The Research Planning and Coordinating Meeting (RPCM) was held on April 21-22, 2005 at the Pacific Biological Station (PBS), Fisheries and Oceans Canada, Nanaimo, B.C., Canada. All Parties of the Commission and the Secretariat were represented at the meeting. The discussions on major agenda items are summarized as follows.

**Work Plan and National Research Plans** – The Parties reported on their national research plans and made arrangements to coordinate their work. All Parties reported that the type of research they would conduct in 2005 will essentially remain the same as from last year; except for the following. Genetic stock identification studies using allozymes are being phased out in U.S. government laboratories and replaced by studies using DNA techniques. The Japanese Party reported that the sampling area and season of its BASIS (Bering-Aleutian Salmon International Survey) cruise by the Japanese R/V *Kaiyo maru* will be shifting from the central Bering Sea during summer months to an area south of the Aleutian Islands during the winter months. This would be a 50-day survey.

**Coordination of Cruise Participants** – The Parties planned to send scientists to participate in research cruises of other Parties. The RPCM facilitated these activities so that cooperative and comparatives studies of the Parties can be conducted and take place throughout the year. The United States suggested to switch to a new method for collecting DNA samples in 2005; from fin clips preserved in alcohol to scrape sample of scales placed in paper envelopes that could be stored dry at room temperature. This would greatly simplify the specimen collection and transporting process.

**Reports from the Sub-Committee and Working Groups** – The Science Sub-Committee will draft a new 5-year NPAFC Science Plan to cover the 2006-2010 research period. An ecosystem approach on a broader temporal (seasonal) scale was suggested to become a keener focus of the BASIS research activities beyond the current 5-year plan. This would provide the kind of scientific data that would be needed for conservation and management of salmon in this new era of climate change in the Bering Sea.

The Working Group on Stock Assessment reported on issues of data collection and reporting; including changes to the formatting of some tables to the NPAFC Statistical Yearbook series.

The Working Group on Salmon Marking worked on an international system of otolith marking of the salmon stocks. To resolve issues of mark duplication, it was suggested that a system of country-specific codes be incorporated in the marking process.

The Ad Hoc Working Group on Stock Identification met and agreed that each Party will provide a document for the 2005 Annual Meeting that outlines their methods, base lines, stock locations, and types of tissues used for chum salmon stock identification. The Group would develop a known mixture of chum salmon for analyses by the various national methods, so that the accuracy of the various methods can be compared.

The BASIS Working Group met in a full session of the RPCM and discussed several issues related to the BASIS Program, including cooperation with PICES, 2004 annual report, brochure, tagging study update, and authorship of data.

**Future Meetings** – For planning purposes, Japan indicated that it was prepared to host the next RPCM in Hokkaido, Japan in April or May 2006.

*Loh-Lee Low, CSRS Chairman*
Representatives from Canada, Japan, Russia, Korea and the United States met in Vladivostok, Russia from May 18-20 for the NPAFC’s annual Enforcement Evaluation and Coordination Meeting (EECM). Vladivostok is now becoming a familiar city to the NPAFC people, since the Annual Meeting has been held there twice before. Spring had just sprung in this nice port city.

EECM 2005 was held for three days and included a visit to the office of the Russian Federal Border Guard Service (FBS) and an excursion to Popov Island. At the meeting, the member countries exchanged information about their enforcement plans and on illegal/suspected vessels sightings, and also discussed other important issues such as the Integrated Information System (IIS). As the ENFO chairperson, I presided over the meeting with the assistance of Mr. Vladimir Fedorenko, Executive Director of the NPAFC.

Some members’ reports showed that there were still vessels engaged in activities that undermine NPAFC objectives. These were basically vessels from non-member countries. However, the participants recognized once again that cooperative enforcement activities, including information sharing at EECM were very important and useful in combatting such illegal/suspected fishing activities in the Convention Area.

A highlight of the meeting was the further development of IIS. The Russian Party has been working hard to develop this system. At this EECM, the Russian Party presented what has been done so far. The general framework of IIS web-page has almost been completed. However, the most substantive parts of this, “suspected vessel,” is now under development. To help its completion, the participants agreed to establish an Email-based Working Group. It was agreed that the members of the Working Group would continue to exchange opinions and ideas until the next Annual Meeting in Korea. In the meantime, IIS will be greatly improved so that it can be used effectively for actual enforcement activities.

Another important topic discussed at EECM was the Guideline (Recommendation) of the enforcement procedure toward the illegal/suspected vessels of non-member countries. The step-up draft will be finalized at the next Annual Meeting in Korea.

After the meeting, the members had a good time sightseeing around the beautiful parts of Vladivostok. The Russian Party took the participants to Popov Island where good sunshine and a nice breeze welcomed them.

EECM 2005 was very meaningful for the ENFO’s future work and contributed to the friendship of the members. All the participants appreciated the Russian delegation for the excellent hosting. The next EECM will be held in Juneau, Alaska, in February 2006. I look forward to the U.S. delegations’ warm-hearted hosting to ensure that nobody will be frozen!

Akihiro Mizukawa, ENFO Chair

Mr. Akihiro Mizukawa was promoted and transferred to the Financial Services Agency of the Japanese Government the week after the EECM. On behalf of all the ENFO people, the Secretariat would like to acknowledge his excellent chairmanship for the past year, and wish him every success in his new responsibilities.
Announcement

NPAFC - PICES Joint Symposium
“The Status of Pacific Salmon and their Role in North Pacific Ecosystems”

October 30-November 1, 2005
Lotte Hotel Jeju, Seogwipo, Jeju Island, Republic of Korea

An international symposium “The Status of Pacific Salmon and their Role in North Pacific Ecosystems” will be held on October 30-November 1, 2005 at the Lotte Hotel Jeju, Seogwipo, Jeju Island, Republic of Korea. The symposium will be jointly hosted and organized by the North Pacific Anadromous Fish Commission (NPAFC) and the North Pacific Marine Science Organization (PICES).

Background and Purpose

Pacific salmon are important components of the entire complex of aquatic ecosystems, from the spawning rivers to the open North Pacific Ocean. They migrate thousands of nautical miles, and some stocks intersect and mix in different geographical zones ranging over one-sixth of the Globe. The instantaneous biomass of Pacific salmon in the ocean is several million tonnes, which is comparable to the biomass of other pelagic fishes of the North Pacific. At the beginning of the 21st century, about eight hundred thousand tonnes of Pacific salmon were harvested each year, making a significant contribution to the fishery resources of the countries in the North Pacific. But there have also been significant variations in salmon abundances over the past decade.

The time is therefore appropriate to hold a joint symposium that integrates Pacific salmon into North Pacific marine ecosystems, and examines the characteristics of Pacific salmon since they return to coastal regions can be used as indicators of conditions in North Pacific marine ecosystems. The symposium will serve as a follow-up to the broader PICES Special Publication on Marine Ecosystems of the North Pacific (http://www.pices.int/publications/special_publications/NPESR/2005/npesr_2005.aspx).

Date

The Symposium will be held on October 30-November 1, 2005 (An optional one-day excursion is scheduled on October 29, 2005).

Facilities and Location

The Symposium will be held at the Lotte Hotel Jeju in Seogwipo, Jeju-do, Republic of Korea. Lotte Hotel Jeju (Website: http://www.lottehotel.com) 2812-4, Saekdal-dong, Seogwipo, Jeju-do 697-130, Republic of Korea TEL: +82-64-731-1000, FAX: +82-64-738-7305

Language

The language used at the Symposium will be English. No interpretation services will be available.

Abstracts

Abstracts of the presentations will be available on the NPAFC website (http://www.npafc.org) by the middle of September and will be distributed to the audience at the Symposium.

For More Information

Detailed information on the Symposium, including way of registration, registration fee, hotel accommodation, reception, and optional excursion, is now available in the Final (Second) Announcement of the symposium on the NPAFC website (http://www.npafc.org)

Symposium Topics

Under the topics listed below, 32 oral and 25 poster presentations are scheduled:

1. Status of Pacific salmon, trends in abundance and biological characteristics
   1a. Trends in abundance and biological characteristics
       (i) Pink salmon
       (ii) Chum salmon
       (iii) Sockeye salmon
       (iv) Chinook salmon
       (v) Coho salmon
   1b. How can ocean conditions be observed using Pacific salmon?
       (i) Ocean diets of Pacific salmon as an indicator of plankton production
       (ii) Ocean distribution (southern limit, northern limit, east-west shifts, winter distribution) as indicators of ocean conditions
       (iii) Biological characteristics of Pacific salmon (body size, growth, age, maturity, lipid content) as indicators of ocean conditions

2. Role of Pacific salmon in the function of North Pacific marine ecosystems
   2a. Migration routes, migration timing, and resident areas for populations of Pacific salmon and what they tell us about environmental conditions on small to mid-scales
       (i) Large-scale analyses of co-variation of salmon stocks
       (ii) Migration and distribution routes, timing, and duration that salmon spend in the coastal and open ocean areas (What environmental factors are likely to influence these locations while salmon are there?)
   2b. Spatial scales of salmon and environmental variability (i.e. over what spatial scales and regions do salmon act as indicators of environmental variability?)
       (i) Spatio-temporal variation in vertical distributions of Pacific salmon

3. Pacific salmon as indicators of climate variability in the North Pacific
   3a. Observations: what observations of Pacific salmon populations indicate climate variability most clearly?
       (i) The impacts of global warming on abundance and distribution of Pacific salmon
       (ii) Bioenergetic responses of Pacific salmon to climate and ecosystem variation
   3b. Mechanisms: how is climate variability transmitted to variability in Pacific salmon populations?
       (i) Growth of juvenile salmon in first marine year and overwinter survival
       (ii) Spatio-temporal interactions between salmon and predators

NPAFC Secretariat
It has been two years since the Republic of Korea became a regular member of the NPAFC in 2003. For the last two years, Korean scientists have attended the Annual Meetings and workshops, and accumulated various experiences in terms of scientific activities. These two years are a kind of practicing stage for the active involvement in NPAFC society because we didn’t know some details what happened in salmon-related activities in the North Pacific in the past.

Salmon enhancement program started in a province of North Korea in 1913. However, the program became more active since the Salmon Research Center (SRC) of Korea was established in Yangyang in 1984. The major activities of the SRC are the release of chum salmon fries and the catch of adult chum salmon for the artificial fertilization, which occupied 55~60% of total Korean chum salmon fry releases and adult salmon catches. Because the SRC has limited their interest mostly into enhancement of salmon production we know very little about the ocean distribution and migration of Korean chum salmon in the North Pacific Ocean. Joining the NPAFC will be a good turning point to the Korean salmon research activity.

The exchange activities within the NPAFC are impressive. Member countries seem to have an exchange program for scientists to discuss specific scientific issues and exchange specimens from hatcheries as well as on the sea. Any member countries can request salmon specimens from other countries, so that analytic results from different countries are documented and compared. Scientific progress within the NPAFC seemed to be achieved by such cooperation of idea and specimens. During the last two years, member countries provided genetic samples to Korea, and we also collected genetic samples from the Bering Sea salmon, while a Korean scientist aboard the Japanese R/V Kaiyo maru in 2004. The genetic information from member nations and the sea was compared to samples from Korean hatchery (Yangyang).

Korean workers checking the sexual maturity of returning adult chum salmon

Otolith thermal marking training in the United States

Korean Scientist aboard R/V Kaiyo maru cruise, June-July, 2004

Photo by Salmon Research Center
NPAFC Special Fund for Scientific Research provided travel supports to Korea for invitation of experts and training of our scientists. In 2005, Korea invited two Japanese scientists, Dr. Seki and Mr. Toda from the National Salmon Resources Center (NASREC) to overcome the low return rate and to enhance the chum salmon resources in Korean waters. The return rates of chum salmon to Korean waters were seriously reduced from 1.5% in 1990s to less than 0.2% in 2000s. We discussed the status and problems of Korean salmon enhancement program with them and took valuable comments. Furthermore, the NPAFC and the North Pacific Marine Science Organization (PICES) decided to hold a big scientific symposium in Korea (Jeju Island) after the NPAFC 13th Annual Meeting in 2005. I'm pretty sure that this joint Symposium will be beneficial to the salmon research activities in Korea.

The SRC of Korea released tagged juvenile chum salmon using coded wire tags (CWT) and clipped adipose fins in 2003 and 2004. The information from the returning salmon within some years will help determine the optimum period of release of juvenile. Aside of this information, we need to begin additional marking technology. During the last Annual Meeting (Sapporo, Japan), Dr. E. Volk (USA) kindly asked us to discuss what type of assistance we need to begin thermal marking in Korea. As the first step, two Korean scientists had visited the Washington Department of Fish and Wildlife to see their hatcheries which thermal marking practice is going on, and to check the overall needs for thermal marking in Korea. Now, we would like to implement a system for thermal marking and expect to mark about 50% of release of BY (Brood Year) 2005 chum salmon.

Korea has a short history in salmon research, and needs more advice from active scientists in the NPAFC community. One of the most valuable events during the NPAFC meetings is to meet old friends and to make new ones. Korean scientists can meet many salmon scientists from other countries and discuss many questions and problems regarding salmon in Korea. There are many items to be discussed. For example, interested in the mechanisms of mass mortality of chum salmon during their early life in rivers and coastal areas in relation to low return rates and variations in return timing with respect to coastal and North Pacific oceanographic conditions. Any scientist who wants to discuss these topics and to understand Korean salmon research, please contact me.

Salmon is important to the economy and cultural activities of the people of the North Pacific Rim. However, unfortunately in Korea, it is true that Koreans’ preferences to salmon is less than other fish such as flounder, mackerel, walleye pollock, hairtail, etc. Therefore, the interest regarding salmon should be raised-up near future. I believe that the upcoming NPAFC Annual Meeting in Jeju Island can stimulate our curiosity on salmon behavior or excite our interest as an economically important resource, so that it can be linked to the scientific activities in Korea. We wish our activities will be valuable to the NPAFC and expect more concern and cooperation from other member countries on Korean salmon research. Lastly, I am looking forward to meeting you at the NPAFC Annual Meeting and NPAFC-PICES Joint Symposium in beautiful Jeju Island.

Sukyung Kang, Korean Representative
Announcement
American Fisheries Society 135th Annual Meeting
Anchorage, Alaska, USA
1-day BASIS Symposium

“Science Bridging Five Nations: The Bering-Aleutian Salmon International Survey”

The North Pacific Anadromous Fish Commission (NPAFC) Convention Area, which includes all international waters of the North Pacific Ocean and adjacent seas, forms the world’s largest marine conservation area for Pacific salmon. The NPAFC provides a forum for international coordination of the regional salmon research programs of its five member nations (Canada, Japan, Republic of Korea, the Russian Federation, and the United States). The Bering-Aleutian Salmon International Survey (BASIS), which began in 2002, is NPAFC’s coordinated program of cooperative research on salmon in the Bering Sea. BASIS was designed to clarify the mechanisms of biological response by salmon to the conditions caused by climate changes. Key research activities are designed to address four major questions: 1) what are the stock-specific migration patterns of salmon inhabiting the Bering Sea, particularly those stocks exhibiting recent changes in production, and what is their relation in the Bering Sea ecosystem, 2) what are the key biological, climatic, and oceanographic factors affecting long-term changes in Bering Sea food production and salmon growth rates, 3) what are the similarities (or dissimilarities) in production or survival trends among salmon populations originating in rivers around the Bering Sea Rim, and 4) is there a limit (carrying capacity) to the amount of salmon that can be produced in the Bering Sea, and what is the effect of hatchery salmon on Bering Sea food supplies?

The objective of this symposium is to provide an overview of the BASIS collaboration and advancements in research. We will describe the interagency and international synergy that is helping us to better understand salmon migration and population fluctuations in a changing marine environment. New research results on salmon genetics, stock-specific ocean distribution and migration patterns, vertical distribution and thermal habitats, ocean ecology and community structure of salmon and associated species, and fisheries-oceanography of the Bering Sea should be of interest to a broad spectrum of AFS members and participants.

Jack Helle, Kate Myers and Jim Seeb
Organizers of the symposium
The High Seas Salmon Research Program at the University of Washington (UW) coordinates North American returns of salmon and steelhead tags from international high-seas tagging experiments. The salmon tagging program is a cooperative study under the direction of the North Pacific Anadromous Fish Commission (NPAFC), using tags purchased with North Pacific Research Board (NPRB) funds. In 2005, we expect to place approximately 1000 disk tags on salmon and steelhead and some of those fish will also carry electronic data storage tags (DSTs). Approximately 140 DSTs will be placed on sockeye, chum, chinook, pink, and coho salmon by researchers on board the Wakatake maru this summer, which will operate in the central North Pacific and Bering Sea. This year a new electronic tag will be placed on salmon, which is designed to estimate the daily geographic position of the fish based on ambient light levels. Other DSTs record salinity, depth, and temperature, depth and temperature, or temperature only. Electronic tags can provide hourly information about the fish’s temperature preferences and daily vertical movements, and the more sophisticated electronic tags collect information about the water currents experienced by salmon, and can identify the migration route used by the fish to return from high seas feeding areas to their coastal region of origin. Anyone who finds a high seas salmon tag in North America should contact Dr. Kate Myers, University of Washington (UW) at 206-543-1101. Those who find a high seas tag in Asia should contact the National Salmon Resources Center (NASREC) in Japan, or the Kamchatka Fishery and Oceanography Research Institute (KamchatNIRO) in Russia. All high seas salmon tags are placed on the outside of the fish’s body near the dorsal fin. Anyone who returns a high-seas salmon disk tag or a DST will receive a colorful, custom-embroidered baseball cap with the high seas salmon tagging emblem and a release report of their tagged fish. Those returning an electronic tag will also receive a chart showing the detailed data on temperature, depth, salinity, etc., downloaded from their tag. Additional information is available by checking the UW website (http://www.fish.washington.edu/research/highseas) and the NPAFC website (http://www.npafc.org).

Nancy Davis, University of Washington
NPAFC Annual Report 2004 is now available on CD-ROM format. NPAFC Technical Report No. 6, the proceedings of the NPAFC International Workshop “BASIS-2004: Salmon and Marine Ecosystems in the Bering Sea and Adjacent Waters” held in Sapporo, Hokkaido, Japan October 30-31, 2004, is also available. It consists of 47 extended abstracts of oral and poster presentations at the Workshop. A table of contents of the Technical Report No. 6 is available on our website (http://www.npafc.org).

COMING SOON...

Printed version of the NPAFC Statistical Yearbook 1999-2001 will be published soon. A CD-ROM Statistical Yearbook is published every year and a printed version for three years of statistics will be published every three years starting 2005. This is the first hardcopy publication since the yearbook 1998 was published in 2002.

UPCOMING EVENTS

One-day BASIS Symposium at the American Fisheries Society 135th Annual Meeting
Anchorage, Alaska, U.S.A.: September 14, 2005

NPAFC 13th Annual Meeting
Seogwipo City, Jeju Island, Korea: October 24-28, 2005

NPAFC-PICES Joint Symposium “The Status of Pacific Salmon and Their Role in North Pacific Ecosystems”
Seogwipo City, Jeju Island, Korea: October 30-November 1, 2005

The Commission invites you to submit articles and photos or slides on NPAFC related activities for publication in the newsletter.

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