

# North Pacific Anadromous Fish Commission

Vancouver, B.C., Canada  
2002 March 12-13

## REPORT OF THE RESEARCH PLANNING AND COORDINATING MEETING

### 1. OPENING REMARKS AND INTRODUCTIONS

The Research Planning and Coordinating Meeting (RPCM) was held from March 12 to 13, 2002 at the Four Seasons Hotel at Vancouver, British Columbia, Canada. V. Fedorenko, Executive Director of NPAFC, opened the meeting.

List of participants is as follows (Appendix 1):

#### *NPAFC Research Planning and Coordinating Group (RPCG)*

*Canada:* Richard Beamish  
Gerry Kristianson  
David Meerburg  
Ted Perry  
Laura Richards  
David Welch

*Japan:* Tomonori Azumaya  
Masa-aki Fukuwaka  
Yukimasa Ishida  
Ichiro Kanto  
Toshihiko Saito  
Shigehiko Urawa  
Norio Yukimoto

*Russia:* Victor Bugaev  
Oleg Gritsenko  
Vladimir Karpenko  
Alexander Rogatnykh

*United States:* Bev Agler  
Nancy Davis  
Lucy Flynn  
Peter Hagen  
Bill Heard  
Jack Helle  
Steve Ignell  
Loh-Lee Low  
Kate Myers  
Jim Seeb  
Chris Stark  
Eric Volk  
Robert Walker

*Secretariat:* Vladimir Fedorenko  
Yoshikiyo Kondo  
Wakako Morris  
Denise McGrann-Pavlovic

*Interpreters:*  
*English-Japanese* Ikumi Graham  
*English-Russian* Almira Safarova-Downey

**PICES** Alexander Bychkov  
Ian Perry

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## 2. APPOINTMENT OF CHAIRPERSON

R. Beamish of Canada, Chairman of CSRS, presided at the meeting.

## 3. AGENDA

The following agenda was adopted:

- (1) Opening Remarks and Introductions
- (2) Appointment of Chairperson
- (3) Adoption of Agenda
- (4) Meeting Procedures
- (5) The 2002 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
  - (e) BASIS Working Group: Structure and Objectives of the Meeting in Vladivostok (May 2002)
- (9) Publication of Review Papers of Juvenile Salmon Workshop (Tokyo, 2000)
- (10) Publication of the Proceedings of the Joint International Meeting (Vancouver, 2002)
- (11) Submission of Data for 1998-2001 Statistical Yearbooks
- (12) Cooperation with Relevant International Organizations
  - (a) PICES: NPAFC's Contribution to the North Pacific Ecosystem Status Report
  - (b) IBSFC, ICES, NASCO, and PICES: Preparation for the Joint Meeting
- (13) Discussion on Celebrating 10 Years of Accomplishment at the 2002 Annual Meeting
- (14) Future Meetings
  - (a) Time and Place of the next RPCM
  - (b) Next Research Symposium
- (15) Other Business
- (16) Summary Report

## 4. MEETING PROCEDURES

K. Myers served as Rapporteur for preparation of a summary report in cooperation with the Secretariat. D. Welch of Canada, M. Fukuwaka and S. Urawa of Japan, O. Gritsenko of Russia, and R. Walker of the United States were appointed to the editorial group.

## 5. THE 2002 CSRS WORK PLAN: REVISION OF RESEARCH PLANS

The RPCG reviewed the Work Plan approved at the 2001 Annual Meeting and national research plans for 2002-2003 were presented. Russia presented a revised research plan (Appendix 2). The Japanese research plan is presented in Doc. 588. The U.S. and Canadian research plans were published in the Records of the 9<sup>th</sup> Annual Meeting, 2001 (CSRS Report).

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## 6. CRUISE ACTIVITIES

### (a) Review of Objectives and Plans, including Schedules

Each member country described its research cruise plans for 2002 as follows:

#### Japan

Six Japanese salmon research vessels are tentatively scheduled to conduct scientific research in the western and central North Pacific, Bering Sea, Gulf of Alaska, and Okhotsk Sea (Docs. 551 (Rev. 1) and 589). Gillnets less than 2.5 km in length will be used.

Japan also submitted Doc. 590, which describes the 2002/2003 research cruises for other pelagic species which may have incidental taking of salmon. The Secretariat will distribute Docs. 551 (Rev.1) and 590 with a Circular Letter advising national enforcement agencies of these cruises.

#### Canada

Canada plans six coastal surveys of juvenile salmon in June, July-August, October, and March 2003. The cruises are in the approval process. Final details will be submitted at the May meeting in Vladivostok.

#### United States

The United States will conduct four cruises under its Southeast Alaska Coastal Monitoring program (Doc. 591). Preliminary descriptions of three other cruises were distributed: a coastal cruise in the Gulf of Alaska, a juvenile salmon survey in the eastern Bering Sea, and a BASIS cruise in the Bering Sea in autumn. Final details for these cruises are pending.

Japan raised the possibility that the *Kaiyo maru* and a US vessel could meet at some point in the Bering Sea, for coordination of research.

#### Russia

Russia submitted its proposed cruise plan for research vessels for Pacific salmon in the North Pacific Ocean (Appendix 3). These cruises incorporate objectives of the BASIS plan and have added some BASIS stations in addition to traditional sampling points. Further details, including cruise tracks and sampling stations, will be provided at the May meeting.

### (b) Coordination of Participation of Scientists

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

Party	Vessel (Month)	Name of Scientist (Party)
Japan	<i>Oshoro maru</i> (May-June, June-August)	R. Walker (USA), L. Seeb (USA)
Japan	<i>Wakatake maru</i> (June-July)	N. Davis (USA)
Japan	<i>Torishima</i> (October-November)	one scientist (Russia), and one translator (Russia)

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The United States is interested in placing one scientist on the western Bering Sea cruise of TINRO-Centre and will contact O. Temnykh in TINRO for more information. The United States also requested participation in the *Torishima* cruise if sampling is conducted in the western North Pacific.

It was noted that there are further opportunities for other countries' scientists to participate on various national research vessels. Places are available for approximately five NPAFC scientists on the cruise of the *Kaiyo maru* and one scientist on each leg of the US Bering Sea cruises.

## **7. 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.

The United States forwarded a request by a US researcher for salmon shark samples. Russia submitted a request for scale samples from Alaska and the Canadian Yukon.

## **8. SCIENCE SUB-COMMITTEE AND WORKING GROUP DISCUSSIONS**

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

The NPAFC Science-Sub-Committee (SSC), consisting of L. Richards, V. Karpenko (Chair), K. Myers, and S. Urawa did not meet.

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

Members of the Working Group on Stock Assessment (M. Fukuwaka of Japan, O. Gritsenko of Russia and T. Perry of Canada, Chair), met March 12th. B. Heard and B. Agler represented the United States. T. Saito of Japan also attended.

The Working Group noted its appreciation for the major contribution that Hal Geiger of the United States had made to advance the work of the Stock Assessment Working Group during the past several years. It also noted the requirement for the United States to identify a new representative, or representatives, for the Working Group.

The Working Group discussed three topics:

- ?? Preparation of the Pacific salmon catch reports for the October 2002 meeting.
- ?? The Pacific salmon status report for presentation at the joint meeting on Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea.
- ?? The Pacific salmon status report to be prepared by the Working Group for the North Pacific Ecosystem Status Report being led by PICES.

For the catch report through 2001 it was agreed to exchange updated catch data by September 10<sup>th</sup>. This report will include numbers and weight of salmon harvested, by species and major geographic regions, from 1970 to 2001 for all fisheries. Working Group members will also provide a narrative description of their fisheries and significant stock trends. A second report will provide preliminary estimates for commercial fishery catches in 2002 and describe significant issues. Because of the early timing of the fall meeting of the NPAFC, Working Group members will bring the 2002 fishery information to the meeting where the report will be prepared.

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A preliminary Pacific salmon status report will be presented by Hal Geiger representing the Working Group at the Joint Meeting on Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea, March 14th. This report is based primarily on catch data provided by the parties, and is less detailed than originally planned due to some difficulty in acquiring all of the information.

The Working Group then discussed the development of a more thorough status report as NPAFC's contribution to the North Pacific Ecosystem Status Report being prepared by PICES. I. Perry of PICES indicated their schedule is to complete a draft report during summer 2002, with distribution prior to the fall PICES meeting. The report would then be finalized in 2003. To meet this schedule, the Working Group members will need to provide data by June 1, 2002. The Working Group reviewed and re-confirmed that the data types agreed to at the fall 2001 NPAFC meeting are still appropriate. This includes data for as long a time series as possible on catch, escapement for selected stocks, return rates for selected wild stocks, hatchery releases, and survival rates of selected hatchery stocks. Species status will be reported at regional and broader levels. It was noted that the type of data available varies among the four countries so the basis for the assessment of status may differ between countries. I. Perry indicated that catch and escapement history, and species status descriptions would have the highest priority from PICES perspective.

**(c) Working Group on Salmon Marking**

Members of the Working Group on Salmon Marking met to discuss three items: (1) the current status of contributions by each country to a common database of otolith mark releases; (2) update on new marking plans by member countries; and (3) status of the development of a web accessible database of otolith marks. Participating in the working group meeting were S. Urawa (co-chair) from Japan, D. Meerburg from Canada, A. Rogatnykh from Russia, and P. Hagen (co-chair), E. Volk and B. Agler from the United States.

The current database of otolith marks is maintained as an Excel spreadsheet that is circulated among working group members. Release information from brood year 2000 otolith marks will be completed for all countries once Canada and Russia provide their data. By the next annual meeting, release information from brood year 2001 should be finalized and added to the database. Japan submitted proposed thermal marks for brood year 2002 as NPAFC Document 587. Marked pink and chum salmon from Japan will again be characterized by a mark pattern that begins with a 2-ring band. Other countries will exchange proposed mark patterns electronically by July 1 and identify conflicting patterns.

Discussion proceeded on development of a web accessible database. B. Agler presented a prototype web page she has been working on. The web page contains design ideas discussed in working group documents and will include the release database. When complete, it will be deployed on a protected web server housed at the Alaska Dept of Fish and Game for review by members of the working group. A. Rogatnykh presented information about an offer to develop a web database by the Russian Institute of Economics, Information and Automated Management Systems of Fisheries. This institute is seeking feedback on the design of the web page and will be sending out more information through email. Details on where the database will eventually be housed is not known. It was felt that both these efforts should proceed, but in the long term it might be preferable if NPAFC serve as the repository of the data provided by the member countries. Concern was also expressed that only the most recent data compiled by the working group be used in the deployment of the prototype web databases.

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**(d) *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. Bugaev from Russia, L. Richards and D. Meerburg from Canada, and acting chair J. Seeb from the United States.

The Working Group reviewed the various databases. Allozyme databases were reported to the Commission for chinook salmon in 1999 (Doc. 440) and for chum and sockeye salmon in 2001 (Docs. 561 and 562). 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 still under development by the United States National Marine Fisheries Service.

The database for chum salmon is undergoing substantial revision that includes addition of data from Asian populations by Japan and Alaskan populations by the United States. This revision will be reported in an NPAFC document at the 10th Annual Meeting in Vladivostok. The investigators are exploring publication of these raw data (and those from the other species) in some form on the NPAFC website.

Scientists from the United States and Canada met earlier at a stock identification workshop at Bodega Bay, California, to discuss progress to standardize data from microsatellite loci among laboratories. In spite of earlier optimism, the investigators found that differences among techniques and loci used by the different laboratories reduce the opportunity to develop large, cooperative databases. 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 still welcome and encouraged.

The need for DNA databases, other than microsatellites, for sockeye, chinook and chum salmon was also discussed. Japan continues to develop a set of mitochondrial DNA data for chum salmon. Japan plans to test a newly developed microarray system to assay mtDNA haplotypes on board the research vessel *Kaiyo maru* during cruises this summer. Laboratories in the United States are developing assays to detect DNA sequence polymorphisms in sockeye and chinook salmon.

The Working Group continues to emphasize standardization and dissemination of different genetic databases as well as sample exchange. Sharing of genetic information and samples is necessary to conduct high seas studies such as BASIS where salmon may originate from rivers distributed throughout the Pacific Rim. Progress is being made towards improved data and sample sharing between the United States and Canada. Russia requested scales and biological data from populations of Alaskan salmonids, and Russia promised to look into the collection of chinook salmon fin clips for United States laboratories. The group continues to agree that sharing of DNA databases of allele frequencies should be encouraged once the respective researchers have finalized their primary data.

There will be a Lowell Wakefield Symposium entitled "Genetics of Subpolar Fish and Invertebrates", May 29-31, 2002, in Juneau, Alaska. The program may be viewed at <http://www.uaf.edu/seagrant/Conferences/symposia.html#genetics>. Participants from Russia, Japan, Canada, and the United States are scheduled to give a broad array of presentations that have direct implications to NPAFC research objectives.

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**(e) BASIS Working Group**

Basis Working Group met and developed a draft agenda for the May meeting in Vladivostok (Appendix 4).

**9. PUBLICATION OF REVIEW PAPERS OF JUVENILE SALMON WORKSHOP (TOKYO, 2000)**

The Science Sub-Committee (SSC) and editors for the juvenile workshop R. Beamish, K. Myers, V. Karpenko and Y. Ishida met to discuss the status of the draft review papers. All draft papers should be submitted to the Secretariat by the end of May. The goal is to have a publication by the 10th Annual Meeting. In order to facilitate publication the members recommended hiring an external editor. As the review work relates to BASIS work, the RPCG members proposes to fund publication from the Special Fund for Scientific Research.

RPCG *RECOMMENDS* that Commission consider the use of the Special Fund for Scientific Research for editorial expenses.

**10. PUBLICATION OF THE PROCEEDINGS OF THE JOINT INTERNATIONAL MEETING (VANCOUVER, 2002)**

The proceedings of the Joint Meeting will be published as extended abstracts in NPAFC Technical Report #4.

**11. SUBMISSION OF DATA FOR 1998-2001 STATISTICAL YEARBOOKS**

The Secretariat plans to post all the available data for the to NPAFC Statistical Yearbook on its website at the end of March 2002, and to print and publish the 1998 Statistical Yearbook by the end of May 2002. The Secretariat explained that the following data for 1998-2000 have not been received from the Parties:

Canada:

Table 7. Commercial salmon catch in Canada (British Columbia) by species, area, and month, in numbers of fish: 1998, 1999, 2000

Table 9. Subsistence catch of salmon in Canada (British Columbia and Yukon) by species and area, in thousands of fish: 1998 (for British Columbia), 1999, 2000

Table 10. Releases of Canadian salmon fry (British Columbia and Yukon) by species and area, in thousands of fish: 1998, 1999, 2000

United States:

Table 27. Subsistence catch of salmon in the United States by species, and area, in numbers of fish (for Alaska): 1998, 1999, 2000

Table 28. Sport catch of salmon in the United States by species and area, in numbers of fish (for Alaska): 1999, 2000

Table 32. Total catch of principal groundfish, herring, shrimp, and crab species by county and area, in tonnes (round weight): 1998, 1999, 2000

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The Secretariat made an urgent request to the concerned Parties for 1998 data, and the data for 1999 and 2000 as soon as possible, and encouraged the early submission of the data for 2001.

The RPCG **RECOMMENDS** that the CSRS discuss new ways of providing and publishing statistical data.

## **12. COOPERATION WITH RELEVANT INTERNATIONAL ORGANIZATIONS**

### **(a) PICES: NPAFC's Contribution to the North Pacific Ecosystem Status Report**

NPAFC is to provide data on salmon to PICES. A draft report will be ready for PICES by the end of June.

### **(b) IBSFC, ICES, NASCO, and PICES: Preparation for the Joint Meeting**

The possibility of publishing in a primary publication will be discussed by the Organizing Committee.

## **13. DISCUSSION ON CELEBRATING 10 YEARS OF ACCOMPLISHMENT AT THE 2002 ANNUAL MEETING**

Each country will prepare a summary of research accomplishments over the past 10 years and their vision for future research. The chairman of the CSRS will present a comprehensive summary at the 10<sup>th</sup> Annual Meeting.

## **14. FUTURE MEETINGS**

### **(a) Time and Place of the next RPCM**

The RPCG **RECOMMENDS** that the next RPCM be held in March 2003 in Yuzhno-Sakhalinsk, Russia, but the exact date will be decided at the 10th Annual Meeting.

### **(b) Next Research Symposium**

Three topics were proposed for the next research symposium:

(1) carrying capacity, (2) interactions of hatchery and wild salmon, and (3) Bering Sea research. A decision on the topic and date for the next symposium will be made at the next Annual Meeting.

## **15. OTHER BUSINESS**

### **i) External Funds request:**

United States tabled the North Pacific Research Board's request for research proposals. The United States intends to submit a proposal for BASIS Research on behalf of NPAFC.



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ii) Special Fund for Scientific Research:

The RPCM **RECOMMENDS** that the CSRS request the Committee of Finance and Administration to develop a procedure for disbursement of monies from the Special Fund for Scientific Research.

**16. SUMMARY REPORT**

A summary report was adopted upon approval by the editorial group.

**17. ADJOURNMENT**

The meeting adjourned at 4:30 p.m., March 13, 2002.

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Appendices 1-4 to follow.

## Addresses of the Participants

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## Russian Research Plan 2002-2003

### **1. Bering Sea Salmon Research**

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 analyzed retrospectively from 1981. These data will be used for estimation abundance of pink salmon in 2003 brood.

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 2002 season. 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 for study their structure. A comparison between salmon and other pelagic fishes of the consumption rates of planctonic/micronectonic 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 during spring-summer-fall season. Seasonal distribution, migration, population characteristics, and survival juvenile salmon will be estimate using various methods; abundance migrants in different zones, marking, scale and parasite analysis, and 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. In the northern Okhotsk Sea region will be start study the yearly marine period life of Pacific salmon.

### **3. Winter Salmon Research**

Anadromous migration and abundance of adult salmon will be studied in the Russian EEZ. During spring and summer different biological and environmental data will be collected on salmon research vessels. This monitoring study will provide the estimation of salmon stock composition, abundance and population structure during the anadromous migration. Also a these data use for fishery management in different area Far East annually.

Biological characteristics of adult Pacific salmon and environmental conditions before returning to major areas in Russia will be examined. For these aim data will be used on stock identification: genetic characteristics, scale, new information on otoliths, parasites, and morphometric characteristics; and also participation in international tagging experiments is planned.

## **Proposed Cruise Plan for Russian Research Vessels for Pacific Salmon in the North Pacific Ocean**

There will be three research cruises supposed to be carried out by Russian research vessels on Pacific salmon in the North Pacific in 2002:

1.      **Organization:**                    KamchatNIRO (Petropavlovsk-Kamchatsky)  
          **Location:**                     Bering Sea  
          **R/V:**                         STR-503 - type  
          **Gear:**                        Pelagic trawl  
          **Time frame:**                September-October 2002  
          **Goal:**                         Assessment of juvenile salmon abundance  
  during their migration to Bering Sea and Pacific Ocean.  
          **Contacting person:**        Dr. Vladimir Karpenko
  
2.      **Organization:**                    KamchatNIRO (Petropavlovsk-Kamchatsky)  
          **Location:**                     Waters off Eastern Kamchatka including the Western Bering Sea  
  (bordering Russian EEZ).  
          **R/V:**                         SRTM-K - type  
          **Gear:**                        Gillnet  
          **Time frame:**                May-July 2002  
          **Goal:**                         Researching  
          **anadromous salmon biology**  
          **Contacting person:**        Dr. Vladimir Karpenko
  
3.      **Organization:**                    TINRO-Centre (Vladivostok)  
          **Location:**                     Western Bering Sea (bordering Russian  
          **EEZ).**  
          **R/V:**                         “Prof. Kaganovsky” or “TINRO”  
          **Gear:**                        Pelagic trawl  
          **Time frame:**                July-August 2002 (entire time term);  
          **Goal:**                         Estimation of pelagic communities  
  condition and dynamics. Assessment of salmon abundance.  
          **Contacting person:**        Dr. Olga Temnykh

(DRAFT)

**Agenda for the North Pacific Anadromous Fish Commission,  
Bering-Aleutian Salmon International Survey (BASIS) Working Group Meeting,  
Vladivostok, Russia, 27-29 May 2002**

1. Financial Support and Proposals
  - 1.1 Internal support (proposals for use of NPAFC BASIS funds for meetings, equipment, trips of scientists, etc.)
  - 1.2 External support (funding sources, proposals, data for proposals)
  - 1.3 Discussion of interesting research issues and hypotheses for proposals
2. Research Coordination
  - 2.1 Calibration of methods (salmon fishing gear, plankton, stock identification, oceanography, salmon tagging, age and maturity, food habits and bioenergetics, migration and growth models, ecologically related species, parasites and diseases)
  - 2.2 Coordination of 2002 national plans (e.g., cruise dates, ports of call, maps showing location of sampling stations and cruise tracks, list of participants, points of contact, etc.)
  - 2.3 Coordination and cooperation with other Bering Sea research programs
3. Sample and Data Exchange
  - 3.1 Data structure and management
  - 3.2 International data managers – (collect data and report to NPAFC)
4. Reports, Publications, Workshops, and Symposia
  - 4.1 Annual implementation plan for joint BASIS Research
  - 4.2 Annual reports and publications of BASIS results
  - 4.3 Workshops (e.g., review of historical Bering Sea research and data)
  - 4.4 BASIS Symposium