

NEWSLETTER OF THE NORTH PACIFIC ANADROMOUS FISH COMMISSION

New Year's Message from the President

Greetings and Happy New Year from Alaska! A U.S. celebrity once said that the New Year is “another chance for us to get it right.” The New Year has always been a time for looking back at our accomplishments over the past year, and more importantly, forward to the coming year. It’s a time to reflect on the changes we want (or need) to make and resolve to follow through on those changes. Last November, at the 18th Annual Meeting of the North Pacific Anadromous Fish Commission held in Busan, Korea, the Commission accepted the NPAFC Performance Review Report from the external review Panel. Although the Commission did not get a perfect score, the Report was very positive about the Commission and its committees. There were a number of recommendations for improvement and the Parties have already begun to review them. I look at 2011 as an excellent opportunity to strengthen and improve an already great organization--in effect, “another chance for us to get it right.”

The recent decline in driftnet sightings continued into 2010, further validating the belief that our joint enforcement efforts have been successfully deterring Illegal, Unreported, and Unregulated (IUU) fishing activity. This past year there were only two driftnet vessels sighted in the Convention Area. Furthermore, for the first time ever, NPAFC partners worked together to identify, investigate, and confiscate illegally harvested and transshipped salmon product that originated in the North Pacific Ocean. In addition to continuing the use of our Integrated Information System (IIS), new initiatives were proposed to improve the effectiveness of enforcement coordination efforts. The Committee on Enforcement (ENFO) conducted bi-weekly telephone conference calls during the driftnet season, which assisted in timely exchange of information regarding patrol efforts and sightings of suspicious activity. The ENFO also proposed the creation in 2011 of a publicly-available IUU Vessel List, which will ensure that member and non-member states alike have access to the information necessary to take action against vessels fishing in contravention to our Convention. Throughout

the New Year, I would like to encourage all partners to continue these successful cooperative enforcement efforts, including the use of the NPAFC’s IIS. Our close working relationships are our best attribute to curb IUU fishing in the NPAFC Convention Area and I wish the ENFO every success at their upcoming Enforcement Evaluation and Coordination Meeting (EECM) in Honolulu.

Although the Parties have enjoyed high salmon production in recent years, we also know that the ocean climate is changing rapidly. Catches of Pacific salmon in 2009 remained near historic high levels. The total commercial catch by all producing countries was the highest on record--over 1.1 million tons. To study the success of pink and chum salmon production, the Commission will host an “NPAFC International Workshop on Explanations for the High Abundance of Pink and Chum Salmon and Future Trends” in Nanaimo, Canada, following the 19th NPAFC Annual Meeting in October 2011(see announcement, this issue).

This year will mark the first year of a new 5-year Science Plan for the Commission. The research theme of the Plan is to *Forecast Pacific Salmon Production in the Ocean Ecosystems under Changing Climate Conditions* (see article, this issue). Over the past several decades, there have been significant variations in the marine production of Asian and North American salmon populations that are linked to climate change. There is a need to provide better scientific information on the ecological mechanisms regulating production of anadromous populations, to estimate climate impact on salmon populations in North Pacific marine ecosystems, and to examine the extent to which salmon populations can be used as indicators of conditions in North Pacific marine ecosystems. I wish the scientists safe research at sea in their quests to further scientific knowledge on salmon for the Commission.

The Finance and Administration Committee will face the annual challenge of maintaining the work of the Commission while economizing as much as possible. As a step in this direction, the 2011 spring Research Planning and Coordination Meeting will be conducted virtually, via email and telephone communications, as a trial project for evaluation at the 2011 Annual Meeting. All of the Parties are facing budgetary uncertainties, but I’m confident that the Secretariat and the Parties will chart the right path for the Commission through these difficult times.

On behalf of the Parties, I welcome Dr. Nancy Davis as the

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new Deputy Director of the NPAFC and thank former Deputy Director Dr. Shigehiko Urawa for his years of service to the Commission. I extend my best wishes for a productive new year to my colleagues and NPAFC officers. Finally, I thank Canada for hosting the NPAFC 19th Annual Meeting and look forward to seeing you all in Nanaimo, British Columbia, in October 2011.

In closing let me say that a New Year's Resolution is a commitment that an individual makes to a personal goal, project, or the reforming of a habit. A key element to a New Year's Resolution that sets it apart from other resolutions is that it is made in anticipation of the New Year, and new beginnings. I think an appropriate resolution for the NPAFC Parties is to rededicate themselves to the mission of the North Pacific Anadromous Fish Commission in 2011.

Jim Balsiger
NPAFC President



Dr. James Balsiger received his PhD in Quantitative Ecology and Natural Resources Management from the University of Washington in Seattle. He works at the National Marine Fisheries Service (NMFS) where he has held many leadership roles including serving as Program Leader for the Status of Stocks Task within the Alaska Fisheries Science Center (AFSC). Later he moved to the position of Deputy Science Director and then Regional Science and Research Director at the AFSC. Since May 2000, he has served as the Regional Administrator for the Alaska Region in Juneau. From 2008-2010 he also served as the Acting Assistant Administrator for Fisheries and oversaw the management and conservation of marine fisheries and the protection of marine mammals, sea turtles, and coastal fisheries habitat within the US EEZ for NMFS. In 2002, Jim was awarded the Meritorious Award for sustained superior accomplishments throughout his career by President Bush.

NPAFC 18th ANNUAL MEETING

LOTTE HOTEL BUSAN, REPUBLIC OF KOREA

November 1-5, 2010

Representatives of Canada, Japan, Republic of Korea, Russia, and the United States, the primary states of origin for salmon stocks in the North Pacific, met in Busan, Korea on November 1-5, 2010, for the Eighteenth Annual Meeting of the North Pacific Anadromous Fish Commission (NPAFC). The meeting was chaired by Dr. Vladimir Belyaev of Russia, Vice-President of the NPAFC.



Plenary Session of the 18th Annual Meeting in Busan, Korea
Photo: NPAFC Secretariat



Plenary Session of the 18th Annual Meeting in Busan, Korea
Photo: NPAFC Secretariat



A Korean traditional performance at the reception of the Annual Meeting of the Commission.
Photo: NPAFC Secretariat



Plenary Session of the 18th Annual Meeting in Busan, Korea
Photo: NPAFC Secretariat



ENFO in session at the 18th Annual Meeting.
Photo: NPAFC Secretariat

The objective of the Committee on Enforcement (ENFO) is coordination of activities to detect and deter illegal, unregulated, and unreported (IUU) fishing activities in the North Pacific Convention Area (see www.npafc.org). Compliance monitoring is accomplished by member countries observing activities in the Convention Area using space, air, and sea-surface patrols. In addition, public awareness about how to report possible sightings of large-scale driftnets on the high seas is routinely made available in the US Coast Guard (USCG) Local Notice to Mariners (e.g., document 50-10 item 986 available: www.navcen.uscg.gov/?pageName=lnmDistrict®ion=17).

The 2010 ENFO committee meeting was held at the 18th NPAFC Annual Meeting at the Lotte Hotel in Busan, Republic of Korea, on 1-2 November, 2010. The meeting was attended by member countries of the Commission, and Taiwan and the Northwest Atlantic Fisheries Organization (NAFO; www.nafo.int) attended as observers. High-seas enforcement activities in 2010 were summarized and discussed.

Among the highlights discussed at the meeting, Korean enforcement officials reported on the successful coordinated enforcement action that resulted in the detention of two vessels and the seizure of IUU salmon catches. A USCG patrolling aircraft identified two suspicious vessels and advised Korean officials the Cambodian-flagged *Arvid* and Panamanian-flagged *Bellatrix* would likely visit Korea in May. When the vessels came to Busan, Korean officials seized 28 tons of salmon carried by *Bellatrix* in accordance with Korean domestic law. Korean officials issued documents requesting Panama take preventative measures to ensure that Panamanian-flagged carrier vessels, such as *Bellatrix*, not engage in illegal activities in support of transshipment of unlawfully obtained catches in the NPAFC Convention Area. Scale and tissue samples collected by Korean authorities were sent to the University of Washington for salmon species confirmation and DNA analysis to determine regional origin of the salmon catch. Drs. J. Seeb and N. Davis analyzed these samples and presented their results at the ENFO meeting.

In reviewing enforcement activities in 2010, Russian members reported that 42 patrol-hours were conducted by aircraft between May and October. The Federal Security Service (FSS) conducted 50 patrol-days using ships of the Northeast Border Guard and the Sakhalin Border Guard Directorates. The FSS cutter *Argal* observed a suspicious vessel in the Russian Exclusive Economic Zone and attempted to communicate with the vessel by radio. However, the suspicious vessel ignored these attempts and the cutter requested the USCG send an aircraft to investigate. After an 18-hour pursuit, the vessel was seized and identified as the Cambodian-flagged ship *Asadara*. On 8 July, the cutter *Argal* found and placed on board an abandoned driftnet, probably used by *Asadara*.

Japanese enforcement representatives reported 52 patrol-days using four vessels between June and September and 72 patrol-hours using aircraft between June and October were conducted by the Fisheries Agency of Japan (FAJ). Twenty-one patrol-hours were conducted by the Japan Coast Guard (JCG). More than 100 Chinese squid-jigging vessels were sighted by FAJ patrol vessels and no fishing violations were observed. The FAJ patrol vessel *Toko Maru*, USCG cutter *Jarvis*, and JCG patrol

aircraft *Gulf V* conducted cooperative patrols in September, 2010.

Canadian members reported that 48 patrol-hours were conducted by aircraft between September 22 and October 2. Two vessels suspected of IUU activities were observed in the vicinity of the Convention Area north of 20° North latitude and west of 175° West longitude. The duration of the patrol in this “high threat area” was increased when permission was obtained for Canadian aircraft to use a Japan Self-Defense Forces base. Canadian members offered to continue providing Radarsat satellite imagery (an earth-observing satellite capable of collecting images day or night and through cloud cover; www.asc-csa.gc.ca/eng/satellites) to increase enforcement capabilities, if requested by committee members.

The US members reported the USCG conducted 72 patrol-hours by aircraft. The USCG cutter *Jarvis* patrolled for 45 days between April and August and observed one driftnet fishing vessel. Eleven bi-weekly conference calls among the members were coordinated by the USCG between 24 May and 13 October. The committee agreed frequent conference calls improved enforcement action plans in 2010. Canadian members offered to coordinate the biweekly conference calls in 2011 to exchange patrol and sighting information among member countries.

Taiwanese observers reported the patrol vessel, *Hsun Hu No. 3*, conducted 84 patrol-days in the North Pacific Ocean between 30 June and 27 September. No fishing violations were observed. Taiwanese officials inspected Taiwanese-flagged fishing vessels anchored in domestic fishing ports and found no fishing violations. Taiwanese observers provided additional information regarding the driftnet fishing vessel, *Ural 1*, which sank at sea near Japan on 6 August, 2010.

The ENFO members agreed on the value of springtime coordination and planning meetings and US members offered to host the next Enforcement Evaluation and Coordination Meeting (EECM) in Honolulu during the week of 21 February. The committee decided to invite Western and Central Pacific Fisheries Commission (WCPFC; www.wcpfc.int) observers to the next EECM and requested the Committee on Scientific Research and Statistics (CSRS) provide information at the EECM meeting that could be used to increase the effectiveness of patrol allocations.

Jun Imamura **ENFO Chairperson**



Mr. Jun Imamura was born in Tokyo where he graduated from the Tokyo University of Fisheries. Initially, he worked at the National Salmon Resources Center in Hokkaido, but later became a Fisheries Inspector at the Fisheries Agency, where he participated in enforcement patrols. More recently, he was promoted to be the Director of the Enforcement Division at the Hokkaido Fisheries Coordination Office. In 2009, Jun assumed his current position as the Assistant Director of the Enforcement Office at the Fisheries Agency. In this position, he is responsible for fisheries enforcement policy development for Japan, and his duties include coordinating enforcement operation planning. Jun's daily activities include a rigorous workout and training regimen that enables him to eat and drink as much as he likes without worrying about his health. He currently resides in Tokyo with his wife, son, and daughter.

CSRS REPORTS AT THE ANNUAL MEETING ON SCIENTIFIC RESULTS



CSRS in session at the 18th Annual Meeting.
Photo: NPAFC Secretariat

The Committee on Scientific Research and Statistics (CSRS) met on November 1–4, 2010, during the NPAFC Annual Meeting in Busan, Korea. The group, including 53 participants from five member countries was welcomed by the host country, Korea. A total of 60 documents were submitted to the Commission for consideration of scientific research and statistics. Highlights of scientific results from each country were presented. All documents submitted to the CSRS are available for downloading from the NPAFC website (www.npafc.org).

The Working Group on Stock Assessment confirmed preliminary 2009 commercial salmon catches from the North Pacific were 1,139 thousand tonnes, which was the highest total catch recorded. Pink and chum salmon constituted the majority of the catch (53.5% and 31.4% by weight, respectively), and sockeye salmon were 12.8% of the commercial catch. Major catches were reported by Russia (551 thousand tonnes, 48.4%), Alaska (332 thousand tonnes, 29.1%), and Japan (217 thousand tonnes, 19.0%).

The Working Group on Salmon Marking reported on their current activities related to otolith marking. All Parties submitted otolith marking plans for brood year 2010. The group reported the number of otolith-marked salmon released

from Pacific Rim hatcheries was 1.66 billion in 2009 and the preliminary number released in 2010 was 2.08 billion. Otolith-mark release information is available at the group's website (<http://npafc.taglab.org/>).

The *ad hoc* Working Group on Stock Identification reported international collaborations continue to update and improve genetic databases for Pacific salmon. Pacific Rim data bases for SNP DNA are nearly complete for Chinook, chum, and sockeye salmon. Data are strongest for populations in North America and data are needed to expand baselines in Asia, primarily for Russian Chinook and chum salmon populations. Genetic baselines are published or soon to be published, and are available to the Parties.

The Bering-Aleutian Salmon International Surveys (BASIS) Working Group provided details from the 2010 research effort and information on the status of salmon in the Bering Sea. Trawl surveys in the western Bering Sea indicated sea surface temperatures were 2°C warmer than average. Juvenile pink and chum salmon catch per unit of effort was high, which suggests large returns of adult pink salmon to the Russian EEZ in 2011 and large returns of chum salmon in the future. Surveys in the eastern Bering Sea indicated sea surface temperatures were anomalously cold during 2010. Juvenile salmon were narrowly distributed in the survey area and the distribution varied by salmon species. A relatively high abundance of jellyfish was widely distributed over the eastern shelf. The countries agreed a BASIS Phase II Symposium would be requested to occur around the time of the 2014/15 NPAFC Annual Meeting.

The Salmon Tagging Working Group reviewed tagging activities by the



Sampling chum salmon on the the Tae-Hwa River during the excursion.
Photo: NPAFC Secretariat



Parties. The group reported that recoveries in 2009 included 18 high-seas disk tags recovered in Russia and five tags recovered in Japan. In addition, two tags recovered in 2007 from fish that returned to Russia were reported by the group for the first time. During summer of 2010, a total of 235 salmonids in the central North Pacific and 1,166 salmonids in the Bering Sea were disk-tagged and released. Plans were made to update the combined INPFC/NPAFC tagging database. In 2011, Japan research plans include the release of approximately 100 NPAFC-logo disk tags on salmon caught during the *Hokko maru* cruise next summer.

The Science Sub-Committee submitted the new 2011-2015 Science Plan, which was approved by the CSRS. The goal of the new plan is to explain and forecast Pacific salmon production in ocean ecosystems under a changing climate (see article, this issue). The work plan includes workshops or symposia each year. The first will be an international workshop held to explore explanations for the recent high abundance of pink and chum salmon in the North Pacific. The workshop will be in Nanaimo, Canada, on October 30-31, 2011, following the 19th NPAFC Annual Meeting (see announcement, this issue).

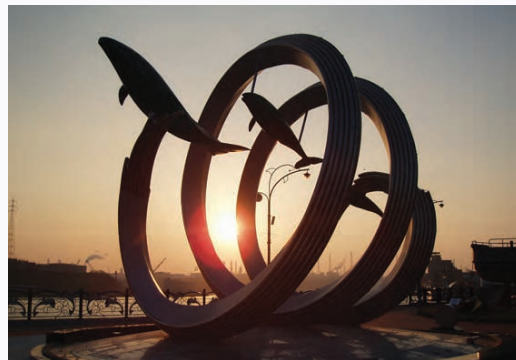
The CSRS recommended the editorial group proceed with the publication of the book “Life Histories of Pacific Salmon and Trout in the Ocean Ecosystems” to commemorate the NPAFC 20th Anniversary. This book will update and review the ocean life histories of pink, chum, sockeye, coho, Chinook, and cherry salmon, and steelhead and cutthroat trout.

It was decided that the spring meeting of the Research Planning and Coordinating Meeting in 2011 will be held on a trial basis as a virtual meeting by email.

Jin Yeong Kim
CSRS Chairperson



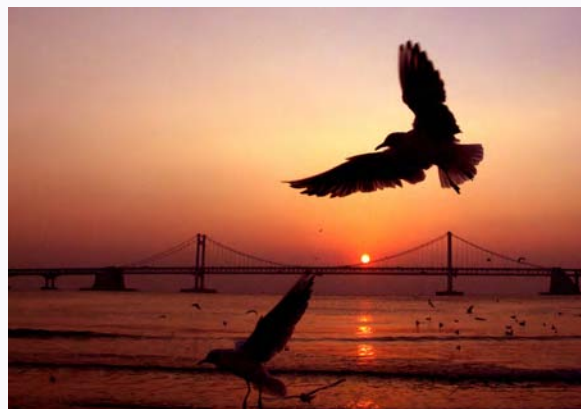
Dr. Jin Yeong Kim is a fisheries scientist at the Korean Fisheries Research and Development Institute (NFRDI). Her scientific studies have concentrated on larval recruitment and fish biology of small pelagic fish populations. Most of her career has been devoted to scientific committees of bilateral or multilateral cooperative fisheries organizations of the North Pacific Rim and to the Coordinating Committee of the Korean Central Fisheries Program. In 2006-2008, she served as Director of the Fisheries Resources Department of NFRDI and in 2009 became the Director of the East Sea Fisheries Institute of NFRDI. In her current position, Jin resumed her scientific research of fisheries resources in Korean waters.



Sculpture outside the the Ulsan City Seaquarium, which was one of the highlights of the excursion.
Photo: NPAFC Secretariat



The view from one of the guest rooms at the Lotte Hotel Busan.
Photo: NPAFC Secretariat



Seagulls flying at a beach in Busan
Photo: Jinil Park



Forecast of Pacific Salmon Production in the

At the Annual Meeting in November, 2010, the Commission adopted its new five-year (2011-2015) Science Plan that identified the “Forecast of Pacific Salmon Production in the Ocean Ecosystems under Changing Climate” as its research theme. The Science Plan was drafted by the Science Sub-Committee (SSC; R. Beamish, chairperson; T. Nagasawa, K.B. Seong, A. Zavolokin, and E. Farley) of the CSRS. The purpose of the Science Plan is to help member nations provide the best available scientific information pertaining to anadromous populations and ecologically-related species in the ocean and to establish coordinated efforts and mechanisms of international cooperation for promotion of conservation of anadromous populations in the ocean.

The Science Plan emphasizes the need for new international cooperative research programs to improve scientific information on the ecological mechanisms regulating salmonid production, estimating climate impacts in the North Pacific on salmon populations, and examining whether salmon populations can be used as indicators for conditions in North Pacific marine ecosystems.

Under the forecasting research theme, the Science Plan identified the following five research components where cooperative research might be concentrated:

1. Migration and survival mechanisms of juvenile salmon in ocean ecosystems;
2. Climate impacts on Pacific salmon production in the Bering Sea (BASIS) and adjacent waters;
3. Winter survival of Pacific salmon in North Pacific Ocean ecosystems;
4. Biological monitoring of key salmon populations; and
5. Development and applications of stock identification methods and models for management of Pacific salmon.

Research Component 1: Migration and Survival Mechanisms of Juvenile Salmon in the Ocean Ecosystems

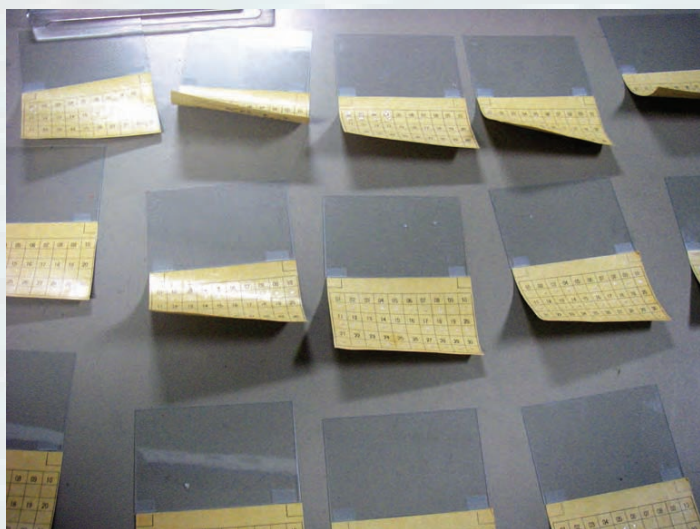
Recent cooperative and national research on juvenile salmon suggests considerable inter-annual variation in abundance, growth, and survival rates of juvenile salmon in the ocean, which may be related to climatic changes in habitat at regional and local scales. A better understanding of these processes is needed for conservation and management of anadromous populations. Cooperative research might focus on these issues:

- Seasonal distribution and migration route/timing of juvenile salmon
- Hydrological characteristics, primary production, and prey resources in salmon habitats
- Trophic linkages, growth rates, and predation rates of juvenile salmon
- Ecological interactions between species and between populations
- Survival rate and mechanism of juvenile salmon
- Population size and carrying capacity of juvenile salmon

Research Component 2: Climate Impacts on Pacific Salmon Production in the Bering Sea (BASIS) and Adjacent Waters

The goal of BASIS Phase II is to understand how climate change will affect productivity of Bering Sea salmon and ecologically related species. Cooperative research might focus on these issues:

- Monitor and evaluate climate-oceanographic and biological factors related to foraging conditions, distribution, abundance, and production of salmon and ecologically related species
- Determine and understand the role of salmon in nektonic communities and their association to Bering Sea ecosystem status
- Understand the influence of climate-oceanographic conditions upon structure, status, population structure, migration, biological parameters, and production processes of Pacific salmon populations
- Understand foraging dynamics, food competition, and its influence on growth and survival of salmon
- Understand the processes that affect salmon production
- Study the linkage between marine survival of salmon, and climate and ocean changes
- Predict the potential impacts of global climate change on marine salmon habitats



Salmon scale cards drying after sample collection.
Photo: High Seas Salmon Research Program, University of Washington.

Ocean Ecosystems under Changing Climate

Research Component 3: Winter Survival of Pacific Salmon in North Pacific Ocean Ecosystem

Better information on the status and trends in production and condition of Pacific salmon during the late fall to early spring period is needed for conservation and management of salmon resources. Cooperative research might focus on these issues:

- Winter distribution, production, and health status of salmon populations
- Hydrological characteristics, primary production, and prey resources in the winter habitats
- Trophic linkages, growth rate, and predation of salmon at different stages
- Winter survival rate of salmon at different stages
- Winter carrying capacity of salmon populations
- Effects of climate change on salmon populations during winter
- Interactions between species and between populations

Research Component 4: Biological Monitoring of Key Salmon Populations

Anadromous populations are an ideal ecological indicator of marine ecosystems. There is a need to maintain and improve basic monitoring of escapement, catch, smolt migration, and other biological information for potential use in the forecasting of salmon return strength or ocean survival of Pacific Rim stock groups. In areas where hatcheries are present, data on hatchery fish abundance should be separated from wild fish abundance. Biological information such as age composition of a population, body size, fecundity, and egg size should be included in the monitoring. The identification of annual regional salmon production trends from hatchery and wild stock sources would enable researchers to examine the effects of ocean salmon biomass on subsequent survival and size and age at return of key population groups. Cooperative research might focus on these issues:

- Identify key populations of each salmon species as indicators of regional and basin-scale ecosystems
- Monitor biological status of key salmon populations
- Identify annual regional production of hatchery and wild salmon

Research Component 5: Development and Applications of Stock Identification Methods and Models for Management of Pacific Salmon

Consensus on genetic baselines for chum, sockeye, coho, and Chinook salmon and the development of genetic baselines for pink salmon are necessary to monitor stock-specific ocean distributions and abundance. High-seas tagging and otolith-mark programs are also important to examine migration behaviour of specific populations. This information is needed to produce more accurate estimates of the timing and abundance of adults that are returning to coastal rivers. Models are needed to explain how Pacific salmon production will change in ocean ecosystems affected by changing climate. Cooperative research might focus on these issues:

- Improve genetic baselines for chum, sockeye, coho, and Chinook salmon
- Develop genetic baselines for even-year and odd-year pink salmon
- Integrate the database of tag recoveries
- Develop the database of otolith mark recoveries
- Improve forecast models for estimating abundance of specific salmon populations

Cooperative research approaches and implementation of the 2011-2015 Science Plan will include collection and synthesis of existing data and metadata to generate and test specific hypotheses, integrated ecological monitoring (e.g., at-sea, satellite), conceptual and quantitative modeling, process-oriented field and laboratory studies, and retrospective analyses.

NPAFC workshops and symposia serve an important purpose in rapid exchange of significant new results. A workshop is temporally scheduled for each of the first three years on the following topics: (1) production trends of pink and chum salmon (see announcement; this issue); (2) juvenile salmon (including winter ecology and survival mechanisms); (3) and forecasting Pacific salmon production. A BASIS Phase II Symposium is currently being considered for 2014/2015.

(The previous text was excerpted from NPAFC Doc. 1255; available at http://www.npafc.org/new/pub_documents_2010.html)



NORTH PACIFIC ANADROMOUS FISH COMMISSION

INTERNATIONAL WORKSHOP ON

EXPLANATIONS FOR THE HIGH ABUNDANCE OF PINK AND CHUM SALMON AND FUTURE TRENDS

October 30-31, 2011
Vancouver Island Conference Centre
Nanaimo, British Columbia, Canada

DEADLINES

Abstracts due **May 31, 2011**
Email abstracts to secretariat@npafc.org
Presenters notified by July 1, 2011



TOPICS

1. Production trends of pink and chum salmon by region
2. Hatchery production
3. Marine migration and distribution patterns
4. Feeding, growth, and survival strategies
5. Ecological capacity for wild and hatchery production in the ocean
6. Prediction and management of salmon production in a changing climate
7. Future research

More information:

Website: www.npafc.org Email: secretariat@npafc.org



STATE OF THE SALMON

NPAFC International Workshop on

Explanations for the High Abundance of Pink and Chum Salmon and Future Trends



October 30-31, 2011



Vancouver Island Conference Centre, Nanaimo, BC, Canada

ABSTRACT SUBMISSION DEADLINE is MAY 31, 2011.

BACKGROUND

Total commercial catches of Pacific salmon (*Oncorhynchus* spp.) in the Subarctic North Pacific are at historic high levels, with recent catches over one million tonnes. High catches were caused by an increase of pink and chum salmon production, which represented over 80% of the total catch. At the same time Chinook, coho, and masu salmon have been decreasing in abundance. These trends in Pacific salmon catches are generally recognized to result from processes within the ocean that appear to improve the capacity to produce pink and chum salmon, perhaps decrease the capacity to produce Chinook and coho salmon, and contribute to recent extreme variability in sockeye salmon production. Understanding how future trends in ocean production capacity will change is particularly important for hatchery programs. The Workshop aims to bring together international experts to identify what is known about the reasons for recent production trends and to identify future research needs.



ORGANIZING COMMITTEE

Richard Beamish (Pacific Biological Station, DFO, Canada; Chairperson)
Alexander Bugaev (Kamchatka Fishery and Oceanography Research Institute, Russia)
Sanae Chiba (Japan Agency for Marine-Earth Science and Technology, Japan)
William Crawford (Institute of Ocean Sciences, Canada)
Nancy Davis (NPAFC Secretariat)
Edward Farley (Auke Bay Labs., Ted Stevens Marine Research Institute, NMFS, USA)
Toru Nagasawa (National Salmon Resources Center, FRA, Japan)
Ki Baik Seong (Cold-Water Fish Research Center, NFRDI, Korea)



PRESENTATIONS

The Workshop will be conducted in English. Sessions will include invited and contributed papers. Contributed papers will be selected for oral or poster presentation. Oral presentations are 15 minutes followed by 5 minutes of discussion. The Organizing Committee will select abstracts by the end of June, 2011, and authors will be notified of the results by the NPAFC Secretariat

WORKSHOP PROCEEDINGS

Workshop proceedings will be published in a NPAFC Technical Report, which will be available online at the NPAFC website. Publication of selected full papers in the NPAFC Bulletin series (http://www.npafc.org/new/pub_bulletin.html) or another peer-reviewed journal will be considered.

PROFILES OF NPAFC REPRESENTATIVES

GERRY KRISTIANSON -- REPRESENTATIVE OF CANADA AND FINANCE AND ADMINISTRATION COMMITTEE CHAIRPERSON



Dr. Gerry Kristianson was trained as a political scientist, earning his doctorate after studies at the University of British Columbia and the Australian National University. A life-long recreational angler, following his retirement from a professional career as an academic, diplomat, and management consultant, Gerry became closely involved in the political issues surrounding the management of North Pacific fisheries. He is chairman of Canada's Sport Fishing Advisory Board and vice-president of the Sport Fishing Institute of British Columbia. Gerry has been one of Canada's representatives to the North Pacific Anadromous Fish Commission since 1997, twice serving as chair of the Finance and Administration Committee. He has been one of Canada's representatives on the Pacific Salmon Commission since 1998.

JEONGSEOK PARK -- REPRESENTATIVE OF KOREA



Dr. Jeongseok Park graduated with his BSc, MSc, and PhD in Fisheries Resources Economics from Pukyong National University in Busan. His areas of interest include bio-economics of fisheries management; quota allocation systems; and monitoring, control and surveillance issues. In 2006 Jeongseok joined the International Fisheries Organization Division of Ministry for Food, Agriculture, Forestry and Fisheries. In addition to his participation at NPAFC, he represents the Republic of Korea at many regional fisheries management organizations including the International Commission for the Conservation of Atlantic Tunas, Indian Ocean Tuna Commission, International Whaling Commission, and Western and Central Pacific Fisheries Commission.

VLADIMIR BELYAEV -- REPRESENTATIVE OF RUSSIA AND VICE-PRESIDENT OF NPAFC



Professor Vladimir Belyaev graduated from Perm State University and received his PhD at the Pacific Research Institute of Fisheries and Oceanography (TINRO) in Vladivostok. He became director of the Khabarovsk branch of TINRO in the late 1990s. From 2004 to 2005 he held many positions in Moscow including Chief Specialist in the Ministry of Natural Resources, Department Director of Ecological Expertise, Deputy Director of "Losiny Ostrov" National Park, and Head of Division and Deputy Director of the Interdepartmental Ichthyological Commission. Currently, Vladimir is the Department Director of Science and Education (Federal Agency for Fisheries) and Deputy Director for Russian activities related to the Convention on International Trade in Endangered Species (CITES). In addition to Vladimir's role as Russian Representative to the NPAFC, he represents the Russian Federation on numerous Russian bilateral fisheries commissions. His scientific interests include biology of pelagic fish, salmon, and sturgeon; marine ecosystems; protection of freshwater and marine waters; and fisheries economics.

JUNICHIRO OKAMOTO -- REPRESENTATIVE OF JAPAN



Professor Junichiro Okamoto studied fish disease and graduated from the Faculty of Agriculture at the University of Tokyo. After graduation, he joined the Fisheries Agency of Japan and gained experience in domestic fisheries management, international fisheries trade policy, and bilateral fisheries negotiations with the (then) Soviet Union, Canada, South Korea, and U.S.A. As a senior official, Junichiro participated in deliberations of numerous organizations including the Organization for Economic Co-operation and Development, Inter-American Tropical Tuna Commission, International Whaling Commission, Convention on the Conservation of Antarctic Marine Living Resources, and General Agreement on Tariffs and Trade. He was the Division Director of Agriculture and Fisheries at the Japan External Trade Organization in New York. From 2002 to 2005, he served in Bangkok as the Deputy Secretary General of the Southeast Asian Fisheries Development Center. Currently Junichiro is a professor at the Faculty of Fisheries Sciences at Hokkaido University. Junichiro's broad experience with international fisheries organizations has deepened his fondness for travel abroad.

JANG-WOO SEO -- REPRESENTATIVE OF KOREA



Dr. Jang-Woo Seo received his BS and MSc in Aquaculture from Pukyong National University (PKNU) and recently graduated with his PhD in Aqua-life Medicine from Chonnam National University. Over the last 20 years, Jang-Woo held positions in several divisions of the Ministry for Food, Agriculture, Forestry, and Fisheries (MIFAFF) including Director of the Fisheries Inspection Division of the National Fisheries Products Quality Inspection Services (NFIS) and Director of Fishing Port Division and Aquaculture Industry Division. In August 2010 he became the Director of the International Fisheries Organization Division of MIFAFF.



Photo taken at the 18th Annual Meeting in Busan, Republic of Korea. From left to right: Shigehiko Urawa, Jun Imamura, Junichiro Okamoto, Ki Baik Seong, Jeongseok Park, Jin Yeong Kim, Jang-Woo Seo, Vladimir Belyaev, Doug Mecum, Gary Smith, Gerry Kristianson, Michael Pearson, Richard Beamish, Roland Maw, Vladimir Fedorenko

UPDATES FROM THE NPAFC SECRETARIAT STAFF

SHIGEHIKO URAWA RETURNS TO SAPPORO FROM VANCOUVER

After four years as NPAFC Deputy Director, Hiko returned to Japan at the end of November. While at the Secretariat, he promoted cooperation among scientists involved with ocean salmon research by producing many scientific publications during his tenure. Now back in his laboratory he has resumed scientific responsibilities working on the genetics of ocean chum salmon at the National Salmon Resources Center (NASREC) of the Fisheries Research Agency. Hiko will continue to be involved in NPAFC-related activities through his research and by joining in efforts to publish the book, "Life Histories of Pacific Salmon and Trout in the Ocean Ecosystems," which will summarize results of NPAFC-related salmon research conducted for almost 20 years. He thanks everyone for helping make his experience in Vancouver so rewarding. He can be reached at urawa@affrc.go.jp.

CLAUDIA CHAN -- NEW SECRETARY



Claudia Chan assumed the position of secretary at the NPAFC in August, 2010. She graduated with a BSc in Interactive Arts from the School of Interactive Arts and Technology at Simon Fraser University. Her major area of study was Interaction Design, with a minor concentration in Communications. To further her graphic design skills, she is currently enrolled in the Certificate Program in 2-D Design Communications at Emily Carr University. Claudia is eagerly putting her design skills and knowledge to work for NPAFC. Her passions include graphic and fashion design, typography, and photography, and her hobbies include time spent singing karaoke and playing basketball. In the summer she enjoys fishing trips to Bowen Island with her family.

NANCY DAVIS -- NEW DEPUTY DIRECTOR

Nancy Davis started her duties as Deputy Director of NPAFC on December, 1, 2010. She graduated with a PhD in Fisheries from Hokkaido University and has been a researcher at the University of Washington's High Seas Salmon Research Program for most of her career. She spent many summers participating in cooperative Japanese salmon research cruises surveying the central North Pacific and Bering Sea, most of them onboard the *Wakatake maru*. She has submitted numerous scientific documents to NPAFC and its predecessor, the INPFC, in support of US ocean salmon research. Her scientific interests include ocean salmon and steelhead food habits, tagging, and salmon scale analysis for age determination and fish growth. She hopes to advance the scientific work and public outreach of NPAFC by helping to organize scientific workshops, symposia, and publications identified in the Commission's Science Plan. Nancy enjoys her rudimentary piano playing and traveling on road trips with her husband while car camping in luxury.

YUKA OGATA -- NPAFC'S FIRST INTERN ARRIVES



Yuka Ogata arrived at the Secretariat in mid-January where she will contribute towards the administrative, scientific, and outreach activities of the NPAFC over the next six months. Yuka is currently a PhD student in Global Fisheries Sciences at the University of Tokyo. Her specialty is freshwater aquaculture in Southeast Asia, where she studies live feed production and nursery practices for aquaculture of local fish species in Laos. Her interest is to improve sustainable aquaculture techniques including balancing concerns for stock management, environment effects, and economic development. Yuka enjoys foreign travel and as a tourist she has visited the France, Sweden, Thailand, Malaysia and Australia. In addition, she has studied English in Canada and the U.S.A.

Internship Program

The NPAFC encourages citizens from member countries to apply for the program. One intern per year will be accepted upon approval of the Commission for a period up to six months. Application deadline is August 25, 2011. Check http://www.npafc.org/new/about_internship.html for details.



Shigehiko Urawa and Nancy Davis at the 18th Annual Meeting in Busan.



Sunrise in the Bering Sea
Photo: High Seas Salmon Research Program, University of Washington.

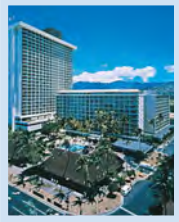


PUBLICATIONS COMING SOON

Statistical Yearbook 2005-2007

Hard copy of the Statistics Yearbook is published every three years. This issue will include final annual catch statistics and numbers of released salmon fry and smolts in the North Pacific Ocean. The yearbook will be published in late spring.

UPCOMING EVENTS



Enforcement Evaluation and Coordination Meeting (EECM) 2011

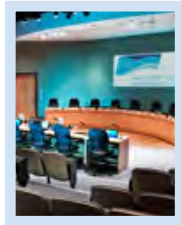
Sheraton Princess Kaiulani Hotel
Honolulu, Hawaii
February 23-24, 2011

Research Planning and Coordinating Meeting (RPCM) 2011

Virtual meeting will be held by email in the spring.

NPAFC 19th Annual Meeting

Vancouver Island Conference Centre
Nanaimo, BC Canada
October 23-28, 2011
* CSRS starts on October 23rd
1st Plenary starts on October 24th



NPAFC International Workshop on Explanations for the High Abundance of Pink and Chum Salmon and Future Trends

Vancouver Island Conference Centre
Nanaimo, BC Canada
October 30-31, 2011
<http://www.npafc.org/new/events/workshops/2011Workshop1stAnnouncement.pdf>

**Abstract submissions due
May 31, 2011.**

KOREAN SALMON RECIPE SALMON TOFU "SANDWICHES"



Recipe submitted by Sukyung Kang and Cheol Ho Lee, Fisheries Resources Management Division, National Fisheries Research and Development Institute, Busan, based on information provided by Yang Yang Gun County. (Tofu is bean curd made from coagulating soy milk and pressing into a block.)

Ingredients:

Salmon fillet (raw)
1 to several blocks of tofu
1 bunch of scallions
Cooking oil or butter

Method:

1. Remove salmon from the skin and slice salmon into pieces approximately 1 cm thick.
2. Slice tofu block into rectangular pieces approximately 1 cm thick.
3. Add a pinch of salt to the salmon and tofu.
4. Heat a frying pan over medium heat with a little oil (or butter). Add the salmon pieces and cook salmon until done. Remove salmon and put it aside on a plate.
5. In the same frying pan over medium heat, add a little oil and cook tofu until the external surface develops a light golden color. Remove tofu from the heat.
6. Briefly boil the scallions in hot water just until soft. Drain the scallions to remove excess water.
7. Place a slice of salmon in between two pieces of tofu in the style of a sandwich and tie the scallion around to keep the "sandwich" sealed.

If desired, serve with favourite condiments to add other flavours, such as (1) soy sauce with vinegar, or (2) Korean red hot pepper sauce with sugar and vinegar.

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Visit the NPAFC website: <http://www.npafc.org> for more information on events, publications, scientific documents, and salmon catch statistics.

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The Commission encourages submission of articles and images on NPAFC-related activities for publication in the newsletter.