### **AGENDA**

TITLE: Morioka Salmon Workshop: bridging fisheries research and education for sustainable salmon fishery

BACKGROUND AND PURPOSE: Iwate University decided to establish a new graduate school and undergraduate course of fisheries science to promote rehabilitation of the fisheries industry in Sanriku-region heavily damaged by a massive earthquake and devastating tsunami on March 11, 2011. Sanriku fisheries industry is largely relying on salmon catch. The purpose of this workshop, open for public, is to help launch a new fisheries science education in Iwate University for promotion of salmon research to help sustain Sanriku fisheries industry.

**DATE**: February 8 to 10, 2016

**VENUE**: Hotel Metropolitan Morioka New Wing, Morioka, Iwate Prefecture, Japan

## SCHEDULE:

| February 8 (Mon)  | 8:45 - 20:30 | Workshop and evening welcome reception           |
|-------------------|--------------|--|
| February 9 (Tue)  | 9:30 - 15:50 | Workshop and poster session                      |
| February 10 (Wed) | 9:00 - 17:30 | Field tour, coastal tsunami sites and hatcheries |

# TOPICS (with English and Japanese simultaneous interpretation): February 8

| 8:45 - 8:50   | Welcome note          | Hitoshi Yashiro   |  |
|---|-----------------------|---|--|
| 8:50 - 9:05   | Opening Remarks       | Syuiti Abe  |  |
| 9:05 - 9:45   | Plenary lecture (Toru | Nagasawa)   |  |
|   |                       | Richard J. Beamish: Planning for the future of Pacific salmon |  |
|   |                       | production  |  |
| 9:45 - 10:00  |                       | - Break -   |  |
| Session 1. Pacific salmon production: management education (Toru Nagasawa, Marc Trudel) |                       |   |  |

| 10:00 - 10:25 | a. North America | Andrew K. Gray*, Joe Orsi, Jim Murphy, Alex Wertheimer, Emily  |
|---------------|------------------|--|
|               |                  | Fergusson: The use of marine ecosystem metrics for preseason   |
|               |                  | forecasts of salmon harvest                                    |
| 10.25 - 10.50 | a. North America | James E. Seeb*: Applying genetic markers to manage             |
|               |                  | sustainable fisheries for salmon in Alaska                     |
| 10.50 - 11.15 | b. Russia        | Aleksandr Zavolokin*: Russian salmon production: past,         |
|               |                  | present, future  |
| 11:15 - 11:40 | c. Japan         | Shigehiko Urawa*: Status of chum salmon populations and        |
|               |                  | research program for their rehabilitation in the Pacific coast |
|               |                  | of northern Japan  |
| 11:40 - 13:00 |                  | - Lunch -  |
| 13:00 - 13:25 | c. Japan         | Yasuyuki Miyakoshi*: Recent status of chum and pink            |

salmon stocks in Hokkaido, northern Japan

| 13:25 – 13:50  | c. Japan                  | Gen Ogawa*, Kodai Yamane: Chum salmon ( <i>Oncorhynchus keta</i> ) production in the Sanriku-region, Japan |  |
|--|---------------------------|--|--|
| 13:50 – 14:15  | d NPAEC coordination      | Nancy Davis*, Vladimir I. Radchenko: NPAFC coordination:   |  |
| 19.00 – 14.19  | u. IVI III O coordination | fisheries enforcement and scientific research on salmon in   |  |
|  |                           | the North Pacific  |  |
| Session 2, Salm  | on biology: enhancement   | education (Yoshitaka Nagahama, Graham young)   |  |
| 14:15 – 14:40  | a. Genetics               | Lisa W. Seeb*: Fisheries genetics in the era of genomics   |  |
| 14:40 - 15:05  | a. Genetics               | Shunpei Sato*, Shigehiko Urawa: Ocean distribution and   |  |
|  |                           | abundance of Japanese and other stocks of chum salmon  |  |
|  |                           | in the summer Bering Sea estimated by genetic methods  |  |
| 15.05 - 15.15  |                           | – Break –  |  |
| 15:15 - 15:40  | b. Physiology             | Penny Swanson*, Jon Dickey, Mollie Middleton, and Donald   |  |
|  |                           | Larsen: Reforming hatchery rearing practices to improve  |  |
|  |                           | effectiveness of supplementation and conservation  |  |
|  |                           | hatcheries for Pacific salmon and steelhead  |  |
|  |                           | (Oncorhynchus sp.)   |  |
| 15:40 - 16:05  | b. Physiology             | Birgitta Norberg*, Anna Wargelius, Eva Andersson, Tom  |  |
|  |                           | Hansen, Per Gunnar Fjelldal, Lene Kleppe, Rolf Brudvik   |  |
|  |                           | Edvardsen, Geir Lasse Taranger: Atlantic salmon aquaculture  |  |
| 10:05 10:00  | 1. Dl : -1                | in Norway  |  |
| 16:05 - 16:30  | b. Physiology             | Hiroshi Ueda*: Physiological mechanisms of imprinting and homing migration in Pacific salmon               |  |
| 16:30– 16:55   | c. Ecology                | Marc Trudel*, Strahan Tucker: Migration and survival of salmon   |  |
| 10.00 10.00  | c. Ecology                | in a changing climate  |  |
| 16:55 - 17:10  |                           | - Break -  |  |
| Session 3, Pane  | el discussion             |  |  |
| 17:10 - 18:15  |                           | Syuiti Abe (convener), Andrew K. Gray, Aleksandr   |  |
|  |                           | Zavolokin, Shigehiko Urawa, Lisa W. Seeb, Penny Swanson,   |  |
|  |                           | Marc Trudel  |  |
| 18:30 - 20:30  |                           | <ul><li>Welcome reception —</li></ul>  |  |
|  |                           | (Day 1 end)  |  |
| Session 4, Salmon & fisheries education (Noriyuki Tanaka, Penny Swanson): February 9 |                           |  |  |
| 9:30 - 9:55  | a. Ecosystem              | Masahide Kaeriyama*: Ecosystem-based sustainability  |  |
|  |                           | science of Pacific salmon and paradigm shift of fisheries  |  |
| 0.22   | b. Socio-economics        | education  Kathrina Tvoitaråa*: Interdissiplinary learning in fisheries                                    |  |
| 9:55 – 10:20   | b. Socio-economics        | Kathrine Tveiterås*: Interdisciplinary learning in fisheries and aquaculture                               |  |
| 10:20 - 10:45  | c. Regional program       | Graham Young*: Structuring research programs to address  |  |
|  |                           | industry priorities and ensure technology transfer: the US   |  |

– Break –

10:45 - 11:00

Regional Aquaculture Center program model

| 11:00 – 11:25                         | d. Global marketing | Ikutaro Shimizu*: Sustainability of diversification by salmon producing countries in global salmon markets |
|---------------------------------------|---------------------|--|
| 11:25 – 11:50                         | d. Global marketing | Gakushi Ishimura*: Searching for new market strategy for Iwate Chum Salmon                                 |
| 11:50 - 13:00                         |                     | – Lunch –  |
| Session 5, Poster session             |                     |  |
| 13:00 - 14:30                         |                     |  |
| 14:30 - 14:45                         |                     | – Break –  |
| Session 6, Wrap-up (Panel discussion) |                     |  |
| 14:45 - 15:45                         |                     | Noriyuki Tanaka (convener), Richard J. Beamish,  |
|                                       |                     | Toru Nagasawa, Akihisa Urano, Kathrine Tveiterås,  |
|                                       |                     | Graham Young, Birgitta Norberg, Gakushi Ishimura   |
| 15:45 - 15:50                         | Closing comments    | Kohei Yamauchi   |

Field tour, coastal tsunami sites and hatcheries: February 10

9:00 – 17:30 — Morioka – Kuji – Akka River hatchery – Taro – Miyako – Tsugaruishi River hatchery – Morioka

(Day 3 end)

(Day 2 end)

## SPEAKERS (SESSION CONVENERS) TO BE INVITED

Richard J. Beamish; Plenary lecture –Pacific salmon production and management

Fisheries and Oceans Canada, Pacific Biological Station, Nanaimo, British Columbia, Canada

Toru Nagasawa; Plenary lecture (session convener)

Hokkaido National Fisheries Research Institute, Fisheries Research Agency, Japan

Andrew K. Gray; Pacific salmon production North America

NOAA, Alaska Fisheries Science Center, Auke Bay Laboratories, Juneau, AK, USA

James E. Seeb; Pacific salmon production, North America

SAFS, University of Washington, Seattle, WA, USA

Alexander Zavolokin; Pacific salmon production Russia

Pacific Scientific Research Fisheries Center (TINRO-Center), Vladivostok, Russia

Shigehiko Urawa; Pacific salmon production Japan

Hokkaido National Fisheries Research Institute, Fisheries Research Agency, Japan

Yasuyuki Miyakoshi; Pacific salmon production Japan (Hokkaido)

Salmon and Freshwater Fisheries Research Center, Hokkaido Research Organization, Japan

Gen Ogawa; Pacific salmon production Japan (Sanriku-region)

Iwate Prefecture Fisheries Research Institute, Kamaishi, Iwate, Japan

Nancy Davis; NPAFC coordination: fisheries enforcement and scientific research (North Pacific)

North Pacific Anadromous Fish Commission, Vancouver, BC Canada

Lisa E. Seeb; Salmon biology Genetics - review

SAFS, University of Washington, Seattle, WA, USA

Shunpei Sato; Salmon biology Genetics - chum salmon

Hokkaido National Fisheries Research Institute, Fisheries Research Agency, Japan

Penny Swanson; Salmon biology Physiology

Northwest Fisheries Science Center, NOAA, Seattle, WA, USA

Birgitta Norberg; Salmon biology Physiology

Marine Research Institute, Bergen, Norway

Hiroshi Ueda; Salmon biology Physiology

Graduate School of Environmental Earth Science, Hokkaido University, Japan

Marc Trudel; Salmon biology Ecology

Fisheries and Oceans Canada, Pacific Biological Station, Nanaimo, British Columbia, Canada

Yoshitaka Nagahama; Salmon biology (session convener)

South Ehime Fisheries Research Center, Ehime University, Ehime, Japan

Office of International Affairs, Hokkaido University, Sapporo, Japan

Kathrine Tveiterås; Salmon & fisheries education Socio-economics

Faculty of Bioscience, Fisheries and Economics, University of Tromsø, Tromsø, Norway

Graham Young; Regional program Regional aquaculture program

School of Aquatic and Fisheries Science, University of Washington, Seattle, WA, USA

Ikutaro Shimizu; Salmon & fisheries education Global marketing

National Research Institute of Fisheries Science, Fisheries Research Agency, Japan

Gaku Ishimura; Salmon & fisheries education Global marketing

Sanriku Fisheries Research Center, Iwate University, Kamaishi, Iwate, Japan

Noriyuki Tanaka; Salmon & fisheries education (session convener)

Sanriku Fisheries Research Center, Iwate University, Kamaishi, Iwate, Japan

Hitoshi Yashiro Welcome Note

Organization for Revitalization of Sanriku-region, Iwate University, Morioka, Iwate, Japan

Syuiti Abe Opening Remarks

Sanriku Fisheries Research Center, Iwate University, Kamaishi, Iwate, Japan

Akihisa Urano Wrap-up paneller

School of Science, Hokkaido University

Kohei Yamauchi Closing Remarks

South Ehime Fisheries Research Center, Ehime University, Ehime, Japan