) Report on updated functions of the Integrated Information System
   (e) Results and effectiveness of using satellite tracking buoys for abandoned driftnets
   (f) Discussion of proposed enforcement meetings and activities for 2009
   (g) Review of Parties' proposals on joint projects to be financed by the Commission
   (h) Cooperation with relevant international organizations and invitations to state or entity (Article IX 9. and 10.)
   (i) Adoption of ENFO Report
(8) **Consideration of Scientific Research and Statistics**
   (a) Review of scientific research activities and statistics (Article IX 6.)
   (b) Coordination of scientific research activities (Article IX 6. and 8.)
   (c) Review of Parties' proposals on joint projects to be financed by the Commission
   (d) Project proposals for external fundraising
   (e) Development of 2009 Work Plan
   (f) Cooperation with relevant international organizations and invitations to state or entity (Article IX 9. and 10.)
   (g) Publications (Rules of Procedure 19(k) and 25)
   (h) Future meetings
   (i) Adoption of CSRS Report
(9) **Administrative and Fiscal Matters**
   (a) Consideration of Auditors' Report and selection of an auditor
   (b) Financial situation in current fiscal year
   (c) Budget estimate for fiscal year beginning July 1, 2009
   (d) Budget forecast for fiscal year beginning July 1, 2010
   (e) Financial analysis and increase of contributions from 2010/11 FY
   (f) Administrative report for 2008
   (g) Administrative matters
   (h) Status of Special and External Funds
(i) Review of ENFO and CSRS recommendations on joint projects to be financed by the Commission
(j) Hiring procedure for the Deputy Director
(k) Schedule of future Annual Meetings
(l) Adoption of F&A Report
(10) Accession of certain other states of origin to the Convention (Article XVIII)
(11) Performance review of the NPAFC
(12) Deputy Director’s term of office and related issues
(13) Election of NPAFC President
(14) Other business
(15) Place and time of the Seventeenth Annual Meeting
(16) Summary minutes of plenary sessions
(17) News Release
(18) Closing remarks
(19) Adjournment
4. **Opening Remarks**

There were addresses of welcome and statements by the NPAFC President, Director of the Washington State Department of Fish and Wildlife, representatives of Russia, Canada, Japan, Korea, the United States and observers from North Pacific Marine Science Organization (PICES) and Taiwan.

**Mr. Dohyung Koo, President of NPAFC**, addressed the meeting as follows:

Distinguished delegates, observers, ladies and gentlemen,

As President of the North Pacific Anadromous Fish Commission I would like to open the 16th Annual Meeting of the Commission.

I am very pleased that we are holding the 16th Annual Meeting in one of the most beautiful coastal cities in U.S., Seattle, and would like to take this opportunity to thank Director Jeff Koenings from the Washington Department of Fish and Wildlife on behalf of the U.S. government for hosting this meeting.

I would also like to express my sincere gratitude to Executive Director, Mr. Fedorenko and all the excellent staff for their hard work throughout the year and particularly for organising this meeting in recent weeks.

After being elected as President of the Commission last year, in order to understand the history of the Commission, I have been reading the documents published from the establishment of the Commission to the present.

This gave big pride to me as President of the Commission due to the fact that collaboration among all the contracting Parties has advanced year by year with committee functions significantly improved and achieved a lot. I strongly believe that the development and achievement of the Commission is definitely due to the cooperative relationships in the sector of enforcement and science among the Parties.

The success of the Commission can also be attributed to the active and constructive work carried out by the committees, ENFO, CSRS and F&A. In particular, the Commission has successfully brought together a strong push to IUU fishing and a better understanding of salmon behaviour. Thanks to all the efforts, I believe, the Commission can keep moving to the better conservation and management of the salmon in the Convention area.

Now, to step forward, we are about to commence the Performance Review of the Commission called by UN General Assembly. As we discussed over the last year, I hope we can establish an effective and concrete Work Plan of the Review during this week.

The NPAFC is a Commission that I like very much to work with and I am very pleased to be here with all of you. We have a full week ahead of us with many issues and interesting agenda to discuss and decisions to take.

In closing, I would like to welcome all of you again to this 16th Annual Meeting. I wish all of you an excellent and fruitful week of work and discussions and enjoy sleepless nights in this beautiful Seattle.

Thank you.
Mr. Chairman, distinguished delegates, ladies and gentlemen,

Good morning, on behalf of the state of Washington, the Evergreen State, I welcome you to Seattle, the Emerald City. We are proud of our green distinction and environment. I trust this year’s meeting will be a rewarding and productive one, and though the weather may be a bit wet, you will find that the Pacific Northwest is a beautiful region that places a high value on its natural resources, including salmon. Throughout the United States, this region is known for its wet weather, preponderance of coffee drinkers, and highly sought after salmon. And don’t be afraid to try our wines with our salmon, be bold—either red or white go well with salmon. Speaking of drinking wines, I see a lot of my good friends in this room…Dick, Doug, Bill, Russ. We are a community, and though maybe not a community in a traditional sense of our home neighborhoods, we are a community nonetheless of the North Pacific because of our shared values in salmon and their great migrations that encompass all of our regions.

Salmon are the most profound and enduring symbol of the Pacific Northwest. They are at the heart of the Northwest’s Native American cultures, marking the change of seasons and representing a focus of their religions. We value the unmatched opportunities for fishing and viewing that salmon embody as they make their great migratory returns to our rivers. Salmon are the economic mainstay of our coastal communities. They are an iconic resource that embodies one of the last living examples of the wild character that we cherish.

The Northwest region relies on the North Pacific Anadromous Fish Commission to protect salmon and steelhead from high seas interceptions, and to provide increased understanding of their migration patterns, marine survival, and their role in the marine ecosystem. The state of Washington knows that our gravel-to-gravel management approach to salmon recovery means that we need to understand survival through all their life stages, otherwise we will not succeed.

Over the past decade we have observed increased variation in marine productivity for salmon. Neither species, nor region has escaped the variability in productivity, but those regions with species existing at the boundaries of their historic range seem to have seen the worst. In this past year, the east coast of the Pacific Ocean has experienced a collapse of the Central Valley Chinook stock as well as the Fraser River sockeye. Interestingly enough and fortuitously for the state of Washington, Columbia River Chinook, sockeye and coho did much better than pre-season abundance forecasts predicted, though abundances still remain below goals. With the seemingly unpredictable abundance of salmon back to the regions of origin, precautionary management principles must prevail.

Climate change is no longer a theory, but a reality and I think the highly variable and seemingly unpredictable forecast in abundance of salmon has resulted from too much reliance on traditional fishery models. These forecast models were developed many years ago, to aid in our management of mixed stock fisheries, but in a time when marine abundance and distributions were different than they appear to be today based upon shifts in thermal regimes. We have relied upon coded-wire tags as our main management tool to determine contributions to harvest and predict the effects of fishery patterns on stocks. However, the new stock identification tools such as microsatellite DNA or single nucleotide polymorphism provide evidence that our old assumptions have become unreliable. Development of region-wide genetic baselines is essential to our domestic fishery management, as well as for tracking salmon and steelhead on the high seas. The genetic baselines that NPAFC is helping develop will provide new tools for managing mixed stock fisheries and support implementation of the new Pacific Salmon Treaty between the United States and Canada.
I’ve described some of the changes we are seeing presently, and the role that NPAFC plays in helping us adapt to those changes. I see an even greater need for the future. We know there is a strong correlation between salmon species productivity and the marine environment, and that global climate change will result in significant changes to the ecosystems of the North Pacific. It is essential that the NPAFC, through its international scientific cooperation, improve our scientific information on the status and trends of salmon stocks in the marine environment. Accurate information on the marine productivity for anadromous fish improves the precision and accuracy of species forecasts, complements new fishery management tools, and assists fishery managers in implementing sustainable fisheries that are a critical part of this region’s salmon recovery efforts.

NPAFC must track the impacts of climate change on the marine distribution of species, and the resultant impacts to salmon productivity. For example, seeing some of the maps of high seas recoveries of steelhead and comparing them to salmon, I was struck by the far migrating and open ocean distribution of steelhead. Looking at the map, I could see that steelhead are mostly bound on the north by the Aleutians, but warming temperatures could force steelhead north into the Bering Sea, which is a very different environment for this species that is adapted to life beyond the shelf edge. This potential shift is of concern for steelhead as those that originate in Washington and British Columbia are in trouble, and we need to know how this shift in distribution may impact our ability to recover this species. In contrast, the change in the marine rearing environment has opened up new areas in the up north into the Arctic region for pink salmon colonization. There was even a tour ship this past summer that left Europe and circumnavigated the polar route, docking later in the summer in Barrow, Alaska.

Science is our compass, now more than ever in these times of greater uncertainty in a rapidly changing environment. NPAFC is a leader in the development of sound science and the protection of anadromous species on the high seas. I am certain that your meeting this week, and the exchange of information during the BASIS symposia that follows can benefit generations to come. I wish you, my colleagues well in the days ahead and much success during your annual meeting. We’ve learned here in Washington State that collaborative forums or processes lead to lasting solutions. We call it the Washington Way. It appears from work that I’m familiar with that collaboration is the NPAFC way, as well. Thank you, and enjoy our hospitality.

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Dr. Vladimir Belyaev, Head of the Russian delegation, addressed the meeting as follows:

Esteeemed President Dohyung Koo, esteemed Mr. Koenings, esteemed Mr. Fedorenko, the Executive Director, esteemed national delegates, dear participants, ladies and gentlemen.

First of all, it gives me great pleasure to thank our American colleagues for inviting us to the beautiful city of Seattle. It is the perfect choice as the best city of the NPAFC Annual Meeting.

On behalf of the Russian delegation I would like to express our gratitude to the local organizing committee and to the Commission’s Secretariat for the huge preparation effort leading to this session.

Over the past 16 years that have elapsed since the Commission was founded, the NPAFC’s scope of work has expanded and is becoming ever more relevant. A lot of intersessional work takes place both in terms of science and in terms of interaction between those agencies that protect the stocks of the Pacific salmon in the Convention Area.
I can state with satisfaction, that we have improved our ties and we also continue to expand our cooperation with other international organizations in the field of fisheries and ocean research. As far as the Pacific Ocean is concerned, this pertains first and foremost to the North Pacific Marine Science Organization (PICES).

Last year, the Russian Federation had the honour of hosting the 15th NPAFC Annual Meeting in Vladivostok. This year it is our friends and colleagues from the United States of America who have this honour.

The ever growing interest in the activities of the Commission is highlighted by the large number of both participants and observers from other countries and organizations that continue to attend our meetings. They also do research and are active in the world’s ocean and they are here with us again.

Also, these are all indications that the number of the NPAFC member nation should increase. The Russian Federation views this as a welcome development, however, we advocate caution.

Allow me to stress, once again, that Russia has always paid great attention to the research on Pacific salmon. Therefore, we value highly the NPAFC activities and have been consistent in our support of NPAFC.

Moreover, Russia advocates the development of the Commission and enhancement of its activities. We particularly value the NPAFC’s coordinating role in implementing such major science projects as the BASIS programme. It’s Phase One was concluded in 2006 and we will be able to assess the status of the accomplishments of this programme very soon at a special symposium.

Russia notes with satisfaction, that there are reasons to launch Phase Two of the programme in the nearest future.

There is no doubt, that the first half of the current century will mark great changes in oceanography in general and in the fisheries science in particular.

All the North Pacific countries will be employing sustainable development approaches as they apply to the utilization of the Pacific salmon resources, development of marine aquaculture, including salmon breeding.

In Russia’s opinion, NPAFC, being an advanced system, has proven to be ready to take its leading place in this process.

In concluding my remarks, I would like to wish all the participants of the 16th Annual Meeting a very successful and productive meeting. We have come here to resolve many issues and to develop and adopt many important decisions.

Thank you.
Mr. Guy Beaupré, Head of the Canadian delegation, addressed the meeting as follows:

Mr. President, Delegates, Ladies and gentlemen:

Canada is pleased to attend the 16th annual meeting of the North Pacific Anadromous Fish Commission and want to thank our hosts for inviting us here in Seattle.

In support of the United Nations ban on high seas drift net fishing, Canada works closely with other Nations to prevent illegal fishing and to conserve stocks. Prohibiting fishing for Anadromous fish in high seas areas of the North Pacific Ocean is a priority for Canada.

Illegal high seas drift net fishing practices threaten Anadromous fish species that are important to Canada’s economy, particularly salmon. Monitoring, Control and Surveillance is a fundamental part of Canada’s strategy to eliminate IUU activities on the high seas. Canada’s long range air patrols are an integral part of the international enforcement efforts. In addition to these, Canada explores other potentially cost effective ways to enhance its enforcement contribution. For the first time in 2008, we have used the newly available high earth orbit satellite (Radarsat-2) employed specifically in the North Pacific. Although still in the pilot stage, preliminary results of the satellite trials appear promising.

With regard to scientific research, Canada will continue to support the NPAFC activities on climate change, on factors affecting mortality, and on the impact of winter conditions on Pacific salmon through joint planning and cooperation with other international agencies. An example comes to mind, the by catch of Chinook and other salmon in the Alaskan Pollock fishery which has been a concern for Canada over the last couple of years. I understand that work is underway to address this issue.

Our concern for conservation of salmon continues particularly for some stocks in southern British Columbia. Although it is still yet too early in our spawning assessments to be definitive there are indications that some southern Chinook and sockeye stocks are in trouble. We hope that through organizations such as this and cooperation with the United States under the Pacific Salmon Treaty we will be able to address conservation of stocks, particularly Chinook. Further, our concern is not isolated to just Pacific salmon but also steelhead trout which also co-migrate with salmon.

Canada is also looking forward to progress being made on the Commission’s performance review following the process which started last year as urged by the United Nations General Assembly. We have been asked to examine our organization with respect to conservation and management, compliance and enforcement, decision making and dispute settlement, international cooperation and finance and administration. Once we have approved our work plan for the performance review I expect the Commission will be able to use this opportunity to showcase many of the positive and cooperative programs undertaken by NPAFC science and enforcement groups. With respect to cooperation I hope we can move forward with the joint North Atlantic Salmon Conservation Organization and NPAFC symposium proposed in 2010 or 2011. This is something we have been discussing for some time in both organizations and Canada is looking forward to this opportunity to bring together the tremendous work that is being done in these two Commissions on understanding and protecting salmon.

I look forward to working with all of you this week.

Thank you.
Mr. Hiromi Isa, Head of the Japanese delegation, addressed the meeting as follows:

Mr President, Delegates, Observers, Ladies and Gentlemen, I am Hiromi Isa, the Head of the Japanese Delegation. I would like to say a few words to you on behalf of the Japanese Delegation.

We are particularly very pleased to see you in Seattle, a city well known in Japan that has always warmly welcomed as friends those Japanese people who live and work here.

First of all, I would like to express my sincere gratitude to the host of this year’s Annual Meeting, the Government of the United States, for the heart-warming welcome. I also would like to thank the staff at the Secretariat for having made thorough preparations for this meeting.

Since the inception of the NPAFC, the Parties have endeavored to continue their dedicated activities in both enforcement and scientific research to fulfill the objective of the Convention, which is to conserve anadromous species in the North Pacific Ocean.

Enforcement activities have been conducted very actively in an efficient and effective manner through various frameworks of information exchange among the Parties. This year, particularly, the Parties’ proactive enforcement activities through swift information exchanges have brought about some remarkable results.

As for the scientific research work, based on the NPAFC Science Plan, many beneficial researches have been carried out through the cooperation among the Parties. Japan has been continuing its efforts to plan and conduct further, more beneficial studies. We are committed to continuing our efforts while deepening our cooperation with the fellow Parties as well as with other international organizations.

I would like to take this opportunity to pay our respects to the honorable President, Mr. Koo and chairmen of its three committees. We would like to ask you to lead the Commission’s Annual Meeting this year with your strong leadership, just as last year’s chairs did. As the Head of Delegation, I pledge full and active cooperation by the Japanese Delegation, so that this meeting may be run smoothly and efficiently.

Furthermore, let me also express my appreciation to all the staff of the Secretariat who work very hard daily to enable the Commission to carry out its activities. It goes without saying that our significant and continuing activities owe much to the Executive Director, Mr. Vladimir Fedorenko and his staff.

Now allow me to introduce our members. First, Mr. Imamura, one of the Commissioners of Japan to NPAFC. As you might be well aware, he has been in this position over the years, and is one of the longest-serving members. From Japan Fisheries Agency, Mr. Tomita and Mr. Imai. Our scientists are, first, Dr. Ishida from Tohoku National Fisheries Research Institute, Fisheries Research Agency he will chair the CSRS this year. From National Salmon Resources Center, Dr. Seki, And From National Fisheries Research Institute of Hokkaido Fisheries Research Agency, Dr. Nagasawa, Dr. Azumaya and Dr. Fukuwaka.

Finally, Mr. President, I conclude my remark hoping that this year’s meeting will be successful.

Thank you.
Dr. Yonggun Gong, Head of the Korean delegation, addressed the meeting as follows:

Good morning. Mr. President, distinguished delegates, ladies and gentlemen,

On behalf of the Korean delegation, I would like to thank delegation of the United States of America for hosting 16th Annual Meeting of the NPAFC. I also wish to take this opportunity to express my appreciation to Executive Director, Mr. Vladimir Fedorenko, and the Secretariat for their valuable support in preparation of this meeting.

I am very pleased to see delegations of the member States and representatives of the various organizations that share common interests in anadromous stocks and their conservation in the North Pacific. Through this meeting, I believe that many issues will be addressed to increase scientific knowledge and to strengthen conservation measures for anadromous stocks in the North Pacific.

It has been five years since the Republic of Korea became a regular member of the NPAFC. The joining to the NPAFC was a good turning point to the Korean salmon research activity. For the last five years, Korea accumulated various experiences in terms of scientific and enforcement activities. In Korean waters, however, we are experiencing a decline in salmon stocks even though the Korean Government has been conducting 'Salmon Enhancement Program' since 1967. In this regard, Korea would like to discuss and share the advanced policies and research experience of the other member States.

Mr. President, the North Pacific Anadromous Fish Commission (NPAFC) has expanded cooperation among the member States in scientific research and enforcement. Regarding the Committee on Scientific Research and Statistics (CSRS), we have contributed to understanding the status and trends in production of anadromous stocks. Now it is time to consider salmon as a critical component of the North Pacific epi-pelagic ecosystems and this concept is also a global trend towards ecosystems approaches for managing fishery resources. I believe that we have many issues to discuss during this meeting such as Long-term Research and Monitoring Plan (LRMP), coordination of CSRS sub-committee, NPAFC proposal for the North Pacific Research Board, and cooperation with other international organizations such as the PICES and NASCO, etc.

With regard to the enforcement activities, the Committee on Enforcement (ENFO) has successfully maintained a very low level of illegal high sea driftnet fishing operation on salmons in the Convention Area. I believe that we have conducted one of the best practices among international Fisheries Management.

Mr. President, considering the successful activities of both CSRS and ENFO, I trust that these will promote and facilitate effective salmon conservation in the North Pacific. And Korea hopes to actively join IUU fishing patrols in the near future and to participate more in cooperative research as a Party to the Commission.

Finally, I am very sure that we will make progress on decisions concerning our science and enforcement programs, and wish you a most productive meeting.

Thank you very much.
Mr. Doug Mecum, Head of the United States delegation, addressed the meeting as follows:

Mr. President, Fellow Representatives, Distinguished Delegates and Observers, Ladies and Gentlemen,

The United States delegation is pleased to host the 16th Annual Meeting of the North Pacific Anadromous Fish Commission. This is the second time that the NPAFC Annual Meeting has been held in Seattle—the first was the 3rd Annual Meeting in 1995. Seattle is a very salmon-friendly city, as demonstrated by its commitment to improving habitat for chinook and other salmon species within its limits and in its watersheds. Seattle has also taken steps to improve water quality, conserve water and restore shorelines. Seattle has much to offer and we hope that you will take advantage of our central location and the great restaurants and shopping that surround us.

My name is Doug Mecum and I am the Deputy Administrator for the Alaska Region of the National Marine Fisheries Service and head of the U.S. delegation.

I would like to convey the U.S. delegation’s best wishes for successful meetings to our President, Dr. Koo and his alternate, Dr. Suam Kim, and our Committee Chairs, Dr. Ishida, Mr. Martinolich, and Mr. Maksimov.

Regarding the work of the Committee on Scientific Research and Statistics, the following issues and areas of research remain important to the United States: (1) the continuation of at-sea research like the BASIS Program; (2) the development of baseline genetics markers of salmon and steelhead stocks from all over the Pacific Rim; (3) research on intermixing of salmon stocks in the ocean; (4) interceptions of steelhead and salmon in the high seas and exclusive economic zones; (5) impacts of IUU (illegal, unregulated and unreported) fishing on salmon; and (6) ecosystem-scale research on salmonids in their ocean environment.

This year, I would like to mention one other salmon issue for the U.S. Pacific Northwest. In September 2008, U.S. Senators Maria Cantwell (D-WA) and Lisa Murkowski (R-AK) introduced a bill to support the protection and restoration of the healthiest remaining wild Pacific salmon ecosystems in North America. The Pacific Stronghold Conservation Act, S. 3608, would complement the current salmon recovery efforts under the U.S. Endangered Species Act that aim at restoring what we have already lost, with one that aims to protect what we have to ensure the future viability of healthy wild Pacific salmon runs for generations to come.

The United States thanks all of the Parties to the Convention for their participation in another successful high seas enforcement season. Two driftnet vessels were seized in September and October, and sighting and registry information was gathered on a number of other vessels operating in the Convention waters. U.S. Coast Guard cutters operated jointly with Russian patrol craft, Japanese aircraft, met with the Taiwan Coast Guard at sea, and hosted a Korean observer on board the Cutter MUNRO. NOAA Special Agents deployed on Canadian and USCG surveillance patrols of the high threat area. These coordinated efforts are examples of excellent enforcement teamwork. We look forward to increased cooperation in future years, so that we can build upon our partnership in protecting anadromous fish stocks in the high seas.

The United States renewed its commitment to end IUU fishing in the North Pacific Ocean when the U.S. Congress passed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act in January 2006. A recent report funded by NOAA shows that the incidence of monofilament gillnets similar to those used in the high seas driftnet fishery continues to show up on the beaches of Alaska. Samples of monofilament gear were recovered in most beach cleanups in Alaska and the distinctive “banana” floats used in driftnets were one of the most common items found. Much of this marine debris is believed to consist of “legacy” nets from past sanctioned driftnet activity and/or illegal fishing activity in the North Pacific, but some of the netting is of more recent origin.

In closing, I would like to acknowledge the hard work of Executive Director Fedorenko and his staff in preparing for this Annual meeting. Because of their experience and diligence, we have no doubt that it will run smoothly.
Mr. Chairman, please permit me to introduce the members of the U.S. delegation.

Dr. Alexander Bychkov, observer from PICES, addressed the meeting as follows:

Dear Mr. President, representatives of contracting Parties and distinguished guests:

On behalf of the North Pacific Marine Science Organization, I thank the North Pacific Anadromous Fish Commission for inviting PICES to participate as an observer in your Sixteenth Annual Meeting. It is an honor for me to be with you here in Seattle.

NPAFC and PICES are natural partners: we have overlapping convention areas and we share five Contracting Parties in common with NPAFC and our Secretariats are located in close proximity in British Columbia. NPAFC’s focus on the conservation of stocks of anadromous and ecologically related species, combined with the broad scientific mandate of PICES provide our organizations with great potential for cooperation. In 1998, NPAFC and PICES signed a Memorandum of Understanding (MOU) and our scientists have been working together on problems of mutual interest for more than a decade, with a good record of joint activities. Let me take this opportunity to provide you with an update on some recent initiatives within PICES that could set the basis for closer collaboration between the two organizations in the coming years.

One of high priority projects for PICES during the next year and a half will be the production of a second status report on the ecosystems of coastal and oceanic regions throughout the North Pacific. Our pilot project in 2004, to which NPAFC contributed a chapter on Pacific salmon, was very successful. The upcoming report will focus on status and trends in marine ecosystems of the North Pacific and its marginal seas for the period 2003–2008 and will address ecosystem components from climate and hydrography through fish, birds and mammals. Publication of a report for a scientific audience and a brochure for policy makers, managers, and other interested members of society is expected in the first half of 2010. We invite NPAFC to participate in this project.

This version of the report anticipates making incremental improvements to our first effort. For example, we will integrate the fisheries data more closely with the regional chapters and improve our ability to link the causes of recruitment variability with marine environmental variation. NPAFC plays an important role by summarizing salmon catches in the North Pacific. Information on total catches of salmon by species from 1955–2008 (even if the recent data are preliminary) could be an important contribution to the oceanic (basin-scale) chapter of the next ecosystem status report, especially if accompanying estimates of annual hatchery and wild proportions can be determined. NPAFC can play an equally important role in the project by identifying scientists from the Contracting Parties who can report on marine survival of individual populations of salmon (hatchery or wild), especially in Asian marginal seas, or by identifying meetings in Asia where this topic is discussed.
A request on NPAFC involvement in this project was sent to the Chairman of your Working Group on Stock Assessment and your Secretariat last summer.

**FUTURE** stands for **F**orecasting and **U**nderstanding **T**rends, **U**ncertainty and **R**esponses of North Pacific Marine Ecosystems. It is a new integrative scientific program to be undertaken by PICES member countries to understand and forecast responses of North Pacific marine ecosystems to climate change and human activities at basin and regional scales, and to broadly communicate this scientific information to members, governments, resource managers, stakeholders and the public. The basic principles of FUTURE are contained in the Science Plan that was approved in principle at the 2007 PICES Annual Meeting and finalized in February 2008. The new program evolved from the research conducted by its predecessor, the Climate Change and Carrying Capacity (CCCC) Program that PICES initiated in the mid-1990s. FUTURE places additional emphasis on ecosystem forecasting, coastal anthropogenic influences, and providing information to a broad community in useful formats.

An Implementation Plan for FUTURE is now under development and is expected to be completed by April 2009. The program implementation strategy considers not only coordination of national projects but also cooperation with international organizations and programs. In planning for the CCCC Program, our organizations agreed that it would be appropriate for the salmon research component of this study to be conducted jointly by PICES and NPAFC. We hope that the new program will further facilitate joint activities undertaken by our scientists and look forward for your contribution to the Implementation Plan for FUTURE. The Science Plan and other documents related to FUTURE can be found on the PICES website.

This fall, a Working Group on Forecasting Climate Change Impacts on Fish and Shellfish was established jointly with ICES to promote and coordinate research on the potential impact of climate change on marine ecosystems and to develop frameworks and methodologies for forecasting the impacts of climate change on marine ecosystems, with particular emphasis on the distribution, abundance and production of commercial fish and shellfish. The culmination of the Working Group’s effort will be an international symposium in spring 2010 where scientists can present and discuss forecasts of climate change impacts on the world’s marine ecosystems, and publication of results in a major scientific journal by 2011. The timing of the publication is critical because the Fifth Assessment Report of the Intergovernmental Panel for Climate Change (IPCC AR5) is slated for release in 2013, and the IPCC only allows references to published papers. We invite NPAFC to contribute to the activities of the new Working Group and to join PICES as a co-sponsor of the 2010 symposium in particular.

NPAFC should be proud by all its accomplishments, and I have no doubt that this Annual Meeting, as well as the BASIS symposium on “Climate Change, Production Trends, and Carrying Capacity of Pacific Salmon in the Bering Sea and Adjacent Waters”, will be a resounding success.

I wish you all very fruitful and enjoyable time in Seattle. Thank you.
Mr. Ke-Yang Chen, observer from Taiwan, addressed the meeting as follows:

Mr. President, distinguished delegates, ladies and gentlemen,

I am Ke-Yang Chen, Head of the delegation of Taiwan. On behalf of the Fisheries Agency of Taiwan, I would like to thank the Executive Director and the Secretariat for inviting us to attend this Annual Meeting again. I also would like to extend our deepest gratitude to the Government of the United States of America for hosting this meeting and its warm hospitality, and to the Secretariat for its efficient preparation of the meeting. This is my first time to join the Annual Meeting of NPAFC, and it is my great pleasure to meet all of you here.

As an important user of marine living resources, Taiwan has the responsibility of using these marine resources in a sustainable manner. With this in mind, over the past years Taiwan has dispatched patrol vessels to North Pacific Ocean to monitor the large-scale driftnet fishing operations and implemented port state measures to monitor the relevant fishing activities, which already shows significant results on the reducing of illegal driftnet fishing.

This year, Taiwan continuously dispatches patrol vessels to North Pacific Ocean to monitor the fishing activities of its vessels to ensure their compliance with the management measures adopted by NPAFC.

Finally, I wish you all to have a fruitful and productive annual meeting. Before I close, I would like to introduce the members of the Taiwanese delegation. Mr. Chang-Meng Tsai is the Deputy Director of the Marine Division, Maritime Patrol Directorate General, Coast Guard Administration. Mr. Wei-Yang Liu is Secretary of Oversea Fisheries Development Council of the Republic of China.

Thank you. Mr. Chairman.
5. **Consideration of Enforcement**

The committee reviewed enforcement activities in 2008 and planning for 2009 on the basis of information provided by Russia, Canada, Japan, Korea, and the United States.

(1) **Russia**

*Enforcement Activities in 2008*

Russia reported that it had 13 patrol flights with 87 hours of flight time and patrol vessels *Dzerjinsky, Orel, Antias* and *Magadanets* were deployed during the period in the Convention Area.

The border guard patrol vessels and ships (hereinafter called - bgpv and bgps) were used 5 times, including:

- bgpv *Dzerjinsky* with a helicopter onboard - from June 04 to June 12;
- bgpv *OREL* with a helicopter onboard - from June 12 to June 21;
- bgps *Antias* - from July 04 to July 08;
- bgpv *MAGADANETS* - from July 17 to July 21;
- bgpv *Dzerjinsky* with a helicopter onboard - from August 04 to August 08;

The total number of days in the Convention Area was 34.

From August 07 to August 08 2008 the border guard patrol vessel *Dzerjinsky* and ship CG USA *JARVIS* carried out joint patrolling of the Convention Area, in which plane CG USA *HERCULES* took part. Also helicopter *KA-27* realized flights from the deck of bgpv *Dzerjinsky* to learn the situation in the entrusted areas.

A number of suspicious vessels were sighted but were not illegally fishing nor carrying drift nets.

- On June 6, 2008 patrol aircraft detected three radar targets in area 9B;
- On July 29, 2008 seven targets were detected: all targets were visually identified, as the Taiwan fishing schooners. It did not answer the call;
- On August 19, 2008 two targets were detected: all targets were visually identified as research ships.

*Planned Activities in 2009*

Russia fully intends to use two patrol vessels and aircraft from Petropavlovsk-Kamchatsky and from Sakhalin.

The detailed planned period will be adjusted and will be reported at the next 2009 EECM.

(2) **Canada**

*Enforcement Activities in 2008*

In 2008, Canadian HSDN operation included two CP 140 aircraft with the additional support of a lead officer, who provided overall coordination of patrol operations and improved the interface with USCG and DND. Canada also employed Radarsat II (a recently launched earth surveillance satellite) on an
experimental basis to assist with locating vessel concentrations and monitor areas not being flown by
the CP 140 aircraft within the NPAFC Convention Area.

Ten patrols were completed during September 7-17, 2008 with 114 total hours flown. During that
period, five HSDN fishing vessels and one unidentified vessel of interest were identified (NOA,
BANGUN PERKASA, F/V DAY FULL, FUNG SHENG, F/V MEI MEI and BANGUN SATRIA) where
the sea water temperatures were between 19.0-19.2 C. DAY FULL, FUNG SHENG and MEI MEI
were rigged for HSDN fishing. BANGUN SATRIA had a net over 3nm in the water which was cut
when they were detected. All vessels were detected in close proximity to concentrations of squid
jigging vessels. NOA was identified as Panamanian flagged, all the rest are suspected Indonesian
registered vessels.

**Planned Activities in 2009**

It is anticipated that Canada will commit 180 hours of air surveillance time, subject to final
confirmation by DND. The timing of the air patrol efforts are unconfirmed at this time, but they will be
available at the next EECM meeting.

In addition, it is Canada’s intention to again make use of Radarsat II to assist with locating vessel
concentrations and to monitor areas not being flown by the CP 140 aircraft.

(3) Japan

**Enforcement Activities in 2008**

Japan conducted its enforcement activities using a patrol vessel of the Fisheries Agency of Japan
(FAJ) KANAZAWA and the patrol aircraft Citation V between July and October 2008, conducting 12
patrol days and 41 hours patrol surveys. No driftnet fishing boats were sighted. Japan Coast Guard
also conducted 14-hour patrols using their patrol aircraft Gulf V between September and October,
2008, during which time it sighted 15 fishing boats.

There were two reports from Japanese fishing vessels: one unidentified some driftnet fishing vessels
on May 12, 2008 and another driftnet fishing vessel on Aug. 3, 2008. The information was reported to
IIS.

In this area, Japanese pole and line and squid jigging vessels are operated. These vessels may be
targeting albacore and squid.

**Planned Activities in 2009**

Japan plans to patrol the Convention Area using 3 or 4 vessels and two aircrafts at the same level as
this year. The details will be reported at the 2009 EECM.

(4) Korea

Korea did not participate in any enforcement activities in 2008.

Korea reported its participation onboard one of the vessels of the Western Central Pacific Fisheries
Commission (WCPFC) and reported its inspection done in WCPFC’s Convention Area, which is
partially overlapping with the NPAFC’s Convention Area.

Korea hopes to join the NPAFC enforcement activities in the near future and would also like to
conduct boardings on vessels of other countries within the NPAFC.
**Planned Activities in 2009**

Korea cannot participate in direct aircraft and vessel patrols but can participate with the WCPFC within their areas. Korea plans to board fishing vessels operating under the provisions of the WCPFC.

Korea hopes to participate in the NPAFC enforcement activities in the near future.

**United States**

**Enforcement Activities in 2008**

The United States’ Operation North Pacific Watch 2008 was conducted in July through November with USCG cutter MUNRO with a number of USCG HC-130 deployments during the summer and fall to Shemya and Midway Islands. Japan Coast Guard (JCG) coordinated surveillance efforts with the USCG in September and October which sighted several fishing vessels, but none were configured for large-scale HSDN fishing.

The USCG cutter MUNRO participated in a multi-national IUU fisheries enforcement patrol from July through November, which included enforcement coordination with NPAFC Parties and China. MUNRO spent 67 days in the Convention Area.

The USCG cutter JARVIS and the Russian Border Guard patrol vessel DZERJINSKIY conducted joint operations in August. No vessels of interest were detected.

On September 8, 2008, MUNRO sighted LU RONG YU 2008, a Chinese flagged fishing vessel. The Chinese FLEC officer on board MUNRO boarded the vessel and observed HSDN gear on board. The Chinese FLEC officer seized the vessel and MUNRO escorted the vessel until it could turn over custody to a Chinese FLEC patrol vessel.

On October 24, 2008, MUNRO embarked HH-65 helicopter sighted ZHE PU YU LENG 9, later intercepted by MUNRO. The vessel had on board 10.8 nms of driftnet, a dismantled net tube and other large-scale HSDN fishing gear. The Chinese FLEC officer seized the vessel for violation of Chinese fishery laws for suspicion of fishing with large-scale HSDN gear. The vessel was escorted into the Sea of Japan where the vessel, crew and catch were transferred to a Chinese FLEC patrol vessel.

NOAA/NMFS Special Agents and Enforcement Officers spent 139 hours either deployed with USCG HC-130 and Canadian CP-140 patrol aircraft to assist in the identification of vessels, or conducting investigations into suspected illegal activity.

USCG cutter MUNRO carried multiple NOAA Satellite Tracked Drifter Buoys to mark any significant marine debris for NOAA to track. No untended nets were located in the Convention Area, but they did find an abandoned and tangled driftnet in the Russian EEZ containing salmon and birds.

Both USCG MUNRO and JARVIS carried salmon tissue sampling equipment for genetic analysis. No opportunities for sample collection in the Convention Area were realized.

USCG aircraft flew a total of 115 surveillance hours in 2008 and cutters dedicated 72 patrol days in the NPAFC Convention Area. Several potential HSDN vessels were sighted, resulting in two vessel seizures by Chinese fishery enforcement authorities.

Seven vessels rigged for HSDN with one actively fishing were detected by the USCG aircraft patrols. The most significant sightings were:

*BANGUN SATRIA*: July 18, 2008, 43-31.7N, 174-01.5E

actively fishing with nets extending 3.8 nm, hauling in possibly salmon.
**TIRTA RAYA 2:** August 16, 2008, in the Convention Area.

Evaded, deploying another net directly in front of MUNRO. Upon communications being established by the Chinese FLEC officer aboard MUNRO, the master claimed to have Indonesian registry. Later the Indonesian government stated otherwise.

**BAHARI SENTOSA:** a potential HSDN vessel initially sighted by HH-65, but MUNRO was unable to relocate. Approximately 80 Chinese fishing vessels were sighted and it is possible that the vessel mingled with the fleet to avoid detection.

**Planned Activities in 2009**

The USCG will continue their patrol with available aircraft and patrol vessels at resource level to meet the suspected 2009 HSDN threats. USCG will dedicate 200 aircraft hours and a minimum of 90 cutter days in 2009. NOAA/NMFS will continue to place officer on available Canadian HSDN surveillance flights in 2009 and patrol with USCG HC-130 deployments when able. The USCG intends to continue issuing Local Notices to Mariners prior to and during the high threat season.

(6) **Taiwan (Observer)**

Taiwan presented information on its 2008 enforcement activities (Appendix 2).
(7) Tracking Buoys for Abandoned Driftnets

P. Niemeier of the United States briefed the need of using the buoys which was discussed at the last 2008 EECM held in Vancouver. He presented a sample of the Satellite Tracking Buoy to the committee. During the 2008 enforcement season, the USCG cutter MUNRO took multiple NOAA Satellite Tracked Drifter Buoys with the intent to mark any significant marine debris for NOAA to track. MUNRO did not locate any unattended nets in the Convention Area, and therefore, did not have an opportunity to deploy any of the buoys. MUNRO did note the presence of an abandoned and tangled driftnet in the Russian EEZ containing both salmon and birds. Because of its location inside the Russian EEZ, the US decided not to deploy the buoy on the driftnet. There are currently five buoys available for use and the US requested Parties to deploy them using their patrol vessels or even their research vessels. The Chairman encouraged the Parties of this use because these ghost nets continue to fish in the ocean and entangle fish and sea birds.

(8) Enforcement Meetings and Activities for 2009

The committee agreed that the 2008 EECM was productive and recommended undertaking a similar meeting in 2009.

Japan confirmed that it will host the next EECM in Fukuoka, Japan from February 23 to 25, 2009.

The committee members agreed that because of the highly successful workshop which was held in conjunction with the EECM in Juneau in 2006, with each Party’s working level operational officers giving presentations to the EECM participants, a similar workshop should be held in conjunction with the 2009 EECM.

(9) Review of Parties’ Proposals on Joint Projects to be Financed by the Commission

The committee agreed to hold the half day ENFO workshop on February 24, 2009, with the invitation of one enforcement officer from each Party for their presentations at the workshop. The approximate travel cost for the five invitees would be C$14,000.

The committee recommended requesting the committee on F&A to allocate C$14,000 for the travel cost of five presenters to attend the workshop on February 24, 2009, in Fukuoka Japan.

(10) Cooperation with Relevant International Organizations and Invitations to State or Entity

The Executive Director reported that representatives of twelve international organizations and representatives of People’s Republic of China, Indonesia, Malaysia, Thailand and Taiwan were invited to attend the 2008 NPAFC 16th Annual Meeting. Observers from North Pacific Marine Science Organization (PICES) and Taiwan were in attendance at this year’s meeting.

A letter to Indonesian Foreign Affairs on the case of RONG SHENG 828 was sent without receiving any response from them.

Regarding the invitation to China, high level Chinese officials were contacted and a letter of accession to the NPAFC Convention was sent in 2007. No response was received.
As agreed at the 2007 ENFO, a USCG liaison officer in Beijing contacted PRC Fishery law enforcement officer encouraging participation at the 2008 EECM. Again, there was no response from China.

The United States explained that because the United States has a MOU with China which allows Chinese FLEC ship riders/enforcement officers aboard the USCG vessels, the United States could use its bilateral relationship to keep encouraging China to participate in the NPAFC enforcement meetings.

The Executive Director indicated that the issue of invitation to China will be referred and discussed at the Heads of Delegations meeting.

The US delegation made a proposal for the Chairman of ENFO or the Secretariat to take part in the annual meetings of the Western Central Pacific Fisheries Commission (WCPFC) and the North Pacific Coast Guards Forum (NPCGF). All delegations were in agreement.

Chairman will ask the WCPFC at its next meeting in Busan, Korea later this year to formally invite the NPAFC participant(s) for their future annual enforcement meetings.

The committee recommended participation of NPAFC ENFO or Secretariat representatives at the WCPFC and NPCGF meetings on a regular basis upon formal invitations being received from these organizations.

The committee recommended that the following International Organizations, States or Entities be invited to send representatives to act as observers to the 2009 NPAFC 17th Annual Meeting:

**International Organizations**
- In accordance with the list developed by the CSRS and Western and Central Pacific Fisheries Commission (WCPFC)

**States**
- People's Republic of China
- Indonesia
- Malaysia
- Thailand
- Taiwan

6. **Consideration of Scientific Research and Statistics**

   (1) **Scientific Research Activities**
   
   Doc. 1077 lists the titles of all documents submitted to the Commission from the adjournment of the 2007 Annual Meeting to November 2008. A total of 51 documents (4 from Canada, 13 from Japan, 3 from Korea, 14 from Russia, 14 from the United States, and 3 from the CSRS) were submitted for the consideration of scientific research and statistics. Abstracts for the documents were compiled by the Secretariat (Doc. 1141). Each Party made presentations of the selected documents for significant scientific discussions.

   As regards to Doc. 1105, it was declared by the Russian Party that the Russian data used in the document was not officially approved or authorized. Therefore, the Russian Federation carries no responsibility for the authenticity or reliability of the above mentioned material.

   (2) **Salmon Catches**
Table 1. Preliminary 2007 commercial salmon catches in Canada, Japan, Korea, Russia, and the United States. Commercial catches by foreign fleets in the Russian EEZ are not included.

(a) Preliminary 2007 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>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0.646</td>
<td>6.207</td>
<td>1.010</td>
<td>0.276</td>
<td>0.182</td>
<td>-</td>
<td>8.321</td>
</tr>
<tr>
<td>Japan</td>
<td>0.001</td>
<td>15.557</td>
<td>60.727</td>
<td>0.006</td>
<td>0.009</td>
<td>NA*1</td>
<td>76.300</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>0.056</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.056</td>
</tr>
<tr>
<td>Russia</td>
<td>10.852</td>
<td>183.763</td>
<td>17.280</td>
<td>1.191</td>
<td>0.137</td>
<td>0.005</td>
<td>213.227</td>
</tr>
<tr>
<td>USA</td>
<td>47.468</td>
<td>144.088</td>
<td>17.243</td>
<td>3.705</td>
<td>0.758</td>
<td>-</td>
<td>213.262</td>
</tr>
<tr>
<td>Alaska</td>
<td>47.468</td>
<td>144.087</td>
<td>17.243</td>
<td>3.642</td>
<td>0.569</td>
<td>-</td>
<td>213.009</td>
</tr>
<tr>
<td>WOC*2</td>
<td>0.000</td>
<td>0.001</td>
<td>0.000</td>
<td>0.063</td>
<td>0.189</td>
<td>-</td>
<td>0.253</td>
</tr>
<tr>
<td>Total</td>
<td>58.966</td>
<td>349.615</td>
<td>96.316</td>
<td>5.177</td>
<td>1.086</td>
<td>0.005</td>
<td>511.165</td>
</tr>
</tbody>
</table>

*1NA: Not Available  
*2WOC: Washington, Oregon, and California.

(b) Preliminary 2007 commercial catch in 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>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1,760</td>
<td>11,197</td>
<td>4,861</td>
<td>812</td>
<td>1,324</td>
<td>-</td>
<td>19,954</td>
</tr>
<tr>
<td>Japan</td>
<td>1</td>
<td>21,380</td>
<td>198,260</td>
<td>16</td>
<td>45</td>
<td>1,133</td>
<td>220,835</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>146</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>146</td>
</tr>
<tr>
<td>Russia</td>
<td>30,082</td>
<td>259,829</td>
<td>54,272</td>
<td>3,711</td>
<td>801</td>
<td>11</td>
<td>348,706</td>
</tr>
<tr>
<td>USA*1</td>
<td>126,800</td>
<td>228,993</td>
<td>59,201</td>
<td>11,290</td>
<td>5,000</td>
<td>-</td>
<td>431,283</td>
</tr>
<tr>
<td>Alaska</td>
<td>126,800</td>
<td>228,991</td>
<td>59,201</td>
<td>11,130</td>
<td>3,916</td>
<td>-</td>
<td>430,038</td>
</tr>
<tr>
<td>WOC</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>161</td>
<td>1,084</td>
<td>-</td>
<td>1,246</td>
</tr>
<tr>
<td>Total</td>
<td>158,642</td>
<td>521,399</td>
<td>316,740</td>
<td>15,829</td>
<td>7,169</td>
<td>1,144</td>
<td>1,020,923</td>
</tr>
</tbody>
</table>

*1USA data were submitted in pounds and converted into tonnes (1 mt = 2,204.59 lbs.)

2.1 Canada (Doc. 1120)

During 2007, Canadian Pacific salmon fisheries were again managed with a strong emphasis on conservation, with the result that many of the catches were relatively modest. Canada reported preliminary estimates for retained commercial catch (numbers and total weight), recreational catch (numbers only) and aboriginal catch (numbers only) for the five major salmon species caught in British Columbia tidal waters from 1952 (commercial), 1953 (recreational), or 1951 aboriginal) to 2007. Catches include non-Canadian fish caught in British Columbia and exclude Canadian fish caught outside British Columbia. Some changes from previous documents resulted from ongoing efforts to standardize estimation approaches. Commercial estimates are sale slip based, and have been labeled as “preliminary” since 1996 because of problems with the sale slip program including non-compliance and misreporting. The primary findings are that i) revised estimates tend to be higher than earlier estimates, and ii) differences between the two sets of estimates are generally modest in the early period but increase through the time series. Although revised estimates, and the approaches used to generate these have been presented to the Canada’s peer review system (PSARC), at the time of writing, this review has not been completed. We are therefore not able to recommend changes to the Canadian time series of commercial catch data.

2.2 Japan (Doc. 1140)
Japan reported total commercial catches of Pacific salmon by coastal and offshore areas in 2007 by number and weight. Total catches in coastal and offshore areas of Japan include 60.7 million (198.3 thousand tonnes) chum and 15.6 million (21.4 thousand tonnes) pink salmon.

2.3 Korea (Doc. 1131)

Total catch of chum salmon was 91,551 fish or 238.9 metric tonnes in 2007. Among these, 55,788 fish or 145.6 tonnes were caught from the coastal areas for the commercial purpose (i.e., mostly set-net fishery) and 35,763 fish or 93.3 tonnes from the river for artificial propagation in hatcheries. Most of chum salmon were caught in the coastal area of Korea (60.9%) and rivers (39.1%) in Gangwon Province. Average weight of chum salmon in 2007 was 2.61 kg while those in 2004, 2005, and 2006 were 3.38 kg, 2.42 kg, and 2.25, respectively.

2.4 Russia (Doc. 1136)

The coastal catches of Pacific salmon in the Russian Far East totaled 348,706 tonnes, or 213.227 million fish in 2007, which were highest on record. The main species caught were pink salmon (259,829 tonnes), followed by chum (54,272 tonnes), sockeye (30,081 tonnes), coho (3,711 tonnes), chinook (801 tonnes), and masu salmon (11 tonnes).

2.5 United States

(i) Alaska (Doc. 1135)

At this time last year, department biologists were expecting an all-species commercial catch of 179 million for the 2007 season. As it turned out, the all-species catch reached 213 million. The 2007 catch was well above forecast and ranked as the 4th largest salmon catch for the State of Alaska since 1960. In 2007, the overall catch of pink salmon was 144 million compared to the preseason projection of 108 million. Higher than expected pink salmon catch in 2007 was due to a record pink salmon return to Prince William Sound. The overall chum salmon catch was 17.2 million compared to the preseason projection of 24.8 million. The 2007 ex-vessel value of the commercial harvest showed a large increase over the value of the catch in 2006. The preliminary estimate for the total value of Alaska’s 2007 harvest is $417 million well above the $346 million in 2006, and while below record highs it is the greatest since $487 million in 1995.

(ii) Washington, Oregon, California, and Idaho (Doc. 1134)

Ocean salmon fisheries conducted off the coasts of Washington, Oregon, and California are directed toward, and harvest primarily chinook and coho salmon. Small numbers of pink salmon are harvested in odd numbered years. West Coast fisheries in the Pacific Fishery Management Council-managed waters occur from 0 to 200 nautical miles offshore between the United States/Canada border and the United States/Mexico border. Total 2007 exvessel value for the non-Indian commercial salmon fisheries within Washington, Oregon and California was $11.6 million, an increase of 24% from 2006 (Pacific Fishery Management Council 2008). In terms of number of fish, the non-Indian commercial chinook salmon harvest (163,000 fish) increased by 34% compared to 2006, however, the number of chinook salmon harvested was 78% below the long-term average (751,000 fish). Coho salmon catch increased in 2007 to 23,000 fish, over eight times the 2,700 coho salmon recorded in 2006. Average weight per chinook salmon was slightly less than the previous year (8%), while the coho salmon average weight decreased by over 30%. Treaty Indian commercial fisheries off Washington are allocated a share of the total ocean salmon harvest. The treaty Indian commercial fisheries (inclusive of Ceremonial and Subsistence) harvested 25,600 chinook salmon, and 40,000 coho salmon. While the chinook salmon catch was less than the total catch in 2006, the coho salmon catch was an
### (3) Salmon Enhancement Production

#### Table 2. Preliminary 2006 hatchery releases of salmon fry and smolts in Canada, Japan, Korea, Russia, and the United States, 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>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada*1</td>
<td>169.75</td>
<td>11.55</td>
<td>142.01</td>
<td>10.71</td>
<td>44.57</td>
<td>-</td>
<td>327.78</td>
</tr>
<tr>
<td>Japan</td>
<td>0.31</td>
<td>151.24</td>
<td>1,870.01</td>
<td>-</td>
<td>-</td>
<td>13.00</td>
<td>2,016.46</td>
</tr>
<tr>
<td>Korea</td>
<td>-</td>
<td>-</td>
<td>13.79</td>
<td>-</td>
<td>-</td>
<td>0.01</td>
<td>7.25</td>
</tr>
<tr>
<td>Russia</td>
<td>10.12</td>
<td>405.54</td>
<td>350.36</td>
<td>6.46</td>
<td>0.80</td>
<td>1.96</td>
<td>689.80</td>
</tr>
<tr>
<td>USA</td>
<td>78.80</td>
<td>857.70</td>
<td>653.26</td>
<td>64.39</td>
<td>182.22</td>
<td>-</td>
<td>1,709.23</td>
</tr>
<tr>
<td>Alaska</td>
<td>63.40</td>
<td>857.70</td>
<td>604.70</td>
<td>25.40</td>
<td>10.50</td>
<td>-</td>
<td>1,436.1</td>
</tr>
<tr>
<td>WOCI*2</td>
<td>15.40</td>
<td>0.00</td>
<td>48.56</td>
<td>38.99</td>
<td>171.72</td>
<td>-</td>
<td>273.13</td>
</tr>
<tr>
<td>Total</td>
<td>258.99</td>
<td>1,426.03</td>
<td>3,029.42</td>
<td>81.55</td>
<td>227.59</td>
<td>14.98</td>
<td>5,038.55</td>
</tr>
</tbody>
</table>

*1 Not including releases from facilities which operate outside the direction of Oceans, Habitat and Enhancement Branch.

*2 WOCI: Washington, Oregon, California, and Idaho

#### 3.1 Canada (Doc. 1109)

The Salmonid Enhancement Program (SEP) in British Columbia, Canada was initiated in 1977 to rebuild stocks and increase catch through the expanded use of enhancement technology. The program comprises nearly 300 projects that produce chinook, coho, chum, pink, and sockeye salmon, as well as small numbers of steelhead salmon and cutthroat trout. Projects include hatcheries, fishways, spawning and rearing channels, habitat improvements, flow control works, lake fertilization, and small classroom incubators, and range in size from spawning channels releasing nearly 100 million juveniles annually, to schools with classroom incubators that release fewer than one thousand. Data from facilities that operate outside the direction of SEP are not included in this report. Steelhead and cutthroat are a provincial government responsibility, but some enhancement takes place at SEP facilities under a cooperative arrangement. Steelhead and cutthroat numbers in this report do not include releases from facilities operated by the Freshwater Fisheries Society of British Columbia.

#### 3.2 Japan (Doc. 1117)

Four species of Pacific salmon (chum, pink, masu, and sockeye salmon) are currently enhanced in Japan. A total of 2,035 million juveniles and smolts were released from Japanese hatcheries in 2007. Approximately 1,870 million chum salmon fry were released in the spring of 2007, a similar amount was released in the previous year. Japanese hatcheries also released 151 million pink salmon fry, 13,003 thousand juveniles and smolts of masu salmon, and 314 thousand juveniles and smolts of sockeye salmon. In 2007, a total of 7,238 thousand adult salmon were captured in rivers along the Japanese coasts. Chum and pink salmon accounted for 80.0 % and 19.8 % of the total river catches, respectively. Within Hokkaido, the number of adult returns was 10,381 for anadromous masu salmon, and 982 for anadromous sockeye salmon.

#### 3.3 Korea (Doc. 1131)
The total number of chum salmon fry released was 11,250 thousand fish in 2005 (2004 brood), 7,350 thousand fish in 2006 (2005 brood), 13,790 thousand fish in 2007 (2006 brood), and 16,550 thousand fish in 2008 (2007 brood). Among these, 72.5% of total Korean chum salmon fry were released into the Namdaecheo. In addition, 5,000 and 24,000 cherry (masu) salmon smolts were released in the same river during April in 2007 and 2008, respectively.

3.4 Russia (Doc. 1136)

Russian hatcheries released approximately 775 million Pacific salmon fry and smolts in 2007. Releases included 405.5 million pink, 350.4 million chum, 10.1 million sockeye, 6.5 million coho, 2.0 million cherry (masu), and 0.8 million chinook salmon.

3.5 United States

(i) Alaska (Doc. 1135)

In 2007 there were 27 private nonprofit, 2 federal, and 2 state hatcheries operating in Alaska. Most of these facilities (18) are located in southeast Alaska. The Cook Inlet and Prince William Sound region has 11 hatcheries and the Kodiak region has 2 hatcheries. Alaskan hatcheries released approximately 1.56 billion fish. Of the fish released 55% were pink salmon and 39% were chum salmon. Hatcheries in Prince William Sound and Cook Inlet contributed 52% and hatcheries in Southeast Alaska contributed 37% of the fish released.

(ii) Washington, Oregon, California, and Idaho (Doc. 1134)

Recorded releases for Washington, Oregon, and California totaled just over 290 million fish in 2007. Releases for all species and locations were not available for 2008. In release year 2007, chinook salmon represented 59% of the total release; chum salmon represented 17%, coho represented 13.5%, sockeye salmon represented 5%, and steelhead represented 5.5%.
Coordination of Scientific Research Activities

4.1 Report of the Science Sub-Committee (SSC)

The chair of SSC R. Beamish summarized the progress on the development of the Long-Term Research and Monitoring Program. A draft plan was reviewed by representatives of all Parties in early October 2008. Comments by participants are being incorporated into the plan. An annotated bibliography of approximately 450 papers will be produced. A summary of these papers were produced and are currently in review. These three documents will be finalized and reviewed by the Scientific Steering Committee in April or May, 2009. The final reports are due in August 2009. There has been an excellent cooperation and strong support for the project by all Parties.

NPAFC was invited to join PICES and ICES as a co-sponsor for the International Symposium on “Forecasting Climate Change Impacts on Fish and Shellfish” (tentative title) to be held in spring of 2010. The location of this symposium is not yet determined. It was agreed that NPAFC would participate, and it was also agreed that the chair of SSC, R. Beamish, would be the representative on the symposium steering committee.

4.2 Report of the Working Group on Stock Assessment

Members of the Working Group on Stock Assessment discussed the following items:

(a) Recent Catch Estimates

Preliminary 2007 commercial catch estimates were confirmed and incorporated into the NPAFC time series (Figs. 1 and 2). Commercial catches from the North Pacific were at the highest level on record, exceeding 1 million tonnes.

Pink and chum salmon constituted the majority of the catch (51 and 31% by weight respectively), sockeye salmon were 16%, while coho and chinook salmon were 2 and 1% (Fig. 1). Largest catches were reported by Alaska (430 thousand tonnes), Russia (349 thousand tonnes), and Japan (221 thousand tonnes) (Fig. 2).

2007 sockeye and pink salmon catches were considerably higher than recent decadal means, chum catches were similar to the mean catch, while chinook and coho catches were lower. 2007 catches in Russia, Alaska, and Korea were much higher than recent decadal means, for Japan they were similar to the mean, while in many southern areas (Canada and the United States), catches were less than the previous decadal mean.

While too early to report definitive catches for 2008, some preliminary results are available. Preliminary indications are that, in 2008 catches will remain at high levels overall, especially in northern regions, although probably not as high as 2007. For instance, Japanese chum salmon catches in 2008 will be about 70% of the 2007 catch.

Catches in many southern regions for 2008 remain low. For instance, in Canada, catches in 2008 will be amongst the lowest recorded. Commercial salmon fisheries in southern British Columbia were limited to ocean troll fishing for chinook salmon and fall chum fisheries. Commercial fishing in northern British Columbia was more wide-spread but still limited compared to earlier years. An interesting observation in southern Canadian and American regions was the substantial variability in survivals among some populations in close proximity to each other.
Figure 1. Total commercial salmon catch, by species, from Canada, Japan, Korea, Russia and the United States 1972-2006 (round weight in thousands of tonnes).

Figure 2. Total commercial salmon catch, by region, 1972-2006 (round weight in thousands of tonnes).
(b) Review Outline Proposed for Revision of Document on Salmon Status (Doc. 723)

All Parties indicated their willingness to work on the assessment document. However, there was consensus that it would not be possible to complete a thorough assessment prior to the next Annual Meeting. It was agreed that the NPAFC assessment of salmon status needs to be incremental. The document completed for the next Annual Meeting would need to be expanded upon and improved in subsequent years.

The Working Group acknowledged the need for an extended meeting or workshop to focus on the assessment. Canada indicated they have several software packages that could be used to examine different types of trends and salmon productivity. Scientists from outside of the NPAFC may need to participate in the assessment.

To initiate the process, the Working Group recommended that a one day meeting be held immediately prior to the next RPCM. The purpose of the meeting would be for data assembly and for the identification of next steps. Scientists who are able to attend this meeting will bring stock assessment data with them. The United States was uncertain they would be able to attend but will endeavour to provide relevant catch and escapement data before the meeting.

(c) Contributions to 2nd PICES North Pacific Ecosystem Status Report

A letter from PICES requesting the participation and support of NPAFC in the next ecosystem status report was distributed for discussion. The request of PICES was summarised as follows:

1. Time series of total catches of salmon by species up to and including 2008, even if the 2008 data are preliminary. Where possible, these data to be partitioned into hatchery and wild.
2. Time series of marine survival data, especially for populations on the Asian side of the North Pacific.

The Working Group members from all Parties expressed their willingness to cooperate with the PICES request, but expressed reservations about the data whether they would be able to provide within the available time frame.

The Working Group expressed that while there is no problem providing catch data, it is not possible to partition these data into hatchery and wild components in all areas. Limited marine survival data are available, although not always readily accessible, for the North American side of the Pacific, but much less so for the Asian side.

4.3 Report of the Working Group on Salmon Marking

(a) Country Reports

Each country had an opportunity to report on current status and significant activities related to otolith marking.

Russia presented a PowerPoint showing the location of hatcheries conducting thermal marking, explaining some distribution studies in the Olskiy estuary based on thermal mark analysis, and another slide showing the recovery of thermal marks in marine sampling of the North West Pacific. Russia also showed research directed at marking with both dry and thermal marks at Sakhalin Hatcheries; these hatcheries have changing water temperatures during the incubation period.
Japan followed with a PowerPoint presenting the increases in otolith marking in their country and a summary of the distribution of otolith marked chum salmon in the North Pacific and the Bering Sea in 2006 and 2007. The majority of the identified marked otoliths were of Japanese origin.

The United States presented a summary of the growth of thermal marking in Alaska, and the relative percentage of hatchery fish being marked. Alaska now marks 84% of all hatchery production.

(b) Status of the Database

The Chair reported that Alaska, Japan, Korea, Russia, and Washington State had all updated release information to the Otolith Mark Directory. Russia has entered data and images for both brood years 2005 and 2006; Canada has not entered data to the directory but they expect to update all release information. The United States needs to complete 2007 release information. All Parties have reported their summary release numbers which are shown in Tables 3 and 4 below.

(c) Otolith Release Reports for Brood Year 2007

Japan (Doc. 1114), Korea (Doc. 1130) and Russia (Doc. 1107) submitted documents on otolith mark information for releases in 2007 and 2008. Alaska will report their release report prior to the next RPCM. The number of otolith marked salmon released from Pacific Rim hatcheries was 1.61 billion in 2007 (Table 3) and 1.55 billion in 2008 (Table 4); this indicates releases have stabilized in number.

(d) Otolith Mark Plans for Brood Year 2008

All Parties have submitted their mark plans: Japan (Doc. 1087, Rev 1), Korea (Doc. 1130), Russia (Doc. 1108), Canada (Excel Spreadsheet) and the United States (Doc. 1083, Rev 1). The United States document only includes plans for Alaska; other states were not able to report their mark plans prior to marking because marks are used for research rather than management and thus marks are dictated by the number of research groups. There is one mark duplication for a relatively small release of chum salmon. It was noted that 83 unique marks will be applied to chum salmon in 2008.

(e) Steps to Avoid Duplication of Otolith Marks

The WGSM reviewed use of the otolith marks assigned to countries for pink, chum, and sockeye salmon (Doc. 942). There has been good compliance with the intended country codes and the Parties were reminded by the chair to continue to use this document to guide selection of otolith marks.

Table 3. Number of otolith marked salmon released from Pacific Rim hatcheries in 2007.

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Chinook</th>
<th>Coho</th>
<th>Masu</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>3,970,766</td>
<td>0</td>
<td>31,818,582</td>
<td>22,144,842</td>
<td>285,437</td>
<td>0</td>
<td>58,219,627</td>
</tr>
<tr>
<td>Japan</td>
<td>179,678</td>
<td>14,969,000</td>
<td>149,744,176</td>
<td>0</td>
<td>0</td>
<td>4,425,294</td>
<td>169,318,148</td>
</tr>
<tr>
<td>Korea</td>
<td></td>
<td></td>
<td>5,000,000</td>
<td></td>
<td></td>
<td></td>
<td>5,000,000</td>
</tr>
<tr>
<td>Russia</td>
<td>9,815,817</td>
<td>416,200</td>
<td>36,115,903</td>
<td>799,000</td>
<td>2,797,997</td>
<td>276,107</td>
<td>50,221,024</td>
</tr>
<tr>
<td>USA</td>
<td>71,512,316</td>
<td>716,427,502</td>
<td>508,366,318</td>
<td>22,593,716</td>
<td>7,903,567</td>
<td>0</td>
<td>1,326,803,419</td>
</tr>
<tr>
<td>Alaska</td>
<td>5,941,316</td>
<td>716,427,502</td>
<td>507,328,318</td>
<td>5,850,716</td>
<td>7,747,567</td>
<td>0</td>
<td>1,296,766,419</td>
</tr>
<tr>
<td>WOCI</td>
<td>12,100,000</td>
<td>0</td>
<td>1,038,000</td>
<td>16,743,000</td>
<td>156,000</td>
<td>0</td>
<td>30,037,000</td>
</tr>
<tr>
<td>Total</td>
<td>85,478,577</td>
<td>731,812,702</td>
<td>731,044,979</td>
<td>45,537,558</td>
<td>10,987,001</td>
<td>4,701,401</td>
<td>1,609,562,218</td>
</tr>
</tbody>
</table>
Table 4. Preliminary number of otolith marked salmon released from Pacific Rim hatcheries in 2008.

<table>
<thead>
<tr>
<th></th>
<th>Sockeye</th>
<th>Pink</th>
<th>Chum</th>
<th>Chinook</th>
<th>Coho</th>
<th>Masu</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canada</strong></td>
<td>2,494,641</td>
<td>0</td>
<td>13,449,428</td>
<td>17,348,004</td>
<td>0</td>
<td></td>
<td>33,292,073</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>163,000</td>
<td>34,161,000</td>
<td>148,122,000</td>
<td></td>
<td>2,789,900</td>
<td>185,235,900</td>
<td></td>
</tr>
<tr>
<td><strong>Korea</strong></td>
<td>9,568,679</td>
<td>0</td>
<td>29,039,198</td>
<td>779,825</td>
<td>1,573,031</td>
<td>1,196,000</td>
<td>42,156,733</td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td>59,854,572</td>
<td>685,404,044</td>
<td>499,544,814</td>
<td>30,909,605</td>
<td>9,235,583</td>
<td>0</td>
<td>1,284,948,618</td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td>57,254,572</td>
<td>685,374,044</td>
<td>498,044,814</td>
<td>5,909,605</td>
<td>7,335,583</td>
<td>1,253,918,618</td>
<td></td>
</tr>
<tr>
<td><strong>Alaska</strong></td>
<td>2,600,000</td>
<td>30,000</td>
<td>1,500,000</td>
<td>25,000,000</td>
<td>1,900,000</td>
<td></td>
<td>31,030,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>72,080,892</td>
<td>719,565,044</td>
<td>695,155,440</td>
<td>49,037,434</td>
<td>3,985,900</td>
<td>1,550,633,324</td>
<td></td>
</tr>
</tbody>
</table>

4.4 Report of the ad hoc Working Group on Stock Identification

The goals of the WGSI are to: (1) develop, standardize, and disseminate genetic and other databases among the Parties; (2) encourage the development of new genetic technologies; and (3) facilitate the dissemination of statistical techniques.

Each of the Parties first reviewed their stock identification research activities. Many of the Parties mentioned that more detailed research results will be presented at the upcoming BASIS Symposium immediately following the meeting.

Russia has been conducting scale pattern analyses on sockeye, chum, and chinook salmon and is also working on genetic databases for sockeye salmon. Russian researchers indicated an interest in increasing their participation in genetic studies.

Canada reported on its extensive baselines for microsatellites with between 40,000 and 70,000 individuals for the five main species. They are conducting genetic stock identification projects in British Columbia and on the Yukon River and also collecting SNP (single nucleotide polymorphisms) data for evaluation of accuracy and precision.

The major efforts for Japan are focused on conducting genetic stock identification projects for chum salmon in the Bering Sea and North Pacific Ocean. They are particularly interested in where and when stocks occur in the ocean.

Korea will be presenting results of research during the BASIS Symposium.

The United States is conducting multiple genetic stock identification projects on domestic fisheries for sockeye, chum, chinook and coho salmon. The United States has ongoing BASIS work which will be reviewed at the Symposium. The Auke Bay Laboratory of NOAA Fisheries is currently using a baseline of SNPs and
microsatellites to evaluate the chum salmon bycatch in the Bering Sea pollock fishery. They hope to expand work to bycatch of chinook salmon.

Several shared databases were also discussed. The PACSNP database of SNP markers for chum salmon (see Doc. 1138) was coordinated at a recent meeting in October, 2008, with the United States and Japanese researchers in attendance. The United States and Canada are both contributing to a database for chinook salmon (GAPS) which includes both microsatellites and SNPs and is supported by the Pacific Salmon Commission. Progress on developing web-accessible applications for these databases was discussed.

4.5 Report of the BASIS Working Group

(a) 2008 BASIS Symposium

Proceedings of the 2008 BASIS Symposium will be published as NPAFC Bulletin No. 5 (Appendix 3).

There was a discussion regarding document review process. The Secretariat expects approximately 40 manuscripts from the BASIS Symposium. These papers will be sent to the BASIS Chair E. Farley, who will equally distribute these documents to members of the BASIS Symposium Steering Committee. The members are responsible for finding 2 or more reviewers for each paper. Reviews will be sent back to authors, and the authors are responsible for addressing all aspects of the reviews. Members of the Steering Committee are responsible for deciding on papers that may or may not have fully addressed reviewer comments. Those papers that are believed to be insufficient for publication will be forwarded to E. Farley, who will then review the paper and make the final decision. Once a manuscript is accepted it will be sent to the Copy Editor who will work with the author to finalize the paper for publication.

(b) Summary of BASIS 2002–2006

This document was distributed for comments. The summary document will be the introduction to the NPAFC Bulletin 5.

(c) Development of Plan for BASIS Phase II

The Draft Plan was distributed to Parties at the previous RPCM (April 2008) for comments and final edits. E. Farley will include results from the BASIS Symposium in the Draft and send (via e-mail) the Final Draft (electronic) to the BASIS Working Group members during February 2009. The Working Group members must complete the final review/comments regarding the BASIS Phase II and send these electronically to E. Farley by early April 2009. E. Farley will incorporate these final comments and distribute the Final Plan to the Working Group prior to the 2009 RPCM for discussion.

(d) Other Items

Proposal: NPAFC is moving forward toward a long term monitoring research plan to examine how climate change affects salmon survival in the marine environment. This will be an extraordinary achievement for NPAFC and will provide the context for ocean research objectives on salmon for some time to come.

NPAFC has been very successful during the last 7 years monitoring ecosystem health of the Bering Sea under the BASIS Program. The Working Group identified a set of core measurements on fish and ocean characteristics that lend well to describing factors effecting salmon and other nekton health and survival.
These core measurements are shared among Parties. This cooperative effort in research and sharing of fish samples and data is paramount to the success of this important international effort.

Therefore, the United States proposes expanding the BASIS Program to the North Pacific Ocean and Arctic. The expanded program with its core observations of fish and ocean characteristics lends well to be the “basis” for the survey effort and cooperative international spirit that will be needed to meet the goals and objectives of the LRMP.

This idea can be further discussed at the next RPCM, during 2009.

### 4.6 Report of the Working Group on Salmon Tagging

The Working Group on Salmon Tagging reviewed tagging activities by the Parties and the Working Group’s activities in 2008. The Working Group discussed a budget request for a reward draw, future tagging activities, database management, and other items. In 2007 and 2008, high seas tags were recovered from seven chum in Japan, seven sockeye in the United States, and nine pink, one coho, and five chum salmon in Russia (Doc. 1119). A total of 224 salmonids in the central North Pacific and 1,373 salmonids in the Bering Sea were tagged and released in 2008. The Secretariat produced 5000 NPAFC-logo tags and 1000 posters, distributed 2500 tags and 1000 posters to the Parties, and uploaded webpages for high-seas tagging research on the NPAFC website under the consultation with the Working Group. The Working Group decided to request C$1,000 for a reward draw to encourage the public to report NPAFC high seas tag recoveries (Appendix 4). The future database format was discussed but complete consensus has not been reached on this item. The Working Group will continue to discuss this item by email communication after the Annual Meeting. The Working Group submitted Doc. 1145, proposed new formats and codes of the NPAFC high seas tagging data to adapt to the current INPFC/NPAFC tagging database. Future discussion on this matter will continue by e-mail.

### 5 Sample and Data Exchanges

The committee considered requests for exchanges of samples and data. Each Party updated the list of sample and data requests (Appendix 5).

### 6 Project Proposals for External Fundraising

The committee reviewed and discussed a draft pre-proposal for the North Pacific Research Board (NPRB) Integrated Ecosystem Research program (Appendix 6). The committee recommended further development of the pre-proposal and submit it to NPRB by the January 28, 2009 deadline.

### 7 Development of the 2009 Work Plan

The committee recommended the following work plan for the CSRS in 2009:

<table>
<thead>
<tr>
<th>Work Plan Item</th>
<th>Interim Term of Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) report on last year’s salmon catches, escapement, and wild and artificial production of juvenile salmon;</td>
<td>1</td>
</tr>
<tr>
<td>(B) review results of salmon stock assessment research and the condition of salmon stocks;</td>
<td>1 and 6</td>
</tr>
<tr>
<td>(C) review and summarize results of this year’s salmon research beyond the 200-mile limits;</td>
<td>2</td>
</tr>
</tbody>
</table>
(D) exchange biological samples as necessary; 5
(E) review and summarize salmon research plans for next year beyond the 200-mile limits; 5
(F) propose data exchanges; 5
(G) review any documents submitted to the Commission prior to this year's annual meeting; 6 and 7
(H) the Parties will review any research proposals submitted in accordance with Article VII paragraph 6; 8
(I) consider international collaboration with relevant organizations; 6 and 7
(J) consider a report to the Commission 12

Each Party's specific research plans in relation to the 2009 Work Plan are outlined below:

### 7.1 Canadian Research Plan

The Canadian research plan will be submitted at the 2009 RPCM.

### 7.2 Japanese Research Plan

#### J-1 Juvenile Salmon Studies

Major mortalities of salmon may occur during the initial coastal life. The previous studies indicate that Asian juvenile salmon are abundantly distributed in the Okhotsk Sea during summer and fall in the first year of ocean life. The early life history studies in the coastal waters and the Okhotsk Sea are important to understand the survival mechanisms of salmon. To clarify mechanisms controlling population dynamics of juvenile salmon, Japan focuses on the following research items:

- Feeding, growth, and survival of juvenile salmon
- Seasonal distribution and migration of juvenile salmon
- Monitoring of ocean environments such as surface water temperature, salinity, primary production, and prey organisms

#### J-2 Summer Salmon Studies in the Bering Sea and Other Waters

##### J-2-1 Bering Sea Salmon Ecology Studies

Current studies suggest that changes in salmon growth may occur in the Bering Sea, when many salmon migrate in the waters for their feeding and growth in summer. To clarify relations between the growth and mortality of salmon and the carrying capacity in the Bering Sea, Japan focuses the following research items:

- Climate change and primary production
- Production of prey organisms
- Population size and distribution of major salmon stocks
- Feeding competition and growth change of salmon
- Homing migration and maturing mechanism

##### J-2-2 Monitoring of Salmon and Environment in the North Pacific Ocean
To assess the status of salmon population, Japanese salmon research vessels are continuing to monitor salmon and their environment in the North Pacific Ocean, the Bering Sea, and the Gulf of Alaska in summer. Monitoring items are:

- Salmon abundance estimated using research gillnets and trawl nets
- Body sizes and age of salmon
- Physical and chemical environmental conditions
- Chlorophyll a concentration and zooplankton biomass
- Offshore migration and distribution of salmon
- Stock identification using genetic and otolith marks, and tagging experiments

**J-3 Monitoring of Major Salmon Stocks**

A monitoring program is continued to assess the status of major salmon stocks in Japan for their proper management.

- Annual changes in the number of adult returns
- Annual changes in body size and age at maturity, and fecundity
- Genetic monitoring for stock conservation
- Otolith mark surveys to assess coastal and homing migrations
- Development of stock identification techniques
- Salmon stock assessment and forecast

**7.3 Korean Research Plan (Doc. 1054)**

**K-1 Juvenile Salmon Studies**

To reveal the mechanisms of mass mortality of chum salmon during their early life in rivers and coastal areas in conjunction with the fluctuation of return rates, Korea will carry out the researches as follows:

- Identification of prey and predator species for juvenile salmon in the rivers and coastal areas,
- Stage-by-stage estimation of survival rate after releasing in the rivers and coastal areas,
- Monitoring of environmental factors in the river and coastal areas,
- Examination of growth rate during the early life history using otolith and compare the growth rate between released juvenile salmon and wild juvenile salmon, and
- Investigation on the optimal releasing period for juvenile salmon.

**K-2 Climate Change Effects on Salmon**

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

- Continuous monitoring activities on environmental conditions in the Korean waters and the western Pacific Ocean, and
- Climate change effects on the biological characteristics of chum salmon returned to the Korean waters.

**K-3 Stock Identification Studies**

For the stock identification, we will study on the parasitic fauna as a biological tag for the returned chum salmon to Namdae-cheon (stream). Also, genetic variations through mitochondrial DNA control region
sequence analysis and microsatellite DNA analysis will be continued to reveal the relationship between Korean and other countries, chum salmon.

K-4  **Masu Salmon Studies**

Korea plans to expand masu salmon releasing program, and as the first step of masu salmon research, Korea will examine stomach contents to know the prey items of masu salmon and the competitions for preys with other fish species in the coastal area and ocean.

K-5  **International Cooperative Research**

International cooperative research (eg. Republic of Korea and U.S. panel Conference on Fisheries Sciences) in the North Pacific Ocean will be continued.

7.4  **Russian Research Plan (Doc. 1069)**

R-1  **NPAFC 5-year science plan (2006-2010) research component “Anadromous Stocks in the Bering Sea Ecosystem (BASIS)”**: Research sub-theme “Bering Sea Salmon Research”

Comprehensive ecosystem approach during the anticipated 2008 trawl surveys will be further employed to gain a better understanding of Pacific salmon carrying capacity in the Bering Sea. Similar to previous years of research, the abundance and relative share of Pacific salmon and other nekton species, foraging conditions dynamics, food competition and its influence upon growth and survival, etc. will be studied. In summer-autumn period information on distribution, migration, stock composition, abundance, and biological characteristics of mature, immature and juvenile salmon will be collected in the Russian EEZ of the Bering Sea. Intensification of research on spatial and population differentiation of Pacific salmon stocks is envisaged to build upon previous surveys results. Issue of interannual variability of these characteristics, as well as ration of different stocks, will be addressed. Major research methods (genetic, morphological, scale pattern analysis) will be strengthened through the thermal marking and tagging. Meteorological and oceanographic data will be collected during the forthcoming surveys. Information obtained during research surveys will be utilized to forecast Pacific salmon returns and improve fisheries management.

During summer and fall period, feeding behaviour of Pacific salmon will be studied in detail. In addition, data (abundance estimates, biological parameters, and feeding behaviour) for other pelagic fish species will be collected during surveys planned. Comparative analysis of Pacific salmon and other pelagic fish species consumption rates of plankton and micronekton species will help to elucidate role of Pacific salmon in the trophic structure of pelagic ecosystems. Overall estimates of plankton species abundance and production are envisaged. Estimates of consumption of salmon prey organisms by nekton and carnivorous plankton species in the western Bering Sea will be achieved. Expansion of research on caloric content of food items and their isotope composition will provide better understanding of Pacific salmon biological environment.

One of the major aims of planned surveys will be elucidation of nekton communities' composition and structure in the upper epipelagic layer of the western Bering Sea. The research topics will include abundance and biomass estimates for major nekton species of upper epipelagic layer. Traumatisation and infestation of the Pacific salmon in the western Bering Sea and adjacent Pacific waters will be analyzed. The spatial distribution of injured and infected individuals will be reviewed in the context of species- and age-specificity. Pacific salmon tagging activities are expected to be continued. Bioenergetics studies on Pacific salmon diets are expected to be expanded. Further improvement of salmon and other nekton species stock assessment and trawling techniques is anticipated. Also studies on measurements of fishing gear selectivity and catchability of Pacific salmon are anticipated.

R-2  **NPAFC 5-year science plan (2006-2010) research component “Juvenile Anadromous Stocks in Ocean Ecosystems”**: Research sub-theme “Juvenile Salmon Research in Western North Pacific Waters”
Juvenile Pacific salmon marine life period will be studied during surveys planned in selected areas of western Bering Sea and Okhotsk Sea. Oceanographic, stomach content and plankton data, as well data on food competition, will be collected in major marine areas off Sakhalin, Kamchatka, and in Okhotsk Sea during summer-fall season. Juvenile salmon seasonal distribution, migration, population characteristics, and survival will be estimated through different approaches. Region-specific analysis juvenile salmon distribution, abundance, marking, scale pattern and parasite infestation will be performed. Stocks abundance, habitat conditions, feeding behavior and trophic interactions of Pacific salmon juveniles and others major nekton species will be studied. Thermal and “dry” marking programs will be continued at hatcheries in the northern Okhotsk Sea region, Sakhalin and Kamchatka. Return rates for marked juvenile and maturing individuals will be analyzed. For Kamchatka region techniques of thermal and “dry” otolith marking will be utilized to perform research on distribution and migration of juvenile and adult sockeye salmon, as well as, for survival estimates of artificially and naturally reproduced populations.

Expansion of research on caloric content of food items and their isotope composition will provide further insights into understanding of Pacific salmon biological environment. Primary production and salmon food resources in different salmon habitat (rivers, lakes, estuaries, coastal and offshore waters) will be estimated. Outlined research activities will serve as basis for understanding causes of Pacific salmon abundance dynamics throughout major reproduction areas of Russian Far East.

R-3 NPAFC 5-year science plan (2006-2010) research component “Anadromous Stocks in the Western Subarctic Gyre and Gulf of Alaska Ecosystems”. Research sub-theme “Anadromous Stocks in the Western Subarctic Gyre”

The anticipated 2008 trawl surveys on Pacific salmon abundance and ecology in the Bering Sea and northwestern Pacific waters is planned in accordance with comprehensive ecosystem Russian fisheries research program. The major purpose of these studies is the detection and interpretation of environmental variation and density-dependence mechanisms that influence salmon carrying capacity in the North Pacific waters and their relevance for conservation and rational exploitation of salmon stocks.

In 2008 the studies on Pacific salmon spatial allocation, food selectivity, dependence of salmon feeding on biomass and composition of plankton and nekton communities are planned. Pacific salmon spatial differentiation and biological parameters dynamics during anadromous and foraging migrations are envisaged. Pacific salmon tagging activities are expected to be continued. Main goals of planned surveys are: 1) elucidation of the current state of Pacific salmon in the pelagic ecosystems of the northwestern Pacific waters (one of the primary goals - estimation of mature pink salmon abundance during prespawning migration); 2) elucidation of Pacific salmon position and role in the trophic structure of the upper epipelagic zone; 3) evaluation of pelagic ecosystems status, as well as oceanic and overall ecological conditions in the Pacific waters of Kuril Islands during summer period of 2008. One of anticipated results is expected to be further improvement of high-seas trawl survey techniques to correctly predict Pacific salmon returns.

7.5 United States Research Plan

U-1 Juvenile Salmon Studies in the Gulf of Alaska and Bering Sea (BASIS)

Research activities take place primarily in the coastal waters of the Gulf of Alaska from the southeast Alaska area to the western Kodiak Island area and in the eastern Bering Sea from Bristol Bay northward through Kotzebue Sound. Activities include: (1) repeated measurements of the habitat, and stock-specific life history characteristics of salmon from their early marine residence period to their later migration through coastal waters; (2) fine-scale field studies that focus on aggregations of salmonids to look for specific processes or factors that influence their distribution, behavior, and growth; (3) studies on diet overlap and prey selectivity among salmon and other fishes; (4) genetic stock-identification studies of juvenile, immature, and maturing salmon; (5) monitoring of thermally marked salmon; (6) studies of growth and size of juvenile and immature salmon; (7) modeling salmon production based on interannual variability in early marine salmon survival and growth; (8) describing the trophic dynamics of juvenile salmon and their predators in coastal waters; (9) bioenergetic models of juvenile salmon growth; and (10) archival tagging of immature and maturing salmonids. Research in the coastal area of the Gulf of Alaska was initiated in 1995. A coastal monitoring activity was initiated in 1997 in southeast Alaska. Particular focus of this research is placed on examining the extent of seasonal (May–October) interactions between hatchery and wild stocks of salmon, and their
potential impact on marine carrying capacity, and to examine the use of juvenile catch data and associated biophysical parameters to forecast pink salmon run strength. This research was expanded in 2005 to include stations in southern as well as northern Southeast Alaska. The Bering Sea program in western Alaska began in 1999. Particular focus of the western Alaska research was placed on monitoring effects of climate on growth, migration, and distribution of juvenile Bristol Bay sockeye salmon as they migrate in the coastal waters of the eastern Bering Sea. In 2002 research activities expanded in the Bering Sea to participate in offshore as well as coastal studies within the BASIS operation plans. Research activities under BASIS are designed to address the following issues: (1) seasonal-specific migration patterns of salmon inhabiting the Bering Sea, particularly those stocks exhibiting recent declines in production, and their relation to the Bering Sea ecosystem; (2) key biological, climatic, and oceanographic factors affecting long-term changes in Bering Sea food production and salmon growth rates, (3) similarities (or dissimilarities) in production or survival trends among salmon populations originating in rivers around the Bering Sea Rim, and (4) the limit or carrying capacity of the Bering Sea to produce salmon, and the effect of hatchery salmon on Bering Sea food supplies.

U-2 Retrospective Analyses

Retrospective studies characterize past variability in climate and salmonid population parameters over various time and space scales, and are a key component to understanding effects of climate change on the abundance and life-history of U.S. salmon populations. Current retrospective studies include: (1) analyses of scale growth patterns of Karluk Lake and Bristol Bay sockeye salmon, Yukon River chum salmon, and six pink and chum salmon populations from the northern and eastern Gulf of Alaska; (2) a summary of historical salmon research in the Karluk Lake area; (3) time-series analyses of North American salmon population and climate data; and (4) analyses of scale growth patterns of Auke Creek coho salmon to examine the relationship of marine growth to precise estimates of stock-specific marine survival.

U-3 Stock Identification

This research program is designed to find biological markers capable of identifying stocks of salmon in the North Pacific Ocean. These biological markers include genetic characters displayed in protein electrophoresis and in various forms of DNA. Non-genetic characters being evaluated are derived from scale pattern analysis and thermal marks on otoliths. The first task is to develop standardized methods of genetic analysis among Parties, and to identify important stocks of salmon that should be included in the database. The United States is developing genetic stock identification algorithms that combine different types of genetic characters and non-genetic characters into one analysis. The United States is also continuing international cooperative high-seas tagging studies and recovery of coded-wire tagged salmonids in ocean fisheries and research vessel operations. These data will assist in identifying the origins of stocks harvested in mixed-stock fisheries and in determining the oceanic distribution of stocks.

U-4 High-Seas Salmon Research

Activities under this program include research coordination efforts and international cooperative high seas salmon research (maintenance of historical scale collections, high seas salmon tagging, and salmon research vessel cruises) in support of United States commitments to the NPAFC.

U-5 Southeast Coastal Monitoring Research Plan

The Southeast Coastal Monitoring (SECM) program in 2009, following elements of NPAFC’s science plan, will focus on biophysical factors and key stocks of juvenile salmon that will enable researchers to better understand how growth, abundance, and ecological interactions, both on an intra- and interannual basis, effect survival and year-class strength. Long-term monitoring of biophysical data will continue in primary marine migration corridors of juvenile Pacific salmon in southeast Alaska; in the northern part since 1997 and in the southern part since 2005. Data are periodically collected at up to 21 stations at four sampling intervals from May to August. Sampling stations include three habitat types: (1) inshore, (2) strait, and (3) coastal where fish, zooplankton, surface water samples, and physical profile data are collected using surface rope trawls, conical bongo nets, and a conductivity-temperature-depth profiler. These systematic surveys attempt
to identify and understand biophysical parameters that influence habitat use, marine growth, predation, stock interactions, year-class strength, and carrying capacity of hatchery and wild juvenile salmon as they migrate through corridors into oceanic environments. In addition to providing baseline data sets for documenting potential effects of climate change on epipelagic ichthofauna and associated biota, these data have become a useful tool showing real promise for successfully forecasting regional abundance of pink salmon. Large regional hatchery programs that otolith mark all chum salmon juveniles released in southeast Alaska also enable this research to closely examine interactions between wild and hatchery juveniles during the early marine period including any potential impacts of hatchery fish on carrying capacity.

(8) Cooperation with Relevant International Organizations

8.1 Cooperation with PICES

The Executive Secretary of PICES, A. Bychkov, pointed out that NPAFC’s focus on the conservation of salmon stocks, combined with the broad scientific mandate of PICES provide the two organizations with great potential for cooperation. A. Bychkov invited NPAFC to (1) participate in the development of the second PICES North Pacific Ecosystem Status Report, which will focus on status and trends in marine ecosystems of the North Pacific and its marginal seas for the period 2003–2008 (see Report of the WG on Stock Assessment for details); (2) contribute to the salmon research component of the new PICES integrative scientific program, called FUTURE (Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems); and (3) co-sponsor the international symposium on “Forecasting Climate Change Impacts on Fish and Shellfish” to be held in spring 2010 (see Appendix 7) and report of the Science Sub-Committee for details). A. Bychkov thanked the Contracting Parties for their willingness to collaborate with PICES and positive attitude towards PICES’ proposals.

8.2 Joint Symposium with NASCO

Members of the Steering Committee J. Irvine (chair), V. Karpenko from Russia, T. Nagasawa and J. Seki from Japan, S. Kang from Korea, J. Helle from the United States and S. Urawa from the NPAFC Secretariat reviewed the history of planning this symposium, the objectives, the budget, and future options relevant to the symposium.

The Steering Committee supported the conclusions reached by the Science Sub-Committee:

- NPAFC Secretariat should contact NASCO and develop a detailed budget that will be discussed at the 2009 RPCM.
- NASCO will be asked to participate in 2009 CSRS meeting where a final decision will be made whether NPAFC will support proposed joint symposium.

8.3 2010 International Symposium

NPAFC was invited to join PICES and ICES as a co-sponsor the International Symposium on Forecasting Climate Change Impacts on Fish and Shellfish (tentative title) to be held in Japan in the spring of 2010 (Appendix 7). The committee discussed and nominated the chairperson of the Science Sub-Committee, R. Beamish, as a member of the Steering Committee of the symposium.

(9) Publications

9.1 Statistical Yearbook

The Secretariat reported on the current status of the Statistical Yearbook. The Statistical Yearbook 2002-2004 was published in September 2008. The 1993-2004 statistics data are available at the NPAFC website. The
2005 and 2006 statistics data have been compiled in October 2008 and are ready for uploading on the website. The Secretariat requested all Parties to provide the 2007 statistics data by the end of March 2009.

9.2 Other Publications

NPAFC Bulletin No. 5 (proceedings of 2008 BASIS Symposium) is scheduled to be published by the end of 2009.

7. Administrative and Fiscal Matters

(1) Financial Analysis and Increase of Contributions from 2010/2011 FY

At the 15th Annual Meeting the Parties and the Committee on F&A discussed the possibility of increasing the contribution of the Parties according to the table of contribution increase formulae provided by the Secretariat.

The Secretariat presented an updated powerpoint of the detailed financial status of the Commission.

The Parties, after consulting with their governments, agreed unanimously to increase the contribution to C$180,000/annum (C$35,000 increase) per Party starting July 1, 2010.

Japan supported the increase on the condition that the Secretariat continue to exercise its prudence in the use of the Commission’s budget.

While the US Party supported the increase in contributions, the committee noted the US’ comment that the increase is subject to further consideration by the U.S. Congress and new Administration.

The committee recommended that the Parties increase the annual contributions by C$35,000/year to C$180,000/Party/year, beginning from the 2010/2011 fiscal year.

(2) Review of ENFO and CSRS Recommendations on Joint Projects to be Financed by the Commission from Different Funds

Request from CSRS

The CSRS requested funding of C$44,000 for the NPAFC Bulletin #5 as the proceedings of BASIS Symposium.

Given the current Commission’s fiscal situation, the committee discussed the possibility of publishing the Bulletin electronically instead of in hard copy.

The committee noted that the current world trend is not to have a printed version but to have electronic on-line version. Some Parties raised concerns about going completely to an electronic format at this time. While the Secretariat was asked to examine ways to reduce the cost of printing/mailing of the Bulletin, the Commission will gradually shift printing to the electronic versions.

The committee recommended funding C$42,000 for the publication of the NPAFC Bulletin No. 5, the Proceedings of 2008 BASIS Symposium from the Working Capital Fund for 2009/10 fiscal year.

The CSRS also requested funding of C$1,000 in prize money for the return of the salmon tags. A drawing will be held at the 2009 17th Annual Meeting. The three prizes will be: 1st prize-C$500, 2nd prize-C$300, 3rd prize-C$200.
The committee recommended funding C$1,000 from the Special Fund for the Scientific Research for the 2009/10 fiscal year.

**Request from ENFO**

ENFO requested C$14,000 funds to hold a half day ENFO Workshop in conjunction with the 2009 EECM in Fukuoka, Japan on February 24, 2008, to cover the travel cost of one officer per Party who will be presenting at the Workshop.

All Parties also agreed this kind of workshop must be held on a regular basis but the frequency of this workshop should be determined by the ENFO.

In order to minimize this fiscal year’s budget, Japan, Korea and the United States indicated that they will cover the travel costs of their presenters. However, if any Party has a financial difficulty, the Party will make a request to the Secretariat for the travel cost of one presenting officer.

For the future workshops, it was agreed that each Party will endeavour to cover the cost of all their participants as indicated in the Convention.

The committee recommended funding a maximum of C$14,000 from the Working Capital Fund to pay for one participant from each Party who will be presenting at the 2009 ENFO Workshop in Fukuoka, Japan on February 24, 2009.

**NPAFC Performance Review**

The Executive Director briefed the committee on the past history, procedures and the creation of the Working Group for the Commission’s Performance Review and presented a timetable with a relevant cost.

While lengthy discussion was held over the Japanese and Korean Parties’ concerns about the timing of the Performance Review and the Canadian Party’s concerns that one of the external panelists is a government employee of one of the member countries of the Commission, all Parties agreed on the following:

- The two External Panelists will be: Drs. Rosemary Rayfuse (professor at the South Wales University of Australia) and Ian Perry (chief scientist at the Pacific Biological Station, Canada) and both will be co-chairs,
- Invite the External Panelists to 2009 17th Annual Meeting to be held in Niigata, Japan,
- The expert reviewers will have primary authorship,
- The final report to be presented at the 2010 18th Annual Meeting
- Five Internal Panelists will start their review prior to the 2009 Annual Meeting,
- Other meetings will be done by communications,
- Point of communication: NPAFC Secretariat

**Fiscal implications:**

- 08/09 FY: nil
- 09/10 FY: approximately C$15-20,000 (Travel cost of two external panelists to Niigata and advance payments (30%) of the contract)
- 10/11 FY: other direct cost and the balance of the contract

The committee recommended approval of the above agreements.
8. **News Release**

The Commission reviewed and adopted the News Release prepared by the Secretariat and the Press Committee (Appendix 8).

9. **Closing Remarks**

The closing remarks from the Parties' Representatives and the President were made as follows:

**Closing remarks by Dr. Natalia Klovach (Russia)**

*Mr. President, Distinguished Representatives of the Parties, Members of the Secretariat, Ladies and Gentlemen,*

*May I express, on behalf of our delegation, satisfaction with the result of the 16th Annual Meeting of the NPAFC.*

*It was a very productive meeting. All Parties worked well and completed consideration of all the agenda items of the 16th Annual Meeting. All the committees presented substantial reports on the work done.*

*The volume of work performed in the Committee on Enforcement, and their final report made by R. Martinolich were impressive. The Parties' joint enforcement effort in the Convention Area has yielded its fruit. There were fewer infringements in the outgoing year then a year ago. Hopefully for all of us, there will be even fewer violations in the future, while the e-buoy developed to detect illegal drift nets, and tested for the first time this year, will not have to be hoisted because of the absence of such nets.*

*The Committee on Scientific Research and Statistics headed by Dr. Ishida was very effective, and has certainly contributed, as the others did, to reaching the record high catch of Pacific salmon in 2007. The NPAFC scientists study more profoundly the salmon stocks formation criteria, and they provide the Annual Meetings with their best results. One outcome of the Committee on Scientific Research and Statistics’ deliberations was the excellent report prepared by Dr. Ishida which included all of the best scientific information in the documents presented by the Parties.*
I am certain that we shall continue our scientific discussions of the 16th Annual Meeting during the follow-up International Symposium on BASIS.

The Committee on Finance and Administration led by Dr. Maksimov did its utmost to ensure a financial basis for the Commission’s activities in the future despite the complex financial situation in the Commission.

As impeccable as always was the functioning of the Secretariat guided by the Executive Director, Mr. Fedorenko who organized our work in the best way.

We wish to express our sincere gratitude to the US Party for the excellent opportunity to spend the past week in the beautiful city of Seattle, for the superb reception in the magnificent Aquarium, and for the fine weather which refuted all forecasts.

I would like to point out the highly professional work of the interpreters which made it possible for us to communicate in a full-fledged way.

Time flies fast, so we will soon meet at Niigata next year. May I wish all of you a happy journey home. I look forward to seeing all of you again.

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Closing remarks by Mr. Guy Beaupré (Canada)

Mr. Chairman, distinguished representatives, observers, ladies and gentlemen, I want to express, on behalf of the Canadian delegation, our satisfaction with the outcome of this 16th Annual Meeting.

Canada is pleased with the discussions that have taken place and the decisions taken. Progress has been made through the cooperative efforts of the Parties to maintain effective surveillance programs in the face of looming HSDN activity in the Convention Area. The committee considered other ways such as Canada’s Radarsat 2 to monitor continuing HSDN activities.

We also have had a productive exchange of scientific information and laid the basis for further work of the next five years aimed at understanding salmon abundance and behavior in various ecosystems so that we can better manage the human activity that affects them.

Mr. Chairman, both these committees represent the backbone of this organization, the continuous hard work and the dedication of their various members of these committees deserve our highest appreciation.

The Finance and Administration Committee has taken important steps, this week towards improving the financial status of the Commission and dealing with challenging financial matters and moving forward on the Commission’s activities consistent with the UN General Assembly obligation. I also want to recognize the excellent work of the Committee Chair, Dr. Maksimov.

I would like to thank the Secretariat for its excellent preparations for, and support of the meeting and the United States for providing excellent meeting facilities and perfect weather.

I look forward to the 17th Annual Meeting and hope to see you all in Niigata next year.
Closing remarks by Mr. Koji Imamura (Japan)

Mr. President, fellow Delegates, ladies and gentlemen, I would like to say a few words on behalf of the Japanese delegation for the conclusion of the 16th NPAFC Annual Meeting.

Let me first congratulate Dr. Koo, who presided over the opening of this meeting, and Dr. Kim, who was elected as the new president in this meeting, both from Korea, for their excellent chairmanship. I would also like to thank the chairs of the three committees we have that they conducted their meetings efficiently and effectively resulting in extremely productive discussions. It is true that NPAFC has its work essentially done in these committees, and I would like to commend on the leadership of these gentlemen, respectively from Canada, Japan and Russia, with sincere appreciation from the Japanese delegation.

In this Annual Meeting, the Committee on Enforcement received reports from the Parties on their respective enforcement activities for 2008, which are producing results steadfastly under the cooperation among the member nations. Japan is pleased to host the 2009 EECM meeting in the City of Fukuoka, Japan, and looking forward to welcoming enforcement people from each Party.

In the Committee on Scientific Research and Statistics, it was reported that the total catch of North Pacific salmon was record high at more than one million tonnes in 2007. From November 23, the BASIS Symposium will be held here in Seattle, in which a number of recent research results are to be presented and discussed. The symposium is expected to show us a certain direction to take in our future efforts.

In the Committee on Finance & Administration, while an increase of member contributions was approved in consideration of the difficult financial situation, there was intense discussion on more efficient administration and cost reduction of the organization.

I would like to recognize, as always, the professional work of our Executive Director, Mr. Fedorenko, Wakako-san, and the other Secretariat staff, in the preparation and operation of the meeting including the production and circulation of materials. The sessions were run smoothly, and we owe the successful completion of the 16th Annual Meeting to their hard work.

We plan to host the next Annual Meeting, the seventeenth, in the City of Niigata, Japan, from November 2 to 6, 2009. I was personally involved in the selection of the venue by visiting Niigata with the official in charge from the Japanese Fisheries Agency and Wakako-san from the Secretariat to look at the meeting facilities and hotels. Niigata is a calm and peaceful city with excellent conference facilities and accommodations. I am sure you will be pleased with our choice. We are all very much looking forward to seeing you in Niigata. Thank you.

Closing remarks by Dr. Yonggun Gong (Republic of Korea)

Good morning, Mr. President, distinguished delegates, observers, ladies and gentlemen,

We have come to the end of a remarkably well-organized and enjoyable 16th NPAFC Annual Meeting. Over the last four days, it has been heartening to see such deep and broad scientific results and to plan our efforts to fight illegal, unreported and unregulated salmon fishing in the North Pacific.

I am encouraged by your willingness to share and openly discuss actions, experiences and challenges. Working together with delegates from the member countries was the greatest experience for me.

Korea believes the issues we discussed during the meeting such as efforts and activities of enforcement, scientific researches and cooperation with other international organizations will encourage and strengthen the conservation on salmon stocks in the North Pacific.
Mr. President, on behalf of the Korean delegation, I would like to thank you for your leadership. Also, I would like to express our gratitude to the Chairmen of the three committees, Dr. Ishida of the CSRS, Mr. Martinolich of the ENFO, and Dr. Maksimov of the F&A for their efforts.

Once again, I would like to thank the delegation of the United States of America for hosting the 16th Annual Meeting of the NPAFC. All of us will remember the hospitality and great reception at “Sleepless in Seattle”.

I cannot forget to thank the Executive Director, Mr. Vladimir Fedorenko, and the Secretariat for their valuable support during this meeting. And my last gratitude goes to the interpreters and technical personnel whose professionalism led to a successful meeting.

Finally, I look forward to seeing you in Niigata, Japan next year and wish you all safe journeys home. Thank you very much.

Closing remarks by Mr. Doug Mecum (United States)

Mr. President, Fellow Representatives and Delegates, Ladies and Gentlemen,

The Commission and Committees have once again successfully navigated their way through challenging agendas this week.

The United States congratulates the Parties on a successful 2008 enforcement season in the NPAFC Convention Area. This year, through the combined efforts of all of the Parties and Taiwan and China, 14 suspected driftnet vessels were sighted and two were apprehended. This is a continuation of the downward trend in the number of IUU fishing vessels sighted and intercepted in the Convention Area. In comparison, last year, seven large-scale driftnet fishing vessels were intercepted out of a total of 47 suspected driftnet vessels sighted operating on the high seas of the Northwestern Pacific Ocean by the international community. We believe this decrease is a direct result of the improved enforcement cooperation among the Parties and urge them to continue to build upon this success in 2009.

The United States is pleased that the U.S. high priority scientific issues mentioned in our opening statement are being addressed by the Committee on Scientific Research and Statistics. We look forward to continued sharing of our research resources to further advance our understanding of the North Pacific Ocean to produce a high abundance of salmon resources for all the members of this Convention. We cannot overlook that the highest total catch of salmon on record for the North Pacific Ocean was achieved in 2007. I would like to believe that the conservation efforts of this Commission to protect salmon during their rearing phase in the ocean have contributed to this success. However, there are still areas with low salmon production. Our research should not overlook these lower production areas and species, like steelhead and other salmon species, in our Pacific Coast States. I urge the scientists to continue their collegial research and wish them success in unraveling the mysteries of salmon ocean migration and survival and the important contribution of salmon to the ecosystems of the North Pacific Ocean.

Having spent time in the Committee on Finance and Administration this week, I’m convinced that this Committee has the most difficult job in the Commission, outside the Secretariat. The committee achieved a commitment to increase the dues of the member Parties by $35,000 by fiscal year 2010/11—no easy matter in these difficult economic times. This increase will allow the Commission to continue functioning at the current high level of excellence for the immediate future, but all Parties are acutely aware of the need to economize wherever possible. The United States is also pleased that the committee could agree on a fiscally prudent course of action for moving ahead with the NPAFC’s Performance Review. We are confident that the Commission can only benefit from this exercise.

We thank our President and our committee and Subcommittee chairs for their leadership and guidance this week. We thank all of the participants for the spirit of cooperation, compromise, and friendship that they brought
to this meeting. The fact that we can deal with difficult matters and emerge as stronger friends is truly the sign of a successful meeting. We thank our Secretariat for its preparations and the interpreters for allowing us to communicate the business of our Commission.

Finally, I’m aware that a number of the Parties’ delegation members are retiring soon or have just retired. I won’t name them, but I want to thank them on behalf of the United States for their many years of dedication to the work of this Commission. We will miss them. I urge Parties to encourage young scientists and managers to become involved in the work of the Commission. The future success of this Commission is dependent upon them.

I hope all of you are able to enjoy Seattle for a few more days and attend the International BASIS Symposium on Climate Change, Production Trends, and Carrying Capacity of Pacific Salmon in the Bering Sea and Adjacent Waters. This symposium promises to be one of the most successful the Commission has ever sponsored—the topics could not be more timely.

On behalf of the United States delegation, I wish you all a safe journey home. We look forward to seeing you next year at the 17th Annual Meeting of the NPAFC in Niigata, Japan.

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Closing remarks by Dr. Suam Kim, President of NPAFC

Distinguished Delegates, Observers, Ladies and Gentlemen,

The beginning of my speech should start with ‘Thank you for your help’, because my experience in the NPAFC Annual Meeting was very limited. Especially, Chairpersons of the committees and Executive Director gave me good advice and guidelines for the meeting operation. Without their and your devotion, this Annual Meeting couldn’t be completed with such success.

For the last 5 days, we have discussed actively on how we maintain strong salmon stocks as well as healthy ecosystems in the North Pacific. I have observed that each person in the meeting worked very hard for doing his/her own role in our organization. Scientists in the CSRS exchanged information on scientific results, and improved our understanding on salmon ecology. The officials and administrators in the ENFO discussed the methods and strategies for conservation of salmon species and prevention of illegal fishing. They have conducted an excellent job using ship, airplane, and satellite against IUU fishing in the Convention Area. Delegations in the F&A also tried to find efficient ways to operate the organization.

Recently, the world has been changing very fast. The advances of engineering and new technologies make our common living very convenient and comfortable. On the other hand, however, such development in industry caused high concentrations of carbon dioxide in the air, and consequently fast changes in climate, which influenced extensively on marine ecosystems including salmon stocks. The link between industry, climate, fish resources, and economy requires understanding of the Earth System Science in holistic way, because every component in earth ecosystem and human society was inter-connected. In this regard, the NPAFC has achieved its role very well in salmon conservation and management in the North Pacific, and regarded as one of the leading fisheries organizations in the world. I believe the reputation of the NPAFC was attributed by everybody’s endeavor in our organization, and wish to have our name recognized continuously.

In conjunction with this Annual Meeting, we will have an International Symposium on Bering-Aleutian Salmon International Surveys (BASIS) at the Sheraton Hotel from Sunday, November 23. Total of about 70 scientific
papers will be presented during the three days, and the results of the Symposium can be a milestone in climate change, production trends, and carrying capacity of Pacific salmon.

Finally, I would like to express my sincere thanks to the United States Government and delegation for hosting this Annual Meeting. Reception at the Seattle aquarium was excellent and unforgettable event for the participants. The process of meeting is going very smoothly. Moreover, the host brought sunshine for a week to Seattle in mid November. It is really incredible. Also, I cannot close this meeting without saying special thanks to the Secretariat and interpreters who were behind the curtain. Without their devotion, we could not have had such a big success. Again, I, as the President of the organization, really appreciate everybody’s efforts for making this Annual Meeting successful. I wish you have safe journey to your home countries, and looking forward to seeing you in Niigata, Japan next year.
Dramatic fluctuations in the ocean growth and survival of many Asian and North American salmon populations over the past decade have been attributed to changes in the Bering Sea and other marine ecosystems. The absence of scientific observations for salmon, ecologically related species, and environmental conditions in the North Pacific Ocean has limited our understanding of these changes and how they affect salmon populations and economies around the Pacific Rim. International research efforts to address these issues were developed by the NPAFC, as part of its Science Plan. The research plan called BASIS (the Bering-Aleutian Salmon International Survey), began in 2002 as a coordinated program of cooperative research on Pacific salmon in the Bering Sea. The goal of BASIS research was to clarify the mechanisms of biological response by salmon to the conditions caused by climate change in the Bering Sea.

The symposium was held November 23–25, 2008, in the Sheraton Hotel in downtown Seattle, Washington. E. Farley chaired a steering committee consisting of: T. Azumaya, R. Beamish, K.B. Seong, V. Sviridov, and S. Urawa. During the symposium, NPAFC commemorated the efforts from research and contract vessels: Kaiyo maru and Wakatake maru (Japan), TINRO (Russia), and Sea Storm and Northwest Explorer (USA) for their expertise and support in conducting BASIS research surveys.

There were three main topics: 1) Overviews of climate change, Bering Sea ecosystems, and salmon production; 2) biological responses by salmon to climate and ecosystem dynamics; and 3) discussion and summary on BASIS 2002–2006: where do we go from here? There were 42 oral and 30 poster presentations. All presentations were in English. It was evident that the Arctic is warming and that sea ice extent is declining (Fig. 1).

N. Bond showed that climate warming will increase water column stability on the eastern Bering Sea shelf, limiting the flux of nutrients into the photic zone and perhaps negatively impacting primary and secondary productivity. O. Temnykh suggested that climate warming will not impact carrying capacity for salmon in the western Bering Sea and that current models indicate that the carrying capacity for salmon in the Bering Sea is...
much higher than present abundance levels. G. Ruggerone presented a different view on carrying capacity, suggesting that the large increase in the abundance of hatchery salmon impacted wild salmon stocks by limiting growth via density-dependent processes in the ocean, increasing their mortality rates. K. Myers reviewed BASIS data and revealed new migrations models for salmon, some which indicate varying migration pathways depending on whether sea surface temperatures are warm or cold.

M. Kaeriyama showed prediction models for the impact of global warming on the ecosystems of the North Pacific Ocean and concluded that: 1) global warming will decrease salmon carrying capacity by reducing their preferred ocean habitat; 2) increase density-dependent effects on growth of salmon thus potentially reducing their marine survival; and 3) Hokkaido chum salmon will no longer migrate to the Sea of Okhotsk, an important rearing region for juvenile chum salmon. H. Seo revealed that climate change would likely impact survival of Asian chum salmon during their first year at sea.

Well-researched papers on the migration and distribution of Pacific salmon were presented by A. Bugaev, T. Nagasawa, J. Seeb, J. Murphy, C. Habicht, S. Urawa, T. Beacham, M.H. Kang, R. Walker, and J. Irvine. Most of these presenters provided stock-specific information on salmon distribution using genetic stock identification techniques. T. Nagasawa (for T. Azumaya) presented a fish bioenergetic model that suggested carrying capacity for salmon distributed in the Bering Sea is not limited during summer, but is limited for salmon distributed in the North Pacific Ocean during winter and spring.

Climate cycles are embedded in the climate trends. For instance, our Russian colleagues have shown that shifts in the position the Far Eastern Low and Aleutian Low pressure systems determine whether or not the Bering Sea experiences warming or cooling and also affect velocity of ocean currents. The position of these atmospheric low pressure systems (NE and W respectively) during 2002 to 2005 brought warmer air to the Bering Sea during winter and was related to decreased storm activity during summer. The position of these low pressure systems shifted again (SW and E respectively) during 2006; as a result, colder arctic air covered much of the Bering Sea during winter and summer storm activity increased.

The impacts of these climate cycles (cool versus warm) on physical and biological parameters in the eastern Bering Sea were presented S. Danielson, L. Eisner, A. Andrews, J. Murphy, K. Coyle, K. Cieciel, and E. Farley. These papers suggested pelagic productivity was highest during years with warm SSTs, as abundance levels of juvenile salmon and age 0 pollock are much higher than during years with cool SSTs. However, the zooplankton community shifted from large to small taxa during warm SSTs years, altering energy transfer to pelagic fish and negatively impacting fish energy density prior to winter. This finding may explain why recruitment of commercial fish species in the eastern Bering Sea was low during warm SST years, as fish with low energy reserves prior to winter would be expected to have higher mortality during winter.

Within the western Bering Sea, climate cycles of warm and cool also resulted in shifting food webs and abundance of pelagic consumers. S. Naydenko showed that juvenile walleye pollock consumed a large portion of the forage resource during 2002 and 2003 and Pacific salmon, squids, Atka mackerel, herring, and capelin were the dominate consumers of the available forage during 2004 to 2006. S. Naydenko (for A. Volkov) noted that copepods dominated the zooplankton biomass in the western Bering Sea during 2006, whereas euphausiids and hyperiids dominated the zooplankton biomass during 2003 and 2005. M. Koval connected 11 year cyclic solar activity to shifts in biomass of dominant pelagic fish species in the western Bering Sea (between salmon and Atka mackerel to walleye Pollock).

E. Martinson, J. Helle, and G. Ruggerone showed how salmon scale pattern analyses, where long time series of scale collections are available for salmon populations, can be used to reveal possible impacts of climate change to salmon marine growth. B. Beckman and T. Kaga described methods to measure salmon fitness in connection with recruitment success and monitoring the impact of climate variation on salmon health.
There was a lively discussion at the end of the meeting regarding future research for BASIS and a resounding commitment to continue this vital research by Parties within NPAFC. C. Pautzke, the Executive Director of the North Pacific Research Board (NPRB), suggested NPAFC researches keep NPRB in mind for funding research during the 2nd phase of the "Bering Sea Integrated Ecosystem Research Program" that would likely occur several years from now. There was a general sense of satisfaction knowing that BASIS research captured the response of the Bering Sea pelagic ecosystem to cyclic patterns in climate. There was no question that the North Pacific Anadromous Fish Commission, BASIS research strengthened our knowledge of the effects of climate variation on pelagic ecosystems of the Bering Sea. This research also fostered unprecedented cooperation among NPAFC Parties and is a model for future collaborative research efforts in the North Pacific Ocean.

Dr. J. Helle, the former BASIS Working Group Chairperson, introduced the BASIS program.

Photo by NPAFC Secretariat

In addition to 42 oral presentations, 30 significant posters were presented during the symposium.

Photo by NPAFC Secretariat
Approximately 130 people attended the 3-day symposium at the Sheraton Seattle Hotel.

Photo by NPAFC Secretariat

Mr. J. Downing (right), the owner of F/V Northwest Explorer, got a commemorative plaque from the NPAFC Executive Director V. Fedorenko. Five research vessels were commended for their expertise and support in conducting BASIS researches.

Photo by NPAFC Secretariat
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Fig. 1. Annual September sea ice extent in the Arctic. Courtesy of NASA http://www.nasa.gov/vision/earth/environment/arctic_minimum.html.

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Climate cycles are embedded in the climate trends. For instance, our Russian colleagues have shown that shifts in the position the Far Eastern Low and Aleutian Low pressure systems determine whether or not the Bering Sea experiences warming or cooling and also affect velocity of ocean currents. The position of these atmospheric low pressure systems (NE and W respectively) during 2002 to 2005 brought warmer air to the Bering Sea during winter and was related to decreased storm activity during summer. The position of these low pressure systems shifted again (SW and E respectively) during 2006; as a result, colder arctic air covered much of the Bering Sea during winter and summer storm activity increased.

The impacts of these climate cycles (cool versus warm) on physical and biological parameters in the eastern Bering Sea were presented S. Danielson, L. Eisner, A. Andrews, J. Murphy, K. Coyle, K. Cieciel, and E. Farley. These papers suggested pelagic productivity was highest during years with warm SSTs, as abundance levels of juvenile salmon and age 0 pollock are much higher than during years with cool SSTs. However, the zooplankton community shifted from large to small taxa during warm SSTs years, altering energy transfer to pelagic fish and negatively impacting fish energy density prior to winter. This finding may explain why recruitment of commercial fish species in the eastern Bering Sea was low during warm SST years, as fish with low energy reserves prior to winter would be expected to have higher mortality during winter.

Within the western Bering Sea, climate cycles of warm and cool also resulted in shifting food webs and abundance of pelagic consumers. S. Naydenko showed that juvenile walleye pollock consumed a large portion of the forage resource during 2002 and 2003 and Pacific salmon, squids, Atka mackerel, herring, and capelin were the dominate consumers of the available forage during 2004 to 2006. S. Naydenko (for A. Volkov) noted that copepods dominated the zooplankton biomass in the western Bering Sea during 2006, whereas euphausiids and hyperiids dominated the zooplankton biomass during 2003 and 2005. M. Koval connected 11 year cyclic solar activity to shifts in biomass of dominant pelagic fish species in the western Bering Sea (between salmon and Atka mackerel to walleye Pollock).

E. Martinson, J. Helle, and G. Ruggerone showed how salmon scale pattern analyses, where long time series of scale collections are available for salmon populations, can be used to reveal possible impacts of climate change to salmon marine growth. B. Beckman and T. Kaga described methods to measure salmon fitness in connection with recruitment success and monitoring the impact of climate variation on salmon health.
There was a lively discussion at the end of the meeting regarding future research for BASIS and a resounding commitment to continue this vital research by Parties within NPAFC. C. Pautzke, the Executive Director of the North Pacific Research Board (NPRB), suggested NPAFC researches keep NPRB in mind for funding research during the 2nd phase of the "Bering Sea Integrated Ecosystem Research Program" that would likely occur several years from now. There was a general sense of satisfaction knowing that BASIS research captured the response of the Bering Sea pelagic ecosystem to cyclic patterns in climate. There was no question that the North Pacific Anadromous Fish Commission, BASIS research strengthened our knowledge of the effects of climate variation on pelagic ecosystems of the Bering Sea. This research also fostered unprecedented cooperation among NPAFC Parties and is a model for future collaborative research efforts in the North Pacific Ocean.
Approximately 130 people attended the 3-day symposium at the Sheraton Seattle Hotel.

Photo by NPAFC Secretariat

Mr. J. Downing (right), the owner of F/V Northwest Explorer, got a commemorative plaque from the NPAFC Executive Director V. Fedorenko. Five research vessels were commended for their expertise and support in conducting BASIS researches.

Photo by NPAFC Secretariat
REPRESENTATIVES
(Participated at the Annual Meetings)

Canada 🇨🇦

Victor Rabinovitch
1993-1994
Darlene Weir
1993-1994
Garnet Jones
1993-1999
Gary Williamson
1994-1997

David Bevan
1996-2002
Gerry Kristianson
1997-Present
Russ Jones
1999-2008
Guy Beaupré
2002-Present

Japan 🇯🇵

Masahiro Ishikawa
1993-1994
Koji Imamura
1993-Present
Seiichi Yoshida
1994-1995
Satoshi Watanabe
1995-1997
Russia

Dohyung Koo
2007-2008

Ki Baik Seong
2007-Present

Suam Kim
2008-Present

Vyacheslav Zilanov
1993-1997

Vladimir Fedorenko

Vladimir Pautov
1993-2001

Vladimir Izmailov
1996-2001

Sergey Dyagilev
2001-2006

Anatoly Makoedov
2001-2006

Sergey Sinyakov
2001-2006

Mikhail Glubokovskiy
2006-Present

Sergey Maksimov
2006-Present
COMMITTEE CHAIRPERSONS

CSRS Chairpersons

Leo Margolis†
1993-1996
Canadian

Loh-Lee Low
American

Oleg Gritsenko
1997-1999
Russian

Yukimasa Ishida
1999-2001
2007-Present
Japanese

Richard Beamish
2001-2003
Canadian

Vladimir Karpenko
2005-2007
Russian

†deceased

ENFO Chairpersons

Dennis Brock
1993, 1997-1999
Canadian

Vladimir Izmailov
1994-1996
Russian

Satoshi Watanabe
1996-1997
Japanese

Shuji Ishida
1997
Japanese
Vincent O’Shea  
1999-2001

Igor Rypalov  
2001-2003

Takashi Kato  
2003-2004

Akihiro Mizukawa  
2004-2005

Koji Miyaura  
2005

Mike Cerne  
2005-2007

Robert Martinolich  
2007-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
2001

James Balsiger
2001-2003

Vladimir Shevlyakov
2003-2005

Koji Miyaura
2005-2006

Kazuaki Tanaka
2006-2007

Hiromi Isa
2007

Sergey Maksimov
2007-Present

†deceased
SECRETARIAT

Executive Directors

Shigeto Hase  
1993-1994  
(Interim Executive Director)

Irina Shestakova  
1994-1999

Vladimir Fedorenko  
1999-Present

Deputy Directors

Wakako Morris  
1993-1994  
(Interim Deputy Director)

Hisashi Endo  
1994-1997

Hiroko Omori  
1997-2000

Yoshikiyo Kondo  
2000-2003

Toshinori Uoya  
2003-2006

Shigehiko Urawa  
2006-Present

Administrative Officer
Wakako Morris
1994-Present

Secretaries

Heather Nevin
1993-1995

Marijke Nap
1995-1997

Denise McGrann-Pavlovic
1997-Present
MEETINGS AND EVENTS - 16 Years of History

1992

February 11
Convention was signed in Moscow

1993

February 16
Convention entered into force

February 24
Inaugural Meeting of the Commission in Ottawa, Canada. Secretariat was established.

April 27–29
Meeting of the Sub-Committee of Enforcement in Vancouver, Canada

June 22–24
Inaugural Meeting of the Committee on Scientific Research and Statistics in Vladivostok, Russia

November 1–5
1st Annual Meeting of the Commission in Vancouver, Canada

1994

October 10–15
2nd Annual Meeting of the Commission in Vladivostok Russia

1995
March 6–10  Research Planning and Coordinating Meeting, Seattle, Washington, U.S.A.

November 5–10 3rd Annual Meeting of the Commission in Seattle, Washington, U.S.A.

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

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

November 1–6  6th Annual Meeting of the Commission in Moscow, Russia
<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>March 16–19</td>
<td>Enforcement Standardization Symposium in Kodiak, Alaska, U.S.A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>March 24–26</td>
<td>Research Planning and Coordinating Meeting (RPCM) in Vancouver, Canada</td>
<td></td>
</tr>
<tr>
<td></td>
<td>October 24–29</td>
<td>7th Annual Meeting of the Commission in Juneau, Alaska, U.S.A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>November 1–2</td>
<td>International Symposium &quot;Recent Changes in Ocean Production of Pacific Salmon&quot; in Juneau, Alaska, U.S.A.</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>March 1–3</td>
<td>Enforcement Planning and Coordinating Meeting (EPCM) in Tokyo, Japan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>March 27–28</td>
<td>Research Planning and Coordinating Meeting (RPCM) in La Jolla, California, U.S.A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>October 29</td>
<td>International Workshop &quot;Factors Affecting Production of Juvenile Salmon: Comparative Studies on Juvenile Salmon Ecology between the East and West North Pacific Ocean&quot; in Tokyo, Japan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>October 30–November 2</td>
<td>8th Annual Meeting of the Commission in Tokyo, Japan</td>
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<tr>
<td></td>
<td>March 21</td>
<td>International Workshop on Salmonid Otolith Marking in Seattle, Washington, U.S.A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May 14–17</td>
<td>Enforcement Evaluation and Coordination Meeting (EECM) in Petropavlovsk-Kamchatsky, Russia</td>
<td></td>
</tr>
</tbody>
</table>
### 2002

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

**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 7–9**
Enforcement Evaluation and Coordination Meeting (EECM) in Kodiak, Alaska, U.S.A.

**May 27–29**
Bering-Aleutian Salmon International Survey (BASIS) Working Group Meeting in Vladivostok, Russia

**October 6–11**
10th Annual Meeting of the Commission in Vladivostok, Russia

### 2003

**May 21–22**
Enforcement Evaluation and Coordination Meeting (EECM) in Queen Charlotte City, B.C., Canada

**May 29–30**
Research Planning and Coordinating Meeting (RPCM) in Seattle, Washington, U.S.A.

**May 30**

**October 23–31**
11th Annual Meeting of the Commission in Honolulu, Hawaii, U.S.A.

**November 1–2**
International Workshop on "Application of Stock Identification in Defining Marine Distribution and Migration of Salmon" in Honolulu, Hawaii, U.S.A.
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 24–29
12th Annual Meeting of the Commission in Sapporo, Hokkaido, Japan

October 30–31
International Workshop "BASIS-2004: Salmon and Marine Ecosystems in the Bering Sea and Adjacent Waters" in Sapporo, Hokkaido, Japan

2005

April 21–22
Research Planning and Coordinating Meeting (RPCM) in Nanaimo, B.C., Canada

May 18–19
Enforcement Evaluation and Coordination Meeting (EECM) in Vladivostok, Russia

October 24–28
13th Annual Meeting of the Commission in Seogwipo, Jeju Island, Republic of Korea

October 30–November 1
NPAFC-PICES Joint Symposium "The status of Pacific salmon and their role in North Pacific marine ecosystems" in Seogwipo, Jeju Island, Republic of Korea

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
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 23–27</td>
<td>14th Annual Meeting of the Commission in Vancouver, B.C., Canada</td>
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<tr>
<td>2007</td>
<td><strong>February 28–March 1</strong></td>
</tr>
<tr>
<td></td>
<td>Enforcement Evaluation and Coordination Meeting (EECM) in Busan, Republic of Korea</td>
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<tr>
<td></td>
<td><strong>April 25–27</strong></td>
</tr>
<tr>
<td></td>
<td>Research Planning and Coordinating Meeting (RPCM) in Honolulu, Hawaii, U.S.A.</td>
</tr>
<tr>
<td></td>
<td><strong>October 8–12</strong></td>
</tr>
<tr>
<td></td>
<td>15th Annual Meeting of the Commission in Vladivostok, Russia</td>
</tr>
<tr>
<td>2008</td>
<td><strong>February 27–29</strong></td>
</tr>
<tr>
<td></td>
<td>Enforcement Evaluation and Coordination Meeting (EECM) and North Pacific IUU Tripartite Meeting in Vancouver, B.C., Canada</td>
</tr>
<tr>
<td></td>
<td><strong>April 7–9</strong></td>
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<tr>
<td></td>
<td>First Meeting for the Long-Term Research and Monitoring Project (LRMP) in Sokcho, Republic of Korea</td>
</tr>
<tr>
<td></td>
<td><strong>April 10–11</strong></td>
</tr>
<tr>
<td></td>
<td>Research Planning and Coordinating Meeting (RPCM) in Sokcho, Republic of Korea</td>
</tr>
<tr>
<td>September 29–October 2</td>
<td>Second Meeting of the LRMP in Nanaimo, B.C., Canada</td>
</tr>
<tr>
<td>November 17–21</td>
<td>16th Annual Meeting of the Commission in Seattle, WA, U.S.A.</td>
</tr>
</tbody>
</table>
Events

April 1994, I. Shestakova takes office as Executive Director, replacing S. Hase, Interim Executive Director.

July 1994, H. Endo takes office as Deputy Director.

January 1997, L. Margolis passes away. (Canadian scientist and First CSRS Chairman)

December 1997, H. Omori takes office as Deputy Director.

May 1998, Office relocated from UBC campus to Downtown Vancouver.

November 6, 1998 - NPAFC and PICES sign MOU.

July 1999, R. Carlson passes away. (American marine fisheries biologist)

July 1999, V. Fedorenko takes office as Executive Director.

March 23-26, 2000, NPAFC Co-sponsors El Niño Conference in La Jolla, CA, USA.

November 2000, NPAFC 5 year Science Plan was adopted.

December 2000, Y. Kondo takes office as Deputy Director.

October 2001 - Plan for NPAFC Bering-Aleutian Salmon International Survey (BASIS) in 2002-2006 was presented.


May 27, 2003 - Republic of Korea became the fifth member of the Commission.

December 2003, T. Uoya takes office as Deputy Director.

October 2004, the NPAFC Public Lecture "Pacific Salmon a Gift from the Sea" took place in Sapporo, Hokkaido, Japan

October 2005, New NPAFC Science Plan 2006-2010 was approved

December 2006, S. Urawa takes office as Deputy Director.

October 2007, Long-Term Monitoring and Research Project funded by Moore Foundation was started.
APPENDIX 1

NPAFC 2008 ENFORCEMENT SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>March</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>
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</thead>
<tbody>
<tr>
<td>USA Aircraft</td>
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<td>Cutters</td>
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<td>Russia Aircraft</td>
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<tr>
<td>Japan Aircraft</td>
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<tr>
<td>Canada Aircraft</td>
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<tr>
<td>Month</td>
<td>March</td>
<td>April</td>
<td>May</td>
<td>June</td>
<td>July</td>
<td>August</td>
<td>September</td>
<td>October</td>
<td>November</td>
</tr>
</tbody>
</table>

Legend:
- Red: Aircraft
- Blue: Surface
- Green: Reserve (will only be flown if earlier flights are cancelled due to weather, maintenance problems, etc.)

Remarks:
- Approx 125 hrs
- May be able to send 2nd surface asset into HTA based on credible intel
- One flight per week
- Would like to patrol w/USCG in July
- 6-7 flights FAJ, JCG 2-3 flights
- Three 12-day deployments, one 20 day deployment in Oct (FAJ)
In response to the United Nations General Assembly (UNGA) Resolutions on prohibiting driftnet fishing on the high seas, Taiwan has undertaken measures to prohibit Taiwanese vessels from engaging in the activities of driftnet fishing in the North Pacific Ocean since 1993, including dispatching patrol vessels to the North Pacific Ocean to monitor fishing activities of Taiwanese vessels.

It is noted that no Taiwanese vessel is discovered to engage in driftnet fishing activities in the North Pacific Ocean after 1996. Nevertheless, Taiwan still has continued to send patrol vessels to the North Pacific Ocean to examine whether its vessels have involved in the driftnet fishing activities. According to the current regulations, Taiwanese nationals who engaged in high seas driftnet fishing operation may be subject to imprisonment up to six months.

To further promote the information exchange on monitoring activities in the North Pacific Ocean, Taiwan has provided the Secretariat and the focal points of the members of NPAFC on June 16th of this year, with the information on Taiwan monitoring operation plan in 2008 before patrol vessels from Taiwan’s Coast Guard Administration departed for the North Pacific Ocean.

According to the statistics as shown in the Table 1, from June 16th to November 7th of this year, Taiwan has sent two patrol vessels for monitoring operation in the area of 38°-45°N, 145°-170°E for 168 days.

Table 1. Taiwan’s respective monitoring activities in the North Pacific Ocean in 2008

<table>
<thead>
<tr>
<th>Name of Vessels</th>
<th>Patrol Areas</th>
<th>Period of Activity</th>
<th>Monitoring Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hsun Hu No.3</td>
<td>N 38°~ 42°</td>
<td>16 Jun ~ 25 Jul.</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>E155°~170°</td>
<td>31 Jul.~ 12 Sep.</td>
<td>42</td>
</tr>
<tr>
<td>Hsun Hu No.2</td>
<td>N38°~45°</td>
<td>11 Aug.~19 Sep.</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>E148°~160°</td>
<td>25 Sep.~7 Nov.</td>
<td>44</td>
</tr>
</tbody>
</table>

On July 12th of this year, "Hsun Hu No.3", the patrol vessel of Taiwan’s Coast Guard Administration, sighted two driftnet fishing vessels named "Liao Jin Yu 2675" (辽金漁2675) and "Liao Jin Yu 2676" (辽金漁2676) at 40°33’N, 159°24’E at around 7:00 (GMT+9). However, after chasing the vessels for 8 hours, "Hsun Hu No.3" stopped tracking the vessel due to the vessels to leave at 40°22.0’N, 156°44.3’E at around 15:00.

On July 12th, the official from Fisheries Agency of Taiwan has sent e-mail to the srect of NPAFC about above case for further cooperation.
In addition, to prevent our flagged vessels and our nationals from engaging in driftnet fishing activities in the North Pacific Ocean, in 2008 Taiwan has continued to implement existing management measures, and it is expected that these management measures including dispatching patrol vessels to the North Pacific Ocean, while available, to monitor fishing activities of Taiwanese vessels, will continue to make its best effort for this end.

The high seas driftnet fishing is an international illegal activity. To effectively deter this illegal operation and to ensure the attainment of this Commission, it could rely not only on one country's individual effort, but also the cooperation and the collective information exchange mechanisms among all concerned countries.

Figure 1. “Liao Jin Yu 2675” (辽金渔2675) was preparing to flee.

Figure 2. Seven words “Liao Jin Yu 2675” (辽金渔2675) was identified on the side of vessel.

Figure 3. Onboard equipments of “Liao Jin Yu 2675” (辽金渔2675).

Figure 4. “Liao Jin Yu 2676” (辽金渔2676) was trying to flee away.
Figure 5. Seven words "Liao Jin Yu 2676" (辽金漁 2676) was identified on the side of vessel.

Figure 6. Onboard equipments of "Liao Jin Yu 2676" (辽金漁 2676).

Figure 7. The fishing gear of unknown-named vessel at 40°30.7N, 159°26.9E
APPENDIX 3

NPAFC BULLETIN NO. 5
(Proceedings of 2008 BASIS Symposium)

- 600 copies
- 40 papers
- 400 pages plus color cover (max 10 pages per paper)
- 8 1/2 x 11
- Laminated cover printed 4 colors on one side and black ink on the other side
- 400 text pages printed black ink
- No color text pages (Authors should pay color printing costs (max $500/page)
- No reprints

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing cost</td>
<td>C$12,200</td>
</tr>
<tr>
<td>Editorial cost</td>
<td>C$24,000</td>
</tr>
<tr>
<td>40 papers x 10 hours = 400 h@$60</td>
<td></td>
</tr>
<tr>
<td>Mailing cost</td>
<td>C$5,800</td>
</tr>
<tr>
<td>Editor Travel</td>
<td>C$2,000</td>
</tr>
<tr>
<td>Total</td>
<td><strong>C$44,000</strong></td>
</tr>
</tbody>
</table>
APPENDIX 4

Proposal of Reward Draw for Encouraging the Public to Report NPAFC High Seas Tag Recoveries

The Working Group of Salmon Tagging, CSRS

Objective: More than 1,500 salmon tagged with NPAFC disc tags were released on the high-seas in 2008 to elucidate the stock-specific distribution and migration of salmon. To encourage the public to report NPAFC high seas tag recoveries during the 2008-2009 season, the international salmon tagging project will introduce a reward draw system.

Date of draw: At the Plenary Session of the NPAFC Seventeenth Annual Meeting in 2009.

Announcement and Advertising:

- Posters and other tag recovery information for public on the NPAFC website will be updated by the Secretariat after the working group’s consent at the next RPCM.
- Printed posters in each language will be available from the Secretariat, if requested. Parties will distribute posters within their Parties on their own.

Eligibility for the Draw: Only non-agency personnel are eligible. Each person entered must have a mailing address. Eligible tags are the tags returned to Working Group members between June 1, 2008 and 15 days before the NPAFC Annual Meeting, 2009.

Drawing procedure:

1. A completed list of names and addresses of people who have recovered tags must be compiled by WGST members 2 weeks before the 17th Annual Meeting.
2. An entry includes the name and mailing address for each tag entered. It is the responsibility of each country’s WGST representative to collect the winner’s name, address and the bank account information.
3. Draw will be held at the 2nd Plenary Meeting of the Seventeenth Annual Meeting in 2009.
4. Secretariat will send the winning moneys to the winners by bank transfer.

Cost estimates for the Reward:

<table>
<thead>
<tr>
<th>Prize</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st prize</td>
<td>C$500</td>
</tr>
<tr>
<td>2nd prize</td>
<td>C$300</td>
</tr>
<tr>
<td>3rd prize</td>
<td>C$200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>C$1,000</td>
</tr>
</tbody>
</table>
## APPENDIX 5

### SAMPLE AND DATA REQUESTS (2008)

<table>
<thead>
<tr>
<th>#</th>
<th>Requesting Party</th>
<th>Requested Party</th>
<th>Request</th>
<th>Research Purpose</th>
<th>Contact Persons (agency, e-mail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C08-01</td>
<td>Canada</td>
<td>Japan</td>
<td>Genetic samples of sockeye salmon collected in the Bering Sea</td>
<td>Stock identification of sockeye salmon, especially Fraser River stocks</td>
<td>Terry Beacham, PBS <a href="mailto:Terry_Beacham@dfo-mpo.gc.ca">Terry_Beacham@dfo-mpo.gc.ca</a> contact with: S. Sato (<a href="mailto:shuns@fra.affrc.go.jp">shuns@fra.affrc.go.jp</a>)</td>
</tr>
<tr>
<td>K08-01</td>
<td>Korea</td>
<td>Russia</td>
<td>Fin clips preserved in ethanol for DNA analysis from chum salmon</td>
<td>Comparison of genetic stocks between Korea and Russia</td>
<td>Sukyung Kang, NFRDI <a href="mailto:sukyungkang@gmail.com">sukyungkang@gmail.com</a> contact with: N. Klovatch (<a href="mailto:klovachn@vniro.ru">klovachn@vniro.ru</a>)</td>
</tr>
<tr>
<td>R08-01</td>
<td>Russia</td>
<td>Japan</td>
<td>Alcohol preserved fin clips (for genetic analysis), accompanying scale samples (or acetete empressions) and biological data (length, weight, sex, etc.) from 100 individual chum salmon from each of 2 rivers (location - during the peak run in r. Nakasibetsu and r. Abashiri (Hokkaido)). Samples from only 1 year of 2005-2007 (preferably) period are needed. Otherwise 2008 samples are requested to be collected.</td>
<td>Identification local stocks of chum salmon</td>
<td>Alexander Kaev, <a href="mailto:kaev@sakhrno.ru">kaev@sakhrno.ru</a> contact with: <a href="mailto:sekijiro@fra.affrc.go.jp">sekijiro@fra.affrc.go.jp</a></td>
</tr>
<tr>
<td>U07-01</td>
<td>USA</td>
<td>Japan</td>
<td>CTD, Thermosalinograph, chlorophyl a fluorometer during 2002-2006 BASIS surveys</td>
<td>Develop database of oceanographic data for BASIS</td>
<td>Lisa Eisner, NMFS, <a href="mailto:Lisa.eisner@noaa.gov">Lisa.eisner@noaa.gov</a> Contact with: <a href="mailto:azumaya@fra.affrc.go.jp">azumaya@fra.affrc.go.jp</a></td>
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<td>U07-02</td>
<td>USA</td>
<td>Japan</td>
<td>Zooplankton data collected during BASIS surveys 2002-2006</td>
<td>Develop database of zooplankton data</td>
<td>Lisa Eisner, NMFS, <a href="mailto:Lisa.eisner@noaa.gov">Lisa.eisner@noaa.gov</a> Contact with: <a href="mailto:azumaya@fra.affrc.go.jp">azumaya@fra.affrc.go.jp</a></td>
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<td>U07-04</td>
<td>USA</td>
<td>Russia</td>
<td>Chum genetics from BASIS 2007 (Scales or maxillary process) and scales</td>
<td>Develop ocean migration models of AYK chum</td>
<td>Dick Wilmot, NMFS, <a href="mailto:richard.wilmot@noaa.gov">richard.wilmot@noaa.gov</a> Kate Myers, UW (scales), <a href="mailto:kmyers@u.washington.edu">kmyers@u.washington.edu</a> contact with:</td>
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<td>U07-05</td>
<td>USA</td>
<td>Russia</td>
<td>Steelhead genetics samples from North Pacific sampling (fin preserved in ethanol)</td>
<td>To learn distribution of steelhead</td>
<td>Sewall Young, WDFW, <a href="mailto:youngsfy@dfw.wa.gov">youngsfy@dfw.wa.gov</a> contact with: S. Sato (<a href="mailto:shuns@fra.affrc.go.jp">shuns@fra.affrc.go.jp</a> ) for Japan</td>
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<tr>
<td>U07-06</td>
<td>USA</td>
<td>Russia</td>
<td>Chinook genetics samples from cruises (fin clips)</td>
<td>Develop ocean migration model</td>
<td>Jim Seeb, UW, <a href="mailto:jseeb@u.washington.edu">jseeb@u.washington.edu</a> contact with: S. Sato (<a href="mailto:shuns@fra.affrc.go.jp">shuns@fra.affrc.go.jp</a> ) for Japan</td>
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<td>U07-07</td>
<td>USA</td>
<td>Russia</td>
<td>Acetate impressions of historical chum salmon scales from one river with a long time series (i.e.-Anadyr River or Amur River) for 1950s-2007. Target sample is 35</td>
<td>High resolution digital images of these scales will be measured to examine annual and seasonal</td>
<td>Bev Agler, ADFG, <a href="mailto:bev.agler@fishgame.state.ak.us">bev.agler@fishgame.state.ak.us</a> contact with:</td>
</tr>
</tbody>
</table>
males and 35 females for each age class (0.3 and 0.4), consequently we are requesting 300 samples per return year, if available, due to the need for high quality scales and it is important that we have several scales to be able to select the scales for this study.

| U07-08 | USA | Japan | Acetate impressions of historical chum salmon scales from one river with a long time series (i.e., Ishikari River) from 1950s-2007. Target sample is 35 males and 35 females for each age class (0.3 and 0.4), consequently we are requesting 300 samples per return year, if available, due to the need for high quality scales and it is important that we have several scales to be able to select the scales for this study. | High resolution digital images of these scales will be measured to examine annual and seasonal growth over time and these data will be compared with similar data from the Yukon and Kuskokwim Rivers in Alaska. | Bev Agler, ADFG, bev.agler@fishgame.state.ak.us Contact with: J. Seki (sekijiro@fra.afrc.go.jp) |
| U07-09 | USA | Canada | Fin clips for DNA analysis from chinook taken on cruises in US EEZ | Migration models for Chinook | Jim Seeb, UW, jseeb@u.washington.edu Contact with: T. Beacham (Terry.Beacham@dfo-mpo.gc.ca) |
| U08-01 | USA | Canada | Fin clips from steelhead samples for genetic baseline. Samples in Table 1 of Beacham et al. 2004 population structure and stock ID of steelhead trout in BC Columbia River based on microsatellite variation | For steelhead genetic baseline | Sewall Young, WDFW, youngsfy@dfw.wa.gov Contact with: T. Beacham (Terry.Beacham@dfo-mpo.gc.ca) |
| U08-02 | USA | Russia | Acetate scale impressions of steelhead & Chinook salmon collected in 2008 in the western North Pacific & Bering Sea off Kamchatka | Growth study of steelhead and salmon | Kate Myers, UW kwyers@u.washington.edu Contact with: A. Bugaev (KamchatNIRO) |
Goal of NPRB's GOA IERP

The North Pacific Research Board's (NPRB) Gulf of Alaska Integrated Ecosystem Research Program (GOA IERP) addresses the overarching question: "How do environmental and anthropogenic processes, including climate change, affect various trophic levels and dynamical linkages among trophic levels, with particular emphasis on fish and fisheries, marine mammals and seabirds within the Gulf of Alaska?" The overall GOA IERP is divided into four components: (1) upper trophic level, (2) forage base; (3) lower trophic level, and (4) a vertically-integrated modeling effort. This pre-proposal addresses the first, upper trophic level component, and NPRB’s goal to "determine and quantify the processes driving upper trophic level populations and to better understand observed and potential future variability therein as they affect key management issues in the North Pacific."

1. Overview

a. Significance of proposed research:

Common challenges that unite all North Pacific Rim nations in the 21st Century are food security and sustainability of fishery resources. At the same time, scientific approaches to management and conservation of North Pacific fishery resources frequently fail to meet these challenges, in part due to large gaps in information and understanding of the processes and mechanisms that regulate the productivity of commercially important fish species. Pacific salmon are one of the most ecologically important species groups in North Pacific marine and terrestrial ecosystems, and they support a more geographically extensive range and number of commercial, subsistence, and recreational fisheries than any other species. Commercial catches alone have increased to 1 million mt of salmon in recent years. In 2008, the NPAFC's Long-term Research and Monitoring Plan (LRMP) identified the lack of winter data as the single largest gap in information needed to understand processes and mechanisms that regulate ocean productivity of salmon and trophically-linked species. In response to NPRB's request for GOA IERP pre-proposals for their upper-trophic level program component, the NPAFC proposes a 5-year investigation of salmon and trophically-linked species in the GOA in winter. The goals of NPAFC's proposed investigation are:

(1) significantly enhance understanding of the major ecosystem processes that regulate distribution and abundance of salmon and trophically-linked species in the GOA in winter,
(2) quantify changes in the processes under various environmental and anthropogenic forcing scenarios, and
(3) evaluate direct and indirect human-induced impacts on salmon (climate change, ocean carrying capacity, management strategies for endangered stocks, ocean acidification).

b. Elements and processes to be studied:

(1) Proposed study species: pink salmon, chum salmon, sockeye salmon, coho salmon, Chinook salmon, and steelhead

Essential parameters and measurements: Oceanographic conditions (physical, chemical, biological), distribution, abundance, biomass, and food habits of salmon and trophically-linked species, and biological data for salmon (sex, age, length, weight, maturity, stock identification) and associated species.

(2) Geographic region(s) within the GOA: The propose study area is a 1°-latitude x 1°-longitude grid of 103 fixed stations between 50°-59°N latitude and 129°W − 155°W longitude in the Gulf of Alaska (Fig. 1). This large special scale is necessary to accurately determine the distribution and abundance of salmon and trophically-linked species and the ecosystem processes that affect them in the GOA in winter.

(3) Field years: Two years; stations would be sampled during a 1-mo survey in February-March 2011 and 2012.
(4) Relevance to fisheries management: The proposed study will provide managers with direct measurements and parameters of ocean conditions and distribution, abundance, and biomass of epipelagic species at all trophic levels in the GOA in winter, as well as tools that managers can use to evaluate and plan for future effects of human activities and climate change.

Deliverables: Databases, semi-annual and final reports; graduate student dissertation(s), peer-reviewed scientific journal publications, oral presentations and posters at NPRB meetings, NPAFC Documents/Technical Reports, models for use by managers.

2. Approach

The primary mechanistic processes to be developed and quantified are winter epipelagic community structure and dynamics, trophic dynamics, and ocean conditions (physical, chemical, biological). Methods include monitoring, process studies, retrospective analyses, and modeling.

3. Project management

- **Proposed schedule of performance:**
  - FY 2010 (October 2009-September 2010): Initial planning year
  - FY 2011 and 2012 (October 2010-September 2012): Two field-study years
  - FY 2013 and FY 2014 (October 2012-September 2014): Two analysis and synthesis years

- **Principal investigators:**
  - Dr. Katherine W. Myers (Lead PI), School of Aquatic & Fishery Sciences, Univ. of Washington, Seattle
  - Dr. Vladimir Radchenko, SakhNIRO, Yuzhno, Sakhalinsk, Russia
  - Dr. Richard Beamish, Pacific Biological Station, B.C., Canada
  - Dr. Edward Farley, Auke Bay Laboratories, Alaska Fisheries Science Center, Juneau, Alaska
  - Dr. Toru Nagasawa, Fisheries Research Agency, Kushiro, Japan
  - Dr. Sukyung Kang, National Fisheries Research & Development Institute, Republic of Korea
  - Dr. Shigehiko Urawa, North Pacific Anadromous Fish Commission, Vancouver, B.C., Canada

- **Collaboration & coordination**
  Substantial collaboration, coordination, supplementation, and/or leveraging with current programs of the NPAFC (BASIS), NPRB, US GLOBEC, PICES

- **Research platform**
  Canadian vessel CCGS WE RICKER

- **Data management**
  As stated in NPRB’s request for pre-proposals, data management for the entire vertically integrated program is to be included as part of the upper trophic level component.

4. Budget

Total 2.8 million USD for 5 years
APPENDIX 7

SUGGESTED INTERNATIONAL SYMPOSIUM

Tentative Title: Forecasting Climate Change Impacts on Fish and Shellfish

Recommended Convenors: A. Hollowed (U.S. A.), Manuel Barange (United Kingdom), Suam Kim (Korea), Harald Loeng (Norway)

Tentative Steering Committee: members of the joint PICES/ICES Working Group on Forecasting Climate Impacts on Fish and Shellfish and representatives of co-sponsoring organizations

Tentative Date: May 2010

Tentative Venue: Japan

Rationale: Warming of the climate system is unequivocal, as is now evident from observations of increases in global average ocean temperatures. The 2007 IPCC (Intergovernmental Panel on Climate Change) Assessment reported most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gases concentrations. Continued greenhouse gasses emissions at or above current rates would cause further warming and induce many changes in the global climate system during the 21st century that would very likely be larger than those observed during the 20th century. Therefore, climate change is the most important threat to the ocean. Some direct effects of climate change in the marine environment are already visible, but others need to be defined by enhanced observations, analysis and modelling. The work of PICES and ICES on climate change and fisheries has been diverse and has included: a) guidance on methods for selection of IPCC scenarios for use in projections; b) techniques for downscaling IPCC scenarios to local regions, c) development of coupled ecosystem models for use in evaluating climate induced shifts in environmental conditions, d) literature documenting relationships between climate forcing and marine fish and shellfish distribution and production, and e) stock assessment techniques for evaluating management strategies to mitigate the impacts of change. This challenge calls for the necessity for experts from around the world to focus attention on the development of common and standardized frameworks for forecasting climate change impacts on marine ecosystems, with particular emphasis on the distribution, abundance and production of commercially important fish (including salmon) and shellfish. ICES and PICES and other international organizations should act now to ensure that our research communities develop the capabilities to provide quantitative contributions to the next IPCC reports and to provide guidance for management under climate change scenarios. The proposed symposium in 2010 will provide an opportunity to present and discuss forecasts of climate change impacts on the world’s commercial fish and shellfish resources, to review the methodological developments, and to compare marine species and community responses to climate forcing in different ecosystems. The results from the symposium are expected to be published in a major scientific journal by 2011. The timing for the publication is critical because the Fifth IPCC Assessment Report (IPCC AR5) is slated for release in 2013. The symposium organizers will seek involvement of relevant academic, governmental and intergovernmental organizations, such as the Intergovernmental Oceanographic Commission (IOC) of UNESCO, Food and Agriculture Organization (FAO), North Pacific Anadromous Fish Commission (NPAFC), in event (IOC and FAO has already indicated their willingness to participate).

The NPAFC brings together the world’s leading salmon scientists to further understanding of Pacific salmon and is the only multilateral forum providing scientists this opportunity. The meeting also provides the opportunity for the Parties' enforcement officials to plan their efforts to fight illegal, unreported and unregulated (IUU) salmon fishing on the high seas in the North Pacific (the “Convention Area” covered by the treaty).

Commercial salmon fishing occurs within each country’s jurisdiction. The total 2007 catch of Pacific salmon by all producing countries was the highest on record – more than 1,000,000 metric tonnes.

Russian catches for 2007 were also the highest on record, particularly for pink salmon from eastern Sakhalin and sockeye and chinook from Kamchatka. Catches in the United States (Alaska) and Japan were also high. However, the trends for Canada, the Northwestern United States and the Republic of Korea were poor.

These regional fluctuations in abundance need further consideration by scientists from NPAFC countries. One possible explanation is that the fluctuations result from climate change impacts on salmon production. To assist in this understanding, NPAFC scientists plan to conduct winter surveys to gather information on this aspect of Pacific salmon’s lifecycle.

The Parties have been successful in reducing illegal salmon fishing in the Convention Area; however, each year suspected high seas vessels are detected using large scale drift nets. The Parties reviewed enforcement efforts and activities in the Convention Area in 2008. Member countries conducted 118 ship patrol days and 371 aerial patrol hours in the Convention Area. This year’s efforts also used Canadian satellite information to focus efforts in high threat areas. Eleven HSDN vessels were sighted, two were apprehended and international right of boarding were conducted on another two vessels which were believed to be Indonesian registered. It was reported that one of the vessels apprehended was fined approximately US$7,000, the catch was seized and sold and the vessel was seized and auctioned off with the nets and other gear being destroyed.

Due to the continued threat of high seas fishing for salmon in the Convention Area, all Parties reaffirmed their commitment to maintain 2009 enforcement activities at high levels and to continue close cooperation with the Fisheries Working Group of the North Pacific Coast Guard Forum and the Technical Committee on Compliance of the Western and Central Pacific Fisheries Commission (WCPFC) against IUU fishing in the North Pacific. Japan invited all the participants to the Enforcement Evaluation and Coordination Meeting to be held next February in Fukuoka.

NPAFC is hosting the International Symposium on Being-Aleutian Salmon International Surveys (BASIS) in Seattle, USA immediately after this meeting (November 23-25, 2008). The purpose of the symposium is to summarize BASIS research conducted since 2002 and increase understanding of how climate change affects salmon growth and survival in the ocean. Further information is available from the NPAFC website (www.npafc.org). The NPAFC is also planning to work with the North Pacific Marine Science Organization (PICES) towards another international symposium in 2010 to further overall scientific understanding of the effect of climate change on fish, including salmon.

In 2007, the NPAFC was awarded a grant from the Gordon and Betty Moore Foundation in support of a long-term, integrated research and monitoring plan. This plan will synthesize past research and identify critical areas for new research to understand impacts of future climate and ocean changes on the population dynamics of Pacific salmon. The project will be finished in August 2009 and the final report will be available next year.

Finally, NPAFC has initiated a process to review the organization’s performance with outside experts as recommended to all Regional Fisheries Management Organizations by the General Assembly of the United Nations (UN) and the Food and Agriculture Organization of the UN (FAO) Committee on Fisheries. A performance review report will be presented at the 2010 NPAFC Annual Meeting.
The Commission elected Dr. Suam Kim of Korea as the next President of the NPAFC.

The NPAFC was established by the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (the Convention) in 1993. The NPAFC promotes the conservation of Pacific Salmon in the North Pacific and its adjacent seas and serves as a venue for cooperation in, and coordination of, enforcement activities and scientific research.

The Seventeenth Annual Meeting of the NPAFC is scheduled to be held in Niigata, Japan, in November 2009.

For Information

NPAFC Secretariat
Suite 502, 889 West Pender St.
Vancouver, B.C. V6C 3B2, Canada
Tel: (604) 775-5550
Fax: (604) 775-5577
E-mail: secretariat@npafc.org
Website: www.npafc.org
The Commission's Meetings and Publications for the Period 1993-2008

Meetings

1993
- Inaugural Meeting of the Commission in Ottawa, Ontario, Canada, February 24.
- Meeting of Sub-Committee on Enforcement in Vancouver, British Columbia, Canada, April 27-29.
- Inaugural Meeting of the Committee on Scientific Research and Statistics in Vladivostok, Russia, June 22-24.
- First Annual Meeting of the Commission in Vancouver, British Columbia, Canada, November 1-5.

1994
- Second Annual Meeting in Vladivostok, Russia, October 10-15.

1995

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

1997
- Research Planning and Coordinating Meeting in Vancouver, British Columbia, Canada March 4-6.

1998
- Research Planning and Coordinating Meeting in Vancouver, British Columbia, Canada, March 24-25.
- Workshop “Climate Change and Salmon Production” in Vancouver, British Columbia, Canada, March 26-27.
- Sixth Annual Meeting of the Commission in Moscow, Russia, November 1-6.

1999

2000
- Enforcement Planning and Coordinating Meeting in Tokyo, Japan, March 1-3.
- Research Planning and Coordinating Meeting in La Jolla, California, U.S.A., March 27-28.
• Eighth Annual Meeting of the Commission in Tokyo, Japan, October 30-November 2.

2001
• Enforcement Evaluation and Coordination Meeting in Petropavlovsk-Kamchatsky, Russia, May 14-17.
• Ninth Annual Meeting of the Commission in Victoria, British Columbia, Canada, October 28-November 2.

2002
• Enforcement Evaluation and Coordination Meeting in Kodiak, Alaska, USA, May 7-9.
• Tenth Annual Meeting of the Commission in Vladivostok, Russia, October 6-11.

2003
• Enforcement Evaluation and Coordination Meeting in Queen Charlotte City, British Columbia, Canada, May 21-22.
• Eleventh Annual Meeting of the Commission in Honolulu, Hawaii, USA, October 23-31.
• International Workshop on Application of Stock Identification in Defining Marine Distribution and Migration of Salmon in Honolulu, Hawaii, USA, November 1-2.

2004
• Research Planning and Coordinating Meeting in Petropavlovsk-Kamchatsky, Russia, May 12-13.
• Bering-Aleutian Salmon International Survey (BASIS) Working Group Meeting in Petropavlovsk-Kamchatsky, Russia, May 14.
• Enforcement Evaluation and Coordination Meeting in Kushiro City, Hokkaido, Japan, May 26-27.
• Twelfth Annual Meeting of the Commission in Sapporo, Hokkaido, Japan, October 24-29.
• International Workshop BASIS-2004: Salmon and Marine Ecosystems in the Bering Sea and Adjacent Waters in Sapporo, Hokkaido, Japan, October 30-31.

2005
• Research Planning and Coordinating Meeting in Nanaimo, British Columbia, Canada, April 21-22.
• Enforcement Evaluation and Coordination Meeting in Vladivostok, Russia, May 18-19.
• Thirteenth Annual Meeting of the Commission in Seogwipo, Jeju Island, Korea, October 24-28.
• NPAFC-PICES Joint Symposium "The Status of Pacific Salmon and their Role in North Pacific Marine Ecosystems" in Seogwipo, Jeju Island, Korea, October 30-November 1.

2006
• Enforcement Evaluation and Coordination Meeting in Juneau, Alaska, USA, February 28-March 1.
• Enforcement Symposium in Juneau, Alaska, USA, March 2.
• Research Planning and Coordinating Meeting in Sapporo, Hokkaido, Japan, April 24-25.
Fourteenth Annual Meeting of the Commission in Vancouver, B.C., Canada, October 23-27.

**2007**
- Enforcement Evaluation and Coordination Meeting in Busan, Republic of Korea, February 27-March 1.
- Research Planning and Coordinating Meeting in Honolulu, Hawaii, USA, April 25-27.
- Fifteenth Annual Meeting of the Commission in Vladivostok, Russia, October 8-12.

**2008**
- Enforcement Evaluation and Coordination Meeting and North Pacific IUU Tripartite Meeting in Vancouver, B.C., Canada, February 27-29.
- First Meeting for the Long-Term Research and Monitoring Project (LRMP) in Sokcho, Republic of Korea, April 7-9.
- Research Planning and Coordinating Meeting in Sokcho, Republic of Korea, April 10-11.
- Second Meeting of the LRMP in Nanaimo, B.C., Canada, September 29-October 2.

**Publications**
- Annual Reports 1993-2008
- NPAFC Statistical Yearbooks 1993-2004
- NPAFC Scientific Bulletins:
  - #1 "Assessment and Status of Pacific Rim Salmonid Stocks", 1998
  - #2 "Recent Changes in Ocean Production of Pacific Salmon", 2000
  - #4 "Status of Pacific Salmon and Their Role in North Pacific Marine Ecosystems", 2007
- NPAFC Technical Reports:
  - #1 "Workshop on Climate Change and Salmon Production", 1998
  - #2 "Workshop on Factors Affecting Production of Juvenile Salmon", 2000
  - #3 "Workshop on Salmonid Otolith Marking", 2001
  - #4 "Joint Meeting on Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea", 2002
  - #5 "Workshop on Application of Stock Identification in Defining Marine Distribution and Migration of Salmon"
  - #6 "Workshop "BASIS-2004: Salmon and Marine Ecosystems in the Bering Sea and Adjacent Waters"
- NPAFC Handbook (1st and 2nd editions)
- NPAFC 10th Anniversary Commemorative Album
- NPAFC Newsletters Nos. 1-25
# ABBREVIATIONS USED IN THIS REPORT

<table>
<thead>
<tr>
<th>Abbreviation</th>
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<td>ADF&amp;G</td>
<td>Alaska Department of Fish and Game</td>
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<td>Bering-Aleutian Salmon International Survey</td>
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<td>CPUE</td>
<td>Catch Per Unit Effort</td>
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<td>PSMFC</td>
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<td>RMIS</td>
<td>Regional Mark Information System</td>
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<td>RPCM</td>
<td>Research Planning and Coordinating Meeting</td>
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<td>Abbreviation</td>
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<td>SakhNIRO</td>
<td>Sakhalin Research Institute of Fisheries and Oceanography</td>
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<td>SECM</td>
<td>Southeast Coastal Monitoring</td>
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<td>Salmonid Enhancement Program</td>
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<td>SNP</td>
<td>Single Nucleotide Polymorphism</td>
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