

STATEMENT OF THE TWELFTH JOINT MEETING

OF THE UJNR AQUACULTURE PANEL

OCTOBER 25, 1983

The Twelfth Joint Meeting of the UJNR Aquaculture Panel was held on October 25, 1983, at Louisiana State University in Baton Rouge, Louisiana. Dr. Takeshi Nose, Secretary General, acting as Panel Chairman (on behalf of Dr. Kaoru Tatara) and Mr. Conrad Mahnken, U.S. Panel Chairman, presented welcoming addresses and opening greetings. Panel members, guests, and observers were introduced by the respective chairman. (Attachment A).

In 1983, the U.S. Panel added seven new members, all experienced researchers and science administrators, to replace those lost over the past few years, and to reflect federal-agency involvement in aquaculture.

Rapporteurs for the meeting were Dr. Isao Yano and Mr. Benson Drucker.

1. Scientist Exchange

The scientist exchange program sponsored by the UJNR has been an effective means of advancing aquaculture science and the exchange of information between the two countries. This program was continued between the Eleventh and Twelfth UJNR Meeting. During this period:

a. Dr. James Larrison and Dr. Robert Phillips, both from Oregon State University, visited Japan from March 20 - April 3, 1983, to film a segment of a documentary film on the world-wide status of aquaculture. The film was being produced for NOVA, the most popular science program on American television.

A tour of a variety of important production systems was arranged by Dr. Nose. Included were visits and filming of the National Research

Institute of Aquaculture (NRIA) in Ise. Mr. Takamiya Akida of the IYO Pearl Company staged the entire pearl oyster culture operation. Tuneso Morizane of the Ehime Fisheries Station arranged a yellowtail harvest for filming. Mr. Masahiko Takeda arranged a visit to an eel farm. The film team also filmed the Zen Nori Association, the sale of tuna at the Osaka Market and photographed a sushi restaurant.

b. Dr. Osamu Fukuhara of the Nansei Regional Fisheries Laboratory visited the United States for three weeks in October, 1983. He was hosted by Dr. Reuben Lasker, of the National Marine Fisheries Service (NMFS) Southwest Fisheries Center, La Jolla, California. The purpose of the visit was to exchange information on functional morphology and behavior of larval fishes.

c. Dr. Nagahisa Uki, Senior Researcher, Tohoku Regional Fisheries Research Laboratory visited the United States from November 19 to December 17, 1982. Dr. Uki visited a variety of research agencies to meet with U.S. scientists and exchange information on molluscan culture in general, but specifically on abalone culture. Dr. Uki visited the University of California at Santa Barbara, where he attended the "International Symposium on Recent Innovations in Cultivation of Pacific Molluscs," the University of Delaware at Lewes, Delaware, and the Northwest and Alaska Fisheries Center in Seattle, Washington.

d. Mr. Salvador Garcia, a student of former US/UJNR Panel Chairman William Shaw, traveled to Japan in July of 1983 for a six month period of study. The purpose of Mr. Garcia's trip was to observe a wide variety of Japanese marine aquaculture systems and research laboratories. The trip was coordinated with the aid of Dr. Tatara and Dr. Nose of the NRIA, and Dr. Koganezawa at the Tohoku Regional Fisheries Laboratory. Included in

Mr. Garcia's itinerary were trips to view shrimp, red seabream, yellowtail, salmon, oyster, abalone, and scallop culture. Mr. Garcia has remained in southern Honshu in the vicinity of the NRIA since his arrival in July and intends to travel north to Tohoku in mid October.

Originally, Mr. Garcia intended to return to the U.S. in December 1983, but because of the wealth of information and complexity of the Japanese aquaculture system, he has requested an extension of his stay until May of 1984. His request from the UJNR Panel for extension was approved.

e. Dr. William Seaman of the University of Florida had intended to visit Japan in 1984 for a six month period of study and research in the field of fishery development and marine ranching. However, it was necessary to delay the dates of Dr. Seaman's visit until the period of approximately March-August 1985. Dr. Seaman requests assistance in arranging an overall itinerary that would include both opportunities to observe coastal fishery production systems and to participate in research on fishery habitat and culture. The Japanese panel has agreed to prepare a list of colleagues and experts in these fields in Japan for Dr. Seaman to contact.

f. Dr. Yoshiaki Sanbonsuga, Hokkaido Regional Fisheries Laboratory, visited the UCSB from October 8 - October 24, 1983 to investigate *Macrocystis* culture. After the UJNR business meeting and field trip, he returned to UCSB and also visited the Bamfield Laboratory, British Columbia, prior to returning to Japan in early November 1983.

g. Dr. Kouichi Ohwada, NRIA, has expressed interest in visiting the United States in 1984 for a period of about one month. Two weeks is

proposed for visiting the NMFS Oxford Laboratory, Oxford, Maryland to study marine amoeba with Dr. Thomas Sawyer. The remaining two weeks will be spent at a yet undetermined research facility. Dr. Ohwada will correspond with the U.S. Chairman for final arrangements.

## 2. Literature Exchange

As the U.S. contribution to the literature exchange, the U.S. Panel provided the Japanese with 73 papers and processed reports on August 11, 1983. On September 28, 1983, an additional 82 papers were sent to Dr. Tatara for a total of 155 papers. An additional 10 papers were given to the Japanese Panel at the Twelfth Meeting. In addition, copies of the National Aquaculture Plan were also presented to the Panel. An additional 10 copies will be sent to the Japanese Chairman in early November 1983. The U.S. side has limited the number of U.S. papers from international scientific journals believing them to be generally available in Japanese scientific libraries.

The Japanese Panel presented 39 papers to the United States.

## 3. Cooperative Studies

### a. Completed studies

At the Eleventh Meeting, the cooperative programs for (a) the development of a "Registry of Marine Pathology," and (b) "Disease Resistance of U.S. Oysters in Japan" were terminated. However, final reports for both studies have not been prepared and submitted. The U.S. Panel will prepare final document covering the results of these studies before the next meeting.

b. Ongoing studies

The following cooperative studies were initiated at the Eleventh Meeting in 1982:

1. UJNR cooperative project on sea ranching of Western Pacific pink and chum salmon in the Western Atlantic. ;

The purpose of this cooperative project is to increase salmon production in the western Atlantic by improving techniques for establishing returns of transplanted pink (Onchorhynchus gorbuscha) and chum (O. keta) salmon. A major problem in transplanting stocks outside their native range is that of low initial returns. Western Pacific salmon stocks should provide better returns to Maine waters than eastern Pacific stocks since the former could more closely follow their normal migratory patterns.

This hypothesis is being tested by comparing returns of Asian and North American pink or chum salmon stocks in the western Atlantic. The project is being carried out by a private ocean rancher in Maine, Sea Run Inc., and is funded by the U.S. National Science Foundation (NSF). The objectives of Phase I were to locate, evaluate, and obtain pink or chum salmon eggs from Asian and North American Pacific stocks. A final report has been issued. The objectives of Phase II are to release large numbers of Japanese chum salmon for the next three years (beginning with the 1983 brood class).

A test shipment of 340,000 chum salmon eggs spawned at the Horonoi Hatchery, was made in January 1983. There was small shipping mortality,

and subsequent survival through transfer to seawater was 98%. These fish were released into the coastal waters of Maine in early June 1983. Japanese stocks that spawn earlier, in October or early November, are desirable for Marine conditions and will be sought for Phase II Studies.

The NSF has awarded Phase II (increased) funding for the project for a minimum of one million chum salmon eggs each year from Japanese hatcheries for the next 2 to 3 years.

The state of Maine, Sea Run Inc., and the U.S. Panel are very grateful for the excellent cooperation and considerable effort on the part of the Japanese Panel in providing salmon eggs and environmental data for this project.

It has been agreed between the U.S. and Japanese Chairman that the UJNR Panel will take a far less active role in the salmon transplant program following completion of Phase I. The project, now underway, will be carried on by the principal participants, Sea Run Inc., the State of Maine, NSF, and the Japanese fisheries associations. Eggs from the disease-free certified hatcheries in Hokkaido, will be difficult to obtain in the quantities required for Phase II, so contacts are being arranged between Sea Run Inc. and salmon hatcheries in northern Honshu. An estimated \$5,000 will be needed by the Japanese for travel, inspection of stocks, and purchase of eggs. Again, the Japanese Panel has been instrumental in arranging these key contacts. An independent survey of diseases in Honshu hatcheries is presently being conducted by Drs. Fryer and Winton of Oregon State University and Dr. Kimura from Japan. This survey will provide much valuable information on the status of disease in

potential donor hatcheries. Already the Tsugaruishi Hatchery is being targeted as a reliable source of certified eggs.

In the future, the Japanese and American UJNR panels' participation in the chum salmon egg transplant project will take the form of passive aid to the parties involved. UJNR will provide an "umbrella" of protection for the project, but the actual procurement and transport of eggs should be carried out by the parties involved (Honshu Hatcheries and Sea Run Inc.).

2. UJNR assistance in the experimental transplantation of Japanese scallops (Patinopecten yessoensis) to Puget Sound.

The purpose of the project is to determine the growth and survival of Japanese scallops in the Puget Sound environment. As a precaution against introducing new diseases or parasites into Washington State waters, a recognized disease laboratory in the U.S. must certify that there is no evidence of disease organisms in the shipments of live animals.

In October 1982, with the aid of the Japanese UJNR panel, a small number of juvenile (180) and adult (8) scallops from Japan were imported into the United States. This initial shipment was placed in a quarantine system and was examined by a pathologist appointed by the Washington State Department of Fisheries (WDF).

According to the results of the preliminary phase, it is recommended that importation and quarantine of gravid adults be continued with the seeding out only of the F<sub>1</sub> generation if they pass a pathological screening. The U.S. Panel would like to pursue this strategy and hopes that the Japanese Panel can provide 12 to 24 gravid adults in the winter of 1983.

c. Proposed studies

The U.S. Panel is interested in discussing with the Japanese Panel three new cooperative projects for initiation in 1984. They are:

1. Establishment of a permanent UJNR working group to address the problems associated with the introduction and transplantation of marine species between the two countries. This working group would prepare advisory recommendations but not develop policy (Attachment B).

2. Preparation of a world aquaculture disease index (Attachment C).

3. Joint study of the carrying capacity of the Pacific Ocean for salmon (Attachment D).

These proposals are submitted for review by the Japanese Panel in hopes that they will concur, that coordinators for Japan and the U.S. can be appointed, and that planning for these projects could begin in 1984.

4. Publications

"Proceedings of the Eighth US-Japan Meeting on Aquaculture" (Freshwater Fish Culture) was published. Two other proceedings volumes have been submitted for publication: (1) "Proceedings of the Seventh US-Japan Meeting on Aquaculture" (Marine Finfish) and (2) "Proceedings of the Ninth and Tenth Meetings on Aquaculture" (Crustacean and Molluscan Culture).

Additionally, "Proceedings of the Eleventh US-Japan Meeting on Aquaculture" (Salmon Enhancement) is being edited and should be completed by the end of 1983.



Papers to be included in each of the volumes mentioned above are listed in Attachment E.

5. New Business

a. The U.S. side has had a request by Monterey Abalone Farms for approval by the UJNR panel for the importation of 100 Haliotis discus hannai from Japan to Hawaii. The red abalone (H. rufescens) has been used in mariculture research at the Natural Energy Laboratory in Hawaii to determine the feasibility of culturing them in artificially upwelled deep seawater that is pumped for the OTEC program.

The department of Agriculture of the State of Hawaii has, on four separate instances, issued import permits for red abalone, and red abalone eggs. A permit condition in all cases is that the abalone be contained onshore in tanks with screened outlets. The H. discus hannai would be used in a similar manner for reproduction and culture experiments, as well as in genetic research, and will be destroyed upon completion of research. However, permits to import non endemic species into Hawaii should not be construed as approval for importation into mainland U.S. waters.

The UJNR Panel will look into the appropriateness of exportation of the Japanese abalones to Hawaii with a decision to be made in the near future.

b. The Japanese Panel requested the U.S. Panel send 200 Penaeus stylirostris larvae to Japan. The U.S. Panel agrees to the request but more information from the Japanese on the size of larvae, proposed source of larvae, use of the larvae, etc. are requested before the shipment.

c. The Japanese Panel requested the U.S. Panel to send specimens of abalones from the northern part of the U.S., especially from Alaska.

These are needed to carry out assessment studies on their environmental requirements and genetic problems. The Japanese Panel will inform the U.S. Chairman of further details regarding this proposal.

6. Other Business

The U.S. and Japanese Panel members were briefed on the status of the two countries' participation in the work of the Versailles Summit. One area being developed by the Summit's Working Group on Technology, Employment, and Growth, is Aquaculture. The U.S. is now a full participant in this activity as is Japan. The U.S. will be represented by Bille Hougart, a UJNR Panel member. The first formal activity of the Planning Group on Aquaculture will be a shellfish workshop to be held next summer in France.

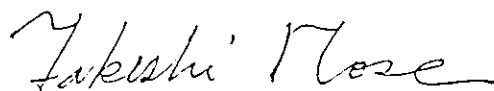
7. Field Trip

The schedule of the field trip following the business meeting was distributed and is presented as Attachment F.

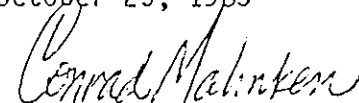
8. Next Joint Meeting

The Thirteenth Meeting of the UJNR will be held in October or early November in 1984 at the National Research Institute of Aquaculture at Ise, Japan. The theme of this meeting will be "Environmental Quality in Aquaculture Systems." The meeting will follow previous agendas of a 2-day meeting (one-half day business meeting and one and one-half days for presentation of papers) followed by a field trip. Specific agenda items and field trip plans will be developed during the year.

Baton Rouge, Louisiana  
October 25, 1983



Takeshi Nose  
Secretary General



Conrad Mahnken  
Chairman