NORTH PACIFIC ANADROMOUS FISH COMMISSION

Established by Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean.

ANNUAL REPORT 2001

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LETTER OF TRANSMITTAL

In compliance with Rule 17(f) of the Rules of Procedure, it is my pleasure as President of the North Pacific Anadromous Fish Commission to present my compliments to the Parties and their Representatives and to transmit herewith the Ninth Annual Report of the North Pacific Anadromous Fish Commission.

ANATOLY MAKOEDOV
PRESIDENT
INTRODUCTION

The North Pacific Anadromous Fish Commission (the Commission) was established under the provisions of Article VIII of 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. The States which negotiated and signed the Convention are the major States of origin for salmon stocks in the North Pacific Ocean.

1. SHORT INTERPRETATION OF THE CONVENTION

(1) Foundation and Goals of the Convention

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 for the conservation of anadromous stocks in the North Pacific Ocean and the desire of the major States of origin to promote the acquisition, analysis and dissemination of scientific information pertaining to anadromous stocks and ecologically related species in the North Pacific Ocean as well as to coordinate efforts and to establish an effective mechanism of international cooperation for their conservation.

The goal of conservation is consolidated by such measures as: (a) prohibition of directed fishing for anadromous fish in the Convention Area; (b) minimization to the maximum extent of the incidental taking of anadromous fish; and (c) prohibition of the retention on board a fishing vessel of anadromous fish taken as an incidental catch during fishing for non-anadromous fish.


(2) Convention Area

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.

(3) Species

The anadromous fish covered by the Convention are as follows: chum salmon, coho salmon, pink salmon, sockeye salmon, chinook salmon, cherry salmon, steelhead trout.

(4) Scientific Approach

The Convention authorize fishing for anadromous fish in the Convention Area for scientific research purposes under national and joint research programs approved by the Commission. It is understood that such taking of anadromous fish for scientific research purposes must be consistent with the needs of a program and with the provisions of the Convention and should be reported to the Commission.
The Parties to the Convention cooperate in the conduct of scientific research in the Convention Area, which may include, as appropriate, research on other ecologically related species. The Parties also cooperate in collecting, reporting and exchanging biostatistical information, fisheries data, including catch and fishing effort statistics, biological samples and other relevant data pertinent to the purposes of the Convention.

The Parties upon the Commission’s request provide catch, enhancement and other technical information and materials pertaining to areas adjacent to the Convention Area from which anadromous stocks migrate into the Convention Area. The Convention provides for the development of cooperative programs, including observer programs, to collect fishing information in the Convention Area for the purpose of scientific research. The Convention also provides for cooperation in scientific exchanges such as seminars, workshops, and exchanges of scientific personnel.

(5) Measures to Promote Compliance with the Convention by Non-Members

The Parties invite the attention of any State or entity not party to the Convention to any matter relating to their fishing activity which could negatively affect the conservation of anadromous stocks within the Convention Area and agree to encourage them to adopt laws and regulations consistent with the provisions of the Convention.

The Parties shall not transfer the registration of the vessels registered under their respective laws and regulations for the purpose of avoiding compliance with the provisions of the Convention.

The Parties take actions individually or collectively in accordance with international and their respective domestic laws to prevent unauthorized fishing activities by any State or entity not party to the Convention and trafficking in illegally harvested anadromous fish.

(6) Enforcement

All necessary measures shall be taken by each Party to ensure its nationals and fishing vessels flying its flag comply with the provisions of the Convention. Each Party has the authority to board, inspect and detain fishing vessels of the other Parties found operating in violation of the Convention. Article V of the Convention gives the details of the enforcement mechanism and provides that only the authorities of the Party to which the violating person or vessel belongs may try the offense and impose penalties. It is also stipulated that imposed penalties shall be commensurate with the serious nature of the infractions.

The Parties cooperate in exchange of information on any violation of the provisions of the Convention and on enforcement action. The Parties exchange their enforcement plans.

(7) Accession to the Convention

Other States may accede to the Convention at the invitation of the Original Parties by unanimous agreement. The Convention shall become effective for any such other State on the date of deposit of that State’s instrument of accession.
(8) **Withdrawal**

Any Party may withdraw from the Convention 12 months after the date on which it formally notifies the Depositary of its intention to withdraw.

(9) **Depositary**

The Government of the Russian Federation is the Depositary.

2. **SHORT DESCRIPTION OF THE COMMISSION**

(1) **Objective**

The objective of the Commission is to promote the conservation of anadromous stocks in the Convention Area. The Commission may also consider matters related to the conservation of ecologically related species in the Convention Area.

(2) **Authority**

The Commission has the authority to:

2.1 **Conservation**

Recommend to the Parties measures for the conservation of anadromous stocks and ecologically related species in the Convention Area.

2.2 **Exchange of Information**

Promote the exchange of information on any activities contrary to the provisions of the Convention, especially with respect to fishing for and trafficking in anadromous fish, as well as on responsive action taken by the Parties and, as appropriate, by any State or entity not party to the Convention.

2.3 **Schedules of Penalties**

Consider and make proposals to the Parties for the enactment of schedules of equivalent penalties for activities contrary to the provisions of the Convention.

2.4 **Relief of Damages**

Consider possible means to relieve the damage which may be suffered by a State of origin as a result of fishing in violation of the Convention and, for that purpose, develop methods to identify the origin of fish which may be taken in violation of the Convention.

2.5 **Enforcement**

Review, evaluate actions taken, and recommend additional action to be taken by the Parties to ensure effective and diligent enforcement of the provisions of this Convention.
2.6 Scientific Research

Promote the exchange of catch and effort information in respect of activities of Parties and, as appropriate, any State or entity not party to the Convention for conducting scientific research and for coordinating the collection, exchange and analysis of scientific data regarding anadromous stocks and ecologically related species, including data to identify the location of origin of anadromous stocks, and provide a forum for cooperation among the Parties with respect to such anadromous stocks and ecologically related species.

2.7 Certificates of Origin

Consider and make proposals to the Parties for the enactment of a program for certificates of origin attesting that products of anadromous fish are from fish which were lawfully harvested.

2.8 Cooperation with International Organizations

Cooperate, as appropriate, with relevant international organizations, inter alia, to obtain the best available information, including scientific advice, to further the attainment of the objectives of the Convention.

2.9 Cooperation with Other States and Entities

Where appropriate, invite any State or entity not party to the Convention to consult with the Commission with respect to matters relating to the conservation of anadromous stocks and ecologically related species in the Convention Area.

2.10 Incidental Taking of Anadromous Fish

Recommend measures to avoid or reduce incidental taking of anadromous fish in the Convention Area.

2.11 Other Measures

Recommend to the Parties any measures needed to further the attainment of the objectives of the Convention.

2.12 Amendments

Recommend amendments to this Convention and to the Annex to the Convention.

(3) Status

The Commission has legal personality and such legal capacity in its relations with other international organizations and in the territories of the Parties as may be necessary to perform its functions and achieve its ends. The immunities and privileges which the Commission and its officers enjoy in Canada are subject to the Headquarters Agreement between the Commission and the Government of Canada.
(4) Headquarters

The Headquarters of the Commission is located at Vancouver, Canada. The mailing address is:

Suite 502, 889 West Pender Street
Vancouver, B.C. V6C 3B2
Canada
Phone: (604) 775-5550
Fax: (604) 775-5577
e-mail: secretariat@npafc.org
Web site: http://www.npafc.org

(5) Secretariat

The Commission established a Secretariat composed of Executive Director, Deputy Director, Administrative Assistant and Secretary.

(6) Languages

The Commission has three official languages: English, Japanese, and Russian. All regular meetings of the Commission are provided with simultaneous translation into the above official languages. The Annual Report of the Commission is produced in three official languages.

(7) Representation

Each Party is a member of the Commission and may appoint to the Commission not more than three representatives, who may be accompanied at the meetings of the Commission by experts and advisers.

(8) Structure

The Commission may establish such subordinate bodies as it deems necessary. The Commission has established three Committees: Scientific Research and Statistics (CSRS), Enforcement (ENFO), Finance and Administration (F&A). There were further established the Science Sub-Committee and several working groups under CSRS and ENFO umbrellas.

(9) Votes

Each Party has one vote in the Commission. All important matters shall be decided by consensus among all Parties that are States of origin of anadromous stocks which migrate into the Convention Area. A matter shall be deemed to be important if any Party that is a State of origin of anadromous stocks which migrate into the Convention Area considers it to be important.

(10) Officers

The Commission elects a President and a Vice-President for a two-year term. They shall not be representatives of the same Party.
(11) Meetings

The Commission meets at least once annually. Any meeting of the Commission other than the regular annual meeting may be called by the President at such time and place as the President may determine, upon the request of a Party with the concurrence of another Party, provided that at least one of these two parties is one of the original Parties.

(12) Rules


(13) Budget

The budget of the Commission is divided equally among the Parties. Each Party pays the expenses incurred by its representatives, experts and advisers. The Parties conduct scientific and enforcement activities in the Convention Area at their own expense.

(14) Publications

The Commission publishes an Annual Report, and a Statistical Yearbook. In addition, the Commission shall publish such reports from time to time as it may deem desirable.


Inaugural Meeting of the Commission in Ottawa, Canada, on February 24, 1993.

Meeting of Sub-Committee on Enforcement in Vancouver, Canada, on April 27-29, 1993.

Inaugural Meeting of the Committee on Scientific Research and Statistics in Vladivostok, Russia, on June 22-24, 1993.

First Annual Meeting of the Commission in Vancouver, Canada, on November 1-5, 1993.


Fourth Annual Meeting of the Commission in Tokyo, Japan, on October 21-25, 1996.

International Symposium on Assessment and Status of Pacific Rim Salmon Stocks in Sapporo, Japan, on October 28-29, 1996.

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


Research Planning and Coordinating Meeting in Vancouver, Canada, on March 24-25, 1998.
Workshop “Climate Change and Salmon Production” in Vancouver, Canada, on March 26-27, 1998.

Sixth Annual Meeting of the Commission in Moscow, Russia, on November 1-6, 1998.


Research Planning and Coordinating Meeting in Vancouver, Canada, on March 24-26, 1999.


Enforcement Planning and Coordinating Meeting in Tokyo, Japan, on March 1-3, 2000.

Research Planning and Coordinating Meeting in La Jolla, California, U.S.A., on March 27-28, 2000.


Eighth Annual Meeting of the Commission in Tokyo, Japan, on October 30-November 2, 2000.


Enforcement Evaluation and Coordination Meeting in Petropavlovsk-Kamchatsky, Russia, on May 14-17, 2001.


NPAFC Scientific Bulletin #2 “Recent Changes in Ocean Production of Pacific Salmon”, 2000

Technical Report #1 of the Workshop on Climate Change and Salmon Production, 1998

Technical Report #2 of the Workshop on Factors Affecting Production of Juvenile Salmon, 2000

Technical Report #3 of the Workshop on Salmonid Otolith Marking, 2001

NPAFC Newsletters Vol. 1(1,2), Vol. 2(1,2), Vol. 3(1,2), Vol. 4(1,2), Vol. 5(1,2)

The 2001 Annual Report is printed in English, Japanese and Russian.
I. RESEARCH PLANNING & COORDINATING MEETING

1. TIME AND PLACE OF THE MEETING

The Research Planning & Coordinating Meeting (RPCM) was held from March 19 to 20, 2001 at the University of Washington, in Seattle, Washington, U.S.A.

2. PARTICIPANTS

**NPAFC Research Planning & Coordinating Group (RPCG)**

**Canada:**
- Richard Beamish
- Gerry Kristianson
- David Meerbng
- Ted Perry
- David Welch

**Japan:**
- Masa-aki Fukuwaka
- Morihiko Kawana
- Yukimasa Ishida
- Koichi Ishizuka
- Tetsuichi Nomura
- Shigeihiko Urawa

**Russia:**
- Elena Akinicheva
- Vladimir Belyaev
- Nikolai Chebanov
- Vladimir Karpenko
- Victor Lapko
- Alexander Rogatnykh
- Viatcheslav Vasiliev

**United States:**
- Nancy Davis
- Hal Geiger
- Peter Hagen
- Jack Helle
- Loh-Lee Low
- Kate Myers
- Lisa Seeb
- Dan Senecal-Albrecht
- Fran Ulmer
- Erick Volk
- Robert Walker

**PICES:**
- Patricia Livingston

**Secretariat:**
- Vladimir Fedorenko
- Yoshikiyo Kondo
- Wakako Morris

**Interpreters:**
- English/Japanese: Tomoko Lumpkin
- English/Russian: Almira Safarova-Downey

Dr. Y. Ishida of Japan, Chairman of CSRS, presided at the meeting. NPAFC President Fran Ulmer summarized issues related to salmon and environmental changes and encouraged the RPCG to develop a specific project-oriented plan.

3. AGENDA

The following agenda was adopted:

1. Opening Remarks and Introduction
2. Appointment of Chairperson
3. Adoption of Agenda
4. Meeting Procedures
5. The 2001 CSRS Work Plan: Revision of Research Plans
6. Cruise Activities
   a. Review of Objectives and Plans, including Schedules
   b. Coordination of Participation of Scientists
7. Exchange of Biological Samples, Data, and Personnel
(8) Science Sub-Committee and Working Groups' Discussions:
(a) Science Sub-Committee
(b) Working Group on Stock Assessment
(c) Working Group on Salmon Marking
(d) Ad Hoc Working Group on Stock Identification
(9) Publication of Review Papers of Juvenile Salmon Workshop (Tokyo, 2000)
(10) Publication of the Proceedings of the NPAFC International Workshop on Salmonid Otolith Marking
(11) Preparation of Otolith Database on the NPAFC Website
(12) Cooperation with Relevant International Organizations
(a) PICES: Information about the North Pacific Ecosystem Status Report
(b) NASCO, IBSFC, and other International Organizations: Preparation for a Joint Scientific Meeting (Symposium) in March 2002
(13) Other Business and Future Meetings
(14) Summary Report

4. THE 2001 CSRS WORK PLAN: REVISION OF RESEARCH PLANS

The RPCG reviewed the Work Plan approved at the 2000 Annual Meeting and national research plans for 2001-2002 were presented (Appendices 1-4).

5. CRUISE ACTIVITIES

(a) Review of Objectives and Plans, including Schedules

Each member country described its research cruise plans for 2001 as follows:

Canada

Canada submitted its cruise plan for 2001, consisting of seven cruises.

Japan

Six Japanese salmon research vessels are scheduled to conduct the scientific research in the North Pacific, Bering Sea, and Gulf of Alaska in the 2001/2002 fiscal year. Gillnets less than 2.5 km in length will be used.

Japan also described the 2001 research cruises for other pelagic species which may have incidental taking of salmon.

Russia

Russia submitted its proposed cruise plan for research vessels for Pacific salmon in the North Pacific Ocean, consisting of four cruises.

United States

Two cruises are to be conducted in 2001: one in the Gulf of Alaska, another in the eastern part of the Bering Sea.
(b) Coordination of Participation of Scientists

Participation of scientists on research cruises of other Parties was planned as follows:

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<th>Party</th>
<th>Vessel (Month)</th>
<th>Name of Scientist (Party)</th>
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<tr>
<td>Japan</td>
<td>Oshoro maru (June-August)</td>
<td>R. Walker (USA), J. Murphy (USA), one person from Alaska, and one Canadian oceanographer</td>
</tr>
<tr>
<td>Japan</td>
<td>Wakatake maru (June-July)</td>
<td>N. Davis (USA)</td>
</tr>
<tr>
<td>Japan</td>
<td>Torishima (October)</td>
<td>one scientist (Russia), one translator (Russia)</td>
</tr>
<tr>
<td>Russia</td>
<td>R/V TINRO</td>
<td>To be determined (V. Lapko: contact)</td>
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6. EXCHANGE OF BIOLOGICAL SAMPLES, DATA, AND PERSONNEL

Exchanges of samples and data have been made informally between scientists and laboratories, and have worked reasonably well. The RPCG confirmed that this practice should be continued.

7. SCIENCE SUB-COMMITTEE AND WORKING GROUPS’ DISCUSSIONS

(a) Science Sub-Committee

The NPAFC Science Sub-Committee (SSC), consisting of R. Beamish, V. Karpenko (Chair), K. Myers, and M. Fukuwaka (for S. Urawa), met and considered two topics:

1) Research plans of all countries, including joint studies of salmon in the Bering Sea.
2) NPAFC Publications, in particular, publication of review reports presented by the four countries and ICES at the Workshop on October 29, 2000 in Tokyo.

SSC discussed the proposals for studies in various regions of the Bering Sea and determined that about $10 million (USD) will be needed annually to conduct such studies.

Aiming at the implementation of the program of studies in the Bering Sea, SSC recommended the following:

i) to develop a proposal for studies of salmon in the Bering Sea (K. Myers and R. Beamish);
ii) to circulate (distribute) this proposal through the Secretariat among the representatives of all Parties for their consideration and amendments;
iii) to submit the revised and amended version to the NPAFC President F. Ulmer for further consideration and obtaining financial support.

SSC discussed and adopted a decision on the format, review procedure and final version of the review papers presented at the Workshop held on October 29th, 2000 in Tokyo.

(b) Working Group on Stock Assessment

The Working Group on Stock Assessment (M. Fukuwaka, H. Geiger, V. Lapko and T. Perry (Chair)) discussed reporting of catch statistics, and the NPAFC contribution to the North Pacific Ecosystem Status Report.
Members agreed to provide catch statistics for preparation of a report. The report will include records from 1970 to 2000, and preliminary estimates for the 2001 season. Data will be provided in weight and in numbers wherever possible. It was also agreed that the preliminary 2001 catch report will include a brief description of significant fishery and stock results.

For the North Pacific Ecosystem Status Report sponsored by PICES, members agreed to provide information on the availability of time series of data for catches, escapements and hatchery releases. The data sets will be identified by species, for fisheries and geographic areas within each country, to be specified by each country. This will provide the basis for selection of data for a report on the status of North Pacific salmon stocks. This report could be presented to the joint meeting on the marine mortality of salmon in the North Pacific and North Atlantic Oceans, and the Baltic Sea in March 2002, as well as NPAFC's input to the PICES report.

(c) Working Group on Salmon Marking

The Working Group on Salmon Marking (P. Hagen (co-Chair), D. Meerburg, A. Rogatnykh, S. Urawa (co-Chair), and E. Volk), met to discuss three items: 1) coordination of marks to minimize duplication between countries; 2) creation of a common database of mark releases and web access of the database; and 3) publication of the proceedings of the Workshop on Salmonid Otolith Marking.

Japan submitted its proposed marking plans for Brood Year 2001. The other Parties did not submit similar documents, but indicated that there should be no conflicts with the Japanese marks. The Parties also agreed that each country or region should have an otolith mark coordinator who could help mitigate problems in the event that conflicts arise during the period of thermal marking. Members of the working group would serve in that role initially for their respective countries.

The format of a common database has been agreed upon by the Parties and preliminary data has been provided and is contained in spreadsheets maintained by the Secretariat. The proposal for the design and layout of the web pages was prepared by the Japanese Party. It was agreed that such a format would be acceptable. Timing of the transfer of the data to a database for web access will depend on availability of resources from the Secretariat and assistance from the U.S. Party.

The published proceedings from the workshop should be available by the next Annual Meeting. The workshop coordinators will serve as the editors of the publication.

(d) Ad Hoc Working Group on Stock Identification

The CSRS established the Ad Hoc Working Group on Stock Identification at the 1999 Annual Meeting. The specific 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. The Working Group met with participation of R. Beamish and T. Perry (Canada), S. Urawa (Japan), V. Karpenko, V. Belyaev and N. Chebanov (Russia), and L. Seeb (U.S., Chairperson).

The status of existing genetic (allozyme) databases was discussed and reviewed. The most current chinook salmon database was presented to the Commission in 1999. Development of a standardized baseline for sockeye salmon is presently being coordinated by laboratories of the U.S. Party. Each laboratory will provide internally standardized allele samples from 35 to 70 of the highest frequency alternate alleles to be analyzed at the Alaska Department of Fish and Game, Anchorage. Standardized baselines from each lab will be combined, and the baseline will be tested through simulations. Submission of an NPAFC document describing potentially identifiable groups of sockeye salmon from the Pacific Rim is planned for 2001.

The chum salmon database has been used and tested extensively by the Parties. It is currently
undergoing a significant revision with new submissions from the Parties. New (unpublished) data are available from Russia (approximately 20 collections), Japan (19 collections), and Alaska (98 collections); in addition, published data from 117 populations from Southeast Alaska, British Columbia, and Washington will be added.

The working group also discussed the efforts underway in North America to standardize microsatellite and other DNA loci. Initial standardization tests have been completed across laboratories and across analytical platforms for chinook and sockeye salmon with excellent results. The Microsatellite Standardization Group met in Vancouver, B.C. on November 7 and 8, 2000. The meeting was hosted by the Pacific Salmon Commission and was attended by members of the Japanese, Canadian, and U.S. Parties. Action items were as follows:

1. Develop and test “partial” allelic ladders for highly variable loci
2. Compile a current list of microsatellite loci used to study salmon on the west coast
3. Develop a website data and information centre on the AFS Genetics Section web page.

The Microsatellite Standardization Group also met at the Bodega Marine Laboratory of the University of California, Davis in October 2001.

There will be a Lowell Wakefield Symposium entitled “Genetics of Subpolar Fish and Invertebrates”, May 29-31, 2002, in Juneau, Alaska. More details are available at: http://www.uaf.edu/seagrant/Conferences/symposia.html#genetics


The Science Sub-Committee (SSC) and editors for the juvenile workshop discussed the publication of review papers of juvenile salmon presented at the workshop in Tokyo. The participants agreed to the following points:

1) Review papers should be redrafted following the format agreed on by the SSC and editors;
2) Review papers should be published as an NPAFC Bulletin, but the maximum limit for each paper should be approximately 50 published pages or 30,000 words; and
3) The papers should be peer reviewed by persons nominated by the editorial group.

9. **Publication of the Proceedings of the NPAFC International Workshop on Salmonid Otolith Marking**

RPCG members recommended that extended abstracts of all the oral and poster presentations delivered in the Workshop would be published in the form of an NPAFC Technical Report*. Editors for the publication are: P. Hagen (co-Chair), D. Meerburg, K. Myers, A. Rogatnykh, S. Urawa (co-Chair), and E. Volk.

10. **Preparation of Otolith Database on the NPAFC Website**

All Parties have provided draft information on thermal mark releases which is contained in a common spreadsheet format. The Parties have agreed to the layout of a web accessible database.

The Working Group on Salmon Marking will prepare the texts and collect the salmon mark data to be used in the web page as mentioned above, and submit them to the Secretariat for cost estimates, which would be reported to CSRS and F&A for their consideration.

*Technical Report #3 was published in October 2001.
11. COOPERATION WITH RELEVANT INTERNATIONAL ORGANIZATIONS

(a) PICES: Information about the North Pacific Ecosystem Status Report

P. Livingston, PICES representative, provided information about the North Pacific Ecosystem Status Report and the PICES/CoML/IPRC Workshop on “Impact of Climate Variability on Observation and Prediction of Ecosystem and Biodiversity Changes in the North Pacific”, which was held in Honolulu, Hawaii on March 7-9, 2001.

b) NASCO, IBSFC, and other International Organizations: Preparation for a Joint Scientific Meeting (Symposium) in March 2002

Y. Ishida, Chairman of the CSRS, reported to the RPCG on the status of the preparation for the joint scientific meeting of NPAFC, NASCO, IBSFC and other international organizations. The RPCG members agreed on the dates (March 14-15, 2002), a tentative agenda, and other issues related to the meeting.

12. OTHER BUSINESS AND FUTURE MEETINGS

a) Primary Points of Contact for Scientific Research and Statistics (SRS)

The primary points of contact for Scientific Research and Statistics (SRS) were appointed as follows:

<table>
<thead>
<tr>
<th>Canada (tentative)</th>
<th>Japan</th>
<th>Russia</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Beamish</td>
<td>Masa-aki Fukuwaka</td>
<td>Oleg Gritsenko</td>
<td>Loh-Lee Low</td>
</tr>
<tr>
<td>David Meerburg</td>
<td>Shigehiko Urawa</td>
<td>Vladimir Karpenko</td>
<td>Kate Myers</td>
</tr>
</tbody>
</table>

b) Time and Place of the next RPCM.

The RPCG recommended that the next RPCM be held on March 12 and 13, 2002 in Vancouver, Canada in conjunction with the joint scientific meeting of NPAFC, NASCO, IBSFC and other international organizations.
II. INTERNATIONAL WORKSHOP ON SALMONID OTOLITH MARKING

1. TIME AND PLACE OF THE WORKSHOP

The NPAFC International Workshop on Salmonid Otolith Marking was held in Seattle, Washington, U.S.A., on March 21, 2001.

2. ORGANIZERS AND PARTICIPANTS

The Workshop was organized and sponsored by the North Pacific Anadromous Fish Commission (NPAFC). The NPAFC Working Group on Salmon Marking served as the Workshop Coordinators. All necessary arrangements were made by the NPAFC Secretariat in cooperation with the Workshop Coordinators and Local Coordinators.

Over 70 scientists and fisheries officials attended the Workshop. There were 14 oral and 3 poster presentations followed by general discussion sessions. Extended abstracts of the oral and poster presentations are included in NPAFC Technical Report #3, which also contains opening remarks and a short review of the Workshop by the co-chairpersons of the Workshop.

3. WORKSHOP REVIEW

Thermal otolith marking is a universal way to mark large numbers of hatchery salmon during embryonic and yolk absorption stages, creating distinct mark patterns in the otoliths by water temperature controls. Similar otolith marks are produced by the dry method developed by Russian scientists. This low cost technique can provide high quality otolith marks without special equipment. Chemical otolith marks using strontium or fluorescent substances may be used to supplement mark patterns in hatcheries, because the number of unique thermal or dry marking codes is limited.

In 2000 approximately one billion otolith marked juvenile salmon were released from hatcheries in North Pacific Rim countries. Many marking objectives have been achieved without organized rules for pattern assignment. A standardized system of organizing pattern information on otoliths potentially offers a larger number of patterns, and also provides the opportunity for coordinating marks between countries to avoid mark duplications in mixed-stock fishery analysis. The NPAFC Working Group on Salmon Marking would play an important role by coordinating otolith mark patterns among countries and creating an Internet-accessible database of otolith mark releases.

Application of otolith-marking technologies to the biology and management of salmon is essential. The early applications of otolith marking techniques supported scientific research to distinguish wild and hatchery salmon during early sea life. A recent rapid increase in the number of otolith mark releases has made it possible to track the migration of specific salmon stocks throughout their entire ocean life from coastal waters to the high seas. Current salmon research using otolith marks includes ocean distribution, migration speed, abundance, feeding success, growth, straying of otolith-mark groups, and interactions between wild and hatchery stocks.

Applications of otolith marking for stock assessment and management of terminal fisheries have increased in recent years. In Alaska an otolith marking and recovery program for in-season stock management is well established. Mass otolith marking is an effective tool for estimating the contributions of hatchery fish to overall natural spawning escapement. To minimize the effect of hatchery production on wild salmon populations, this information is critical.
The North Pacific Rim countries (Canada, Japan, Russia, and USA) are successfully conducting mass otolith mark releases under common rules. Otolith mark recovery data will allow to develop a valuable time series of stock-specific biological information that is indispensable to the sustainable conservation of salmon stocks in North Pacific.
III. ENFORCEMENT EVALUATION AND COORDINATION MEETING

1. TIME AND PLACE OF THE MEETING

The Enforcement Evaluation and Coordination Meeting (EECM) was held on May 14-17, 2001 at Kamchatrybvod in Petropavlovsk-Kamchatsky, Russia. Acting Chairman of the Committee on Enforcement (ENFO), LCDR Greg Busch of the United States was appointed and chaired the meeting.

2. PARTICIPANTS

**Canada:** Dennis Brock  
Gerry Kristianson  
Robert Martinolich  
Stephen Tilley  

**United States:** Ronald Antaya  
George Barantseff  
Greg Busch  
William Kasten  
Richard Preston  
Philip Thorne  

**Japan:** Yoshitsugu Shikada  

**Russia:** Yuri Baknin  
Vyacheslav Bochkarev  
Andrei Gordienko  
Vladimir Karpenko  
Eugene Orekhovskiy  
Andrei Pakhomov  
Vladimir Rezvanov  
Igor Rypalov  
Aleksei Vysotenko  

**Secretariat:** Vladimir Fedorenko  
Wakako Morris

3. AGENDA

The following agenda was adopted:

1. Opening remarks and introductions
2. Appointment of Chairperson
3. Adoption of agenda
4. Meeting procedures
5. Results of January 26, 2001 planning meeting in Victoria, Canada (report from Canada)
6. Evaluation of enforcement actions in the beginning of the year 2001
   a) Patrol activity to date
   b) Activity of an ad hoc group for patrol coordination
7. Coordination of enforcement for the rest of the season 2001
   a) Patrol dates
   b) Patrol areas
   c) Enforcement
8. Results of the investigation of the case of F/V Arctic Wind (report from the United States)
9. Exchange of updated information on:
   a) Organizational structure of the agency primary responsible for high seas driftnet (HSDN) enforcement effort
   b) Primary points of contact for HSDN cases
10. Additional information on the Questionnaire for Standardization of Enforcement Practices (NPAFC Doc. 454, Appendix 1)
11. Other Business
   a) Time, place and type of the next enforcement meeting
12. Adjournment
4. **RESULTS OF JANUARY 26, 2001 PLANNING MEETING IN VICTORIA, CANADA**

R. Martinolich of Canada presented the report of the planning meeting held in Victoria, Canada on January 26, 2001.

Canada expressed that for next year the planning can be done through correspondence and discussion during the Annual Meeting before the actual deployment occurs and coordinate further during the EECM.

5. **EVALUATION OF ENFORCEMENT ACTIONS IN THE BEGINNING OF THE YEAR 2001**

(a) Patrol Activity to date

**Canada**

R. Martinolich reported Canada’s High Seas Driftnet Enforcement for 2001. Canada conducted aerial surveillance of the high seas driftnet area from April 2 to April 27, 2001. Twenty-one patrols, utilizing approximately 177.8 of the 216 hours identified were flown over 25 days. Fifteen potential targets were detected and investigated further. No illegal fishing was noted.

**Japan**

Y. Shikada reported that *Kyoshin-maru*, a chartered enforcement vessel, has been conducting enforcement activities for HSDN since April 23. The *Kyoshin-maru* reported that there have been no HSDN vessels detected.

**United States**

P. Thorne presented report from the United States. The U.S. Coast Guard has flown 4 aircraft patrols to date. No illegal or suspicious activity was detected.

**Russia**

I. Rypalov reported that Russia planned to send one frontier vessel to the Convention Area. A new cutter began to patrol the Convention Area on April 28, 2001 and continued until May 13, 2001. The cutter deployed a helicopter during that patrol and flew over 150 km while in the area. No vessels of interest were encountered while the cutter was deployed in the Convention Area.

(b) Activity of an *ad hoc* group for patrol coordination

P. Thorne of the United States presented the report of the *ad hoc* group for patrol coordination held at the 17th District Offices of the U.S. Coast Guard in Juneau.

A standard procedure for reporting was created during the *ad hoc* meeting.

All Parties agreed and recommended that the *ad hoc* group for patrol coordination for 2002 be continued.
6. **COORDINATION OF ENFORCEMENT FOR THE REST OF THE SEASON 2001**

a) Patrol dates  
b) Patrol areas  
c) Enforcement

**Canada**

Canada reported that they have concluded this year's patrol efforts.

**Japan**

Japan reported that the 2001 patrol vessel/aircraft activity will continue through July.

**United States**

United States reported on the future patrol plans: R. Preston noted that US Coast Guard will patrol until September, 2001 with at least four aircraft flights per month. In addition, logistical flights supporting other missions will patrol the Convention Area when possible. The US Coast Guard will respond to reports of suspected illegal activities and report the results to all Parties. The US Coast Guard will coordinate their aerial patrols with Russia and Japan so as not to duplicate patrol efforts.

**Russia**

The Northeast Regional Directorate of the Federal Border Guard Service (NRD) is planning to use one cutter and one patrol vessel in the Convention Area after May 20, 2001. Also an aircraft will be patrolling in the Convention Area. These operations will continue in May-July, 2001. Pacific Regional Directorate of the Federal Border Guard Service is planning to use one cutter in May and one patrol vessel in June.

Joint Staff will be established for the period of the salmon season. Headquarters of the Staff will be located in Moscow, and the Staff will be located in different places: three in Japanese ports in order to look on the landing of salmon from Russian EEZ, and the rest will be at sea.

Chairman commented that for the remainder of the year, enforcement will be provided mostly by United States and Russia and that the coordination will be required to avoid duplication of effort. Captain Rypalov responded that the topic was discussed with Admiral Barrett and they agreed that the best way to avoid duplication is with the prompt exchange information and data. Captain Rypalov also followed up that Russia would like to work closer with the US Coast Guard, and encouraged increased involvement by Japan.

7. **RESULTS OF THE INVESTIGATION OF THE CASE OF F/V ARCTIC WIND**

R. Antaya of the United States presented a report of the investigation of F/V Arctic Wind, the Honduran vessel spotted in the Convention Area, south of Adak Island, Alaska in May 2000. The report is appended as Appendix 5.
8. **EXCHANGE OF UPDATED INFORMATION ON:**

   a) Organizational structure of the agency primary responsible for high seas driftnet (HSDN) enforcement effort

   b) Primary points of contact for HSDN cases

   The organizational structure of the agency primary responsible for high seas driftnet (HSDN) enforcement effort and primary points of contact for HSDN cases were provided by all Parties as Appendices 6 and 7 respectively.

9. **ADDITIONAL INFORMATION ON THE QUESTIONNAIRE FOR STANDARDIZATION OF ENFORCEMENT PRACTICES**

   During the 1999 Symposium which was held in Kodiak, AK, the Questionnaire was created and distributed among the participants. Further discussion was made during the 1999 Annual Meeting and at the 2000 EPCM held in Tokyo, Japan. There were still 8 unanswered questions (Qs #: 13, 20, 23, 24, 25, 30, 38, and 40).

   Unanswered questions were addressed and commented.

   **Q.13:** "What are the likely frequencies of net buoy transponders? How can the Parties find out?"

   The Parties discussed the information and concluded that the question is now answered and closed.

   **Q.20:** "What is the capability of the Canadian Radar Satellite and can it sort and classify vessels in the areas of concern within the Convention Area?"

   Canada reported that it used the Radar Satellite this year and found it to be of limited use. United States concurred with Canada that this technology is of limited use for HSDN enforcement, because it can only detect contacts, not confirm fishing activity or identify vessels. Canada will circulate the information through Secretariat to be discussed at the next Annual Meeting.

   **Q23:** "What information regarding driftnet sightings and apprehensions should be placed on the Commission's web site?"

   Canada and United State offered to work with the Secretariat to provide a version of enforcement material to be posted on the NPAFC web site. Executive Director noted that because of the large amount of space required to post the HSDN information on the NPAFC web sites it may be more practical to have a linkage to the US Coast Guard or Canadian Enforcement web sites in addition to NPAFC information. It was agreed that the United States and Canada will develop information for the web page by the next Annual Meeting.

   **Q24:** "Should we provide commercial shipping with more information on high seas driftnet vessels, e.g.: pictures of vessels; transponder frequencies' locations of past sightings of illegal driftnet fishing? Should we include contact points to report information?"

   The United States will provide a copy of its Notice to Mariners to the Secretariat for circulation prior to the Annual Meeting.

   **Q25:** "What information do the Parties require to facilitate apprehensions and successful prosecutions of high seas driftnet fishing vessels?"

   At the EPCM in Tokyo, the United States provided a HSDN case package to the participants and the US will provide the same again at the next Annual Meeting. The Chairman suggested also to take the Secretariat's checklist and expand upon it to create a standardized post seizure analysis form. The United States committed to create a draft form for presentation at the 2001 Annual Meeting.
Q30: "In order to assist in quickly determining suspect versus legitimate fishing vessels, is it possible for the Parties to provide the other Parties with pictures of fishing vessels and their typical configurations for each species? For example squid and salmon driftnet, longliners, those that are greater than 120 feet."
Canada and the United States promised to provide the pictures of the fishing vessels. The United States worked to obtain information and photos on research vessels and the possible illegal vessels. The updated information and additional photos from information distributed in Tokyo will be provided at the next Annual Meeting on CD.

Q38: "Who has a case package model that the Parties could look at to develop a model of HSDN?"
The United States provided it at the last Annual Meeting. The United States will provide it again through Secretariat prior to the Annual Meeting so that the Parties will have time to review and discuss at the Annual Meeting.

Q40: "How do fishing vessels have to be marked in Party countries? What do these markings look like and where are they located on the vessel, e.g., on each side of the bow and/or on the stern, on the wheel house etc.?"
No information has been provided to the Secretariat by the Parties up to this date. The United States will provide a sample of the US format on a CD at the next Annual Meeting. Russia asked about the usefulness of this information. Canada noted the original purpose of the question was not to help identify party nation vessels, but to quickly identify the nationality of the vessels fishing. Specifically, the intent was to be able to identify vessels from non-Party nations quickly from the patrol aircraft. Canada submitted their countries’ vessel marking requirements.

Russia proposed adding a new item for discussion at the Annual Meeting. Russia suggested that it is important that all participants be informed of information on all the vessels which come to port with salmon products on board (e.g. information on where the salmon was caught and how much was illegally caught). This should include HSDN salmon and domestic product. Russia suggested that it is important to identify which salmon was legally/illegally caught.

10. OTHER BUSINESS

a) Time, place and type of the next enforcement meeting

Canada commented of this meeting’s usefulness and that the same kind of meeting be continued for the next year and be held in either Kodiak or Shemya in April/May 2002. Canada suggested that the operational key personnel who are directly responsible for the coordination should be in attendance.

Russia suggested to hold such meeting in conjunction with the ad hoc patrol coordination group in order to evaluate the effectiveness of that group. The EECM should be held during the period when the probability of violation is greatest.

United States suggested that it may be possible to either convene the ad hoc Patrol Coordination Group in Kodiak, or bring them to Kodiak during the EECM to allow ENFO Committee review and oversight.

It was decided that the time and location of the next Enforcement meeting will be determined at the next Annual Meeting at the Enforcement Committee.
b) Interpreters

Japan expressed the need for an interpreter at this type of meeting. Executive Director explained that the Commission decided not to have interpretation services provided for this EECM because of the cost implications, but if a Party felt it was necessary, it could bring their own interpreters. Canada expressed that although it understands the financial constraints of the Commission, the request for having an interpretation service should be revisited at the next Annual Meeting. The Chairman recommended that interpretation services be provided at the next EPCM if funding is available, but not to the detriment of the ability to hold the meeting.

Participants received a tour of the Kamchatryvod Vessel Control Center.

On May 16, 2001, the participants flew over the NPAFC Convention Area on US Coast Guard aircraft C-130 (Appendix 8).

On May 17, the participants toured the salmon hatchery in Malki and fish cooperative in Seroglazka.
IV. NINTH ANNUAL MEETING OF THE COMMISSION

1. TIME AND PLACE OF THE MEETING

The Ninth Annual Meeting of the Commission was held at the Victoria Conference Centre in Victoria, British Columbia, Canada, from October 28 to November 2, 2001. Plenary sessions were held under the chair of Ms. Fran Ulmer (President of the Commission); the first session on October 31, and the second (final) session on November 2.

The Committee on Enforcement (ENFO) met on October 29 and 30, with Capt. V. O'Shea of U.S.A. as Chairman.

The Committee on Scientific Research and Statistics (CSRS) met from October 28 to November 1, with Dr. Y. Ishida of Japan as Chairman.

The Committee on Finance and Administration (F&A) met on October 31 and November 1 with Mr. G. Kristianson of Canada as Chairman.

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

**CANADA**

*Representatives*
- David Bevan (Head of Delegation)
- Russ Jones
- Gerry Kristianson

*Advisers and Experts*
- Terry Beacham
- Richard Beamish
- Dennis Brock
- John Candy
- Diana Dobson
- Chris Dragseth
- Rick McNicol
- Robert Martinolich
- David Meerbühr
- Don Noakes
- Ted Perry
- Laura Richards
- Colin Wallace
- David Welch
- Tim Young

**UNITED STATES**

*Representatives*
- James Balsiger (Head of Delegation)
- Guy McMinds
- Fran Ulmer (NPAFC President)

*Advisers and Experts*
- Montgomery Buell
- Alvin Burch
- Stephanie Burkhardt
- Greg Busch
- Sally Cochran
- Kevin Duffy
- Dough Eggers
- Edward Farley
- Harold Geiger
- Peter Hagen
- William Heard
- Jack Helle
- William Hines
- Steve Ignell
- William Kasten
- Steve Klosiowski
- Rich Lincoln
- Michael Link
- Loh-Lee Low
- Peter Martin
- Katherine Myers
- Kristine Norosz
- Vincent O’Shea
- Jeff Passer
- Richard Preston
- Al Samuels
- Lisa Seeb
- Peter Soverel
- John Sproul
- Eric Volk
- Robert Walker
- John White
- Richard Wilmot

**SECRETARIAT**
- Vladimir Fedorenko (Executive Director)
- Yoshiyuki Kondo (Deputy Director)
- Wakako Morita (Administrative Assistant)
- Denise McClann-Pavlovic (Secretary)
- Michelle McRae (Temporary Assistant)
- Robin Brophy (Technician)
- Bruce Lawler (Technician)

**RUSSIA**

*Representatives*
- Anatoly Makoedov (Head of Delegation)
- Sergey Dyagilev

*Advisers and Experts*
- Vladimir Antipin
- Nikolay Bolkunov
- Oleg Gritsenko
- Vladimir Karpenko
- Victor Lapko
- Alexander Okhanov
- Dimitry Orekhovsky
- Vladimir Radchenko
- Alexander Rogatnykh
- Igor Rypalov

**OBSERVERS**
- Alex Bychkov (North Pacific Marine Science Organization, PICES)
- Hak-Haing Cho (Republic of Korea)
- Jung Hwa Choi (North Pacific Marine Science Organization, PICES)
- Kevin Friedland (International Council for the Exploration of the Sea, ICES)

**INTERPRETERS**

*English/Japanese*
- Toshiko Adilman
- Hiromi Chino
- Taka Crowston
- Ikumi Graham
- Mieko Kondo-Blum
- Yoshiko Soeda

*English/Russian*
- Julia Erickson
- Andre Falaliev
- John Glad
- Nikita Kirilloff
- Natalie Latter
- Michael Wasserman
3. AGENDA

1. Opening by the President of NPAFC, Ms. Fran Ulmer
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 2001 Enforcement Evaluation and Coordination Meeting (EECM)
   (d) Results and recommendations from the Joint Operational Coordination Group
   (e) Discussion of proposed enforcement meetings and activities for 2002
   (f) Review of Parties’ proposals on joint projects to be financed by the Commission
   (g) Cooperation with relevant international organizations (Article IX 9.)
   (h) Adoption of ENFO Report
8. Consideration of scientific research and statistics
   (a) Review of scientific research activities (Article IX 6.)
   (b) Coordination of scientific research activities (Article IX 6. and 8.)
   (c) Statistical Yearbook (Rules of Procedure 19 (k))
   (d) Other publications (Rules of Procedure 25)
   (e) Cooperation with relevant international organizations (Article IX 9.)
   (f) Review of Parties’ proposals on joint projects to be financed by the Commission
   (g) Development of 2002 Workplan
   (h) Invitations to State or entity (Article IX 10.)
   (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, 2002
   (d) Budget forecast for fiscal year beginning July 1, 2003
   (e) Administrative report for 2001
   (f) Administrative matters
   (g) Review of ENFO and CSRS recommendations on joint projects to be financed by the Commission
   (h) Schedule of future Annual Meetings
   (i) Adoption of F&A Report
10. Process to recommend that certain other states of origin be invited to accede to the Convention (Article XVIII)
11. Outside funds for scientific research
12. Hiring procedure for the next Executive Director
13. Election of Commission’s Officers
14. Other business
15. Place and time of Tenth Annual Meeting
16. Summary minutes of plenary sessions
17. News Release
18. Closing remarks
19. Adjournment
4. OPENING REMARKS

At the First Plenary Session, there were addresses of welcome, and statements by the NPAFC President, Japan, Russia, the United States, Canada, and observers.

Ms. Fran Ulmer, President of NPAFC, addressed the meeting as follows:

Welcome, distinguished representatives, advisors, delegates, committee members, and guests, to the Ninth Annual Meeting of the North Pacific Anadromous Fish Commission. I would like to extend a special welcome to Dr. Anatoly Makoedov and Mr. Sergey Dyagilev, the new representatives from the Russian Federation, and to Mr. Chikahito Harada, the new representative from Japan. We welcome you and look forward to working with you.

I am also pleased to welcome observers representing PICES and the International Baltic Sea Fishery Commission.

It is wonderful to be back for, I believe, our second Annual Meeting held in this beautiful city of Victoria. I would like to thank the Canadian delegation for its continuing warm hospitality not only for this Ninth Annual Meeting, but for Canada’s year-round support of our Secretariat in Vancouver.

Thanks also to Vladimir Fedorenko and his dedicated and professional staff at the Secretariat for all the months of hard work they have devoted to organizing this meeting. They did a superb job in Tokyo last year, and although Victoria is a little closer to “home” for them, I know it is still a phenomenal amount of work to put on a week-long international meeting. Thank you all for your dedication and great work! And I would like to welcome Mr. Yoshikiyo Kondo to his first official Annual Meeting as the Commission’s Deputy Director.

As the Commission embarks on its third round of meeting rotations, we can look back at our beginnings and see how far we have come in working together for the good of our common and precious resources: the seven species of salmon and steelhead trout of the North Pacific.

I would like to thank Dr. Ishida and all the members of the Committee on Scientific Research and Statistics (CSRS) for their tremendous work this year. The panel discussion hosted by CSRS last night on the BASIS proposal and how we might best go forward with implementing our Joint Science Plan was enlightening, invigorating, and full of challenges. I am confident that we will rise to those challenges.

I would also like to thank all the members of the Committee on Enforcement for their excellent work, and particularly Capt. Vince O’Shea for his leadership of that committee. We have seen increasingly effective cooperation and coordination of our high seas surveillance and enforcement efforts, which has meant that in spite of limited resources and vast North Pacific enforcement area, we have been successful in deterring illegal fishing. I have no doubt that this years’ active surveillance presence and past years’ successful seizures and prosecutions have discouraged illegal activity this year. But we know we must continue to be vigilant and work closely together to prevent such illegal activities in the future.

And I want to recognize the essential work that the Committee on Finance and Administration does to assure smooth operations of the Commission and the Secretariat.

In looking back at the Commission’s first nine years, we have reason to be proud of our collective accomplishments. As we build upon that success this week and in the year to come, we are faced with significant challenges to the health and productivity of our respective
salmon resources. And that means significant challenges to the salmon fishing industry and to the economic health of our communities that depend on these fisheries.

As I look around this room, I see a tremendous wealth of knowledge, experience and expertise. We will work together to apply that expertise to our research and enforcement efforts to achieve our shared goal of wise and effective stewardship of our salmon resources.

I look forward to a productive meeting.

Thank you.

Mr. Shiro Yuge, Head of Japanese delegation, addressed the meeting as follows:

_Madam Chair, delegates, observers, ladies and gentlemen, I am Shiro Yuge. On behalf of the Japanese delegation, please allow me to make some opening remarks._

_Foremost, let me take this opportunity to express our profound sadness and sincere sympathies to all those affected by the horrendous tragedy of September 11. This incident has given rise to a wave of confusion and anxiety that have swept the world and continues to envelop people around the globe. It gives us reason to be concerned that holding of international fisheries conferences—events that one may think ought not to be directly affected by the incident—is in fact being impacted._

_Our delegation is delighted to be able to attend the 9th Annual Meeting of the NPAFC in this beautiful, historic city of Victoria and is pleased to see some familiar faces. In this context, I would in particular like to extend our special thanks to the Government of Canada and the NPAFC Secretariat for their preparatory work in putting together this year’s meeting._

_Permit me now to briefly talk about our basic position in participating in this year’s NPAFC Meeting. First of all, we place the greatest importance in maintaining and further developing scientific cooperation among the contracting parties under the NPAFC regarding salmon resources. We are ready to continue our contribution in this arena, and we believe it is necessary to embrace this issue from a broader and more comprehensive perspective that includes consideration of future salmon stocks and their relationship to the overall marine ecosystems. On this topic of scientific research activities, we pay tribute to the US initiative in formulating the BASIS for the Bering Sea. If BASIS is to be implemented under the NPAFC name, then its plans to be developed will need to be acceptable to the parties involved including ourselves as a feasible programme, from the point of view of financial and human resources, as well as for other considerations. Furthermore, we welcome the voluntary offer by the United States to contribute funds to NPAFC’s scientific activities. In this connection, we believe a set of procedures, or guidelines, is necessary to ensure predictability and transparency in the way this type of funds are used._

_Madam Chair, we commend all of the contracting parties for their efforts and cooperative enforcement activity in deterring illegal driftnet fishing in the North Pacific. Notwithstanding certain constraints under which we must operate, Japan is prepared to cooperate in said enforcement to the extent possible. Moreover, we recognize the value of the FAO initiative regarding international fisheries issues and welcome the adoption of the IUU (i.e. illegal, unreported and unregulated fishing) Action Plan by the FAO Committee on Fisheries. Marine biological resources should be utilized as renewable natural resources on a sustained basis, based on sound science. To this end, primary responsibility should lie with international bodies such as the FAO and regional fisheries organizations that have the necessary expertise and experience. From now on more than ever before we should strive to forge alliances with appropriate fisheries organizations._
Madam Chair, we are currently very happy with the quality of work and abilities of our Executive Director, Mr. Fedorenko, and his staff who have supported the smooth operation of the NPAFC. While recognizing the current budgetary constraints, in this respect, we must ask ourselves what we can do to ensure continuation of satisfactory functioning of the Secretariat without any disruption, and to promote further progress of the NPAFC. In this regard, Japan wishes that Mr. Fedorenko continue to serve as Executive Director after his current term expires.

I sincerely hope that by working together we will make this year’s meeting a very fruitful one.

Finally, allow me to introduce our delegation.

This concludes my remarks, Madam Chair. Thank you very much.

Dr. Anatoly Makoedov, Head of Russian delegation, addressed the meeting as follows:

Respected Madam Chairperson, respected representatives, respected observers, ladies and gentlemen.

Permit me on behalf of the Russian delegation to express my gratitude to our Canadian hosts for the hospitality accorded to us during this year’s Annual Meeting. I wish especially to thank the Executive Director and his staff for having prepared the meeting in so thorough a fashion.

The Commission is entering into its third four-year cycle – an event which marks a considerable period of time, so that we can now speak with justification of having our own history, traditions, and work style. Over the years we have come to know one another well and to appreciate our colleagues’ business-like approach. During this period we developed procedures for conducting negotiations, making decisions and interacting with each other. It is my hope that this experience will stand us in good stead during the current meeting.

Over the course of the year 2001 Russia caught approximately 211,000 tons of salmon. The bulk of the catch of pink was off south-eastern Sakhalin and the southern Kuril Islands. There was also a significant pink catch off north-eastern Kamchatka, although it was somewhat less that we had expected. Kamchatka sockeye stocks are also on a high level. We are likewise gratified to note the growth of chum stocks, principally off Kamchatka. Regrettably, coho and chinook stocks continue to remain on a low level. On the whole, we regard the state of Russian salmonid stocks to be satisfactory, and we believe that a main factor here was the implementation of strict regulatory measures subsequent to the creation of NPAFC. It is our view that a reduction in poaching on high seas and a reduction of sea fishing in general have contributed to stabilizing Russian salmonid stocks on a high level. We hope that the Ninth Meeting of our Commission will promote further progress in the protection of salmon and contribute to scientific understanding of the processes taking place within stocks. We have a positive view of contacts between our Commission and PICES, and we consider this cooperation to be fruitful. It is with optimism that we look forward to the joint NPAFC-NASCO-IBSFC conference scheduled for March of 2002, and we expect significant results from it. We will welcome the adherence to the Commission of other countries, the People’s Republic of China and the Republic of Korea.

Permit me to wish every success to our session.

Now I would like to introduce the members of the Russian delegation.

Thank you.
Dr. James Balsiger, Head of the United States delegation, addressed the meeting as follows:

Madame Chair, Members of the Commission, observers from the Republic of Korea, PICES, the International Halibut Commission (IHPHC), the Pacific Salmon Commission, ICES, NASCO, the International Baltic Sea Fishery Commission (IBSFC), advisors and guests, it is our pleasure to be here in Victoria for the Ninth Annual Meeting of the North Pacific Anadromous Fish Commission. This is the first meeting of the Commission that I have attended and I admire the significant amount of work that has been accomplished in the NPAFC and the forward-looking view of its members. I also would like to acknowledge the new representatives from Russia, Japan and the NPAFC Deputy Director Mr. Kondo, who are here for their first meeting as well.

I would like to first express our appreciation to the Government of Canada for hosting this gathering of the parties for the important work of protecting, and organizing research for our valuable salmon resources. I also wish to extend our appreciation to the Secretariat and the interpreters for their work in ensuring the smooth operation of this meeting. Sometimes, it is easy to overlook the amount of preparation that is required to organize our meeting each year, as well as manage the day to day logistics of the meeting, but once again, the Secretariat has done an outstanding job preparing and running this meeting.

On behalf of the United States, I would like to acknowledge the interest in the NPAFC as evidenced by the presence of the Republic of Korea and other research and management organizations here today. I think the Commission can serve as an effective model of cooperation and coordination of resources to gain a better understanding of salmon ecology and enforcement effectiveness. The problems related to salmon protection and determining environmental factors affecting salmon production cannot be properly addressed by individual efforts, only by working together in a cooperative framework such as the Commission.

It is safe to say that the world has been irrevocably changed in light of recent events in the United States and other parts of the world and out of this calamity, a new spirit has emerged in which countries have aligned themselves, in spite of their differences, to defeat a common threat. Within the Commission, we must capture this spirit and continue to build on previous scientific and enforcement efforts. These past nine years have witnessed the significant development of scientific and enforcement cooperation and coordination in the Commission, and we remain greatly pleased with this high level of collaboration and remain highly optimistic that it will continue and be enhanced.

However, the twenty first century will pose new challenges for us all such as providing food for our people, ensuring our respective fishing industries remain stable, allowing cultures to continue as they have for thousands of years, protecting our valuable salmon resources, and more importantly, having salmon for future generations. Only by working together can we succeed.

I am pleased to note this past year, there were no detections, nor seizures of vessels fishing illegally in the Convention Area. The collective enforcement efforts these past few years remain highly effective in deterring illegal fishing on the high seas and serves as a model of enforcement cooperation and coordination between countries.

I also note the tremendous amount of progress that has been made on the Commission's Science Plan. There has been a significant amount of attention focused on a component of the Science Plan, namely, the further development of BASIS. All parties recognize the utility of undertaking such an effort to identify areas where salmon go and feed, as well as to further document the changes in the marine environment that affect salmon production. This information is vitally necessary for managers to help explain why salmon production
fluctuates, how salmon production can be affected, and when to make adjustments in harvests. We are optimistic that further progress will be made on BASIS.

As I have previously noted, there are other countries and organizations interested in our work and their mandates will complement, not compete with our efforts to ensure we are able to address the various uncertainties we are confronted with. Cross-fertilization with other organizations will create a more integrated approach to understanding the complexities of salmon ecology and management.

There is much work to be accomplished during this week, but the spirit of cooperation and purpose runs strong in the Commission. The United States remains confident that further progress for an integrated approach will be made during this meeting.

Madame Chair, may I introduce the U.S. Delegation.

Thank you.

Mr. David Bevan, Head of Canadian delegation, addressed the meeting as follows:

Madam president, distinguished delegates, ladies and gentlemen, on behalf of the government of Canada and the Minister of Fisheries and Oceans I would like to welcome you to Victoria for the ninth annual meeting of the North Pacific Anadromous Fish Commission (NPAFC). I hope that you can take some extra time to enjoy the many attractions of British Columbia’s capital city.

This week we will be discussing a number of important issues and building on the work undertaken at previous meetings.

ENFO has held a number of co-ordination and joint planning meetings in the past and did so again in 2001. Through better co-ordination, communication, and information flow, these meetings have resulted in improved effectiveness and efficiency of enforcement efforts. Notwithstanding the demands on limited resources, contracting parties have continued to dedicate aircraft, ships and personnel to the important enforcement effort to stop high-sea drift netting in the North Pacific.

For 2002, I would hope that this important work can continue and that all contracting parties will be able to work together to maintain the recent trend towards increased co-ordinated planning and operations.

CSRS has also worked towards improving co-operation and last year a joint science plan established priorities to guide us in planning future co-ordinated research. During this meeting there will be further discussions on BASIS and other co-operative research projects.

It is Canada’s hope that we can continue to co-ordinate research efforts. We believe that better co-operation will lead to an improved understanding of the factors that influence salmon abundance.

This spirit of sharing and collegiality was demonstrated by last evening’s informal discussions on BASIS and based on those discussions I am confident that we can succeed.

International co-operation is not limited to the NPAFC. In March there will be a joint NPAFC, NASCO, and JBSFC meeting on the causes of marine mortality of salmon. This meeting will bring together experts from around the Northern Hemisphere including those from the commissions and organizations as well as those from PICES and ICES. Canada is a
strong supporter of this event. Clearly we must work together if we are to make progress in understanding the factors that influence salmon abundance and survival.

We are joined this week by observers from the Republic of Korea. We have, for some time, extended an invitation to the Republic of Korea to accede to the convention. I hope that based on their observations of our deliberations this week, and of the benefits deriving from cooperation within NPAFC that the Republic of Korea will be more favourably disposed to acceding to the convention.

We have much work to do this week. However, as we have done in the past, we should also spend some time in less formal settings. To help in this regard it is my pleasure, on behalf of the Minister and the government of Canada to invite all delegates, the secretariat and the interpreters to a reception to be held at 6 PM at the Crystal Gardens just across the street. An invitation is being circulated.

In closing Madam President, I wish all of you a pleasant and productive stay here in Victoria. Thank you.

Mr. Hak-Haing Cho, observer from the Republic of Korea, addressed the meeting as follows:

Madame Chair and distinguished delegates,

On behalf of the Korean Government, I would like to extend my gratitude to the Commission for inviting the Republic of Korea as an observer to the 9th Annual Meeting of North Pacific Anadromous Fish Commission. And I am greatly honoured to attend this meeting.

In light of complying with the provisions of the United Nations Convention on the Law of the Sea, Korea, as an origin state of anadromous stocks, has cooperated with Contracting Parties for the conservation and management of the anadromous stocks according to the objectives set forth in the NPAFC. In this context, Korea has been conducting its own salmon research programs to better understand and find out its related problems of anadromous stocks.

Since 1967, the Korean Government has artificially hatched and released juvenile salmon. Last year we released 19 million salmon fingerlings, but the yearbook of the fisheries of Korea describes that approximately 17,000 salmon were caught in 2000, making the return rate of 0.10%. Since the establishment of the Salmon Release Program of Korea, the returning rate has gradually increased and reached its peak of 1.32% in 1990. But since 1996, the rate has been decreasing until now.

To cope with this problem, the Korean Government intends to increase its annual salmon release to about 30 million fingerlings by 2005. In addition, the Korean Government will continue to expand investment in research projects that comprehensively address the issues of salmon returns and the biology of the populations.

Along with all these efforts, the Korean Government has been preparing to accede to the Convention for years. We expect to become a full member of the Commission in due time. However, several conditions should be accepted by the Commission prior to our accession. First, Korea should be recognized and adopted as a major state of origin of anadromous stocks which migrate into the Convention Area.

Additionally, we propose Korean to be one of the official languages of the Commission. These matters could be discussed during this meeting. We hope that Korea, being a member of the Commission, could further strengthen its cooperative relationships with other Contracting Parties, to further achieve scientific progress and implement enforcement measures. Thanks
to the Canadian Government hosting this meeting, and I hope this meeting will produce the most fruitful outcomes.

Thank you.

Dr. Douglas Hay, observer from PICES, addressed the meeting as follows:

On behalf of PICES (North Pacific Marine Science Organization) I want to thank NPAFC for the invitation to PICES to attend the NPAFC annual meeting as an observer. PICES recently celebrated its tenth anniversary of existence, in October 2001, in this convention centre. This anniversary meeting was an opportunity for PICES to review the first decade of activities – specifically the scientific activities and achievements of four main scientific committees (Fisheries Science, Physical Oceanography and Climate, Biological Oceanography and Marine Environmental Quality). Also under review were the joint activities PICES has undertaken with international GLOBEC programs, who are represented in PICES as the CCC (4 C’s) program. PICES is now looking to the future and wants to establish even stronger linkages with organizations such as NPAFC. Such linkages can be developed and maintained through joint sponsorship of symposia such as the ‘Beyond El Nino’ symposium held in 2000 in La Jolla, or the joint NPAFC-PICES symposium on juvenile salmon held in Tokyo last year. Future developments include joint PICES and NPAFC sponsorship, along with other organizations, of a symposium on marine survival of salmon, scheduled for Vancouver in March 2002. Another form of future collaboration is the preparation of an ‘Ecosystem Status Report’. This report, which involves the co-operation of a number of organizations and countries, including NPAFC, will be developed through PICES, and will comment on the state of the ecosystem(s) in the North Pacific. Clearly the intention is to better understand the impact and ramifications of climate change on all aspects of the North Pacific. One of the most important considerations will be on fisheries from all parts of the North Pacific. PICES acknowledges that the ESR is an ambitious project, and is under no illusions that the first working draft, expected by October 2002, will be comprehensive. Still, most people in PICES view this effort as the first of several steps towards the achievement of a report that will be of considerable use to a broad array of people and organizations concerned with the research and management of resources in the North Pacific. The contribution that NPAFC can make to this report will be of particular interest and importance. PICES looks forward to working with NPAFC on this and other activities in the future.

Dr. Malcolm Windsor, observer from NASCO, addressed the meeting as follows:

Madame Chair, Distinguished Delegates.

From the North Atlantic we would like to identify with the messages of support and sympathy to the United States. Organizations like ours here today seek to solve national differences creatively and peacefully. We saw on 11 September the work of others who seek to destroy trust between nations.

First, I would like to thank you for inviting NASCO to attend this meeting as an observer and I would also like to thank our Canadian hosts. I bring you greetings from your colleagues in the Atlantic in NASCO. I am personally very grateful for the weather which is indistinguishable from the weather I left in Scotland.

Madame Chair, in the Northern Hemisphere of Planet Earth there are salmon stocks in three oceans, the Pacific, the Atlantic and the Baltic. There are three international bodies working to conserve these stocks. This one NPAFC, NASCO and the IBSFC. For the first time these
bodies will come together in March next year to see if we can discern common links. Are there common factors which drive the abundance of salmon in all three oceans? Are there common factors which control the mortalities at sea? What are the impacts of climate? What is negative and positive about salmon enhancement and farming? What role does predation play?

These salmon species in all three oceans are not dissimilar in biology and life history. They may even spring from a common ancestor.

For the first time we will all work together for two days in March to try to unravel some of these questions, or at least to make a start. This week we will be planning this Joint Meeting and I would like to pay tribute to Dr. Ishida from Japan who has worked very hard during the last year to bring this project together. We very much appreciate his work.

Madame Chair, NASCO wishes you well in your important work this week, we are very happy to be with you.

Dr. Walter Ranke, observer from IBSFC, addressed the meeting as follows:

Madame President, distinguished delegates, Mr. Executive Director, ladies and gentlemen.

First of all I want to thank NPAFC for the invitation IBSFC has received to attend this meeting in an observer capacity.

At your Annual Meeting in year 2000 we had the opportunity to inform on the activities of our Commission concerning the long-term objectives and strategies for salmon. I was in particular referring to the "IBSFC Salmon Action Plan 1997-2010" and the most important decisions taken in implementing this management strategy.

The main goal of this plan was formulated as follows:

"The production of wild salmon should gradually increase to attain by 2010 for each salmon river a natural production of wild Baltic salmon of at least 50% of the best estimate potential and within safe genetic limits, in order to achieve a better balance between wild and reared salmon."

In this context the Commission agreed upon:

1. the list of rivers where self-sustaining wild populations should exist by 2010 (29 rivers);
2. the wild salmon Index rivers (12 rivers) and the monitoring methods;
3. the management measures to optimise the harvesting of reared salmon and to minimize genetic impact on wild salmon.

In context with this item 3 the IBSFC Salmon Action Plan Surveillance Group at its meeting in St. Petersburg in the Russian Federation in June this year elaborated a definition of "Terminal Fishery Areas" which was adopted by the Commission in September.

It reads: "A terminal fishery area is defined as a distinct coastal area, where the fishery is targeted on reared salmon, and where no or few wild salmon occur or the fishing technique used allows release of live wild salmon. The catch of reared salmon in these areas should be based on long term releases."
These terminal fishery areas will be clearly identified by the respective coastal states and communicated to the IBSFC Secretariat.

Now almost 5 years after the adoption of the Salmon Action Plan we are in a position to report on the positive results achieved.

The International Council for the Exploration of the Sea (ICES) – our scientific advisory organization – in its assessment of June 2001 concerning the wild salmon came to the conclusion: “Most stocks improving, but still not all.”

In spite of this positive development we are strongly interested in the Joint Symposium on the Causes of Marine Mortality in Salmon planned for March next year, because of - among others - the so called M74 syndrome which from 1992-1996 caused high mortality among the offspring up sea-run females.

The incidence has been varying between 15 and 40% in the last three years. It is possible that the incidence of the syndrome may continue to fluctuate rapidly, without any possibility of predicting its level.

I thank you for your attention and wish you a successful meeting.

Dr. Kevin Friedland, observer from ICES, addressed the meeting as follows:

On behalf of the International Council for the Exploration of the Sea, many thanks to the Commission for the kind invitation to observe your work and participate in the development of the joint symposium on Marine Mortality of Salmon. ICES coordinates and promotes marine research in the North Atlantic, which includes adjacent seas such as the Baltic Sea and North Sea. It achieves this mission through the work of a community of scientists coming from its 19 member countries. These scientists work together through a system of working groups, standing science committees, symposia, and an Annual Science Conference.

ICES has a long tradition of providing advice on diadromous species. The organization has standing working groups on salmon, sea trout, and eels and examines a wide range of diadromous fish issues through its science committees and Annual Science Conference. The ICES diadromous sphere of interest also includes anadromous shads and herrings, sturgeon, and striped bass. However, it has been salmon in the North Atlantic and Baltic areas that has been the focus of the organization's recent attention.

With the decline of salmon stocks in both areas, ICES has been called upon for increasingly more complex and challenging advice from its client management bodies. NASCO, the North Atlantic Salmon Conservation Organization, requires advice on stock groups occurring in three management areas involving thousands of stocks of North American and European origin. Atlantic salmon has declined in abundance and it is clear there are problems in the ocean. In the Northeast Atlantic, groundbreaking ocean surveys have characterized the distribution of post-smolt salmon. Coupled with emerging knowledge on the effect of ocean climate on juvenile salmon growth and survival, a working model of salmon recruitment seems within our grasp. The path is not so clear in the Northwest Atlantic where the distribution of post-smolts appears ephemeral and relationships between climate, growth, and survival are not clearly understood. IBSFC, the International Baltic Sea Fisheries Commission, deals with Atlantic salmon in the Baltic Sea. Here the resource is primarily ranched stocks, however, the remaining wild stocks are recognized for their genetic importance and are being protected. Salmon in the Baltic occupy a unique ecosystem and thus suffer from ocean mortalities unique to their surroundings. Management needs more from ICES than just stock status information.
and has requested advice on conservation limits, management measures, and Precautionary Approach.

Member countries send scientists to ICES working groups to address questions posed by the client management bodies. Beyond the simple formulation of answers to the questions posed, these meetings provide the participating scientists an apolitical atmosphere to coordinate research, problem solve, and develop new lines of investigation. Working group scientific advice is reviewed and placed in a management context by ICES Advisory committees before presentation to the client organizations. One of the tasks the working groups perform is to identify data deficiencies and research needs. A cursory review of these lists for the salmon working groups underscores the importance being placed on new information on marine mortality of salmon.

Just like the English and Americans are a peoples separated by a common language, so too are Pacific and Atlantic salmon scientists. Though both groups have been working on the same set of problems for decades, there has been surprisingly little cross-fertilization. Perhaps it is a matter of perceived scale; there are many more Pacific salmon than there are Atlantic. However, the great equalizer is the value placed on the genetic legacy of the species—here the salmon has equal value wherever it occurs, it is priceless.

ICES has great interest in the upcoming joint symposium because of the benefits it will provide to the community of Atlantic salmon scientists and managers. It should broaden our view of salmon ecology and expand our imagination on how to deal with problems of Atlantic salmon management. We are sure the same will be true for Pacific salmon scientists and managers. ICES supports the symposium and looks forward to seeing the products of the event.

Finally, much success with your work over the coming days and again on behalf of ICES, thank you for the invitation to observe.

Mr. Don Kowal, observer from PSC, addressed the meeting as follows:

It was a great pleasure for me to accept the invitation of the NPAFC to attend, as an observer, on behalf of the Pacific Salmon Commission, this Ninth Annual Meeting of the Commission.

This forum provides me an opportunity to listen and learn from the many talented experts who are attending this meeting and to be able to share this information with my colleagues at the salmon commission. As well, it provides me an opportunity to share our experiences with you.

I have enjoyed the past few days renewing acquaintances with many individuals whom I first met when I attended meetings of the former INPFC. I would like to thank you again for your invitation and wish you all success in your proceedings.

Dr. Bruce Leaman, observer from IPHC, addressed the meeting as follows:

Madame President, Commission members and distinguished guests.

It is a pleasure to attend the 9th Annual Meeting of the North Pacific Anadromous Fish Commission. It is something of a homecoming for me as I began participating in the forerunner of NPAFC, the INPFC, in 1976. I see a number of familiar faces around the room and it is reassuring to see that the NPAFC remains as a vital organization to protect and understand the salmon resources of the North Pacific Ocean.
The IPHC anticipates continued contact and cooperation with the NPAFC and other scientific organizations in joint endeavors such as the El Niño Conference and North Pacific Ecosystem Report.

I thank the Commission for the honour of attending the meeting and wish you successful deliberations.

5. CONSIDERATION OF ENFORCEMENT

At the First Plenary Session, this item (agenda item 7) was referred to the Committee on Enforcement (ENFO) for consideration and report at the Second Plenary Session.

The committee reviewed agenda item 7 and submitted its report for the Commission’s consideration and adoption. The Commission adopted the ENFO Report including all its recommendations. Discussions and recommendations on this agenda item are summarized below:

(1) Review of Terms of Reference

The committee reviewed the Terms of Reference and made no comments with respect to possible changes or additions.

(2) Exchange of Information on Activities Contrary to Provisions of the Convention and Review and Evaluation of Enforcement Actions

The Parties reported that there was no unauthorized fishing detected within the Convention Area in 2001.

The committee reviewed enforcement activities in 2001 on the basis of information provided by Japan, Russia, the United States, and Canada.

Japan

Japan reported that during the fishing season for 2001, it conducted enforcement activities with ten patrol vessels for a total of 291 days between April and July. Japan also conducted 76 hours of fixed wing aircraft patrols and 20 hours of helicopter patrols. No illegal fishing was noted.

Japan provided statistics on its import and exports of fresh, chilled and frozen salmonids between 1996 and 1999. Japan also noted that the imports of salmon and salmon product from China, North Korea, and Taiwan are currently required approval process by Japanese government authorities in order to complement the enforcement effort by NPAFC. Japan is still formulating its patrol plans for 2002 and will inform the Commission of their plans once they are finalized.

Russia

Russia reported that law enforcement operations were conducted in the Convention Area of the Northwest Pacific Ocean according to the agreement from the Enforcement Planning Meeting held in Victoria, BC on January 26, 2001. The Federal Border Service maintained vessels in the appointed area ready to respond to sighting information provided by Canadian and United States patrol aircraft. Seven vessels were assigned patrols between April 1st and August 22nd. There was no illegal activity detected.
Snapshots from the 9th Annual Meeting
Russia participated in the Joint Coordination Center, allowing the Parties to more effectively share information and employ forces in the event of a sighting. Russia noted that water temperatures were not conducive to fishing at the time of the Joint Coordination Center, however, their work assisted in the success of the arrest of the Russian fishing vessel SAKHFRAKHT-3, during the Enforcement Evaluation and Coordination Meeting hosted by Russia in Petropavlovsk-Kamchatsky, in May 2001. The fishing vessel SAKHFRAKHT-3 was detected illegally driftnet fishing within Russian waters by a United States Coast Guard (USCG) C-130 aircraft patrol on May 16th, 2001. The information about the sighting was passed to the Russian patrol ship DZERZHINSKY, which was on patrol in the Convention Area 90 miles from the scene. The DZERZHINSKY launched its helicopter, located and arrested the SAKHFRAKHT-3. The operator was fined 1.2 million rubles and the fishing permit was recalled for 6 months.

Russia will maintain the same level of enforcement in 2002. The Russian delegation felt that the previous decision to establish a joint coordination center should continue, however, deficiencies remain and should be addressed to make joint operations more effective.

United States

United States reported that despite not observing any illegal high seas driftnet activity in 2001, maintaining a deterrent and ensuring compliance continues to be an important mission for the United States Coast Guard (USCG) and the National Marine Fisheries Service (NMFS). Despite the resource constraints faced by all Parties to the NPAFC, improved cooperation and coordination amongst the Parties, as well as the Peoples Republic of China, have made 2001 a highly successful enforcement year. During 2001, USCG aircraft flew 117 surveillance hours. Additionally, a NMFS agent or officer accompanied every Canadian high seas driftnet patrol flight.

Several NPAFC enforcement events and activities were conducted in 2001, which contributed to improved enforcement cooperation and coordination. These included the Pre-Season Enforcement Planning Meeting held in Victoria, B.C. in January, the ad hoc Patrol Coordination Group hosted at the USCG District 17 headquarters in Juneau, AK in April, and the Enforcement Evaluation and Coordination Meeting in Petropavlovsk-Kamchatsky in May. A highlight of the EECM was the first ever enforcement flight of an USCG C-130 aircraft patrol staged out of Petropavlovsk-Kamchatsky. The patrol detected the Russian fishing vessel SAKHFRAKHT-3 illegally driftnet fishing within the Russian Exclusive Economic Zone, within 15 NM of the NPAFC Convention Area. The Russian Federal Border Service Ship DZERZHINSKY immediately diverted, intercepted and seized the vessel. The SAKHFRAKHT-3 was escorted to Petropavlovsk-Kamchatsky and charged with multiple counts of violations of Russian law.

In supporting enforcement efforts for 2002, the USCG will continue to emphasize surveillance with its C-130 aircraft at a level adequate to meet the high seas driftnet fishing threat. USCG high endurance cutters will continue to be scheduled to patrol in areas that provide it with the capability to respond to suspect activity. NMFS will continue to participate in all Canadian high seas driftnet flights during 2002 and provide seizure support. NMFS would also work with the other Parties to strengthen analysis of illegal entry of salmon into the markets.

The USCG intends to continue its policy of issuing Notice to Mariners prior to and during the high threat season. The Coast Guard provided the other Parties with a copy of its Notice to Mariners. The United States recommended holding an enforcement coordination meeting in 2002.

Canada

Canada informed the committee that in 2001 it conducted 180.7 hours of surveillance from April 2 to April 27, 2001. In 2001, no high seas drift net (HSDN) vessels were detected. However, two non-HSDN vessels of interest were located, photographed and reported to the Joint Coordination Center in Juneau, Alaska. The fishing vessels CHUNG YONG 72 and the JASMINE 101 were initially
considered of interest due to their actions and/or location. However, no additional information was received to indicate illegal activity.

Canada summarized their report on the Pre-Season Planning Meeting held in Victoria, B.C. on January 26th, 2001. During the meeting, the United States provided an intelligence overview for HSDN activity in 2001, and Canada, Russia and the United States discussed enforcement plans for the upcoming season.

Canada provided a summary of its evaluation of Radar Satellite Technology (RADARSAT). In 2001, Canada evaluated 48 images of the Convention Area to determine the usefulness of RADARSAT in monitoring activities in the North Pacific Ocean. Canada concluded that the capability of current RADARSAT technology to enhance and compliment HSDN enforcement efforts appears to be minimal. However, future systems may be useful for pre-mission planning; developing the maritime picture; periodic monitoring of the Convention Area in coordination with other Parties; and to focus patrol resources in areas where non-transport vessels have been detected.

In 2002, Canada will again commit to 216 hours of air surveillance time to HSDN enforcement. Given the results of this year’s efforts, Canada will evaluate the timing of their patrol based upon the intelligence evaluation for 2002 and advise the Commission of their plans once they are finalized.

(3) **Review of the Report of 2001 Enforcement Evaluation and Coordination Meeting (EECM)**

The Chairman noted that the report of the EECM was distributed earlier this year by the Secretariat. There were several unanswered questions from the Questionnaire for Standardization of Enforcement Practices remaining that were to be answered during this annual meeting. All questions have been answered with the exception of the following:

**Q23:** “*What information regarding driftnet sightings and apprehension should be placed on the Commission’s website.*” The United States and Canada agreed to develop information that can be placed on each Parties web pages by the next enforcement coordination meeting

**Q30:** “*In order to assist in quickly determining suspect versus legitimate fishing vessels, is it possible for the Parties to provide the other Parties with pictures of fishing vessels and their typical configurations for each species? For example, squid and salmon driftnet, longliners, those that are greater than 120 feet.*” The United States agreed to create a CD with pictures of research, enforcement and fishing vessels the Parties may encounter on the high seas and would work with the Parties to include information on any special markings required by each Parties’ fishing vessels. The CD is to be distributed prior to the next enforcement coordination meeting.

(4) **Results and Recommendations from the Joint Operational Coordination Group**

The Joint Operational Coordination Group was stood up in April 2001, with representatives from the Russian Federal Border Service, Canadian Department of National Defense, the United States Coast Guard and National Marine Fisheries Service Enforcement Division. Representatives from the Fisheries Agency of Japan and the Department of Fisheries and Oceans Canada were advised of the results of patrols planned by the group through message traffic and electronic mail. The concept proved to be a success and the group used this year’s experience to develop a procedures document for use in follow-on years.
The committee created a Working Group to develop the terms of reference for the permanent exchange of enforcement information. The Working Group drafted a Concept of Operations (Appendix 9).

The committee recommended that the Joint Operational Coordination Group be continued for 2002. The group will communicate and coordinate activities throughout the year via e-mail, telephone, and fax.

(5) Discussion of Proposed Enforcement Meetings and Activities for 2002

The committee agreed that the 2001 EECP meeting was very productive and recommended undertaking a similar meeting in 2002. Consideration was given to the timing, location and duration of the meeting. Previous meetings had been conducted both prior to and following deployment of patrol aircraft.

Duration of the meeting was projected to be 2-3 days but that could be extended to 4 days given the logistics involved. Canada proposed the meeting be held in Vancouver or Comox and that perhaps a patrol could be conducted aboard a CP-140 aircraft. The U.S. delegation proposed an alternative which involved hosting the meeting in Kodiak, in May, following the CP-140 deployment. This would facilitate discussion of lessons learned from that deployment and permit attendance of a representative from the People’s Republic of China. Russia requested a definite timeline as soon as possible so that internal approval could be secured and Russian participation assured. There was consensus for considering a meeting in the spring and the committee would therefore continue to pursue the issue. The United States agreed to work with Canada to ensure official letters of invitation would be promulgated not later than February 1, 2002.

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

The committee tentatively scheduled an enforcement evaluation and coordination meeting for spring 2002. Funding for this meeting (approx. CA $10,000) was included in the annual budget and no additional funding request was necessary. Japan requested that translation services be provided during the meeting. Russia proposed that the availability of these services be specified in the official invitation. Funds for both Russian/English and Japanese/English translation services were included in the budget request. It was agreed that translation services should be provided but that provision of those services should not force the committee to exceed its budget.

(7) Cooperation with Relevant International Organizations

The Executive Director reported that representatives of several international organizations had been invited to attend the annual NPACF meeting. Representatives of PICES, NASCO, IBSFC, ICES, PSC and IPHC are participating as observers in CSRS and Plenary sessions. In addition, observers from the Republic of Korea were also participating in the ENFO meeting.

The Executive Director also reported on two additional items of interest. First, the United Nations Food and Agriculture Organization (FAO) conducted a meeting of regional fisheries organizations in Rome, in February 2001. Consideration was given to external factors which might impact regional fishery organizations. Second, the participation and support by NPACF for the initiative of FAO regarding the development of International Plan of Action (IPOA) on Illegal, Unreported, and Unregulated (IUU) Fishing was reported. It was noted that the committee welcome the adoption of IPOA-IUU at FAO Committee on Fisheries.
Japan welcomed the Korea’s participation to the committee, and observed that it was important to secure the cooperation by NPAFC with other regional and international fisheries organizations such as FAO. Russia also expressed its support for maintaining international outreach and suggested that the international community had benefitted from the committee’s efforts.

(8) Other Business

Canada noted that the revised agenda failed to include discussion of invitations to states and entities whose participation was deemed beneficial. The committee normally directs letters of invitation to various countries and has done so for a number of years. It was recommended that the practice be continued with the indication that it did not warrant a specific line item in the agenda.

The United States reiterated support of efforts to undertake market analysis and noted that it would like to develop this approach during the next season. The United States requested information on any market analysis frameworks on models that the Parties may be using. If one were available, the United States would develop a framework and present a paper on it at the spring EECM meeting.

6. CONSIDERATION OF SCIENTIFIC RESEARCH AND STATISTICS

At the First Plenary Session, this item (agenda item 8) was referred to the Committee on Scientific Research and Statistics (CSRS) for consideration and report at the Second (Final) Plenary Session.

The committee reviewed agenda item 8, and submitted its report for the Commission’s consideration and adoption. The Commission adopted the CSRS Report including all its recommendations. Discussions and recommendations on this agenda item are summarized below.

(1) Review of Terms of Reference

The CSRS reviewed the interim terms of reference for the CSRS adopted by the Commission at the Commission’s Inaugural Meeting in February 1993. No comments were made by the Parties.

(2) Review of Documents

Forty-nine documents consisting of 7 from Canada, 18 from Japan, 5 from Russia, 16 from the United States, and 3 joint documents were submitted for consideration by the CSRS.

The CSRS noted that submissions of some documents were late. All Parties agreed to make every effort to submit documents by the agreed-upon deadline (30 days before the meeting). The CSRS appreciated that the Secretariat made the documents available on the Commission’s website prior to this meeting, and requested that it do the same two weeks prior to the next Annual Meeting.

(3) Review of Scientific Research Activities

3.1 Canada

(i) Estimation of Stock Composition of Sockeye Salmon in the North Pacific Ocean

Variation at 14 microsatellite and one major histocompatibility complex (MHC) loci was surveyed in approximately 29,000 sockeye salmon sampled from 188 localities ranging from the Columbia River to Japan, with the majority of the sites in British Columbia. The observed regional population
structure enabled an evaluation of the utility of using microsatellite and MHC variation for estimation of stock composition of sockeye salmon in mixed-stock fisheries. Stock compositions were estimated based upon 19 regional groups for a series of simulated and actual fishery samples, with the 188-population baseline used to estimate stock compositions. Application of microsatellite and MHC variation clearly has the potential to provide reliable estimates of stock composition for a local group of sockeye salmon even when there is a potential of the Pacific Rim distribution of populations contributing to the fishery sample.

(ii) **Canadian Research Results, 1999–2000: Report on the Canadian Workplan**

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 either parasites as natural tags or DNA techniques, and studies of the biology, physiology and ecology of Pacific salmon.

The list of publications and abstracts summarizes Canada’s research in support of our NPAFC work plans for the period 1999–2000. The papers are grouped in the three main areas of research identified above although some papers could be associated with more than one group.

(iii) **Evidence of the Validity of the Critical Size and Critical Period Hypothesis**

The critical size and critical period hypothesis identifies two distinct periods of mortality in the first ocean year of Pacific salmon. The first period is immediately after salmon enter the ocean and is believed to be primarily the result of predation. The second period occurs in the late fall and winter and is related to the ability of juvenile salmon to grow during the summer to a size that will allow them to survive in the ocean after the fall equinox. In 2001, coho salmon moved into the Strait of Georgia in the spring of their second year for the first time in 6 years. The scales from these coho salmon had an average circuli width in the area corresponding to the early marine period in the previous summer (2000) that was significantly wider than observed on the scales of coho from the same brood year sampled in September and November 2000. This indicated that mortality in the fall and winter of 2000/2001 was size related with more of the larger fish surviving the winter. The survival of larger coho supports the hypothesis that growth of coho during the first marine summer is an important component of the natural processes that regulate brood-year strength.

(iv) **Persistence of the Improved Productivity Shift of 2000 in the Strait of Georgia, British Columbia, Canada to 2001**

In 2000 there was an abrupt increase in the productivity of the Strait of Georgia. The change was associated with a large-scale change in the climate and ocean environment around the subarctic Pacific in 1998. Our studies in 2001 indicate that the improved productivity has continued. In 2001, the abundance of ocean age 0 coho, chinook, and chum salmon remained high relative to the period from 1997 to 1999, but slightly lower than in 2000. Individual size and fitness also remained high. The increased growth for coho salmon in 2000 appears to be related to improved marine survival in 2001. The composition of the diets of coho, chinook, and chum in 2001 changed only slightly from 2000. In both 2000 and 2001, there was a decrease in the number of empty stomachs compared to the earlier years and the average volume of daily gut contents in 2000 and 2001 was substantially larger than the average volume in 1997, 1998, and 1999. The increased growth and early marine survival in 2000 and 2001 appears to be directly related to the increases in gut volume rather than changes in diet composition. The persistence of the changes observed in 2000 through to 2001 indicated that the Strait of Georgia ecosystem probably is in a new, more productive regime that should continue on a decadal scale.
3.2 Japan

(i) Proposed Thermal Marks for Brood Year 2001 Salmon in Japan

The objective of thermal mark programs is to provide information for the ocean migration and survival of each regional salmon stock in Japan. Proposed marking of the year 2001 salmon is approximately 49 million chum, 1.8 million pink, and 190 thousand masu salmon, from five hatcheries with 14 discrete patterns. All chum salmon released from Chitose and Shizunai hatcheries will be marked. The proposed otolith mark plan is similar to the 2000 brood year program, except that chum salmon at Katagishi Hatchery in northeast Honshu and masu salmon at Chitose Hatchery in Hokkaido will be marked for the first time.

(ii) Distribution and Biological Characteristics of Juvenile Salmon in the Sea of Okhotsk in the Autumn of 2000

The distribution and biological characteristics of juvenile chum and pink salmon were investigated in the Sea of Okhotsk during October 13–31, 2000. The research cruise was made using the research vessel Torishima (452 gross tonnage), equipped with a mid-water rope trawl. Of 23 stations attempted, only 11 were successfully conducted because of extremely bad weather conditions. Juvenile chum and pink salmon were distributed in the central Sea of Okhotsk from 48° to 51°N. No juvenile chum or pink salmon were caught in the southern part of the sea. Catches-per-unit-effort (CPUE) of juvenile chum salmon were correlated with those of juvenile pink salmon. Mean fork lengths of both species varied among stations in a similar trend. At stations where the mean fork length of chum salmon was small, pink salmon were also small. Large sizes of both species also occurred at the stations. In addition, the mean fork lengths of both species were larger in the eastern part than in the western part. These findings indicate that juvenile chum and pink salmon prefer similar environmental conditions in the Sea of Okhotsk and that habitat overlaps are probably common in this life stage. Oceanographic conditions such as the surface temperature and the depth of the thermocline also affected the distribution of juvenile salmon. In particular, there was a tendency for juvenile salmon to be abundant in areas where the thermocline was deep. Most of the results obtained in the present study confirmed those of previous studies conducted in the Sea of Okhotsk, in spite of the limited sampling.

(iii) Molecular Identification of Parental Species in a Salmonid Hybrid Caught in the Bering Sea

Polymerase chain reaction (PCR)-based molecular identification was carried out on a salmonid hybrid (age 0.2) that was found among maturing pink salmon (age 0.1) caught in the central Bering Sea in July 2000. The fish was larger in body size than co-captured pink salmon, had immature ovaries, and had external and internal characters that pertained most likely to pink and chum salmon. In this fish, the nucleotide sequence of about 500 bp from a PCR-amplified 5' fragment of mitochondrial DNA control region was identical to that of a previously reported haplotype of chum salmon. In addition, DRA1 enzyme digestion of the amplified intron C fragment of the nuclear growth hormone 1 (GH1) gene revealed restriction fragment length polymorphisms of pink and chum salmon, indicating GH1 alleles of both species in this fish. These findings showed the fish was a hybrid between a female chum and a male pink salmon, which may have occurred in the wild.

(iv) Variation in Lipid Content in the Muscle of Chum Salmon in the Central North Pacific Ocean and Bering Sea

The effect of ocean age on total lipid content and the annual changes in total lipid content of muscle in high-seas chum salmon caught in the central North Pacific Ocean and Bering Sea in summer were examined. Chum salmon were collected by gillnet on the R/V Wakatake maru in the central North
Pacific Ocean and Bering Sea in June and July 1993, 1998, 1999, 2000, and 2001. There was a significant difference between younger and older chum salmon in the total lipid content in white muscle in 1999, 2000 and 2001. There were annual changes in total lipid content in the muscle of chum salmon in the central North Pacific Ocean and Bering Sea.

(v) **Releases of Thermally Marked Salmon from Japan in 2001**

From February to June 2001, approximately 19.0 million chum and 2.8 million pink salmon (2000 brood year) with one of fourteen thermal mark patterns were released from five hatcheries in Hokkaido. All chum salmon released from Shizunai Hatchery were thermally marked. The initial aim of thermal mark programs is to provide information on the ocean migration and survival of each regional salmon stock in Japan. Computer-based water temperature control systems were used to produce thermal marks in the otoliths of chum and pink salmon. A base mark of two rings was used to distinguish Japanese salmon from other stocks. Narrow rings formed at 12 h intervals were used to increase available thermal mark patterns. Information of Japanese thermal marks releases, including release site, date, number, and mark patterns with images are reported to establish the international database of thermal mark releases.

(vi) **Salmon Stock Assessment in the North Pacific Ocean, 2001**

Results of research on salmon stock assessment conducted by Japan in summer of 2001 were summarized. Five Japanese salmon research vessels (*Oshoro maru*, *Hokusei maru*, *Kaiyo maru*, *Kaiun maru* and *Wakayake maru*) conducted oceanographic observations, 71 gillnet (3,493 tans), 34 longline (900 hachi), 2 hook-and-line, and 2 trawl net fishing operations in the western, the central, the eastern North Pacific, and the Bering Sea from June to August. Mean sea surface temperature, abundance and body size of Pacific salmon in 2001 are compared to those from 1992 to 2000. No common trend in annual changes of mean fork lengths of salmonids was observed. Mean sea surface temperature at salmon research stations in 2001 was lower in the Bering Sea and the eastern North Pacific and higher in the western and central North Pacific than the mean of 1992–2000. A total of 17,672 salmonids, including 8,677 pink (49.1%), 5,381 chum (30.5%), 2,177 sockeye (12.3%), 1,115 coho (6.3%), and 112 chinook salmon (0.6%), and 210 steelhead trout (1.2%), was caught in summer of 2001. CPUEs of chum and sockeye salmon in 2001 were in the range of the higher levels observed from 1992–2001. CPUE of pink salmon in 2001 was in the range of the low levels in the Bering Sea but at the high level in the western North Pacific among odd years from 1993–2001.

(vii) **Outline of Oceanographic Conditions in the North Pacific Ocean during the Summer of 2001**

Oceanographic conditions in the North Pacific during the summer of 2001 were described using data obtained by research vessels during salmon studies. The dichtothermal structure existed in the North Pacific and Bering Sea. Although sea surface temperature (SST) anomalies showed negative values in the Bering Sea, positive anomalies of SST were found in the North Pacific in July 2001. Temperature of dichtothermal layer was lower than the averaged temperature from 1991 to 2001. These results suggested that the waters in the Bering Sea and North Pacific Ocean were cooler than in the winter of 2000.

(viii) **Recoveries of High-Seas Tags in Japan in 2000, and Tag Releases and Recoveries of Fin-Clipped Salmon from Japanese Research Vessel Surveys in the North Pacific Ocean in 2001**

In the fall of 2000, 14 tagged chum salmon were recovered along the Japanese coast and one tagged chum salmon was recovered off the coast of Russia from releases of tagged fish in the Bering Sea.
Recoveries included one fish with an external data tag, one fish with an internal archival tag, and thirteen fish with disk tags. The tag recovery rate in 2000 (2.6%) was similar to rates from 1995 to 1999 (1.4-3.3%) except for 1998 (8.8%). In the summer of 2001, two Japanese salmon research vessels conducted 34 longline and 3 hook-and-line operations in the North Pacific Ocean and the Bering Sea. A total of 156 salmonids (21 sockeye, 72 chum, 21 pink, 39 coho salmon, and 3 steelhead trout) in the central North Pacific, 541 salmonids (11 sockeye, 406 chum, 120 pink, and 4 chinook salmon) in the Bering Sea, and 60 salmonids (10 sockeye, 8 chum, 13 pink, 25 coho, 2 chinook salmon, and 2 steelhead trout) in the eastern North Pacific were tagged with two disk tags (Fisheries Agency of Japan and Fisheries Research Institute) and released. Of these fish, 70 salmonids with externally-attached temperature-depth (LTD) tags were released in the central and eastern North Pacific and the Bering Sea, and 7 chum salmon with internally-inserted archival tags (AT tag) were released in the Bering Sea. During research surveys in the summer of 2001, five Japanese salmon research vessels recovered 57 salmonids lacking the adipose fin.

(ix) **International Salmon Research Aboard the R/V Wakatake maru in the Central North Pacific Ocean and Bering Sea during the Summer of 2001**

An annual high-seas salmonid research cruise to investigate salmon stock condition was conducted in the central North Pacific Ocean and Bering Sea from June 8 to July 23, 2001 onboard the Japanese research vessel, *Wakatake maru*, to investigate salmon stock condition. Research cruise activities included collection of data on oceanography, primary production, zooplankton, salmonids, and other organisms. Average sea surface temperatures in the North Pacific were 1.1°C warmer than in 2000, continuing a warming trend begun in 1999. However, in the Bering Sea, sea surface temperatures in 2001 were 1.8°C cooler than in 2000. A total of 11,044 salmonids was caught by longline and gillnet: 1,075 fish in the central North Pacific Ocean (St. 3-14) and 9,969 fish in the central Bering Sea (St. 15-30). In the North Pacific Ocean, chum salmon was the most abundant species (39% of the salmonid catch), followed by coho (34%), pink (18%), sockeye (5%), steelhead trout (3%), and chinook salmon (1%). In the Bering Sea, pink salmon was the most abundant species (52% of the salmonid catch), followed by chum (39%), sockeye (9%), and chinook salmon (0.5%). A total of 856 stomach samples was examined onboard the research vessel, and preliminary observations indicated that prey species were similar to previous years and that salmon feeding conditions were somewhat less favorable due to the high proportion of pteropods observed in salmon stomachs. Tissue (heart, liver and muscle) and otolith samples were collected from 1,144 chum salmon in the Bering Sea, and otoliths were collected from an additional 349 pink salmon (145 in the North Pacific Ocean and 204 in the Bering Sea) for stock identification. Muscle samples from 250 chum salmon and 20 whole pink and chum salmon were collected for analysis of their lipid content, and ten whole pink and chum salmon were collected for stable isotope determinations. Brain, pituitary, gonad, and blood samples were obtained from 100 chum salmon for endocrine studies. A total of 697 salmonids (478 chum, 141 pink, 39 coho, 32 sockeye, 4 chinook salmon, and 3 steelhead trout) were double-tagged with disk tags and released to the North Pacific Ocean and Bering Sea. These fish included 7 chum, 21 sockeye, 3 chinook salmon, and 1 steelhead trout, which were released carrying one of two different archival tags.

(x) **The 2001 International Cooperative Salmon Research Cruise of the Oshoro maru**

Preliminary information is presented on salmon research conducted during the June-July 2001 cruise of the *Oshoro maru* along 145° and 165°W in the North Pacific. This was the eighth consecutive year of cooperative U.S.-Japan sampling for salmon along 145°W and the fourth year of sampling along 165°W. The primary objective of this cruise was to continue the collection of oceanographic and biological data. Gillnet research was conducted at 9 stations. Gillnet catches included 2,262 salmonids: 525 along 165°W and 1,737 along 145°W. A salmon longline used to collect specimens for tagging was set at 6 stations along 145°W and caught 54 salmonids. A total of 58 salmonids were tagged, including 47 caught by longline and 11 caught by hook-and-line. All 58 were tagged...
with disk tags (Japanese and U.S.), and 45 that appeared healthy were also tagged with temperature and depth archival data tags. The 58 tagged fish were all released along 145°W in the central Gulf of Alaska. A total of 38 fish lacking adipose fins was caught in the gillnet (34 steelhead, 2 chinook, 1 coho). The Subarctic Boundary occurred at 40°10'N along 165°W. Sea surface temperatures at gillnet stations were 0.5°C warmer than in 2000 along 165°W, and 0.1–3.5°C cooler than in 2000 along 145°W. Biological samples and data were collected for various other cooperative studies of salmon distribution, abundance, stock origins, maturity, growth, food habits, bioenergetics and other aspects of ocean biology and ecology.

(xi) Results of the 2001 Salmon Research Cruises of the Hokusei maru

Three research cruises of the Hokusei Maru were conducted in the Northwest Pacific along 155°E from 36.5° to 44°N between 1 June and 23 July 2001. The primary objective of these cruises was to collect oceanographic and biological data. In the first cruise, the Subarctic Boundary crossed the 155°E transect at 38.5°N, and the Subsurface Temperature Front crossed the transect at 42°N. In the second cruise, the Subarctic Boundary was not observed, and the Subsurface Temperature Front crossed the transect at 43°N. In the third cruise, the Subarctic Boundary crossed the transect at 38.5°N, and the Subsurface Temperature Front crossed it at 43°N. Sea surface temperatures were highest in the third cruise. Drift gillnet research was conducted at 15 stations along 155°E. Pink salmon was the most abundant salmonid collected during the three cruises, and its CPUE values were higher at northern stations than at southern stations. CPUE values of pink salmon were high in the first two cruises, but decreased in the third cruise. Most chum salmon were collected in the first cruise, and CPUE values were higher at the northern stations than at the southern stations. For both chum and pink salmon, there were no differences in fork length frequency among stations within each cruise. Over 80% of the chum salmon collected at each station were mature. In the first cruise, the proportion of chum males increased from south to north, but in the second cruise, few males were collected. Males composed more than 59% of the catch of pink salmon at each station.

(xii) Interannual Variability in Stock Abundance and Body Size of Pacific Salmon in the Central Bering Sea

Variability in CPUE and mean body size was examined for pink, chum and sockeye salmon collected with research gillnets in the central Bering Sea in July from 1972 to 2000. CPUEs of three species showed significant increasing trends with large interannual variability. CPUEs of pink salmon was higher in odd years than in even years, and abruptly increased in odd years from 1989. CPUEs of chum and sockeye salmon were higher during 1979–1984 and 1992–1998, but lower during 1985–1991. Chum salmon also showed odd/even year fluctuations, which was out of phase with pink salmon, but sockeye salmon did not show such fluctuations. In body size, pink salmon showed a significant decreasing trend, and chum and sockeye salmon also showed significant decreasing trends at ocean age 3 and older ages, but not at ocean age 2. Significant negative relationships between CPUE and body size were found within species. No correlation was found between an Aleutian Low Pressure index (ALPI) and CPUE or body size, but the increases in CPUE around the late 1970s and early 1990s may relate to the regime shift in 1977 and 1989 identified by the ALPI.

(xiii) Japanese Research Plan in the Bering Sea and the Gulf of Alaska

Japan continues to monitor summer salmon stocks and environments in the Bering Sea using research gillnets. However, to estimate precise abundance and ecosystem structure and intensive surveys in the whole area of the Bering Sea using a trawl net will be carried out in 2002. The Bering Sea survey in the summer of 2002 will be: (1) a monitoring survey by R/V Wakatake maru (gillnets) June–July, and (2) a survey for salmon abundance by R/V Kaiyo maru (trawl) June–September.
3.3 Russia

(i) Distribution and Abundance of Pacific Salmon in the Southern Okhotsk Sea in Summer-Fall 2000

There were two separate trawl surveys carried out by TINRO’s research vessels to estimate Pacific salmon abundance and distribution in the southern Okhotsk Sea in 2000. The first one was conducted from August 17 to September 1 and conducted an assessment of anadromous fish abundance, mainly pink salmon. It encompassed an area of 384,000 km² and consisted of 44 trawl tows, 12 of which were made in Pacific waters off the Kuril Islands. The second survey consisted of 37 trawl tows over an area of 408,000 km² from October 14 to November 5 to observe high sea migration of juvenile salmon. The same midwater trawl (RT 80/396) was used in both surveys. Its mouth dimensions were the following: vertical, 35–37 m; horizontal, 31–36 m; cod-end was equipped with a 10-mm mesh on the inside. The trawl was towed on the surface for one hour at the distance (wire length) 250–300 m astern, maintaining a speed of 4.4–5.0 knots. All catches were sorted by species and all fishes were counted and weighed. The fork length, body weight, and gonad weight were measured. To calculate salmonid abundance, a method of squares was used in which an average density of fish distribution (specimen per km²), resulting from averaging the trawl catches, was extrapolated throughout the whole area where salmon occurred. A catch efficiency of 0.4 was applied instead of the former standard 0.3 because substantially less trawl was used in 2000 compared to the one used before. A total of 950 pink, 227 chum, 2 coho, 2 chinook and 7 cherry salmon was caught in summer and 10,855 pink, 4,742 chum, 150 sockeye, 2 chinook, 4 coho and 33 cherry in fall 2000.

(ii) Results of 2000 Salmon Research Cruise of the SRTM-K Kamchatski Losos

The cruise of SRTM-K Kamchatski Losos was conducted from May to July 2000. The objective was to study the distribution and interaction of Pacific salmon stocks in areas of feeding and migrations and assess the impact of fish density and the environment. The investigations were made in three areas: 1- the Petropavlovsk-Commander subarea (6102.2) limited within 52°39'–54°18'N, 161°25'–166°07'E; 2- the West Bering Sea area (6101) limited within 53°57'–55°17'N, 170°10'–170°47'E; 3- the Karaginskaya subarea (6101.1) limited within 56°50'–57°58'N, 163°54'–165°08'E. Studies included oceanographic observations, sampling zooplankton, and fishing salmon with gillnets (mesh 55 mm or 110 mm by the Japanese measurement). A total of 39 gillnets was set, catching 8,665 salmon including 52 pink, 1,406 sockeye, and 16 chinook. A biological analysis was made of 1,902 salmon, including 1,902 scale samples, 128 biochemical samples (muscles and gonads), 72 histological samples (gonads) and 241 otoliths for estimating age composition.

(iii) Results of 2000 Salmon Research Cruise of the STR Sajanogorsk

The salmon research cruise of the STR Sajanogorsk of the KamchatNIRO was conducted in the western Bering Sea between 55–59°N, and between the coast of Kamchatka and 172°E from September 1 to October 8, 2000 for stock assessment and carrying capacity estimation. The survey was made twice: first during September 1–15, and repeated from September 24 to October 8. The survey included oceanographic observations and zooplankton sampling. The number of salmon caught by 85 sets of trawl was 17,812 salmon juveniles and 569 immature salmon. The catch of juveniles included 12,834 pink, 261 sockeye, 4,302 chum, 208 coho and 207 chinook. The CPUEs of pink and chum salmon in 2000 were high compared to the last 20 years. Fish size of pink was equal to the average; sockeye, chum, and coho salmon were less than average for the same period. Samples and data will be analyzed in the KamchatNIRO (Kamchatka Fishery & Oceanography Inst.).
(iv) Proposed Otolith Marks of Salmon in Russia for Brood Year 2001

An otolith marking program was developed in three regions of the Russian Far East: Magadan, Kamchatka and Sakhalin. Thirteen hatcheries will take part in this program in 2001 and plan to use thermal and dry marking in more than 20 discrete patterns. The proposed otolith marks for salmon in Russia for 2001 brood year are described.

3.4 United States


A research cruise by scientists from the National Marine Fisheries Service (NMFS), Ocean Carrying Capacity (OCC) program to study the distribution, migration, and growth of juvenile salmon along the coastal waters of the Gulf of Alaska in relation to oceanographic characteristics is described. The cruise is a key component of research being conducted by OCC and GLOBEC (GLOBal ocean ECosystem dynamics) to quantify the relationship between biological and physical oceanographic processes that affect the distribution of juvenile salmon in the coastal Gulf of Alaska. Primary objectives of the cruise are: to determine the distribution and migration pathways of juvenile salmon and ecologically related species along the continental shelf of the Gulf of Alaska within the GLOBEC study area (northern Southeast Alaska to the western end of Kodiak Island); and to describe the physical environment of coastal waters used by migrating juvenile salmon in the region. Sampling is planned along the coastal waters of the Gulf of Alaska beginning at Icy Point and ending at Cape Kaguyak on the western end of Kodiak Island. The cruise will be conducted aboard a contracted commercial stern trawler.


A research cruise by scientists from the National Marine Fisheries Service (NMFS), Ocean Carrying Capacity (OCC) program to study the distribution, migration, and growth of juvenile salmon along the coastal waters of the eastern Bering Sea is described. Primary objectives of the cruise are to determine the extent of offshore migration of Bristol Bay juvenile salmon; to describe the physical environment of the eastern Bering Sea shelf occupied by juvenile salmon; and to collect biological information of other ecologically important species. The cruise will be conducted by a contracted trawler.

(iii) Survey of Juvenile Salmon in the Marine Waters of Southeastern Alaska, May–September 2000

Biophysical data were collected along a primary marine migration corridor of juvenile Pacific salmon in the northern region of southeastern Alaska at 20 stations in five, six-day sampling intervals from May to September 2000. This survey marks the fourth consecutive year of systematic monitoring, and was implemented to identify the relationships among biophysical parameters that influence the habitat use, marine growth, predation, stock interactions, year-class strength, and ocean carrying capacity of salmon. Habitats were classified as inshore (Taku Inlet and Auke Bay), strait (Chatham Strait and Icy Strait), and coastal (Cross Sound and Icy Point), and were sampled from the National Oceanic and Atmospheric Administration ship John N. Cobb. At each station, fish, zooplankton, surface water samples, and physical profile data were collected during daylight using a surface rope trawl, conical and bongo nets, and a conductivity-temperature-depth profiler. Surface (2-m) temperatures and salinities during the survey ranged from 6.6 to 14.1°C and 11.5 to 32.0 PSU. A total of 7,920 fish and squid, representing 30 taxa, were captured in 89 rope trawl hauls from June
to September. Juvenile Pacific salmon comprised 86% of the total catch and were the most frequently occurring species: pink (60%), chum (55%), coho (49%), sockeye (47%), and chinook salmon (46%). Of the 6,846 salmonids caught, > 99% were juveniles. Non-salmonid species making up > 2% of total catch included walleye pollock (*Theragra chalcogramma*), Pacific herring (*Clupea pallasi*), and soft sculpin (*Pachysargus sigalius*). Temporal and spatial differences were observed in the catch rates, size, condition, stock of origin, and predation rates of juvenile salmon species. Catches of juvenile chum, pink, and coho salmon were highest in July, whereas catches of juvenile sockeye and chinook salmon were highest in June and September, respectively. By habitat type, juvenile salmon except chinook were most abundant in straits; juvenile chinook salmon were most abundant in inshore habitat. In the coastal habitat, catches along the Icy Point transect were highest within 40 km of shore. Size of juvenile salmon increased steadily throughout the season; mean fork lengths (mm) in June and September were: pink (95 and 198), chum (106 and 218), sockeye (114 and 196), coho (166 and 285), and chinook salmon (157 and 264). Coded-wire tags (CWTs) were recovered from seven juvenile and one immature chinook; only one was of non-Alaska origin; a juvenile chinook from the Columbia River Basin recovered in September. CWTs were recovered from seven juvenile and two adult coho; all were of Alaska origin. In addition, otoliths of 1,260 juvenile chum and 401 juvenile sockeye salmon revealed that 59% and 27% of these fish were Alaska hatchery stocks represented by thermal marks. Onboard stomach analysis of 214 potential predators, representing eleven species, indicated that 11% of adult coho salmon, 4.5% of spiny dogfish (*Squalus acanthias*), and 1% of adult walleye pollock preyed on juvenile salmon. Our results suggest that, in southeastern Alaska, juvenile salmon exhibit seasonal patterns of habitat use synchronous with environmental change, and display species- and stock-dependent migration patterns. Long term monitoring of key stocks of juvenile salmon, both on intra- and interannual bases, will enable researchers to understand how growth, abundance, and ecological interactions affect year-class strength and ocean carrying capacity for salmon.

(iv) **Incidental catches of salmonids by U.S. Groundfish fisheries in the Bering Sea/Aleutian Islands, Gulf of Alaska, and the Pacific Coast, 1990-2001**


(v) **Chinook Salmon Data Storage Tag Studies in Southeast Alaska, 2001**

Chinook salmon were tagged in April and May 2001 with temperature and pressure data storage tags during two surveys in coastal Southeast Alaska by scientists from the National Marine Fisheries Service, Auke Bay Laboratory. Six tags have been recovered to date from the 48 chinook salmon tagged. The duration between tagging and recovery ranged between 4 and 86 days and the minimum distance traveled by each fish ranged between 0 and 585 nm. Depth data from the data storage tags
indicate that chinook salmon, unlike other species of salmon, migrate to their deepest daily depths during the night.

(vi) Releases and Recoveries of U.S. Salmonid Data Storage Tags, and Recoveries of High Seas Tags in North America, 2001

Information is reported on all high-seas salmon tags recovered in North America from 1 October 2000 through 30 September 2001, and all releases and recoveries of U.S. data storage tags (DSTs). Eighty-eight DSTs, which record temperature and depth data, were placed on Pacific salmonids in the North Pacific Ocean and Bering Sea during three research cruises aboard one U.S. and two Japanese vessels in 2001. Twenty-one sockeye salmon, three chinook salmon, and one steelhead trout were tagged with DSTs in June and July in the central North Pacific and Bering Sea. Forty-five salmonids (8 sockeye, 8 chum, 9 pink, 16 coho, 2 chinook, and 2 steelhead) were tagged with DSTs in the central Gulf of Alaska in July. Eighteen salmon (6 sockeye, 7 chum, 2 pink, and 3 coho) were tagged with DSTs in offshore coastal waters of the northern Gulf of Alaska in August.

One tag from 2000 and three tags from 2001 tagging operations have been returned to date in North America; all are DSTs and all recoveries were in Alaska. One sockeye salmon from the 2000 tagging operation in the Bering Sea was recovered in 2000 in Alakamik Slough in the Yukon River delta of western Alaska. This is the first recovery of a Yukon River sockeye salmon tagged in the Bering Sea (and only the second recovery of a Yukon sockeye) and provides the only information on distribution of Yukon sockeye in the Bering Sea. A pink salmon was tagged and recovered off Kodiak Island, Alaska. One coho salmon, tagged in the Gulf of Alaska, was recovered in coastal waters of northern southeast Alaska. Another coho, tagged off Kodiak Island, was caught in Chignik Lagoon on the Alaska Peninsula. Graphs of ambient temperature and pressure data from the DSTs are presented.

(vii) High Seas Salmonid Coded-wire Tag Recovery Data, 2001

Information on high seas recoveries of coded-wire tagged (CWT) salmonids has been reported annually to the International North Pacific Fisheries Commission (1981–1992) and to the North Pacific Anadromous Fish Commission (1993–present). Release and recovery data for 445 CWT salmonids are reported for the first time. Reported recoveries are from U.S. commercial groundfish (trawl) fishery operations (419 recoveries) in 1996–2001 and U.S. and Japanese high seas research vessel operations (26 recoveries) in 1998–2000. The results were compared to previous CWT and high seas tag (HST) recoveries, and significant new information on ocean distribution of Pacific salmon and steelhead is discussed. Two recoveries of Yukon River hatchery chinook salmon corroborate information from seven previous recoveries showing that Yukon Territory chinook salmon are distributed in the southeastern Bering Sea in winter (December–March). One recovery in March at 52°56′N, 156°48′W is a southern range extension for British Columbia chinook salmon in the western Gulf of Alaska. Nine recoveries of Idaho (8) and Oregon (1) hatchery chinook salmon from the Snake River Basin provide new information (only 3 previous recoveries) on their distribution off the Washington Coast. Two recoveries at 58°42′N, 150°35′W and 59°42′N, 149°22′W are westward extensions of the known ocean range of juvenile (ocean age-.0) Oregon chinook salmon in the coastal Gulf of Alaska. A recovery at 56°11′N, 166°21′W is a northwestern range extension for southeastern Alaska chum salmon in the Bering Sea (only two previous recoveries). A coho salmon released in Grays Harbor (Satsop River), Washington, and recovered in the central Gulf of Alaska at 54°N, 145°W in July is a significant extension of the known high seas (international waters) range of maturing U.S. West Coast coho salmon. Previous CWT and high seas tag recoveries of Washington coho salmon in international waters were all south of 48°N. Two recoveries at 58°22′N, 150°16′W and 59°17′N, 148°55′W are western range extensions for juvenile (ocean age-.0) southeastern Alaska coho salmon in the coastal Gulf of Alaska. Four CWT recoveries (59°00′N, 150°49′W; 58°51′N, 150°42′W; 58°32′N, 150°25′W; and 59°17′N,
148°55'W) are western range extensions for juvenile Washington coho salmon in the coastal Gulf of Alaska. An inland summer run hatchery steelhead from the Snake River Basin, Oregon was recovered in the central Gulf of Alaska (47°59'N, 145°W) in mid July. Although this recovery location is well within the known ocean range of Snake River Basin steelhead, it is the southernmost recovery of this stock along 145°W longitude, which is currently the only survey line for high seas recovery of CWT salmonids across this vast region of the North Pacific Ocean.

(viii) Gulf of Alaska Coastal Research (July and August 2001) on Juvenile Salmon

A research cruise was conducted by scientists from the Auke Bay Laboratory, Ocean Carrying Capacity (OCC) program during July and August 2001 to study the early marine distribution, migration, and growth of juvenile salmon in relation to oceanographic conditions in the coastal waters of the Gulf of Alaska (GOA). Past OCC surveys in this region focused mainly on broadscale surveys of juvenile salmon in the coastal waters of the GOA with little emphasis on associated oceanographic information. These annual summer surveys have documented that juvenile salmon are found on the continental shelf on the GOA and that juvenile salmon tend to utilize Shelikof Strait (an area associated with the Alaska Coastal Current) as a westward migration corridor rather than the seaward side of Kodiak Island. During 2001, the OCC program collaborated with oceanographers from the Pacific Marine Environmental Laboratory in Seattle, Washington and other GLOBEC investigators in a new interdisciplinary focus on the relationships between biological and physical oceanographic processes and juvenile salmon distribution in the coastal GOA. The objective was to identify specific processes or factors that may be influencing juvenile salmon spatial distribution, migration, growth, condition, and survival in the GOA and the utilization of Shelikof Strait by juvenile salmon as a primary migration corridor. This report summarizes the catch data collected during the July and August 2001 juvenile salmon survey.

(ix) Eastern Bering Sea (Bristol Bay) Coastal Research (August and September 2001) on Juvenile Salmon

An eastern Bering Sea research cruise was conducted by scientists of the Auke Bay Laboratory, Ocean Carrying Capacity (OCC) program during August 2001 to study the early marine distribution, migration, and growth of juvenile sockeye salmon from Bristol Bay. Juvenile sockeye salmon were mainly distributed throughout the area between 50 and 100 m depth with the greatest catch per unit effort (CPUE) occurring in the southernmost stations (south of 56°N) along the 164°W, 163°W, and 162°W transects. The distribution differed slightly from the August–September 2000 survey when large numbers of juvenile salmon were found farther north (north of 56°N) along the 164°W transect. The small CPUE of juvenile sockeye salmon west of 165°W suggests that the westward extent of their migration was east of 166°W during this period. Analysis of plankton, stomach contents, freshwater age, size and growth data, and genetic stock identification will be done to gain additional information on the growth and migration characteristics of juvenile sockeye salmon from Bristol Bay.

(x) History and Use of Allozyme Baselines for Pacific Rim Chum Salmon

Genetic stock identification (GSI) studies for chum salmon requiring a Pacific Rim-wide database began in the mid 1980s with an interest in identifying the origin of illegally harvested chum salmon in the high seas and incidentally-caught chum salmon in high-seas driftnet fisheries for flying squid (Ommastrephes barrami). In the early 1990s, large data sets of allele frequency information for chum salmon from Washington, British Columbia, Alaska, Canada, Russia, and Japan were completed. The first application of these data for genetic stock identification was to estimate the origin of chum salmon harvested in fisheries occurring off the south Alaska Peninsula in June. Preliminary analyses of the mixture samples suggested that Asia and western Alaska were the largest
contributors to the fishery; therefore, most of the available data for these areas were included in the baseline. As new population data have become available, researchers have independently updated the original baseline. Collections of chum salmon assayed for genetic variation at allozyme loci are summarized. In 2001, participating laboratories plan to meet to update the baseline with new population information and re-evaluate the stock groupings that can be analyzed in mixtures.

(xi) Status Report for Genetic Stock Identification Studies of Pacific Rim Sockeye Salmon

Sockeye salmon populations from the Pacific Rim form mixed-stock aggregations during their ocean residency. Identification of sockeye salmon harvested from these mixtures has been an ongoing challenge for management agencies. Classification methods based on environmentally mediated traits such as scale pattern analysis or parasite load are only marginally useful. Substantial allozyme baselines have been constructed and genetic stock identification methods based on these baselines have been used successfully. The progress of integrating these baselines is reported. The current allozyme baseline will eventually include allozyme data for as many as 51 loci from over 40,380 individuals from 289 sites ranging across the Pacific Rim from Washington State to Russia.

(xii) Thermal Mark Patterns Applied to Salmon from Alaska, Washington, Treaty Tribes and Other Northwest States for Brood Year 2000

In Washington and Alaska, mass marking of salmon using otolith thermal marking is proving to be an effective research and management tool in a variety of situations. However, the specific needs and applications for marking are not the same in each state. This research contains a report of thermal mark patterns applied to salmon stocks from the 2000 brood year. It includes release numbers where known and mark patterns applied in Alaska, Washington, Oregon and by Treaty Tribes.

(xiii) Developing and Deploying a High-Resolution Imaging Approach for Scale Analysis

Collecting and analyzing salmon scales to obtain age information is a fundamental component of fishery management and monitoring programs. In Alaska, tens of thousands of salmon scales are routinely collected and examined each year and then archived. These collections can be extensive. For example, there has been over 45 years of uninterrupted sampling for some stocks. In addition to yielding age information, scale patterns can also be measured and used to discriminate among stocks, and to relate growth patterns to production and environmental trends. However, the methods used to extract measurements from scales are labor-intensive, rely on subjective determinations, and utilize technology that in many cases is obsolete and no longer available. As a result, measurements have been extracted from a relatively small number of scales, and the data obtained are generally not accessible for additional analysis and cannot be combined with other datasets for comparison.

Recently, a project was embarked on to develop a comprehensive approach for deploying high-resolution image analysis to scale patterns as a means to address these concerns. The approach includes three components: 1) a data management system to efficiently combine individual sampling information with scale images and pattern data; 2) the application of high-resolution imaging technology for capturing, storing and sharing images of scales; and 3) the application of image analysis routines to automate the extraction of pattern data from images using reader supervision. This research provides the rationale behind this approach, gives detail on the hardware and software components used, and discusses areas for further development and the opportunities for collaboration among other researchers.
(xiv) Proposed Thermal Marks for Brood Year 2001 Salmon in Alaska

In Alaska, mass marking of salmon using otolith thermal marking is proving to be an effective research and management tool in a variety of situations. However, rearing constraints in the hatcheries as well as limitations on the ability to heat or chill water, creates difficulties in assigning unique marks to each release group. Furthermore, these conditions may change each year making it difficult to ensure that the assigned mark will actually be produced and that a hatchery will follow their planned release strategies. Nonetheless, for the purpose of avoiding conflicting marks it is important to document as well as possible the patterns that are intended to be applied.

A list of proposed marks that are likely to be applied to brood year 2001 release groups is provided. This year it is anticipated that 66 marking groups will be released by 16 facilities. Most of these are well established programs and in those cases the mark will be similar to those applied to brood year 2000 salmon and the release numbers will be similar. New marking programs on coho and chinook salmon will be started at Elmendorf and Fort Rich hatcheries in the Southcentral region. The purpose of these programs will be to monitor hatchery contributions to recreational fisheries in Cook Inlet and Resurrection Bay near Seward.

(4) Salmon Catches

Table 1. Preliminary 2000 commercial salmon catches in Canada, Japan, Russia, and the U.S.A. Commercial catches by foreign fleets in the Russian EEZ are not included. WOCI = Washington, Oregon, California, and Idaho. NA = not available.

(a) Preliminary 2000 commercial catch in millions of fish.

<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>3.352</td>
<td>4.326</td>
<td>0.557</td>
<td>0.078</td>
<td>0.003</td>
<td>-</td>
<td>8.316</td>
</tr>
<tr>
<td>Japan</td>
<td>0.001</td>
<td>16.531</td>
<td>42.551</td>
<td>0.010</td>
<td>0.002</td>
<td>NA</td>
<td>59.095</td>
</tr>
<tr>
<td>Russia</td>
<td>6.082</td>
<td>110.903</td>
<td>9.606</td>
<td>0.057</td>
<td>0.569</td>
<td>-</td>
<td>127.216</td>
</tr>
<tr>
<td>USA</td>
<td>34.043</td>
<td>75.000</td>
<td>24.538</td>
<td>0.654</td>
<td>4.847</td>
<td>-</td>
<td>139.081</td>
</tr>
<tr>
<td>Alaska</td>
<td>33.500</td>
<td>75.000</td>
<td>24.300</td>
<td>0.360</td>
<td>4.190</td>
<td>-</td>
<td>137.350</td>
</tr>
<tr>
<td>WOCI</td>
<td>0.543</td>
<td>0.000</td>
<td>0.238</td>
<td>0.294</td>
<td>0.657</td>
<td>-</td>
<td>1.731</td>
</tr>
<tr>
<td>Total</td>
<td>43.477</td>
<td>206.761</td>
<td>77.251</td>
<td>0.799</td>
<td>5.421</td>
<td>NA</td>
<td>333.708</td>
</tr>
</tbody>
</table>

(b) Preliminary 2000 commercial catch in metric tonnes (round weight).

<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>8,503</td>
<td>7,126</td>
<td>2,774</td>
<td>510</td>
<td>13</td>
<td>-</td>
<td>18,926</td>
</tr>
<tr>
<td>Japan</td>
<td>3</td>
<td>23,797</td>
<td>139,928</td>
<td>48</td>
<td>6</td>
<td>954*</td>
<td>164,736</td>
</tr>
<tr>
<td>Russia</td>
<td>15,107</td>
<td>147,568</td>
<td>30,768</td>
<td>454</td>
<td>1,707</td>
<td>-</td>
<td>195,605</td>
</tr>
<tr>
<td>USA</td>
<td>95,095</td>
<td>114,092</td>
<td>99,771</td>
<td>7,295</td>
<td>16,537</td>
<td>-</td>
<td>332,789</td>
</tr>
<tr>
<td>Alaska</td>
<td>93,636</td>
<td>114,091</td>
<td>98,636</td>
<td>2,727</td>
<td>14,409</td>
<td>-</td>
<td>323,499</td>
</tr>
<tr>
<td>WOCI</td>
<td>1,459</td>
<td>1*</td>
<td>1,135</td>
<td>4,568</td>
<td>2,128</td>
<td>-</td>
<td>9,290</td>
</tr>
<tr>
<td>Total</td>
<td>118,708</td>
<td>292,583</td>
<td>273,241</td>
<td>8,307</td>
<td>18,263</td>
<td>954*</td>
<td>712,056</td>
</tr>
</tbody>
</table>

*Estimated number.
4.1 Canada

The 2000 catch was 18,926 tonnes or roughly one quarter of the average catch of 65,389 tonnes for the period 1952–1999. Almost half of the 2000 catch was composed of pink salmon (7,126 tonnes). The sockeye catch was 8,503 tonnes, approximately 50 percent of the average catch for 1952–1999 of 16,771 tonnes. The 2000 pink catch of 7,126 tonnes was well below the long term average catch of 20,177 tonnes and the odd-year cycle average catch of 22,725 tonnes. Chum salmon catch was 2,774 tonnes, also well below the long term average catch of 13,341 tonnes. Chinook salmon production has decreased steadily since the early 1970’s and the 2000 catch of 510 tonnes was the second lowest on record and less than 13 percent of the long term average catch of 5,638 tonnes. Coho salmon catches in 2000 were severely reduced at 13 tonnes and were well below the long term average catch of 9,464 tonnes.

Reduced levels of both coho and chinook salmon production have resulted in catch restrictions since 1997. Conservation concerns resulted in no directed fisheries for coho in 2000, and harvest restrictions on fisheries that intercept coho salmon. Only incidental catches of coho salmon were allowed in 2000. Further, conservation concerns for sockeye returning to the Fraser River resulted in fishery closures in 2000 to protect those stocks.

Total commercial catch, numbers and weight, is reported for the period 1952–2000. Salmon catches (numbers and weight) by major statistical area are also reported for 2000.

4.2 Japan

Japan reported total commercial catches of Pacific salmon by coastal and offshore areas in 2000 by number and weight. Total catches in coastal and offshore areas off Japan were primarily chum salmon (42.6 million) and pink salmon (16.5 million).

4.3 Russia

In 2000, coastal catches of Pacific salmon in the Russian Far East totaled 195,605 metric tons, or 127,216 million fish. This value is similar to other high-productivity odd years since 1991. Pink salmon contributed 75.4% (147,568 tons) to the total weight of Pacific salmon harvest, or 87.2% (110.90 million fish) in numbers. Chum salmon catches reached predicted levels despite low catches during summer months. The totals were 30,768 tons, or 9.61 million fish. The coastal sockeye salmon catch totaled 15,107 tons, or 6.08 million fish. The main cause of the relatively low sockeye salmon harvest was the rather moderate run in western Kamchatka. The coho salmon harvest reached 1,707 tons, or 0.569 million fish. Chinook salmon catches totaled 454 tons, or 56.7 thousand fish. Data on commercial salmon catch are presented by fishery regions and months. The amount of fishery gear used (beach and river seines) is indicated for each fishery region. Mean body weights varied from 1.01 to 1.52 kg for pink salmon, from 2.89 to 3.80 kg for chum, from 2.40 to 3.28 kg for sockeye, from 2.85 to 4.01 kg for coho, and from 4.22 to 8.44 kg for chinook salmon in the Russian commercial catch. Estimates are presented of mature salmon escapement and outmigrant numbers (from monitored rivers) on all salmon species on the Russian Far East coast. Pacific salmon sport catches totaled 1,896,807 fish, including 1,569,921 pink salmon. Subsistence catches reached 956,280 fish, including 315,404 pink and 568,715 chum salmon. Foreign salmon catches totaled 14,946 tons in the Russian EEZ limits.
4.4 United States

(a) Alaska

In 2000, the commercial salmon harvests off Alaska by metric tons were; chum 98,636, pink 114,091, sockeye 93,636, coho 14,409 and chinook 2,727. Harvests by thousands of fish were; chum 24,300, pink 75,000, sockeye 33,500, coho 4,190, and chinook 360.

(b) Washington, Oregon, California, and Idaho

Preliminary estimates of commercial catches of all species of salmon in Washington, Oregon, California, and Idaho in 2000, almost doubled compared to 1999. The only decline in catch occurred for chinook salmon. Estimates of subsistence catch and sport catch are also included from 1993 to 2000.

5) Salmonid Enhancement Production

Table 2. Preliminary 2000 hatchery releases of juvenile salmon in Canada, Japan, Russia, and the United States.

Preliminary 2000 hatchery releases in millions of fish.

<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>158.71</td>
<td>14.73</td>
<td>75.25</td>
<td>53.82</td>
<td>19.09</td>
<td>-</td>
<td>321.61</td>
</tr>
<tr>
<td>Japan</td>
<td>0.38</td>
<td>139.07</td>
<td>1,817.43</td>
<td>-</td>
<td>-</td>
<td>15.30</td>
<td>1,972.18</td>
</tr>
<tr>
<td>Russia</td>
<td>5.47</td>
<td>337.85</td>
<td>326.07</td>
<td>0.47</td>
<td>0.69</td>
<td>0.29</td>
<td>670.85</td>
</tr>
<tr>
<td>USA</td>
<td>76.78</td>
<td>881.35</td>
<td>546.46</td>
<td>209.48</td>
<td>73.02</td>
<td>-</td>
<td>1,787.09</td>
</tr>
<tr>
<td>Alaska</td>
<td>59.81</td>
<td>879.72</td>
<td>507.69</td>
<td>9.19</td>
<td>19.31</td>
<td>-</td>
<td>1,475.72</td>
</tr>
<tr>
<td>WOCI</td>
<td>16.97</td>
<td>1.63</td>
<td>38.77</td>
<td>200.29</td>
<td>53.71</td>
<td>-</td>
<td>311.37</td>
</tr>
<tr>
<td>Total</td>
<td>241.34</td>
<td>1,373.00</td>
<td>2,765.21</td>
<td>263.78</td>
<td>92.80</td>
<td>15.59</td>
<td>4,751.72</td>
</tr>
</tbody>
</table>

1The Canadian figures are releases of 1999 brood year juveniles in British Columbia (not including releases from Public Involvement Projects).

5.1 Canada

The Salmonid Enhancement Program (SEP) in British Columbia, Canada was undertaken in 1977 to rebuild stocks and increase catch through the expanded use of enhancement technology. SEP was combined with Habitat Management in 1995 to form the Habitat and Enhancement Branch (HEB). The program is now comprises of nearly 300 projects and produces chinook, coho, chum, pink, and sockeye salmon, as well as small numbers of steelhead and cutthroat trout. Projects include hatcheries, fishways, spawning and rearing channels, habitat improvements, flow control works, lake fertilization, and small classroom incubators. Projects range in size from spawning channels releasing nearly 100 million juveniles annually, to schools with classroom incubators releasing fewer than one thousand fish. Steelhead and cutthroat data are not included in this report as their assessment is a provincial responsibility. Data from facilities which operate outside the direction of HEB are also not included. In 1999, unfed chum fry releases were 18.9 million which was substantially lower than the 77.1 million released in 1998. The total releases of all species in 1999 was 321.6 million, down from 378.4 million in 1998.
5.2 Japan

Four species of Pacific salmon (chum, pink, masu, and sockeye salmon) are currently enhanced in Japan. A total of 1,972 million juveniles and smolts were released from Japanese hatcheries in 2000 (Table 2). Approximately 1,817 million chum salmon fry were released in the spring of 2000, almost the same level as in the previous year. Japanese hatcheries also released 139 million pink salmon fry, 15 million juveniles and smolts of masu salmon, and 376,000 juveniles and smolts of sockeye salmon.

In 2000, a total of 4,962 thousand adult salmon were captured in rivers along the Japanese coasts. Chum and pink salmon accounted for 74.3 % and 25.5 % of the total river catches, respectively. Within Hokkaido, the number of adult returns was 13,887 fishes for anadromous masu salmon, and 799 fishes for anadromous sockeye salmon.

5.3 Russia

Russian hatcheries released 670,845 million Pacific salmon juveniles and smolts in 2000, including 337,847 million pink, 326,071 million chum, 5.474 million sockeye, 0.690 million coho, 0.473 million chinook, and 0.290 million masu salmon.

5.4 United States

(a) Alaska

In 2000 there were 31 private nonprofit, 3 federal (including Bureau of Indian Affairs) and 2 state salmon hatcheries operating in Alaska. Most (23) of these facilities are located in southeast Alaska. The Cook Inlet-Prince William Sound region has 11 hatcheries, and the Kodiak region has 2 hatcheries.

Alaskan hatcheries released approximately 1.5 billion fish, of which 879.72 million were pink and 507.69 million were chum.

(b) Washington, Oregon, California, and Idaho

There was a reduction in releases from hatcheries in 2000 of all species of salmon. The releases in 38.8 million chum and 43.9 million coho were the lowest since 1993.

6 Coordination of Scientific Research Activities


The SSC discussed issues associated with the joint meeting with NASCO, IBSFC, and other international organizations in March 2002 in Vancouver, and recommended that the Organizing Committee continue work on defining the agenda, speakers, and a schedule for this meeting.

The SSC reviewed the Secretariat’s report on publications issued in 2001, and recommended publication of NPAFC Bulletin Number 3 (review papers of the workshop on Factors Affecting Production of Juvenile Salmon) by March 2003.

The SSC reviewed the draft BASIS Program with the view of accelerating its coordination and implementation, and prepared a draft plan for BASIS (Appendix 10):

1. The SSC reviewed the national research plans of Canada, Japan, Russia, and the United States for Bering Sea investigations in 2002, and discussed coordination of those plans within the BASIS program.

2. For the coordination of national research plans and preparation for their implementation in 2002, the SSC recommended that the CSRS form a BASIS Working Group (BWG), which should, in a timely manner and on an annual basis or at least once per year, hold sessions to coordinate plans and present reports of field research.

3. The SSC recommended that the CSRS hold the first BWG session in May or June 2002 in Vladivostok with the participation of no fewer than two of its members from each Party and allocating US$25,000 for such a session.

6.2 Review of the Report of the Working Group on Stock Assessment

Members of the Working Group on Stock Assessment met (H. Geiger of the United States, M. Fukuwaka of Japan, O. Gritsenko of Russia and T. Perry, chair, of Canada). Observers from Korea, PICES and ICES, as well as other party delegates, including V. Lapko and V. Radchenko, attended some of the Working Group meetings.

A report on preliminary commercial catch estimates for Pacific salmon in 2001 by Canada, Japan, the United States, and Russia was prepared. The report also presents some historical catch information (Fig. 1).

![Biomas of Commercial Salmon Catch for Canada, Japan, Russia, and the United States](image1)

![Biomas of Commercial Salmon Catch for Canada, Japan, Russia, and the United States](image2)

Fig. 1. Commercial harvests, by species, for Canada, Japan, Russia, and the United States from 1993 to 2000 (round weight in tonnes).

The preliminary estimated commercial catch of Pacific salmon in 2001 is approximately 670 thousand tonnes. The preliminary catch estimate prepared last year for a similar time frame in 2000 was almost 600 thousand tonnes. The total commercial catch thus appears to be substantially higher in 2001 compared to 2000. Canada reported continuing low catch levels, with many fisheries closed or
restricted to conserve stocks of concern. Japan reported low pink salmon catch, but improved chum salmon catch compared to 2000. Alaska reported a high catch, likely the seventh highest on record, but continued low runs to Western Alaska, and very low ex-vessel prices. Russia reported Far East catches that are typical for odd-numbered years. The pink salmon run was very high, Kamchatkan sockeye abundance was high, and several Kamchatkan chum stocks increased compared to recent years. However, coho and chinook salmon runs continued below average.

The Working Group discussed the preparation of a North Pacific salmon stock status report. A summary would be presented at the Joint Meeting of IBSFC, ICES, NASCO, NPAFC, and PICES in March 2002. In addition, the report would be provided for the fall 2002 meeting of PICES as NPAFC’s contribution to the North Pacific Ecosystem Status Report. The Working Group agreed on the type of data to be provided by each country, on the format for data entry, and on a timetable for data input. The Working Group also agreed on a general approach for data interpretation and for summarizing salmon stock status at regional and broader levels. It is anticipated that stock status assessments may be based on total production, and/or catch, and/or escapement records, depending on the type of data available, which varies among the four countries. Status assessments will indicate whether abundance is at high, medium or low levels, and whether recent trends are increasing, stable or decreasing compared to selected base periods.

6.3 Review of the Report of the Working Group on Salmon Marking

Members of the Working Group on Salmon Marking met to discuss two items: 1) coordination of marks to minimize duplication between countries and 2) details on how to develop a common database of mark releases and web access of the database. Members of the Working Group were D. Meerburg of Canada, S. Urawa (co-chair) of Japan, A. Rogatnykh of Russia, and P. Hagen (co-chair) and E. Volk of the United States.

Prior to the discussions, however, the Working Group expressed its appreciation to the Secretariat’s office for their role in publishing Technical Report 3, which contained the extended abstracts from the Workshop on Salmonid Otolith Marking held in Seattle on March 21, 2001.

For mark coordination, the Parties shared mark and release information from brood year 2000. In addition the members compared proposed marks for brood year 2001 and identified some possible conflicting marks and areas where further data was needed by some of the Parties.

On the development of a web accessible database, the attendees discussed the option of having a consultant assist the Secretariat in identifying options and costs for development. The consultant, Gregg Computer Services (GCS), produced a list of services that would be provided. The Working Group agreed that this is a necessary first step in development of the database.

Based on these discussions, the Working Group asked that the CSRS recommend to the F&A the hiring of a consultant to explore options and provide a cost estimate for development of a web accessible database of otolith marks. The amount requested is CAN$6,000, which includes travel expenses.

6.4 Review of the Report of the ad hoc Working Group on Stock Identification

The goals of the ad hoc Working Group on Stock Identification 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. The working group met with participation of S. Urawa from Japan, V. Radchenko from Russia, D. Noakes and T. Beacham from Canada, S. Klosiewski, R. Wilmot, K. Myers, R. Lincoln, D. Eggers, and L. Seeb (chair) from the United States.
The status of existing genetic databases was discussed and reviewed. Allozyme databases have been reported to the Commission by the U.S. Party for chinook salmon in 1999 and for chum and sockeye salmon in 2001. These three databases are comprehensive in nature with coverage throughout the North Pacific. They have been constructed through collaboration of all Parties and are available for use by the Parties. An allozyme database for pink salmon is under development by the United States, but is not yet complete. The Japanese Party presented results from mitochondrial DNA studies for chum salmon in 2000. A microsatellite DNA database for sockeye salmon is currently under development by the Canadian Party and was reported in 2001. Additions and refinements to all these existing databases are ongoing. The databases should provide a valuable foundation for future stock identification studies in the Bering-Aleutian Salmon International Survey (BASIS). The need for DNA databases for chinook and chum salmon was also discussed. Genetic information for other species of salmonids is regional in nature, and comprehensive databases are not expected in the near future.

The working group discussed at length standardization and dissemination of genetic databases as well as sample exchange. Sharing of genetic information and samples is necessary to conduct high seas studies such as BASIS where individuals may originate from stocks from throughout the Pacific Rim. The allozyme databases are a result of these exchanges and collaborations. The group agreed that sharing of DNA databases of allele frequencies should be encouraged once the respective researchers have finalized their primary data.

The working group also discussed the efforts underway in North America to standardize and disseminate information on microsatellite and other DNA loci. Initial standardization tests have been completed across laboratories and across analytical platforms for chinook and sockeye salmon with excellent results. Methods now exist to develop full and partial allelic ladders for standardization among laboratories and platforms. A website maintained by the Genetics Section of the American Fisheries Society has been established for sharing of microsatellite primers for salmonids (http://www.fisheries.org/genetics/). Submissions from all the Parties are welcome and encouraged. In addition, discussions on statistical issues associated with hypervariable loci in mixed stock analyses are underway among North American scientists. Scientists from other Parties are encouraged to join in the discussions.

There will be a Lowell Wakefield Symposium entitled "Genetics of Subpolar Fish and Invertebrates", May 29-31, 2002, in Juneau, Alaska. More details are available at: http://www.uaf.edu/seagrant-Conferences/symposia.html#genetics

6.5 Review of the Report of the 2001 Research Planning and Coordinating Meeting (RPCM)

The report of the Research Planning and Coordinating Meeting (RPCM) which was held on March 19-20, 2001 in Seattle, Washington, U.S.A. was reviewed and adopted.

6.6 The BASIS Working Group

On the recommendation of the SSC, the BASIS Working Group was established. Members are R. Beamish of Canada, S. Urawa and T. Azumaya of Japan, V. Karpenko, S. Sinyakov, and V. Lapko of Russia, and J. Helle, D. Eggers, and K. Myers of the United States.

The task of the Working Group is to coordinate plans and present reports on research on the Bering-Aleutian Salmon International Survey (BASIS). Specific terms of reference for the group are:

- coordinate individual national research plans
- draft an annual implementation plan for joint BASIS research
- draft an annual report to summarize BASIS results
- prepare proposals for external funding
A draft of the BASIS plan, incorporating changes suggested by all Parties, was prepared by the SSC at the Annual Meeting (summary in Appendix 10). The plan will be revised in the future to reflect changes in methodology and research proposals.

(7) Statistical Yearbook

7.1 Review of Status of Progress for the NPAFC Statistical Yearbooks

The preliminary NPAFC Statistical Yearbook 1997 was posted on the Commission’s website in July 2001 without some data on U.S. groundfish, and was published in October 2001 after receiving relevant data from the United States.

The CSRS agreed to apply the same procedure in the future: all available preliminary data will be posted on the Commission’s website after receiving review and approval from the Parties.

The Secretariat submitted to each Party a table of data status for the 1998-2001 NPAFC Statistical Yearbooks, and requested the Parties to submit the latest and most complete data to replace preliminary or incomplete data to the Secretariat as soon as possible.

7.2 Review of the Status of Obtaining Catch Statistics from Non-member Countries

The Secretariat informed the CSRS that the requested statistical data for 1998 were received on time from all non-member countries except North Korea.

(8) Other Publications

8.1 Review of Publications Issued in 2001

The Secretariat informed the CSRS that the following publications were published and distributed:
- NPAFC Bulletin #2: “Recent Changes in Ocean Production of Pacific Salmon”;
- NPAFC Technical Report #2: “Workshop on Factors Affecting Production of Juvenile Salmon”; 

8.2 Future Publications

Proceedings of the 2000 Workshop “Factors Affecting Production of Juvenile Salmon: Comparison Studies on Juvenile Ecology between East and West of North Pacific Ocean”

Each Party will recommend two reviewers for NPAFC Bulletin #3. The Secretariat will contact the editors when all of the manuscripts are available.


The CSRS recommended that the extended abstracts from the Joint Meeting be published in an NPAFC Technical Report. Publication of complete papers will be decided later.
(9) Cooperation with Relevant International Organizations

9.1 Cooperation with PICES

9.1.1 Review of the Report of the Science Sub-Committee on Coordination of the Implementation of NPAFC and PICES Science Plans

V. Karpenko, Chairman of the Science Sub-Committee, represented the NPAFC at the meeting of the Implementation Panel and Executive Committee of the Climate Change and Carrying Capacity (CCCC IP/EC) of PICES, October 5-11, 2001 in Victoria, Canada.

Coordination of science plans and cooperative activities (BASIS program, joint workshops, publications) were discussed.

9.1.2 NPAFC Contribution to the North Pacific Ecosystem Status Report

The Working Group on Stock Assessment will prepare a report on North Pacific salmon stock status. The report will be provided for the fall 2002 meeting of PICES as NPAFC’s contribution to the North Pacific Ecosystem Status Report and is described further under item 6.2.

9.2 Cooperation with NASCO, IBSFC and other International Organizations

9.2.1 Preparation for the Joint Scientific Meeting (Vancouver, March 14-15, 2002)

V. Fedorenko, H. Geiger, O. Gritsenko, Y. Ishida, Y. Kondo, W. Morris, and D. Welch (NPAFC), W. Ranke (IBSFC), K. Friedland (ICES), M. Windsor (NASCO), A. Bychkov, D. Hay, S. M'Kinnell, and I. Perry (PICES) met and discussed details of the Joint Meeting. A new agenda was agreed to at this meeting as follows:

- Status of salmon stocks and fisheries
- Possible factors associated with increased marine mortality:
  a) Climate and oceanographic factors
  b) Human induced factors
  c) Ecological factors

9.3 Invitation to International Organizations

With regard to observers at the Commission’s 2002 Annual Meeting, the CSRS recommended that the following organizations be invited to send representatives to act as observers:

- Asia Pacific Fisheries Commission (APFIC)
- Food and Agriculture Organization of the United Nations (FAO)
- Inter-American Tropical Tuna Commission (IATTC)
- Inter-Governmental Oceanographic Commission
- International Baltic Sea Fishery Commission (IBSFC)
- International Commission for the Conservation of Atlantic Tunas (ICCAT)
- International Council for the Exploration of the Sea (ICES)
- International Pacific Halibut Commission (IPHC)
- North Atlantic Salmon Conservation Organization (NASCO)
- North Pacific Marine Science Organization (PICES)
- Northwest Atlantic Fisheries Organization (NAFO)
- Pacific Salmon Commission (PSC)
(10) Review of Parties’ Proposals on Joint Projects to be Financed by the Commission

Following the CSRS recommendation at the 7th Annual Meeting, the CSRS proposes that the Commission’s Working Capital Funds be used for NPAFC scientific symposia, workshops, and publications.

10.1 Preparation of Otolith Database on the NPAFC website

The Working Group on Salmon Marking discussed the hiring of a consultant for development of a web accessible database of otolith marks. These discussions will be continued at a future meeting.

10.2 Initial Meeting of BASIS Working Group

The CSRS recommended provision of US$25,000 for the initial meeting of the BASIS Working Group in Vladivostok in May-June 2002.

(11) Development of the 2002 Work Plan

The CSRS recommended the following work plan for the CSRS in 2002:

<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>
<tr>
<td>(D) exchange biological samples as necessary;</td>
<td>5</td>
</tr>
<tr>
<td>(E) review and summarize salmon research plans for next year beyond the 200-mile limits;</td>
<td>5</td>
</tr>
<tr>
<td>(F) convene BASIS meeting;</td>
<td>1 and 5</td>
</tr>
<tr>
<td>(G) propose data exchanges;</td>
<td>5</td>
</tr>
<tr>
<td>(H) review any documents submitted to the Commission prior to this year’s annual meeting;</td>
<td>6 and 7</td>
</tr>
<tr>
<td>(I) the Parties will review any research proposals submitted in accordance with Article VII paragraph 6;</td>
<td>8</td>
</tr>
<tr>
<td>(J) consider international collaboration with relevant organizations;</td>
<td>6 and 7</td>
</tr>
<tr>
<td>(K) consider a report to the Commission.</td>
<td>12</td>
</tr>
</tbody>
</table>

Each Party’s specific research and vessel cruise plans in relation to the 2001 Work Plan are outlined below.
11.1 Canadian Research Plan

The Canadian workplan will be submitted at the RPCM in March 2002. In developing its workplan, Canada will take into account the integrated NPAFC Science Plan for 2001-2005.

11.2 Japanese Research Plan

J-1 Juvenile Salmon Studies

J-1-1 Coastal Sea Juvenile Salmon Studies

Major mortality of chum and pink salmon may occur during the initial coastal life. Thus, coastal life history studies are important to understand the survival mechanisms of salmon. To clarify mechanisms controlling population dynamics of juvenile salmon, the following research items will be focused on:

- Feeding, growth, and survival of juvenile salmon
- Migration route of thermally-marked salmon by stocks
- Monitoring of coastal environment such as surface water temperature, salinity, and zooplankton biomass along the coasts of northern Japan

J-1-2 Okhotsk Sea Juvenile Salmon Studies

The previous studies indicated that Asian salmon stocks are abundantly distributed in the Okhotsk Sea during summer and fall in the first year of ocean life. In order to develop the population dynamics of juvenile salmon, the studies will concentrate on the following research items:

- Seasonal distribution and migration of juvenile salmon stocks
- Population size and survival estimates of juvenile salmon stocks
- Feeding competition and growth change of juvenile salmon
- Primary production and food animals

J-2 Winter Salmon Studies in the North Pacific Ocean

Recent winter salmon studies indicate that Japanese chum salmon are distributed in the western North Pacific Ocean during the first winter, while in the Gulf of Alaska during the following winters. Biochemical analysis suggests that winter is one of the critical periods for salmon population. To elucidate impacts of winter ocean environments on salmon survivals, future research issues are:

- Winter salmon distribution and habitat environments
- Population size and survival estimates of overwintering salmon
- Survival strategies of salmon in winter

J-3 Summer Salmon Studies in the Bering Sea and Other Waters

J-3-1 Bering Sea Salmon Ecology Studies

Recently, the depression of ocean growth was observed in salmon stocks originating both the Asian and American coasts. Current studies suggest that salmon growth reduction 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, the following research items will be focused on:

- Climate change and primary production
- Production of food animals
- Population size and distribution of major salmon stocks
- Feeding competition and growth change of salmon
- Homing migration and maturing mechanism using archival tags and physiological analysis

J-3-2 Monitoring of Salmon and Environment in the North Pacific Ocean

To assess the status of salmon population, Japanese salmon research vessels are continuing monitoring of salmon and their environment in the western and central North Pacific, 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 ages of salmon
- Physical and chemical environmental conditions
- Chlorophyll a concentration and zooplankton biomass
- Offshore migration and distribution of salmon
- Stock identification using genetic analyses, otolith marking, and tagging experiments

J-4 Salmon stock Assessment

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
- Development of otolith-marking and other stock identification techniques
- Salmon stock assessment and forecast

11.3 Russian Research Plan

The Russian research plan will be submitted at the RPCM in March 2002. In developing its research plan, Russia will take into account the integrated NPAFC Science Plan for 2001-2005.

11.4 United States Research Plan

U-1 Coastal Juvenile Salmon Studies in the Gulf of Alaska and Bering Sea

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. 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. The Bering Sea program in western Alaska began in 1999. Particular focus of the western Alaska
research is 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.

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 populations from the northern and eastern Gulf of Alaska; (2) a summary of historical salmon research in the Karluk Lake area; (3) reconstructing long-term changes in salmon abundance using high-resolution paleoenvironmental analysis of sediment cores from sockeye salmon lake systems in North America and anoxic marine basins in southeastern Alaska; and (4) time-series analyses of North American salmon population and climate data.

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 U.S. commitments to the NPAFC.

U-5 Bering Sea Salmon Research Plan

The United States is seeking funds to establish a new program of international cooperative research on the effects of environmental variation and density-dependence on salmon carrying capacity in the Bering Sea. The plan is to investigate: (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. The success of the plan will in many ways depend upon the extent of cooperation and commitment by the NPAFC member nations. Key elements of the plan include: (1) development of a 5-year international survey of salmon in the offshore regions of the Bering Sea, (2) an annual review of Bering Sea salmon production and coordination of national juvenile salmon research programs operating in the Bering
Sea and adjacent waters, and (3) integration with partner research agencies/commissions, particularly to enhance studies of salmon habitat in the coastal and offshore regions of the Bering Sea.

11.5 Proposed Vessel Cruises

(i) Canada

Vessel cruises will continue in accordance with the Canadian research plan.

(ii) Japan

Five Japanese salmon research vessels are tentatively scheduled to conduct the following scientific research in the western North Pacific, Bering Sea, Gulf of Alaska, and Okhotsk Sea, in 2002/2003 fiscal year. Gillnets less than 2.5 km in length at sea will be used.

1. The Oshoro maru will conduct research with gillnets, longlines, hook-and-line and small trawl to obtain data on the distribution and ecology of salmon and other pelagic fishes in the western North Pacific in May and in the Gulf of Alaska from early June to mid August.

2. The Wakatake maru will conduct research with gillnets and longlines to obtain data on the distribution and stock abundance of salmon along 180° longitude in the North Pacific and Bering Sea from early June to late July.

3. The Torishima will conduct research with pelagic trawls to obtain information on the distribution and stock abundance of Asian chum and pink salmon in the Okhotsk Sea and the western North Pacific in October.

4. The Kaiyo maru will conduct research with pelagic trawls to obtain information on the distribution and stock abundance of salmonids in the Bering Sea and the Gulf of Alaska from early June to mid September.

5. The Kaiun maru research with gillnets to obtain data on the distribution and ecology of neon flying squid, salmon and other pelagic fishes in the central North Pacific Ocean from late June to early August.

(iii) Russia

The Russian plan will be presented at the next RPCM.

(iv) United States

The United States intends to conduct eight cruises in 2002 that are of direct interest to NPAFC:

1. July-August cruise in the Gulf of Alaska;

2. August-September cruise in the eastern Bering Sea;

3. October- November cruise as a pre-BASIS sampling of the eastern Bering Sea by the NOAA R/V Miller Freeman; and
(4) Five cruises in May-September in northern Southeast Alaska inside and coastal waters by the NOAA R/V John N. Cobb.

Further details will be provided at the March 2002 RPCM.

(12) **Invitations to State or Entity**

With regard to observers at the NPAFC 2002 Annual Meeting, the CSRS recommended that the following States be invited to send representatives to act as observers if they are not members of the Commission:

➢ People’s Republic of China
➢ Republic of Korea

(13) **Future Meetings**

The CSRS recommended that a Research Planning and Coordinating Meeting be held March 12-13, 2002 in Vancouver, and that a Joint Meeting with NASCO, IBSFC, ICES and PICES be held March 14-15 following the meeting.

The CSRS recommended that a BASIS Working Group meeting be held in Vladivostok in May or June 2002.

The CSRS recommended that five days be allocated to the CSRS at the 2002 Annual Meeting.

The CSRS endorsed the rapporteur system for the 2002 CSRS Annual Meeting. K. Myers was appointed as rapporteur for the meeting. The Parties are encouraged to submit documents to the rapporteur and the Secretariat at least 30 days before the meeting.

(14) **Other Business**

In order to facilitate timely application for external funds for scientific research, the CSRS requested that the Commission approve the CSRS to apply for such external funding. A final decision on the use of the funds shall be made by the Commission by a mail vote.

7. **Administrative and Fiscal Matters**

At the First Plenary Session, this item (agenda item 9) was referred to the Committee on Finance & Administration (F&A) for consideration and report at the Second Plenary Session.

(1) **Review of Terms of Reference**

The Parties had no comment on this item.

(2) **Consideration of Auditors’ Report and Selection of an Auditor**

The committee received and reviewed the Auditors’ Report (Appendix 11) and the Details of Items in the Auditors’ Report.

The committee recommended the re-appointment of KPMG as auditors for the current year.
(3) **Financial Situation in Current Fiscal Year**

The committee reviewed the current fiscal year Projection (2001/2002) and the detailed explanation of major items provided by the Secretariat.

The committee recommended adoption of the revised version of the Current Fiscal Year Projection with expenditure of $613,300 and income of $563,000. The resulting $50,300 shortfall is to be met from the Working Capital Fund.

(4) **Budget Estimate for Fiscal Year Beginning July 1, 2002**

The committee reviewed the next fiscal year Budget Estimate (2002/2003) and the detailed explanation of major items provided by the Secretariat.

The committee recommended adoption of the revised version of the Budget Estimate for the fiscal period beginning July 1, 2002 with expenditure of $661,000.

(5) **Budget Forecast for Fiscal Year Beginning July 1, 2003**

In conformity with the Financial Rules, the committee presented the budget forecast for the fiscal year beginning July 1, 2003. The budget forecast is intended for the guidance of the Parties and is not to be considered for adoption by the Commission until the 2002 Annual Meeting.

All four Parties expressed their mutual concern over the projected deficit status of the Commission for the next three fiscal years and possible subsequent years, thus requiring the withdrawal of funds from the Working Capital Funds to offset the General Fund’s deficit. The Parties agreed that the current level of contribution is not adequate and that an increase in contributions will be required if depletion of the Working Capital Funds is to be avoided.

The committee recommended that the Commission consider the necessity of increasing the contribution. The committee instructed the Secretariat to prepare a report on the changes necessary to ensure the Commission’s healthy financial state for consideration at the next Annual Meeting.

(6) **Administrative report for 2001**

The committee reviewed and adopted the Administrative Report for 2001.

The United States expressed its concerns for the security and safety of the Secretariat office. The Secretariat explained its improved security status since the vandalism.

(7) **Administrative Matters**

No matters were discussed under this agenda.

(8) **Review of ENFO and CSRS Recommendations on Joint Projects to be Financed by the Commission**

(i) **BASIS Meeting in Vladivostok**

The Committee on Scientific Research and Statistics (CSRS) requested that the BASIS working group meet in Vladivostok in May 2002 in conjunction with the Pacific Rim Conference. The CSRS requested
that USD$25,000 be used from the one-time US contribution to fund 2 scientists’ travel expense to the meeting for each Party. The committee recommended expenditure of USD$25,000 for the above purpose.

(ii) **Preparation of otolith database on the website**

After lengthy discussion, the committee asked the CSRS to give further consideration to its request for funding to cover the costs of a consultant’s report on the cost of creating and maintaining an otolith database.

(iii) **Joint meeting with NASCO and other international organizations**

The Committee on Scientific Research and Statistics (CSRS) confirmed that a Joint Meeting with NASCO and other international organizations will be held in Vancouver, Canada on March 14-15, 2002. The total expense for the meeting is estimated at C$25,000, which will be shared equally by five Commissions (NPAFC, NASCO, IBSFC, PICES and ICES). The committee recommended the expenditure of C$5,000 from the Working Capital Fund during 2001/02 fiscal year to cover the NPAFC share of the costs.

The CSRS requested C$10,000 for the publication of the NPAFC Technical Report #4 (proceedings of a Joint Meeting on the Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea to be held in Vancouver, Canada, March 14-15, 2002). The committee endorsed the expenditure of C$4,000 already budgeted, and asked the CSRS to request other co-organizing international organizations to cover the balance.

(9) **Schedule of Future Annual Meetings**

Russia has confirmed an invitation to hold the Tenth Annual Meeting in Vladivostok. The tentative dates of October 6 through 11, 2002 have been established, subject to confirmation of arrangements by the Secretariat.

United States extended an invitation to host the Eleventh Annual Meeting. The US Party will inform the Secretariat of the meeting location and time by the end of this year.

The committee recommended acceptance of the above invitations.

Japan indicated its desire to host the NPAFC 12th Annual Meeting and hopes to be able to issue a formal invitation at the next Annual Meeting.

(10) **NPAFC Special Fund**

The committee discussed the need to establish a special fund for the custody of incoming funds other than regular contributions.

The committee recommended creation of the “NPAFC Special Fund for Scientific Research” and amendment of the Financial Rules 19 (Appendix 12) to provide a regulation for this fund and to ensure that its expenditures are subject to the usual NPAFC Financial Procedures.

(11) **Accession of the Republic of Korea**

This item was referred to the Heads of Delegation.
(12) **Other Business**

For the occasion of NPAFC 10th Anniversary Annual Meeting to be held in Vladivostok, Russia on October 6-11, 2002, the following items were discussed and the committee recommended:

- spending C$10,000 from the Working Capital Funds in 2002/03 fiscal year to publish an NPAFC 10th Anniversary commemorative album. This task will be undertaken by TINRO (Vladivostok).

- inviting to former 1st President for the Commission, Dr. V. Zilanov and former 1st Executive Director Dr. I. Shestakova to attend the 1st Plenary Session on October 9, 2002 in Vladivostok, Russia. Russian Party agreed to bear their travel expenses. The Secretariat is to send to the Russian Party a request to cover of the above expense.

Japan requested that the committee note the importance of having interpreters not only at the annual meetings, but at other meetings as well, and hoped that provision of interpretation services will be continued throughout all Commission meetings. No objection was raised by any Party.

8. **PROCESS TO RECOMMEND THAT CERTAIN OTHER STATES OF ORIGIN BE INVITED TO ACCEDE TO THE CONVENTION**

The President informed that the Heads of Delegations met and agreed that a letter of invitation be sent to the Government of the Republic of Korea with clarification of further details of their accession to the Convention. President thanked Mr. Cho of the Republic of Korea for delivering their intention of accession and hoped that Korea will join the Commission by the Tenth Annual Meeting. All Parties agreed on the draft letter which had already been circulated for their approval during the meeting.

The Commission recommended that the President and the Executive Director continue to correspond with the authorities of the Republic of Korea as well as the People’s Republic of China on the issue of their future accession to the Convention.

9. **OUTSIDE FUNDS FOR SCIENTIFIC RESEARCH**

This item was referred to the Committee on Finance and Administration (F&A) for consideration. The committee recommended creation of the “NPAFC Special Fund for Scientific Research” and amendment of the Financial Rules 19 which is reflected in Appendix 12.

10. **HIRING PROCEDURE FOR THE NEXT EXECUTIVE DIRECTOR**

Japan suggested that the current Executive Director’s extension should be seriously considered. There are two basic reasons for this: 1) there are no negative elements for his capability, and there is no guarantee for prospective Executive Director, if any, who will be more capable than he is; and 2) the current financial constraints NPAFC and Secretariat are facing. The process of selecting a new Executive Director will require huge amount of money before and after an appointment of a potential new individual.

Russia expressed the view that the current Executive Director should continue in the position, especially with the new challenges the Commission is facing.

United States favoured renewal of his term.
Canada expressed its happiness to extend his term in the office.

All Parties concurred on the renewal of the term of the current Executive Director, Mr. V. Fedorenko.

11. ELECTION OF COMMISSION'S OFFICERS

In accordance with the Rules of Procedure, 14, the Commission elected Dr. Anatoly Makoedov of the Russian Federation President of NPAFC and Mr. Koji Imamura of Japan Vice-President of NPAFC. In accordance with the Rules of Procedure, 15, the Commission elected Capt. Igor Rypahov of the Russian Federation Chairman of the Committee on Enforcement, Dr. Richard Beamish of Canada Chairman of the Committee on Scientific Research and Statistics and Dr. James Balsiger of the United States Chairman of the Committee on Finance and Administration.

The two-year term of the elected officers begins with the adjournment of the Ninth Annual Meeting and ends at the adjournment of the Eleventh Annual Meeting.

12. PLACE AND TIME OF THE TENTH ANNUAL MEETING

The Tenth Annual Meeting will be hosted by the Russian Party in Vladivostok during the week of October 6, 2002.

13. NEWS RELEASE

The Commission reviewed and adopted the News Release prepared by the Press Committee appointed at the First Session (Appendix 13).

14. CLOSING REMARKS

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

Closing remarks by Mr. Koji Imamura, Representative of Japan:

Thank you, Madam President.

On behalf of the Japanese delegation I would like to make some closing remarks. First, I would like to thank from the bottom of my heart the Government of Canada who has hosted this annual meeting in this beautiful historic city of Victoria, for all their work and the wonderful hospitality we have enjoyed. As I observed the beauty of British Columbia with its daily changing seasons in perfect harmony with its urban landscape, I felt something very much in common with the four seasons of my country just on the other side across the Pacific.

Next I would like to express our gratitude to you, Lt. Governor Ulmer, as President and Chair of the Commission and to all the chairpersons of the Committees for their hard work. I would particularly like to thank you for your understanding of and support for our country in many forms. I believe it is the strong initiatives taken by these people that have led the NPAFC activities in the right direction so far. At the same time allow me to offer our heartfelt congratulations to his Excellency Makoedov for his election as President of the Commission; as well as to all the newly elected chairpersons of the Committees. I am convinced that these people will lead the NPAFC into another set of years of remarkable progress and I am prepared to support Dr. Makoedov as Vice President.
I believe that this year's Annual Meeting has also seen enthusiastic and fruitful discussions at the Commission and at the various Committees. The newly developed plan for BASIS under CSRS will serve as a guideline in our future research work on the salmon stocks in the North Pacific. We do hope that this will serve as an integrated approach and help us understand the overall marine ecosystem of the North Pacific.

We have also had very earnest discussions on how to better cooperate in the enforcement activities. These discussions have resulted in a good progress in building a new framework of cooperation in this area. Japan will participate in these activities on a voluntary basis and with the spirit of friendship. Naturally there may be things on which Japan cannot meet the expectation of the other Parties. But we would like to note that the spirit of this Convention is based on the cooperation of the Parties concerned.

In the area of finance and administration, we share with the other Parties the concern over the difficult financial situation the NPAFC will continue to face in the future. At the same time, I must mention the very difficult financial situation in which the Japanese Government finds itself today. Therefore our delegation recognizes the importance for us to begin our dialogue with the other Parties and with the Secretariat on this issue at an earliest possible time. Would sustainable utilization of the marine resources be possible without sustainable finances of the organization that manages them? In that sense I believe the action taken at this time has been a very timely one.

Madam President, it is the importance of dialogues that I reconfirmed in the course of this year's meeting. Without dialogue, no cooperation would be possible. A fact as simple as this seems to be very difficult to put in practice in today's international community. In that sense, we express our particular gratitude to the interpreters who have helped us understand each other. Without their help these meetings could not have achieved the measure of success that we have. And of course we should never overlook the tremendous contribution made by the Executive Director Mr. Fedorenko and each of the Secretariat members. I believe we made the best choice when we decided without problem on the extension of the term of employment of our Executive Director.

Madam President, I want to tell the group that we are planning to visit Victoria's Fishermen's Wharf after the conclusion of this plenary this afternoon. We chose that place because we feel that, regardless of national boundaries, we should be able to see the spirit among these people that is shared by all the peoples whose livelihood comes from the sea.

Madam President, we emphasize the importance that the marine resources have to the local communities in their social, economic, and cultural lives. I think we should not forget that after all, the cooperation at the NPAFC is ultimately for the sake of the people and their communities who depend on these salmon resources by utilizing them. In that sense, we welcome from the bottom of our hearts the eventual accession in the near future of our friends, the Republic of Korea.

Madam President, I have personally been involved in the matter of salmon resource management in the North Pacific since the days of the INPFC and it is my pleasure to see the NPAFC, while preserving some of the good old tradition, creating its own and new current. It is as if I am observing the salmon stocks while preserving the genes from the ancient past, trying to adopt to the new environment of today.

This concludes my closing remarks. We look forward to seeing you again.

Madam President, thank you very much.
Closing remarks by Dr. Anatoly Makoedov, Head of Russian delegation:

Respected Madam President, respected delegation representatives, respected observers, ladies and gentlemen.

As the Ninth Annual Meeting of our Commission draws to a close, I would like to note with satisfaction our collegial atmosphere of constructive cooperation. Over the course of the last few days we examined and resolved a number of crucial questions. The subcommittees and working groups worked effectively and efficiently, and the scientific discussion of the reports presented at the session was both interesting and fruitful. During this session we made significant progress toward organizing a joint meeting on Pacific and Atlantic salmon, and this event will help us in better understanding the effect of global and regional natural factors on the existence of salmon. It will also assist us in better comprehending the consequences of anthropogenic factors – both negative and those which are intended to support these valuable fish. Our goal is to better understand salmon as a global phenomenon.

Definite progress has been achieved during the session on developing and adopting a five-year program for studying Bering Sea salmon. This area is a matter of keen interest, and not only as a site for the reproduction and feeding of major salmon schools. We now believe that the situation in the Bering Sea plays a key role in biological processes taking place in the North Pacific as a whole, and thus we are quite optimistic about the program’s outcome. The initiating and implementing role of our Commission in this question is deserving of enthusiastic approval and support. The Russian delegation is grateful to the United States for its willingness to support a significant portion of the program’s financing. From our side, Russia will do everything possible to cover their expenses incurred in the implementation of this program.

The Russian delegation is gratified by the results produced by the Enforcement Committee. We agree with the conclusion that it was the dynamic, coordinated activities of the national participants to the Convention that made it possible this year to not permit the catch of salmon in the Convention Area – a circumstance that positively influenced the state of stocks. For our part, we are prepared to act similarly, and we believe that the creation of an informational group within the framework of the committee will be a positive step in this direction.

We are grateful to the American and Canadian delegations for specific proposals on joint activities during 2002 and we hope to receive formal proposals in order that we might be able to appraise the opportunities created by this participation.

In as much as the Chairship of the Enforcement Committee is now in Russian hands, we will do our best to ensure that the committee’s work will be as efficient as it was under the direction of Capt. Vincent O’Shea.

The inter-session period will be one of dedicated work, and we are determined to do everything possible to insure that these efforts will be successful.

I am deeply moved by the confidence personally invested in me, and I intend to do my best to be deserving of this trust in my handling of the Commission’s various tasks. Please let me take this opportunity to express my gratitude to all of you for having electing me President of NPAFC.

On behalf of the Russian delegation I wish to express my gratitude to the Canadian Government for having made it possible to conduct this session. I thank our Canadian colleagues for creating a warm and friendly atmosphere throughout the session. I likewise want to express gratitude for the reception organized for the participants by Canada and for
the opportunity to become acquainted with the folk art of the native population. I would also like to thank the Commission’s Secretariat for having, as before, done such a fine job of organizing the work of the meeting, and also for its eagerness in resolving the numerous questions which arose. I wish also to thank the interpreters for their highly professional work.

Respected colleagues, the rules of versification require that the last line of a poem should be the most striking, so let me to end on a note which perhaps should have introduced my remarks. Madam President, Ms. Fran Ulmer, on behalf of the Russian Party I would like to thank you for your excellent leadership of the Commission over the course of the past two years. It was your will, your experience and your talent as an organizer that determined the success of our work. During these two years the Commission made significant progress that will be decisive in determining the course of future activities for a number of years. Once more, thank you, Madam President.

Respected colleagues, the Russian delegation announces that the Tenth Annual Meeting of NPAFC will take place in October 2002 in Vladivostok, Russia. We will do everything in our power to insure that participants will be able to work fruitfully and enjoy their leisure during the breaks.

In conclusion I wish everyone a safe return home and see you in Vladivostok.

Thank you for your attention.

Closing remarks by Dr. James Balsiger, Head of the United States delegation:

Madame President, fellow delegates, observers from PICES, NASCO, the International Baltic Sea Fishery Commission, ICES, the Pacific Salmon Commission, the International Pacific Halibut Commission, the Republic of Korea, ladies and gentlemen, the United States expresses its sincere appreciation to the Government of Canada for hosting this highly productive Ninth Annual Meeting of the Commission. I wish to extend special thanks to the Canadian delegation for hosting the splendid reception at the Crystal Gardens you organized Wednesday. It provided the opportunity to experience a culture who have long recognized the importance of maintaining a harmonious balance with nature.

I wish to congratulate Mr. Vladimir Fedorenko on his extension as Executive Director and the excellent leadership he demonstrated during this Annual Meeting. As Mr. Fedorenko said during the first plenary, his team is principally responsible for this and the Commission’s success. I can think of no better team than Mr. Kondo, Ms. Morris, Ms. McGrann and the other members of the Secretariat for ensuring the success of this meeting and the effective functioning of the Commission. I would like to take this opportunity to recognize our interpreters. Many have served with the Commission for many years, even back to the days of our predecessor, the INPFC. They are the best in the business and their efforts allow us to bridge our language barriers and communicate with one another easily.

Our commitment to salmon is indisputable. We collectively patrol the seas to prevent illegal fishing. We spend innumerable days at sea studying salmon. We engage our respective political processes to provide the resources to support this Commission.

During 2001, there were no sightings, nor seizures of vessels fishing illegally in the Convention Area. This year also witnessed the historic flight of a U.S. Coast Guard C-130, manned by enforcement officials representing all members of the Commission, to fly out of Petropavlosk-Kamchatsky. Once again, on behalf of the United States, we express our appreciation to the Russian Government to allow the flight to occur and the hospitality extended to the Parties during the enforcement meeting in Petropavlosk-Kamchatsky. We
salute the many men and women who have committed themselves to the protection of our salmon. There is no doubt the cooperative enforcement framework of the Commission is the best in the world.

Salmonid research conducted by the Parties throughout the year form the core of our CSRS activities and we are pleased this forum brings our scientists together to share their results. We are encouraged with the progress of BASIS since all Parties have endorsed the draft plan and we eagerly await implementing it. We have a good plan to study salmon ecology and this is evident by the commitment of resources all Parties have pledged during this meeting.

There are other important areas of research such as the exchange of biological specimens, data points, and scientific standards of measurements. These exchanges are essential for all Parties to gain valuable information to give us a better understanding of salmon and their environment. We urge that any lapse in coordination be resolved quickly. I further note that good progress is taking place to collaborate with other relevant international organizations. Our scientists look forward to a healthy exchange of data and views on "causes of marine mortality of salmon" with our colleagues from NASCO, IBSCF, PICES, ICES and other marine science organizations during the March 2002 symposium held in conjunction with the NPAFC Research Planning and Coordinating Meeting in Vancouver.

Madame President, you have been magnificent as our President these past two years. Your leadership is impeccable, your vision indisputable and forward looking. Sometimes it is easy to lose sight of the 'big picture' when one is focused on details, however, thanks to you, we are moving into the 21st century with a cutting edge science plan and a highly collaborative process. We thank you for these efforts.

The United States would like to recognize the chairs of the ENFO, CSRS, and F&A. Captain Vince O'Shea is an outstanding leader and diplomat. Thanks to Captain O'Shea's efforts, the NPAFC enforcement process is prepared to safeguard our salmon resources for the new millennium. Our CSRS chairman, Dr. Yukimasa Ishida is one of the Commission's most esteemed scientists. Dr. Ishida's diligence and his consensus building efforts have led to the creation of the Commission's revolutionary science plan and BASIS. Mr. Gerry Kristianson has proven to be a voice of reason and wisdom in the F&A. Fiscal matters are always difficult, but Mr. Kristianson efforts allowed all Parties to reach consensus and allow the committee to function effectively. Captain O'Shea, Dr. Ishida and Mr. Kristianson, your successors will have big shoes to fill.

I wish to express our appreciation to the observers, many of whom have traveled great distances to be here in Victoria. We look forward to further exchanges with your organizations and to collaborate whenever possible. A special 'thanks' to Mr. Cho of the Republic of Korea for attending our meeting to seriously discuss Korea's accession to the Convention. We remain hopeful that the accession will happen as soon as possible and join us in protecting and researching our salmon resource.

Finally, Madame President, we wish all delegates and guests a safe journey home and look forward to seeing all of you next year in Vladivostok.

Thank you.

Closing remarks by Mr. David Bevan, Head of Canadian delegation:

Madam President, distinguished delegates, ladies and gentlemen, in consideration of the time my statement will be brief.
As we look forward to our tenth year, we can be proud of what we have accomplished. This year’s progress is an example of how we can, through a spirit of co-operation, achieve the results needed to protect the salmon resources of the North Pacific.

With respect to enforcement of the prohibition against high seas drift-netting, we have continued to improve international co-operation. As a result of this year’s meeting, planning and communication will improve and facilitate close co-ordination of enforcement efforts.

We have taken steps to implement co-ordinated research programs within the NPAFC and are working together with other commissions and organizations to further our understanding of the complex factors that influence salmon abundance and survival.

This week we have also held positive discussions with the Republic of Korea regarding the possibility of their acceding to the convention. I am hopeful that the Republic of Korea will soon be a party to the NPAFC.

This progress could not have been possible without the willingness of all Parties to work towards common goals. I want to thank the delegations for their dedication to the protection of North Pacific Salmon and for their co-operative approach.

I want to thank the Secretariat for their excellent preparations for, and support of, this meeting.

Thanks are due as well to the translators for their excellent work.

Finally Madam President I want to thank you for your leadership over the past two years. You recognized the need to move ahead with joint research initiatives to better understand the factors that impact salmon abundance. With your support and guidance we are now undertaking this work. Your vision of an organization that works through collaboration and co-ordinated projects is being realized.

I look forward to the Tenth Annual Meeting and hope to see you in Vladivostok and wish you all a safe journey home.

Thank you.

Closing remarks by Lieutenant Governor Fran Ulmer, President of NPAFC:

Distinguished representatives, advisors, observers, ladies and gentlemen, as we move towards closing the commission’s Ninth Annual Meeting, I would like to congratulate you on a successful and productive meeting. I believe we have achieved a new level of cooperation and understanding that bodes well for the future of salmon and the other anadromous species that we all cherish.

I am particularly pleased that four representatives of the Republic of Korea joined us as observers and informed us that Korea is taking steps internally to move forward towards acceding to the Convention. This is good news and we look forward to working closely with our Korean colleagues. Thank you, Mr. Cho for helping us better understand your position and the opportunity to make accession a reality.

I would like to thank you all for the hard work and dedication you have shown at this meeting. The committee chairs, the subcommittee chairs, the advisors and all the participants have contributed greatly to the success we have had here.
The Committee on Scientific Research and Statistics has brought us a new level of international cooperation at a time when all of our nations are asking the scientific community for answers about the biosphere in general and anadromous fish in particular. The newly adopted, groundbreaking cooperative science plan will help us focus our resources on the most critical questions about North Pacific salmon stocks. I hope we will make extraordinary efforts to run all the cruises that have been announced at this meeting - two by Japan, two by Russia, and two by the United States. These cruises represent a substantial commitment of resources to our joint sampling efforts and to initiate BASIS.

The Alaska State motto is: “North to the future” and looking forward is where this Commission should focus. I think we have made great progress doing this. The revolutionary BASIS science plan is an example of an approach that can provide valuable insights into salmon and their environment in a way that has not been previously attempted. We are moving quickly to become the cutting-edge of scientific collaboration for the new millennium. I believe BASIS will help us achieve this collaboration. The scientists who have developed this ground-breaking plan are remarkable! Thanks to the leadership exhibited by Dr. Ishida, you have thought out of the proverbial ‘box’ and such leaps trigger a new way of thinking and special thanks to Dr. Kate Myers. She has served as the bridge to bring our respective scientists together to explore new ways of viewing marine research. Challenges in the 21st century require new ways of looking at things.

I also would like to note that other relevant international organizations have expressed an interest in our Commission. The sharing of ideas is just as important as the sharing of data. The symposium on causes of marine mortality of salmon scheduled for March 2002, will unite salmon organizations from the North Pacific Ocean, the North Atlantic Ocean, and the Baltic Sea. This collaboration is unprecedented and we look forward to future exchanges. I thank PICES, NASCO, the International Baltic Sea Fishery Commission, ICES, the Pacific Salmon Commission, and the International Pacific Halibut Commission for being here this week to observe our deliberations.

The Committee on Enforcement has provided the forum to effectuate the most effective multinational enforcement collaboration to deter illegal fishing activity in the world. We rarely see their faces, we seldom hear their voices, but the women and men who risk their lives protecting salmon are some of the most dedicated professionals I have come to know. Year 2001 produced zero sightings and zero seizures. I think that sums how effective our enforcement and prevention efforts were this past year. I am confident that we will continue this high level of excellence.

I want to congratulate and thank Captain Vince O’Shea for the extraordinary effort he has made to promote unity, build trust, cultivate relationships, and build teamwork among the Parties for enforcement matters. Largely due to Captain O’Shea’s efforts, a historic high seas patrol was flown out of Petropavlovsk-Kamchatsky, Russia in a U.S. C-130 aircraft. Such collaborations will only strengthen our enforcement effectiveness and I want to thank the Government of Russia for making this flight happen.

I feel privileged to have served as your President these past two years. It has been a rewarding experience and I have learned a great deal. I feel that we have become friends and colleagues. I appreciate the support you have all provided me. I extend my congratulations to the in-coming President Anatoly Makoedov and I look forward to working with him to continue the important work of the Commission.

I would like to express my special thanks to Vladimir Fedorenko and the Commission staff: Deputy Director Yoshikiyo Kondo, Wakako Norris and Denise McGrann, for excellent preparations and for their help in ensuring that the meeting went smoothly and for all the support you have given me in my capacity as President. We have worked our translators and
technicians hard this week, and I thank them for their excellent work. Thanks to your efforts, you have given all participants a voice to communicate with one another.

Lastly, thanks to the Government of Canada for the wonderful, warm and generous hospitality shown to us here in Victoria. The facilities, the reception and the opportunities to deepen our friendship all contribute to both our productivity and our enjoyment of this week. We truly appreciate it and will take home many good memories.

I wish you all safe journeys home and look forward to the important work we will do together over the next year.

Thank you.
APPENDIX 1

JAPANESE RESEARCH PLAN 2001/2002

Introduction

Recent developments of stock identification techniques and high-seas salmon population surveys provided new information for the ocean distribution of chum salmon: Japanese chum salmon inhabit the Okhotsk Sea in the early ocean life, pass the first winter in the western North Pacific Ocean, and then migrate to the Bering Sea by the next summer. Coastal surveys suggested that major salmon mortalities occur in the early ocean life, but the causes of juvenile mortalities have not been well understood. Scale pattern analysis suggested that Japanese chum salmon may suffer from growth reduction in the Bering Sea, resulting in increase of age at maturity. A long term biological monitoring in the subarctic North Pacific Ocean found a negative relationship between macrozooplankton and pink salmon biomass. A similar biological monitoring should be necessary in the Bering Sea. The extremely low lipid contents in the muscle of overwintering salmon indicated a great difficulty for them to survive in winter.

The major purpose of Japanese salmon research is to accomplish sustainable fisheries, balancing the conservation and use of salmon stocks in the North Pacific ecosystem. These research are (1) juvenile salmon studies in the Okhotsk Sea, (2) winter salmon studies in the North Pacific Ocean, (3) summer salmon studies in the Bering Sea, and (4) monitoring of major salmon stocks.

1. Juvenile Salmon Studies

1-1. Coastal Sea Juvenile Salmon Studies

Major mortality of chum and pink salmon may occur during the initial coastal life. Thus, coastal life history studies are important to understand the survival mechanisms of salmon. To clarify mechanisms controlling population dynamics of juvenile salmon, the following research items have to be focused on:

# Feeding, growth, and survival of juvenile salmon
# Migration route of thermally-marked salmon by stocks
# Monitoring of coastal environment such as surface water temperature, salinity, and zooplankton biomass along the coasts of northern Japan

1-2. Okhotsk Sea Juvenile Salmon Studies

The previous studies indicated that Asian salmon stocks are abundantly distributed in the Okhotsk Sea during summer and fall in the first year of ocean life. In order to develop the population dynamics of juvenile salmon, the following research items should be concentrated on:

# Seasonal distribution and migration of juvenile salmon stocks
# Population size and survival estimates of juvenile salmon stocks
# Feeding competition and growth change of juvenile salmon
# Primary production and food animals

2. Winter Salmon Studies in the North Pacific Ocean

Recent winter salmon studies indicate that Japanese chum salmon are distributed in the western North Pacific Ocean during the first winter, while in the Gulf of Alaska during the following winters. Biochemical analysis suggests that winter is one of the critical periods for salmon population. To elucidate impacts of winter ocean environments on salmon survivals, future research issues are:
# Winter salmon distribution and habitat environments
# Population size and survival estimates of overwintering salmon
# Survival strategies of salmon in winter

3. Summer Salmon Studies in the Bering Sea and Other Waters

3-1. Bering Sea Salmon Ecology Studies

Recently, the depression of ocean growth was observed in salmon stocks originating both the Asian and American coasts. Current studies suggest that salmon growth reduction 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, the following research items will be focused on:
  # Climate change and primary production
  # Production of food animals
  # Population size and distribution of major salmon stocks
  # Feeding competition and growth change of salmon
  # Homing migration and maturing mechanism using archival tags and physiological analysis

3-2. Monitoring of Salmon and Environment in the North Pacific Ocean

To assess the status of salmon population, Japanese salmon research vessels are continuing monitoring of salmon and their environment in the western and central North Pacific, 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 ages of salmon
  # Physical and chemical environmental conditions
  # Chlorophyll concentration and zooplankton biomass
  # Offshore migration and distribution of salmon
  # Stock identification using genetic analyses, otolith marking, and tagging experiments

4. 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
  # Development of otolith-marking and other stock identification techniques
  # Salmon stock assessment and forecast
APPENDIX 2

RUSSIAN RESEARCH PLAN 2001-2002

1. Bering Sea Salmon Research

The offshore life history of juvenile salmon will be studied in the western Bering Sea. Distribution, migration, abundance, and biological data of salmon juveniles were collected by research vessels, and would be analysed retrospectively from 1981. During spring and summer, information on distribution, migration, stock composition, abundance, and biological characteristics of adult and immature salmon will be collected in the Russian EEZ. These data are required for fishery management. Also, meteorological and oceanographic data will be collected during the surveys. Feeding of Pacific salmon will be studied during summer and fall period in the western Bering Sea. Data will be collected during these surveys on the other fishes of the pelagic community. A comparison between salmon and other pelagic fishes of the consumption rates of planktonic/micronektonic animals will help to estimate the place of salmon in the trophic structure of pelagic ecosystems.

2. Juvenile Salmon Research in Eastern and Western North Pacific Waters

Coastal and offshore life history of juvenile salmon in some selected areas will be studied. Environmental, feeding, and food competition data will be collected in the main coastal areas off Sakhalin, Kamchatka, and in the northern Sea of Okhotsk (including Amur River) during spring-summer-fall season. Seasonal distribution, migration, population characteristics, and survival of juvenile salmon will be estimated using various methods; abundance of migrants in different zones, marking, scale and parasite analysis, etc. Thermal and “dry” marking programs will be continued at hatcheries and in natural habitats in the northern Okhotsk Sea region, Sakhalin, Kamchatka, and probably some other areas. Return of marked juvenile and maturing fish will be monitored. Primary production and salmon food resources in different salmon habitat (rivers, lakes, estuaries, coastal and offshore waters), will be estimated. These investigations will be based on the study of main reproduction basins of Pacific salmon in Far East.

3. Winter Salmon Research

Anadromous migration and abundance of adult salmon will be studied in the Russian EEZ. During the spring and summer different biological and environmental data will be collected by salmon research vessels. This will provide estimates of salmon stock composition, abundance and population structure during the anadromous migration. Biological characteristics of adult Pacific salmon and environmental conditions before returning to major areas in Russia will be examined. Toward this aim data will be used for stock identification: genetic characteristics, scale, new information on otoliths, parasites, and morphometric characteristics; and also participation in international tagging experiments is planned.
APPENDIX 3

CANADIAN RESEARCH PLAN 2001-2002

The Canadian science plan related to North Pacific salmon populations is based on the requirement to understand the causes of the decline in the abundance of salmon in the 1990s. These changes have resulted in the lowest Canadian catches in history and significant concerns for the conservation of some stocks. There is a general recognition that the decline is related to decreased marine survival but the relative importance of changes in the freshwater and marine environments in determining total salmon returns remains to be clarified.

Canada’s primary goal in its science activities is to understand the processes that affect salmon production and to use this knowledge to help conserve wild salmon stocks. Protection of wild salmon stocks will require maintenance of their habitats, establishing sustainable harvest rates, and careful management of activities such as hatchery production and other forms of enhancement that may affect wild salmon production. In addition, Canada has agreed through the Pacific Salmon Treaty to work co-operatively with the United States to improve the management of jointly exploited stocks. The ability to forecast abundance trends is particularly important for international and domestic resource management. There is evidence that the freshwater and marine ecosystems of Pacific salmon have warmed in the past 25 years and expectations that this warming will continue. Survival during all life-history stages could potentially be affected. Predicting the potential impacts of global climate change on the freshwater and marine environments on which salmon depend is necessary to develop sound fishing and management plans. Therefore Canada plans to:

1. Improve understanding of the mechanisms that link changes in climate to the marine survival of salmon.

   Canada will continue to monitor and evaluate oceanographic and biological factors related to salmon production, and to study the linkage between marine survival of salmon, and climate and ocean changes, in order to improve understanding and forecasts of future salmon productivity. Canada will co-operate with, and participate in, international efforts to achieve this.

   It is necessary to establish where different salmon stocks migrate and rear in the ocean in order to study the linkage between marine survival of salmon and ocean conditions. Canada will continue studies on ocean distribution of salmon and on techniques such as DNA stock identification in order to identify the origin of salmon recovered in marine areas. Canada will work co-operatively with other countries if requested to exchange biological samples to advance stock identification techniques. Canada will also work co-operatively with the other parties to identify the origin of recovered salmon, will exchange information and will participate in the development of coastwide databases such as are planned for thermal marks.

2. Improve understanding of ecosystem impacts of salmon.

   With introduction of the Canada Oceans Act in 1997, Canada formally signalled that it is moving towards an ecosystem-based approach to management of Pacific salmon and other aquatic resources. Six species of Pacific salmon share a common ocean habitat. To manage at the ecosystem level, the inter- and intra-specific interactions among salmon and other species must be understood.

   Canada will investigate what is required for ecosystem-based management and conduct studies to facilitate its implementation. For example, large-scale production of salmon in hatcheries may affect the production of other salmon stocks in the same or other countries, and production levels of one salmon species may affect production of another salmon species. Understanding potential interactions will assist in better managing wild and enhanced salmon stocks, and in maintaining the diversity of salmon populations and ecosystems. The stock identification studies described under section 1 above also have application to ecosystem studies.
APPENDIX 4

UNITED STATES RESEARCH PLAN

1. Coastal juvenile salmon studies in the Gulf of Alaska and Bering Sea

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 eastern Bering Sea. 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; and (8) describing the trophic dynamics of juvenile salmon and their predators in coastal waters. 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. The Bering Sea program in western Alaska began in 1999. Particular focus of the western Alaska research is 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 2000, the research in Bristol Bay was expanded to include observations on chum salmon from rivers north of Bristol Bay.

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 populations from the northern and eastern Gulf of Alaska; (2) a summary of historical salmon research in the Karluk Lake area; (3) reconstructing long-term changes in salmon abundance using high-resolution paleoenvironmental analysis of sediment cores from sockeye salmon lake systems and from anoxic marine basins in North America; and (4) time-series analyses of North American salmon population and climate data.

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 cooperation in 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.
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 U.S. commitments to the NPAFC.

5. Bering Sea salmon research plan

The United States is seeking funds to establish a new program of international cooperative research on the effects of environmental variation and density-dependence on salmon carrying capacity in the Bering Sea. The plan is to investigate: (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. The success of the plan will in many ways depend upon the extent of cooperation and commitment by the NPAFC member nations. Key elements of the plan include: (1) development of a 5-year international survey of salmon in the offshore regions of the Bering Sea, (2) an annual review of Bering Sea salmon production and coordination of national juvenile salmon research programs operating in the Bering Sea and adjacent waters, and (3) integration with partner research agencies/commissions, particularly to enhance studies of salmon habitat in the coastal and offshore regions of the Bering Sea.

6. Stock assessment research

In Alaska, the U.S. Party will be conducting ongoing stock assessment studies in support of in-season salmon management. In 2002, these studies will be directed at estimation of escapement or an index of escapement for major salmon stocks (using aerial observations, weirs, counting towers, or hydroacoustics methods); biological sampling of harvest and some escapement populations (including age, sex, and length, and scale or other tissue collections) of major management stock groupings; and estimation of fishing sources of mortality of major stock groupings.

In 2002, a number of special studies – part of a three-year research program – will be put in place on the Alaskan Peninsula and in Western Alaska, where marine survivals have recently declined. These studies are aimed at gaining a detailed understanding of stock productivity. This monitoring includes assessment of the annual and stock-specific catch and escapement by age, run reconstruction, assessments of rearing and spawning carrying capacity, assessment of genetic diversity, and monitoring the stock’s distribution in spawning and rearing habitat. Some of these studies will also be aimed at improving the ability to develop preseason forecast of abundance.
APPENDIX 5

RESULTS OF F/V ARCTIC WIND INVESTIGATION

Prepared by Special Agent Ron Antaya,
Alaska Enforcement Division – National Marine Fisheries Service

SYNOPSIS

On May 1, 2000, the Honduran flagged vessel ARCTIC WIND, formerly known as the SEA WIND, was observed by a United States Coast Guard C-130 aircraft approximately 621 nautical miles south of Adak Island, Alaska. The aircraft also observed approximately 4 nautical miles of driftnet floating in the water near the vessel. The USCG dispatched the cutter SHERMAN to investigate possible violations of United National General Assembly Resolution 46/215.

A USCG helicopter located the ARCTIC WIND at 46°55'N, 179°26'W on May 7, 2000. The ARCTIC WIND failed to respond to their hails via VHF radio. A USCG C-130 aircraft and the SHERMAN arrived at that location approximately one hour later. The C-130 flew the ARCTIC WINDS previous tract line and located 2 drift nets at 46°57'N, 179°10.7'W. The SHERMAN hailed the ARCTIC WIND with visual signals, with the loud hailer and in 4 languages via VHF radio, no response was received. The SHERMAN pursued the ARCTIC WIND for approximately 24 hours, until late on May 8, 2000, the cutter received permission to fire disabling/warning shots on the ARCTIC WIND. The master of the ARCTIC WIND agreed to allow the USCG to board the vessel after the cutter trained her guns on the ARCTIC WIND.

On May 10 and 12, 2000, a USCG boarding officer directed the crew of the ARCTIC WIND to retrieve two drift nets and transponder buoys that were discovered drifting nearby. The nets and buoys matched those that were onboard the ARCTIC WIND. The recovered nets contained over 700 salmon, as well as a number of marine mammals, sharks and seabirds. The captain denied that these nets belonged to the ARCTIC WIND, crew members later confirmed that the nets did belong to, and were deployed by the ARCTIC WIND.

The USCGC SHERMAN seized the ARCTIC WIND and escorted her to Adak Island, Alaska, arriving on May 14, 2000. A Special Agent from the National Marine Fisheries Service met the vessel to assist the USCG and to continue the investigation. The U.S. Immigration and Naturalization Service assumed custody of crew members on May 16, 2000. The crew members were flown via USCG aircraft to Anchorage, AK, where they were interviewed and repatriated to Russia.
On May 21, 2000, approximately 4,283 pounds of frozen salmon, that was seized from the ARCTIC WIND, was donated to the Alaska Food Bank to be distributed to soup kitchens and shelters in Anchorage, Alaska.

United States District Court issued an arrest warrant for the ARCTIC WIND on May 22, 2000. The warrant was served and National Marine Fisheries Service Enforcement personnel transported the ARCTIC WIND from Adak Island to Seward, AK where she was secured and surveyed. The marine surveyor estimated the vessels fair market value to be $375,000 (USD).

The complaint that was filed by the U.S. Government in U.S. District Court was never answered or contested, and the vessel was never claimed by her owners. With no defendant to fine, the court issued a final decree forfeiting the ARCTIC WIND to the U.S. Government on September 6, 2000 and ordered the vessel be sold at public auction. The ARCTIC WIND was sold to Pacific Island Resources, LLC, of Kapolei, Hawaii for $226,500 (USD) on October 16, 2000. After the sale, National Marine Fisheries Service Officers and Agents removed approximately 28 kilometers of driftnet from the ARCTIC WIND, then donated the net to an elementary school that later sold the plastic net to be recycled into other plastic products. The ARCTIC WIND has since been relocated to a shipyard in Seattle, WA where she is currently being refitted by the new owners.

RESULTS of INVESTIGATION

Scientists from the National Marine Fisheries Service Auke Bay Laboratory analyzed 764 chum, sockeye and chinook salmon that were found onboard the ARCTIC WIND. The analysis determined that most probably points of origin for the salmon were:

Chum Salmon - Russia 63%, Japan 14%, Western Alaska 11%, Alaska Peninsula and Kodiak 6%, Prince William Sound/South East Alaska 4%, British Columbia 1%.

Sockeye - Russia 24%, Alaska/Northern British Columbia 75%, Southern British Columbia/Washington 2%.

Chinook - Russia 44%, Western Alaska 23%, Southcentral Alaska 6%, California/Washington/Oregon 27%.

The ARCTIC WIND was operated by a Russian captain and crew with a representative of the Russian fishing company, Voskhod, onboard. The captain and representative claimed that the vessel was owned by the Honduran company Sirious Fisheries, and that the vessel was to be sold to Voskhod Fisheries after the ships registry was transferred from Honduras to Russia. A Korean company was going to assume some ownership interest in the vessel after the ships registry was transferred to Russia.

The master reported that the vessel left Pusan, South Korea on April 19, 2000 after taking on 28 kilometers of drift net, crew, fuel and supplies expected to last up to three months. The master claims that his intention was to fish squid on this trip. He claims that squid prices were high and fishing effort was low. The captain reported making their first set of this trip at 44°05'N, 189°21'E on April 30, 2000. The net was allowed to fish for 8 hours. He claims that due to cold water temperatures, they caught very few squid, all of which was prepared onboard and eaten by the crew. He also claims to have retained about 130 kg of salmon from the first set. The captain claims that he made 5 or 6 sets before they were apprehended, the last set being made on May 7, 2000
The ARCTIC WIND's nets were manufactured in Hokkaido, Japan by one of three companies that manufacture net of this type and specification. Each net is made up of 150 sections with each section being 49 1/2 meters long. A net is a total of 7 km long. Nets usually drift 4 - 5 nautical miles in an 8 hour period. Drift nets that have fished for up to 12 hours remain mostly straight, they begin to curtain after 24 hours, and become twisted, tangled and dangerous to retrieve after 48 hours. The mesh size of the net was 70 mm, this is typically regarded as being too large for squid.

A crew member on board the ARCTIC WIND told the National Marine Fisheries Service agent that Sirius Fisheries owns 2 vessels, the sister ships ARCTIC WIND and the SIRIOUS 2. Both vessels were homeported in Pusan, South Korea. Both vessels were outfitted to fish drift nets for salmon. One crew member was told by Voskhod's representative that the ARCTIC WIND was targeting high value nerka (sockeye salmon). The same crew member reported that the ARCTIC WIND was painted from its original color of blue, to white, the same color as the SIRIOUS 2, prior to leaving Pusan. The name ARCTIC WIND was painted over with white paint. The owner of the SIRIOUS 2 and ARCTIC WIND was attempting to acquire some salmon fishing quota from the Russian government for the SIRIOUS 2. The owner planned to have both vessels carry duplicate documents so that the ARCTIC WIND and the SIRIOUS 2 could fish the salmon quota simultaneously in Russian waters, illegally catching twice their quota. The captain of the vessel thought this to be a plausible plan because the ARCTIC WIND had been boarded 5 or 6 times in the previous 3 years by various law enforcement agencies and everything went very smoothly with no suspicion of illegal activity. The crewmen reported that the SIRIOUS 2 was experiencing mechanical problems and that she would be drift net fishing as soon as repairs could be made. This same crew member reported that the ARCTIC WIND was previously named the SHTORMOVOJ.

The captain and Voskhod's fishing representative onboard the ARCTIC WIND said that they were targeting squid to be sold in Japan. The salmon that they retained was brought onboard during the first set that they made on this trip, it was not their intent to fish salmon. The captain attempted to find squid by looking for surface water temperature of 6-7 degrees C. The captain received weather and surface temperature information via weather fax daily, and reports via INMARSAT regularly.

The ARCTIC WIND had 9 transponders onboard. Each transponder was equipped with standard frequencies (using quartz crystals) and are interrogated by a code. Codes for transponders can be changed by the crew aboard the fishing vessel. There is also another set of numbers and letters assigned to the transponder known as the call code. The vessels captain said that there are books, or lists, that exist that list the frequencies and call codes specific to each vessel that utilizes transponders. Some frequencies work better than others in specific geographic locations, this is discovered through trial and error or previous experience. Transponder buoys are manufactured in Japan in lots of 100, all equipped with the same frequency, code and call code, they are then sold in lots of 10 to the fishing vessels, the vessels crew then change the codes whenever they want to. The transponders frequency, code and call code is written down when it is deployed with the net. This information is protected as very secret, it was discarded by the captain when the USCG initiated hot pursuit. There is no way to duplicate the code once it is discarded.

Offload arrangements were to be made by the vessels owners after the market conditions were analyzed and the product had been sold. The product offload was to be conducted at sea to a Japanese, Korean or Russian transport vessel, this information was to communicated via IMARSAT by the ships owner. The crew did not receive any prior instructions as to what to do if boarded or overflown by a law enforcement agency, they never considered that they would get caught doing something illegal. Sirius Fisheries
financed the gear and equipment aboard the ARCTIC WIND with a verbal contract, there was no written contract to trace back to the owner.

When the captain saw the USCG C-130 aircraft, he plotted a course to the Kuril Islands to get closer to the Russian EEZ where he had a better understanding of the Federal Border Guard's procedures and policies. The captain said that he would've tried to outrun the USCG indefinitely had it not been for the threat of being fired upon. The captain also reported that the closure of Russian pollock fisheries is pushing nearly bankrupt fishermen into illegal activities.
APPENDIX 6

ORGANIZATIONAL STRUCTURE OF THE AGENCY PRIMARY RESPONSIBLE FOR HIGH SEAS DRIFTNET (HSDN)

CANADA

Fisheries and Oceans, Canada (DFO), enforcement effort towards the illegal high seas driftnet fishery is in support of the United Nations Ban of 1993.

Jurisdiction:

The Federal Minister for Fisheries and Oceans Canada is responsible for all fish and fish habitat in Canada. The National Headquarters for DFO is located in Ottawa with the rest of the country being divided into six Regions. The Pacific Region, which is responsible for delivering the enforcement effort directed towards HSDN fishing, consists of the province of B.C. and the Yukon Territory. Fishery Officers are located throughout B.C. and the Yukon which is divided into 6 area offices, 18 detachments, 34 field offices, with a total compliment of 173 fishery officers.

Organizational Structure:

The Director General of Conservation and Protection, in Ottawa, oversees and funds the HSDN enforcement programs.

The Chief, Enforcement Operations located in Pacific Region is responsible for the co-ordination and delivery of the enforcement program. Aircraft are manned by Fishery Officers chosen from throughout Pacific Region. All patrols are conducted aboard an Aurora aircraft supplied and manned by Canadian Department of National Defense personnel.

Fisheries and Oceans Canada
HSDN Reporting Structure

<table>
<thead>
<tr>
<th>Pat Chamut</th>
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<tr>
<td>Assistant Deputy Minister</td>
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<td>Fisheries Management</td>
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<th>Dennis Brock</th>
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<th>Robert Martinovich</th>
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<tr>
<td>Chief Enforcement Operations</td>
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<tr>
<td>Conservation and Protection</td>
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<tr>
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JAPAN
(Offices and divisions responsible for HSDN case are in bold.)

1) Fisheries Agency of Japan
   a) (Headquarters in Tokyo)
      Director-General
      Deputy Director-General

      Fisheries Policy Planning Department
      Director-General
      Counsellor
      Administration Division
      Policy Planning Division
      Fisheries Management Improvement Division
      Processing and Marketing Division
      Fisheries Insurance Division

      Resources Management Department
      DIRECTOR-GENERAL
      Councillor
      Counsellor
      Resources Management Division
      Enforcement Office
      Fisheries Coordination Division
      Far Seas Fisheries Division
      International Affairs Division (Primary point of contact for HSDN case)

      Resources Enhancement Promotion Department
      Director-General
      Counsellor
      Research and Technological Guidance Division
      Resources and Environment Research Division
      Fish Ranching and Aquaculture Division

      Fisheries Infrastructure Department
      Director-General
      Planning Division
      Construction Division
      Fishing Communities Promotion and Disaster Prevention Division

   b) Fisheries Coordination Office (Local Branch Offices)
      (Hokkaido, Sendai, Niigata, Setonaikai, Sakaiminato, Kyushu)

2) Independent Administrative Institutions
   Fisheries Research Agency
   National Salmon Resources Center
   National Fisheries University

UNITED STATES

US Coast Guard HSDN Organization

The United States Coast Guard is organized by geographic region under districts. The districts responsible for enforcement within the NPAFC Convention Areas include the 14th District headquartered in Honolulu, Hawaii and
17th District headquartered in Juneau, Alaska. The Chief, Operations Division for each district is responsible for managing the patrol effort and response to illegal activity. Each district and the Pacific Area Commander has a 24 hour Command Center that can receive and respond to reports of illegal activity.

PACIFIC AREA

SEVENTEENTH DISTRICT (North of 40N)

FOURTEENTH DISTRICT (South of 40N)

NMFS Enforcement

The National Marine Fisheries Service (NMFS) is similarly organized by region. However, the Alaska Enforcement Division is the office responsible for coordinating response by NMFS to reports of illegal activity under the NPAFC Convention.

- Alaska Enforcement Division
  - POC: Special Agent in Charge: Jeff Passer
- Responsibilities
  - Deploy with CA and US flights
  - Post-seizure investigation
  - Post-seizure disposition

RUSSIA

The Organization of Federal Border Guard Service of Russia (regarding to sea living resources protection)

Director of FBS (Moscow)

Department of the Marine Guard

Northeast Regional Directorate
Deputy Commander
Chief of Marine Guard Office
EEZ and Shelf Guard Group

Pacific Regional Directorate
Deputy Commander
Chief of Marine Guard Office
EEZ and Shelf Guard Group
# APPENDIX 7

## PRIMARY POINTS OF CONTACT FOR HSDN CASES

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
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<tr>
<td><strong>CA</strong></td>
<td></td>
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<tr>
<td>Dennis Brock</td>
<td>1-613-990-6012</td>
<td>1-613-941-2718</td>
<td><a href="mailto:brockd@dfo-mpo.gc.ca">brockd@dfo-mpo.gc.ca</a></td>
<td>email</td>
</tr>
<tr>
<td>Chris Dragseth</td>
<td>1-604-666-0604</td>
<td>1-604-666-4313</td>
<td><a href="mailto:draegaethc@dfo-mpo.gc.ca">draegaethc@dfo-mpo.gc.ca</a></td>
<td>e-mail</td>
</tr>
<tr>
<td>Robert Martinovich</td>
<td>1-604-666-0589 or 666-3500 (24 hrs)</td>
<td>1-604-666-4313</td>
<td><a href="mailto:MartinovichR@pac.dfo-mpo.gc.ca">MartinovichR@pac.dfo-mpo.gc.ca</a></td>
<td>email</td>
</tr>
<tr>
<td><strong>JA</strong></td>
<td></td>
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<tr>
<td>International Affairs Division</td>
<td>81-3-3501-3861</td>
<td>81-3-3502-0571</td>
<td><a href="mailto:Yoshitsugu_ehikada@nm.maff.go.jp">Yoshitsugu_ehikada@nm.maff.go.jp</a></td>
<td>email</td>
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<tr>
<td>Enforcement Office</td>
<td>81-3-3502-0942</td>
<td>81-3-3502-0167</td>
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<tr>
<td>Dept. of Marine Guard of FBS (Moscow)</td>
<td>7-095-926-7942</td>
<td>7-095-925-8513</td>
<td><a href="mailto:V_antipin@mail.ru">V_antipin@mail.ru</a></td>
<td>fax</td>
</tr>
<tr>
<td>Pacific Regional Directorage</td>
<td>7-4232-22-8490</td>
<td>7-4232-22-8490</td>
<td><a href="mailto:kvf@mail.primorye.ru">kvf@mail.primorye.ru</a></td>
<td>email</td>
</tr>
<tr>
<td>Northeast Regional Directorate</td>
<td>7-41522-23-2952</td>
<td>7-41522-3-6221</td>
<td><a href="mailto:mds@svu.kamchatka.ru">mds@svu.kamchatka.ru</a></td>
<td>fax</td>
</tr>
<tr>
<td>Kamchatryvod</td>
<td>7-4152-11-9011</td>
<td>7-4152-11-7276</td>
<td><a href="mailto:rezvanov@ryvod.kamchatka.ru">rezvanov@ryvod.kamchatka.ru</a></td>
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<tr>
<td><strong>US</strong></td>
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<tr>
<td>Pacific Area</td>
<td>1-510-437-3701</td>
<td>1-510-437-3017</td>
<td>OD11/Pacarea@d11.uscg.mil</td>
<td>email</td>
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<tr>
<td>14th District</td>
<td>1-808-541-2500</td>
<td>1-808-541-2123</td>
<td><a href="mailto:D14codutyofficer@D14.uscg.mil">D14codutyofficer@D14.uscg.mil</a></td>
<td>email</td>
</tr>
<tr>
<td>17th District</td>
<td>1-907-463-2000</td>
<td>1-907-463-2023</td>
<td><a href="mailto:D17-cc@cglaska.uscg.mil">D17-cc@cglaska.uscg.mil</a></td>
<td>email</td>
</tr>
<tr>
<td>NMFS</td>
<td>1-907-586-7225</td>
<td>1-907-586-7200</td>
<td><a href="mailto:Jeff.Passar@noaa.gov">Jeff.Passar@noaa.gov</a></td>
<td>fax</td>
</tr>
<tr>
<td>NPAFC</td>
<td>1-604-775-5550</td>
<td>1-604-775-5577</td>
<td><a href="mailto:secretariat@npafcc.org">secretariat@npafcc.org</a></td>
<td>email</td>
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APPENDIX 8

HSDN Flight from Petropavlovsk-Kamchatsky
On May 16, 2001
APPENDIX 9

DRAFT This document should be considered as a draft, and a work in progress, it may be amended and further developed by the Group as it conducts exchanges of information. The exchange of information is based on voluntary participation and good will of the Parties in accordance with the cooperative spirit currently practiced at NPAFC.

CONCEPT OF OPERATIONS
NPAFC ENFO COMMITTEE
JOINT OPERATIONS INFORMATION COORDINATION GROUP

Background: Since the establishment of the North Pacific Anadromous Fish Commission in 1993 (NPAFC), the Parties have cooperated on the exchange of information on any violation of the provisions of the Convention and on the exchange of enforcement plans and action. In recent years, the agencies responsible for enforcement within the Convention Area have significantly improved communications and the coordination of enforcement efforts among the Parties. Building upon the successes of the April 2001 Joint Patrol Coordination Group, which was suggested by the Federal Border Service at the 8th Annual Meeting of the NPAFC, it is now possible to use computer and communications technology to facilitate the exchange of enforcement information and coordinate patrol activities among the Parties enforcement agencies on a year round basis.

Purpose: The purpose of the Joint Operations Information Coordination Group (JOICG) is the voluntary exchange of enforcement related information for protection of salmon resources and prevent high seas drift net fishing in the Convention area of the North Pacific Ocean.

The group will be comprised of persons designated as the enforcement Points of Contact (POC) from each Party to NPAFC. The POC will serve as the conduit for the exchange of NPAFC related enforcement information between the Parties and will coordinate the dissemination of information with the appropriate government agency or entity.

The operations of the information working group is based on the following principals:

- Each Party’s commitment to the NPAFC and conservation and protection of salmon resources in the North Pacific Ocean.

- The need to improve enforcement efforts into the prevention of high seas driftnet fishing, in the convention area while maintaining our detection/apprehension efforts during the fishing season.

- The need to ensure the reciprocity among the members of group by which all members would be equally benefited, while taking due account of cost -benefit of the task(s) required for the Party.

- The need for effective and efficient use of resources of members involved in NPAFC and the resolution of enforcement issues, while the sovereignty of each Party is maintained and this cooperation is based on voluntary participation and the good will of the Parties in accordance with the Convention.

- The need to create a well coordinated system of information exchange regarding HSDN activities.

- The need to exchange information and the type of information exchanged may vary from time to time through out the year, e.g. Pre-Season, In-Season and Post Season.

Annex I contains a list of possible types of information that may be considered for exchange. Each Party will evaluate the information requested by the group and voluntarily respond based upon the availability of the information, their legislative authority and their ability to respond.

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Organization

The JOICG is comprised of designated enforcement Points of Contacts (POC) of member countries to NPAFC. The JOICG will function as outlined below:

Participants

- The participants include enforcement representatives of Parties to the Convention on Conservation of Anadromous Fish Stocks in the North Pacific Ocean.

- The POC’s identified will be allowed to receive and transmit the identified/requested information and be able to share/request information from the appropriate government agency or entity.

- Each Party has the right to ask questions that are of interest to the Party. Each Party equally may not answer questions asked if they are beyond the terms of reference as defined by their legislative authority, their capability, ability to respond or other reason.

The roster of participants should include:

- from Russia – one officer of the Russian Border Service

- from USA – 1 officer from the Seventeenth District United States Coast Guard and 1 agent from the National Marine Fisheries Service Alaska Enforcement Division.

- from Canada – 1 officer from Canadian Department of Fisheries and Oceans and in season a member of the Canadian Department of National Defence (Maritime Air Command Pacific, MAC (P))

- from Japan – one or two officer(s) from Fisheries Agency of Japan and (a) member(s) of other Japanese enforcement agency.

Communications

Communication between the POC’s will be done via the Internet (e-mail), fax and telephone. The working language of the group will be primarily English.

In the event a POC changes, the departing POC is responsible to advise the other members of the JOICG of the replacement, complete with contact numbers, e-mail address etc.

Contact will be made among the POC’s at a minimum of once each month, during the week of the 25th to the 31st day of each month to ensure open lines of communications and the sharing of any applicable information, and more frequently as needed. Initial contact will be conducted using email during the week of November 25, 2001. Any increase in mandatory contact frequency will be made with the consensus of the members of the JOICG.
DRAFT This document should be considered as a draft, and a work in progress, it may be amended and further developed by the Group as it conducts exchanges of information. The exchange of information is based on voluntary participation and good will of the Parties in accordance with the cooperative spirit currently practiced at NP AFC

Points of Contact

Canada:
Robert Martinolich (primary)  Wanda Saunby (secondary)
Tel: 1-604-666-0589  Tel: 1-604-666-1796
Fax: 1-604-666-4313  Fax: 1-604-666-9136
E-mail: martinolichr@pac.dfo-mpo.gc.ca  E-mail: saunbyw@pac.dfo-mpo.gc.ca
24 hour Contact: 604-666-3500

United States

United States Coast Guard
LCDDR Gregory Busch (primary)  LT Phillip Thorne (secondary)
Tel: 1-907-463-2223  Tel: 1-907-463-2057
Fax: 1-907-463-2216  Fax: 1-907-463-2216
E-mail: gbusch@cgalaska.uscg.mil  E-mail: pthorne@cgalaska.uscg.mil
24 hour Contact: 1-907-463-2000

National Marine Fisheries Service
Jeff Passer (primary)  John Kingeter (secondary)
Tel: 1-907-321-2123  1-907-586-7225
Fax: 1-907-586-7200  1-907-586-7200
E-mail: Jeff.Passar@noaa.gov  E-mail: John.Kingeter@noaa.gov
24 hour Contact: 1-907-463-2000

Russia
Aleksei Vysotenko
Tel: 7-415-22-3-69-09
Fax: 7-41522-3-62-21
E-mail: mds@svru.petropavlovsk.ru

Japan
Hideo Inomata
Tel: 81-3-3591-3861
Fax: 81-3-3502-0571
E-mail: hideo_inomata@nm.maff.go.jp
DRAFT This document should be considered as a draft, and a work in progress, it may be amended and further developed by the Group as it conducts exchanges of information. The exchange of information is based on voluntary participation and good will of the Parties in accordance with the cooperative spirit currently practiced at NPAFC

Annex I

Information to be exchanged

The following is a list of desired enforcement related information that may be exchanged. This list is not meant to be all-inclusive and may be modified by the Group. The exchange of information may be restricted by the legislative authority and structure of the agencies involved. The information obtained shall not flow outside the agency concerned without the consent by the Party of source.

For specific vessels of interest, the information identified in the “High Seas Drifnet Case Package Checklist” provided to member countries at the Ninth Annual Meeting of NPAFC in Victoria, British Columbia, Canada by the United States should be exchanged to the extent possible.

Pre-Season Information:

- Workplans/schedules for patrol resources
- Patrol plans, vessels, aircraft types equipment and capabilities
- Licencing/permitting information for vessels authorized (scientific or commercial) to fish outside of the participating countries EEZ
- Licencing/permitting information for vessels authorized to enter participating countries EEZ to participate in fishing, at sea transfers, or support to fishing vessels
- Offloading/transshipment information from vessels in port
- Quotas allocated to be harvested in the current year
- Information on vessels/organizations that are suspected violators
- Market observations and trends
- Creation, maintenance and updating of required databases, if any.

In-Season Information:

- Patrol activities and results of enforcement patrols by member countries.
- Types and schedule of patrol resources

Post Season Information:

- Summary/evaluation of current years activities

Upon completion of evaluating the current year’s activities, the JOICG will begin work preparing for the next year’s activities.
APPENDIX 10

DRAFT PLAN FOR NPAFC BERING-ALEUTIAN SALMON INTERNATIONAL SURVEY (BASIS)  
(PROJECT SUMMARY)

Problem/Issue  
Unanticipated changes in the ocean productivity of Bering Sea ecosystem are affecting Asian and North American societies and economies through reduction and possible elimination of important commercial and subsistence fisheries. Experts agree that the future of the Bering Sea fishery resources are uncertain; the lack of long-term, large-scale observation systems for salmon in the Bering Sea has inhibited scientific understanding of these changes. An international effort is required to detect and monitor changes in salmon and their ecosystem because stocks from all major salmon producing nations are distributed in the Bering Sea, intermingle in international waters, and migrate across the national economic zones. At the 2001 annual meeting of the North Pacific Anadromous Fish Commission (NPAFC), Canada, Japan, Russia, and the United States agreed to plan and coordinate a new international program that will form the basis for long-term, large-scale ecosystem research on salmon in the Bering Sea.

Survey Plan Elements  
The scientific concepts behind the NPAFC Bering-Aleutian Salmon International Survey (BASIS) are simple; yet the results will revolutionize our understanding of salmon and the Bering Sea ecosystem. The plan calls for four synoptic 1-month seasonal (spring, summer, fall, winter) surveys per year for 5 years. The survey area consists of 105 sampling stations spaced at regular intervals across the Bering Sea: from the Aleutians north to 64°N, and from the Alaskan to Russian coasts. Sampling would consist of surface trawls to capture salmon and other fish, plankton tows, and sampling of ocean conditions (e.g., salinity, temperature, currents). Coordination of sampling by vessels of four nations would be through the NPAFC.

In-depth biological and stock identification analyses will determine growth and life history characteristics of regional stock groups. The stock identification analyses would be based on genetic, parasite, scale, otolith, and tag data. BASIS data will be used in spatially-explicit models incorporating oceanographic data and salmon migration, growth, and mortality processes to advance our understanding of the causes of changes in productivity of salmon populations.

Survey Plan Benefits  
BASIS provides the first ever synoptic seasonal information on distribution, abundance, and stock origins of all species, age, and maturity groups of salmon in the Bering Sea. BASIS directly addresses the key elements of the 2001-2005 NPAFC Science Plan. BASIS complements long-term climate, ocean, and ecosystem research and monitoring activities by other international organizations such as the North Pacific Marine Science Organization (PICES) and Global Ocean Ecosystem Dynamics (GLOBEC).
Bering-Aleutian Salmon International Survey (BASIS)
A Guideline recommended by CSRS

Canada National Research Plan
Japan National Research Plan
Russia National Research Plan
U.S.A. National Research Plan

BASIS Working Group
- Coordinate individual national plans
- Draft "Annual Implementation Plan" for joint BASIS

CSRS/RPCM
- Review and approval of proposed active plan
- Coordination of practical research activities at RPCM

Joint Salmon Research in the Bering Sea
Report results

BASIS Working Group
- Draft annual report to summarize BASIS results
Submit

CSRS
- Review and approval of annual research reports
- Coordination of scientific exchanges, workshops, and publications

A flow chart indicating the planning and coordination of BASIS.
APPENDIX 11

AUDITORS' REPORT TO THE COMMISSION

We have audited the balance sheet of the North Pacific Anadromous Fish Commission (the "Commission") as at June 30, 2001 and the statements of income and expenditures and fund balances of the general and working capital funds and International North Pacific Fisheries Commission Reserve Fund and cash flows for the year then ended. These financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Commission as at June 30, 2001 and the results of its operations and its cash flows for the year then ended in accordance with the accounting principles disclosed in note 2 to the financial statements.

Chartered Accountants

Vancouver, Canada
August 10, 2001
# Statement of Assets and Liabilities and Fund Balances

June 30, 2001 with comparative figures for 2000

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and term deposits</td>
<td>$760,028</td>
<td>$732,472</td>
</tr>
<tr>
<td>Accounts receivable and prepaid expenses</td>
<td>9,236</td>
<td>2,350</td>
</tr>
<tr>
<td>Advance to employee</td>
<td>12,257</td>
<td>9,282</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$781,521</td>
<td>$744,104</td>
</tr>
</tbody>
</table>

**Liabilities and Fund Balances**

<table>
<thead>
<tr>
<th>Liabilities balances:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>$ 32,374</td>
<td>$ 39,919</td>
</tr>
<tr>
<td>Contribution received in advance</td>
<td>270,000</td>
<td>202,500</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>302,374</td>
<td>242,419</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fund balances:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internally restricted:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INPFC Reserve Fund (note 2(a))</td>
<td>-</td>
<td>173,518</td>
</tr>
<tr>
<td>Working capital fund:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency fund</td>
<td>75,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Severance fund</td>
<td>16,080</td>
<td>13,576</td>
</tr>
<tr>
<td>Moving fund</td>
<td>388,067</td>
<td>239,591</td>
</tr>
<tr>
<td><strong>Total Fund Balances</strong></td>
<td>479,147</td>
<td>501,685</td>
</tr>
</tbody>
</table>

| **Total**                   | $781,521 | $744,104 |

**Commitments (note 4)**

See accompanying notes to financial statements.
### Statement of Income and Expenditures and Changes in Working Capital Funds

Year ended June 30, 2001, with comparative figures for 2000

<table>
<thead>
<tr>
<th></th>
<th>General Fund</th>
<th>Working Capital Funds</th>
<th>2001</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Contingency</td>
<td>Severance</td>
<td>Moving</td>
</tr>
<tr>
<td>Income:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions from contracting parties</td>
<td>$ 540,000</td>
<td>$ -</td>
<td>$ -</td>
<td>$ - $</td>
</tr>
<tr>
<td>Interest</td>
<td>22,005</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Levies (note 2(b))</td>
<td>-</td>
<td></td>
<td>2,504</td>
<td>38,135</td>
</tr>
<tr>
<td></td>
<td>562,005</td>
<td></td>
<td>2,504</td>
<td>38,135</td>
</tr>
<tr>
<td>Expenditures:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>246,673</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Benefits</td>
<td>26,199</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Overtime</td>
<td>762</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>273,634</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>63,336</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Communications</td>
<td>17,725</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Contracts</td>
<td>99,248</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Printing</td>
<td>53,828</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rentals</td>
<td>32,066</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Supplies</td>
<td>8,268</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Equipment</td>
<td>8,861</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>10,469</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Moving</td>
<td>-</td>
<td></td>
<td>60,017</td>
<td>60,017</td>
</tr>
<tr>
<td>Workshop</td>
<td>-</td>
<td></td>
<td>5,849</td>
<td>5,849</td>
</tr>
<tr>
<td></td>
<td>293,801</td>
<td></td>
<td></td>
<td>65,866</td>
</tr>
<tr>
<td></td>
<td>567,435</td>
<td></td>
<td></td>
<td>65,866</td>
</tr>
<tr>
<td>Excess of income over</td>
<td>(5,430)</td>
<td></td>
<td>2,504</td>
<td>(27,731)</td>
</tr>
<tr>
<td>expenditures (expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>over income)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fund balances,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>beginning of year</td>
<td>-</td>
<td>75,000</td>
<td>13,576</td>
<td>239,591</td>
</tr>
<tr>
<td>Transfers of fund balances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(note 2(a))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Fund</td>
<td>5,430</td>
<td></td>
<td></td>
<td>(5,430)</td>
</tr>
<tr>
<td>INPFC Reserve Fund</td>
<td></td>
<td></td>
<td>181,637</td>
<td>181,637</td>
</tr>
<tr>
<td>Fund Balances, end of year</td>
<td>$</td>
<td>$ 75,000</td>
<td>$ 16,080</td>
<td>$ 388,067</td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements.
### Statement of INPFC Reserve Fund

**Year ended June 30, 2001, with comparative figures for 2000**

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Income</td>
<td>$ 8,119</td>
<td>$ 8,330</td>
</tr>
<tr>
<td>Excess of income over expenditures</td>
<td>8,119</td>
<td>8,330</td>
</tr>
<tr>
<td>INPFC Reserve Fund balance, beginning of year</td>
<td>173,518</td>
<td>165,188</td>
</tr>
<tr>
<td>Transfer to Working Capital Fund</td>
<td>(181,637)</td>
<td>-</td>
</tr>
<tr>
<td>INPFC Reserve Fund balance, end of year</td>
<td>$ -</td>
<td>$ 173,518</td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements.

### Statement of Changes in Cash

**Year ended June 30, 2001, with comparative figures for 2000**

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of cash:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions from contracting parties</td>
<td>$ 607,500</td>
<td>$ 472,500</td>
</tr>
<tr>
<td>Interest</td>
<td>29,957</td>
<td>31,394</td>
</tr>
<tr>
<td>Levies</td>
<td>40,638</td>
<td>37,199</td>
</tr>
<tr>
<td>Provincial sales tax and goods and services taxes recovered</td>
<td>(562)</td>
<td>333</td>
</tr>
<tr>
<td>Total</td>
<td>677,533</td>
<td>541,426</td>
</tr>
</tbody>
</table>

| Use of cash:                   |          |          |
| Personnel services             | 277,810  | 271,648  |
| Travel                         | 68,988   | 47,360   |
| Communications                 | 17,505   | 16,286   |
| Contracts                      | 99,640   | 120,045  |
| Printing                       | 46,287   | 27,480   |
| Rentals                        | 43,856   | 41,928   |
| Supplies                       | 8,518    | 6,674    |
| Equipment                      | 4,861    | 3,438    |
| Moving expenses                | 71,760   | (1,195)  |
| Miscellaneous expenses         | 4,903    | 4,877    |
| Workshop expenses              | 5,849    | 71,883   |
| Total                          | 649,977  | 610,424  |

| Increase (decrease) in cash   | 27,556   | (68,998) |
| Cash, beginning of year       | 732,472  | 801,470  |
| Cash, end of year             | $ 760,028 | $ 732,472 |

Cash is comprised of cash and term deposits.

See accompanying notes to financial statements.
NOTES TO FINANCIAL STATEMENTS
Year ended June 30, 2001 and 2000

1. General
The North Pacific Anadromous Fish Commission (the "Commission") was established on
February 16, 1993 jointly with the contracting parties, Canada, Japan, Russia and the United States
of America, in accordance with the Convention for the Conservation of Anadromous Stocks in the
North Pacific Ocean.

2. Significant accounting policies
The financial statements are prepared on the accrual basis of accounting in accordance with the
Handbook of the Commission. The following is a summary of the significant accounting policies
used in the preparation of these financial statements.

(a) Fund accounting
The financial statements include the results of three funds:
The General Fund accumulates the current period operating income and expenditures.
The Working Capital Fund represents the income from levies less moving expenditures and the
accumulated excess of income over expenditures of the General Fund. This fund is comprised of
reserves for contingencies, severance pay and moving expenditures.
Based on a resolution proposed at the Commission’s 2000 Annual Meeting, the balance of the
International North Pacific Fisheries Commission (“INPFC”) Reserve Fund was transferred to the

(b) Levies
In accordance with the provisions in the Commission’s Handbook an amount is calculated, based on
salaries of all foreign officers of the Commission, which is estimated to be equal to their contribution
for income taxes which would otherwise be payable. The amount so calculated is recorded as income
in the Working Capital Fund under the caption "levies".

(c) Equipment
Equipment acquired by the Commission is expensed in the year of acquisition (note 3).

(d) Income tax
The Commission is a non-taxable organization under the Headquarters Agreement with the
Government of Canada.

(e) Foreign exchange
Transactions originating in foreign currencies are translated at the exchange rate prevailing at the
transaction dates. Assets and liabilities denominated in foreign currency at the balance sheet date are
translated to equivalent Canadian amounts at the rate of exchange on that date.

(f) Contributed services
The Commission does not include the amount of contributed services and rent in the statement of
income and expenditures.
3. Capital assets

<table>
<thead>
<tr>
<th></th>
<th>Cost at June 30, 2000</th>
<th>Additions Charged to operations during the year</th>
<th>Cost of disposals during the year</th>
<th>Cost at June 30, 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture and fixtures</td>
<td>$ 12,634</td>
<td>$ 823</td>
<td>$ -</td>
<td>$ 13,457</td>
</tr>
<tr>
<td>Office equipment</td>
<td>5,748</td>
<td>4,000</td>
<td>(3,164)</td>
<td>6,584</td>
</tr>
<tr>
<td>Computers</td>
<td>28,882</td>
<td>6,621</td>
<td>(3,133)</td>
<td>32,370</td>
</tr>
<tr>
<td></td>
<td><strong>$ 47,264</strong></td>
<td><strong>$ 11,444</strong></td>
<td><strong>(6,297)</strong></td>
<td><strong>$ 52,411</strong></td>
</tr>
</tbody>
</table>

4. Commitments

(a) As at June 30, 2001, the Commission is obligated under equipment leases to minimum annual payments of $1,727 in 2001/02.

Office space is supplied at no charge to the Commission by the Government of Canada through the Departments of Fisheries and Oceans and Public Works.

(b) Pension plan

The Commission has a contributory defined benefit pension plan which covers substantially all of its employees. The pension plan is administered through the International Fisheries Commissions Pension Society. The pension plan provides pension benefits based on length of service and final average earnings.

Based on an actuarial valuation as at January 1, 1999, the Commission had a funding excess of $26,000. The pension plan assets were $493,308 at June 30, 2001.
**Schedule of Status of General and Working Capital Fund Expenditures**  
Year ended June 30, 2001 and 2000

<table>
<thead>
<tr>
<th></th>
<th>2001 Budget appropriations (unaudited)</th>
<th>2001 Expenditures</th>
<th>2000 Budget appropriations (unaudited)</th>
<th>2000 Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel services:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>242,500</td>
<td>246,673</td>
<td>232,000</td>
<td>236,183</td>
</tr>
<tr>
<td>Benefits</td>
<td>28,000</td>
<td>26,199</td>
<td>29,000</td>
<td>29,741</td>
</tr>
<tr>
<td>Overtime</td>
<td>2,000</td>
<td>762</td>
<td>2,000</td>
<td>2,520</td>
</tr>
<tr>
<td>Temporary</td>
<td>1,500</td>
<td>-</td>
<td>2,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>274,000</td>
<td>273,634</td>
<td>265,000</td>
<td>268,444</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>67,000</td>
<td>63,336</td>
<td>50,000</td>
<td>47,956</td>
</tr>
<tr>
<td>Communications</td>
<td>18,000</td>
<td>17,725</td>
<td>18,000</td>
<td>17,206</td>
</tr>
<tr>
<td>Contracts</td>
<td>120,000</td>
<td>99,248</td>
<td>126,000</td>
<td>121,177</td>
</tr>
<tr>
<td>Printing</td>
<td>54,500</td>
<td>53,828</td>
<td>28,000</td>
<td>22,848</td>
</tr>
<tr>
<td>Rentals</td>
<td>32,000</td>
<td>32,066</td>
<td>58,000</td>
<td>54,671</td>
</tr>
<tr>
<td>Supplies</td>
<td>9,000</td>
<td>8,268</td>
<td>9,000</td>
<td>8,151</td>
</tr>
<tr>
<td>Equipment</td>
<td>10,000</td>
<td>8,861</td>
<td>4,000</td>
<td>3,438</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>10,000</td>
<td>10,469</td>
<td>8,000</td>
<td>4,911</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>320,500</td>
<td>293,801</td>
<td>301,000</td>
<td>280,358</td>
</tr>
<tr>
<td>Total general fund expenditures</td>
<td>594,500</td>
<td>567,435</td>
<td>566,000</td>
<td>548,802</td>
</tr>
<tr>
<td>Total working capital fund expenditures</td>
<td>68,200</td>
<td>65,866</td>
<td>143,000</td>
<td>96,715</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>662,700</td>
<td>633,301</td>
<td>709,000</td>
<td>645,517</td>
</tr>
</tbody>
</table>
APPENDIX 12

AMENDMENT TO THE NPAFC FINANCIAL RULES
RELATED TO A SPECIAL FUND FOR SCIENTIFIC RESEARCH

19 bis. For the purpose of supporting joint scientific research projects recommended by the Commission there shall be a Special Fund for Scientific Research, the source of monies therein being voluntary contributions from agencies of Contracting Parties and other donors, with the following restrictions:

a) Voluntary contributions above and beyond budget contributions by Contracting Parties may be accepted by the Executive Director, provided that the purposes for which the contributions are made are consistent with the policies, aims, and activities of the Commission; and

b) Voluntary contributions offered by other than Contracting Parties may be accepted, subject to agreement by the Contracting Parties that the purposes of the contributions are consistent with the policies, aims, and activities of the Commission.

The Executive Director shall report at each Annual Meeting on the condition of the Special Fund for Scientific Research, including the contributions received and their dispositions.
APPENDIX 13

NEWS RELEASE

Representatives of Canada, Japan, Russia, and the United States, the primary states of origin for salmon stocks in the North Pacific, met in Victoria, British Columbia, Canada from October 28-November 2, 2001, for the Ninth Annual Meeting of the North Pacific Anadromous Fish Commission (NPAFC). Observers from the North Pacific Marine Science Organization (PICES), the North Atlantic Salmon Conservation Organization (NASCO), the International Baltic Sea Fishery Commission (IBSFC), the International Council for the Exploration of the Seas (ICES), the Pacific Salmon Commission (PSC), the International Pacific Halibut Commission (IPHC), and the Republic of Korea were also in attendance. The meeting was chaired by Ms. Fran Ulmer, Lieutenant Governor of Alaska and President of the NPAFC.

The NPAFC was established by the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (the Convention) which became effective on February 16, 1993. The Convention prohibits directed fishing for salmonids on the high seas of the North Pacific Ocean and includes provisions to minimize the number of salmonids taken in other fisheries. The NPAFC promotes the conservation of salmonids 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 NPAFC's Committees on Enforcement, Scientific Research and Statistics, and Finance and Administration met to consider activities of the Parties in support of the objectives of the Convention.

The Committee on Enforcement reviewed enforcement efforts and activities in the Convention Area in 2001. All of the agencies directly responsible for the planning and execution of enforcement activities within the Convention Area attended, including representatives from the Department of Fisheries and Oceans Canada, the Fisheries Agency of Japan, the State Fisheries Committee of the Russian Federation and the Russian Federal Border Service, the United States National Marine Fisheries Service, and the United States Coast Guard. The cooperative enforcement efforts of the Parties did not detect any illegal fishing operations within this Convention Area. However, the level of international cooperation was highlighted by the first ever enforcement patrol of the Convention Area by a US Coast Guard C-130 patrol aircraft staged out of Petropavlovsk-Kamchatsky, Russia with representatives from each Party. The flight did not detect any illegal activity within the Convention Area, however, it did detect a vessel illegally drift net fishing about 15 nautical miles inside the Russian Exclusive Economic Zone. The Federal Border Service ship DZERZHINSKY, which was on patrol within the Convention Area, intercepted and boarded the vessel and determined that it was in violation of Russian Law. The vessel, which was later identified as the fishing vessel SAKHFRAKHT-3, was directed to recover drift nets left in the water and escorted to port for further action by Russian authorities. Due to the continued threat of high seas fishing for salmon in the Convention Area, all Parties agreed to maintain 2002 enforcement activities at high levels as a deterrent to the threat of potential unauthorized fishing activities. Canada and the United States invited all the participants to an enforcement coordination meeting in 2002 which will be held either in Vancouver/Comox, Canada or in Kodiak, Alaska.

The Committee on Scientific Research and Statistics reviewed and discussed research on a broad range of issues concerning Pacific salmonid stocks on interrelationships of changes in abundance, ocean and atmospheric conditions, and other biological and ecological dynamics of salmonid production. A new Bering-Aleutian Salmon International Survey Plan (BASIS) was broadly discussed and adopted. BASIS directly addresses the key elements of the 2001-2005 NPAFC Science Plan and provides the first ever synoptic seasonal information on distribution, abundance and stock origins of all species, age, and maturing groups of salmon in the Bering Sea. It provides the basis for international cooperative research on salmon in NPAFC. Workplans will be further refined at the Research Planning and Coordinating Meeting (RPCM) in Vancouver in March 2002.
The NPAFC discussed ways to increase cooperation with NASCO, IBSFC, and other relevant international organizations to examine research and data needed to meet the common challenges facing salmon. A joint international symposium on the Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea will be held in Vancouver, Canada, on March 14-15, 2002.

Nearly 4.75 billion juvenile hatchery salmon were released in the North Pacific in 2000 and total commercial salmon catch was 712,056 metric tons.

The Committee on Finance and Administration considered and adopted the 2001/2002 budget. Administrative and financial topics were discussed and approved, including the creation of NPAFC Special Fund, for the purpose of supporting joint scientific research projects recommended by the Commission.

Dr. Anatoly Makoeov, Deputy Chairman of the State Committee for Fisheries of the Russian Federation, was elected as new President of the NPAFC.

The Tenth Annual Meeting of the NPAFC is scheduled to be held in Vladivostok, Russia in October 2002.

For Information

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APPENDIX 14

ABBREVIATIONS USED IN THIS REPORT

APFIC  Asia Pacific Fisheries Commission
BASIS  Bering-Aleutian Salmon International Survey
BWG  BASIS Working Group
CCCC  Climate Change and Carrying Capacity
CPUE  Catch per unit effort
CSRS  Committee on Scientific Research and Statistics
CWT  Coded-wire tag
DFO  Fisheries and Oceans, Canada
EECM  Enforcement Evaluation and Coordination Meeting
ENFO  Committee on Enforcement
EPCM  Enforcement Planning and Coordinating Meeting
ESR  Ecosystem Status Report
F&A  Committee on Finance and Administration
FAO  Food and Agriculture Organization of the United Nations
FBS  Federal Border Service
GCS  Gregg Computer Services
GLOBEC  Global Ocean Ecosystem Dynamics
GOA  Gulf of Alaska
GSI  Genetic stock identification
HEB  Habitat and Enhancement Branch
HSDN  High Seas Driftnet
HST  High seas tag
IAATTC  Inter-American Tropical Tuna Commission
IBSFC  International Baltic Sea Fishery Commission
ICCAT  International Commission for the Conservation of Atlantic Tunas
ICES  International Council for the Exploration of the Sea
INPFC  International North Pacific Fisheries Commission
IPHC  International Pacific Halibut Commission
IPOA  International Plan of Action
IUU  Illegal, Unreported, and Unregulated (Fishing)
JOICG  Joint Operations Information Coordination Group
MHC  Major Histocompatibility Complex
NAFO  Northwest Atlantic Fisheries Organization
NASCO  North Atlantic Salmon Conservation Organization
NM  Nautical Mile
NMFS  National Marine Fisheries Service
NPAC  North Pacific Anadromous Fish Commission
NRD  Northeast Regional Directorate
OCC  Ocean Carrying Capacity
PCR  Polymerase Chain Reaction
PICES  North Pacific Marine Science Organization
POC  Points of Contact
PSC  Pacific Salmon Commission
RADARSAT  Radar Satellite Technology
RPCG  Research Planning and Coordinating Group
RPCM  Research Planning and Coordinating Meeting
SEP  Salmonid Enhancement Program
SSC  Science-sub Committee
USCG  United States Coast Guard