REPORT OF THE FIRST MEETING OF THE INTERIM SCIENTIFIC COMMITTEE FOR TUNA AND TUNA-LIKE SPECIES IN THE NORTH PACIFIC OCEAN

Tokyo, Japan
7-10 May 1996

1. Opening

The first meeting of the Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) was hosted by the Japanese Government at the Mita House in Tokyo, Japan. Interested scientists from Canada, China, Japan, Korea, Mexico and the United States, Chinese-Taipei, Inter-American Tropical Tuna Commission (IATTC), the North Pacific Marine Science Organization (PICES) and the South Pacific Commission (SPC) were invited to participate. Mr. M. Ishikawa, Deputy Director General, Fisheries Agency of Japan greeted the participants and opened the meeting. In his remarks, he stressed the importance of enhancing scientific cooperation in the North Pacific region, noting the recent UN agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks, and that the ISC will serve this purpose.

2. Appointment of Chairman and Rapporteurs

Dr. H. Hatanaka was appointed Chairman for the first ISC meeting. In his acceptance address, Dr. Hatanaka celebrated the establishment of a new body for enhancing scientific research and cooperation for North Pacific tuna and tuna-like resources. He noted that the ISC will be following in the tradition of the informal North Pacific Albacore Workshop which has worked successfully since its beginning in 1975.

Dr. G. Sakagawa was appointed overall rapporteur for the meeting. He was assisted by Drs. N. Bartoo (agenda item 4.2 and 4.7), R. Shomura (4.3), S. Tsuji (4.4), G. DiNardo (4.5), and N. Miyabe (4.6).

Participants (Attachment 1) introduced themselves and were encouraged by the Chairman to participate freely in the meeting. Working documents (Attachment 2) were distributed and meeting procedures explained.

3. Adoption of Agenda

A draft agenda was reviewed, modified to accommodate additional reports and the revised agenda (Attachment 3) adopted.

4. Exchange of Views

4.1. Explanation of the Purpose and Objectives of the Committee

The purpose and objectives of the committee are contained in the "Guidelines" for the ISC (Attachment 4), a document that evolved through a series of consultations between the United States and Japan. The document was introduced by Mr. K. Kagawa for information purposes and general discussion at this point in the meeting. He explained the purposes and objectives of ISC. He noted that the ISC meets a need and establishes a scientific framework for cooperate in data collection and research, and for monitoring the resource condition and tuna fisheries. It was designed to follow the successful experience of the North Pacific Albacore Workshop.

4.2. Review of Status of Stocks

This agenda item provided reviews on the status of stocks for several major species as well as an overview of the North Pacific ecosystem as it relates to the distribution and abundance of tunas and tuna-like species. A short period of discussion and clarification followed each presentation.

4.2.A. Ecosystem of North Pacific Ocean Highly Migratory Fishes

Dr. R. M. Laurs presented an overview of the North Pacific ecosystem as it relates to highly migratory species in the North Pacific Ocean (ISC/DOC/1 (USA). Variations in ocean conditions can markedly affect the distribution, abundance, and availability of North Pacific highly migratory species and can strongly influence their catchability. Information on changing ocean conditions or ocean variability, rather than average ocean conditions, is required in order to understand, model, and predict the effects of the marine environment on North Pacific highly migratory species. Marine environmental conditions that characterize the ecosystem of North Pacific highly migratory species undergo extensive variations, including major regime shifts often lasting decades or longer, and extending over much of the North Pacific Ocean basin.

The ecosystem of North Pacific highly migratory species is generally controlled by interactions with the atmospheric system. The Aleutian Low and Pacific High pressure systems determine atmospheric circulation in North Pacific. Variations in the location and strength of these pressure systems are responsible for changes in the wind structure throughout the North Pacific over scales of a few days to decades and longer.

Ocean surface currents in the North Pacific are determined mainly by the atmospheric system. The general surface current pattern in the North Pacific is portrayed by a cyclonic gyre in the subarctic region and an anticyclonic gyre in the subtropical region. Mesoscale structure -- e.g. frontal zones, eddies, meanders, and related structures -- associated with ocean currents are very important in determining local distribution, availability and vulnerability of North Pacific highly migratory species.

Sea surface temperature can be used as proxy for defining and monitoring the habitat of North Pacific highly migratory species. In addition, it can be used as indicator of key oceanic processes, features, and conditions affecting their ecosystem. The ecosystem of North Pacific highly migratory species is closely correlated with vertical thermal structure. The vertical distribution of North Pacific highly migratory species is partitioned by vertical thermal structure and fishing success for these species is highly correlated with it.

Oceanic regions of divergence and convergence are significant elements of the ecosystem of North Pacific highly migratory species. These regions generally have enhanced productivity. Major areas of divergence and convergence are located across the central North Pacific in the transition zone between the subarctic and subtropical gyres, and across the tropical and equatorial regions at boundaries of current systems. Frontal zones associated with areas of divergence and convergence are notably important in determining the local distribution, availability and catchability of highly migratory species in the North Pacific.

An understanding of the ecosystem of North Pacific highly migratory species is requisite for making robust stock assessments and for determining strategies for the proper management of stocks involved. It is needed to correctly interpret changes in fishery performance and dynamics, to differentiate between natural variation and the effects of fishing on stocks, and to optimize potential international fishery allocations.

The ecosystem of highly migratory species in the North Pacific is poorly known and considerable research will be required in order to develop an adequate understanding of it over a spectrum of spatial and temporal scales, ranging from local to ocean basin and from contemporaneous to decadal. A momentous challenge will be the development of population assessment models that incorporate the input of environmental and ecosystem data.

The necessity for research on the ecosystem of highly migratory species provides both an opportunity and a need for international cooperative research among the various Nations harvesting stocks of these species in North Pacific. *The Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean* provides an excellent framework for the Nations involved to identify, plan, and implement mutually agreed upon cooperative research projects.

Discussion. It was clarified that signals such as el Nino in the North Pacific are contained in the observed decadal changes.

4.2.B North Pacific Albacore

Dr. N. Bartoo reviewed the status of the North Pacific albacore stock (ISC/DOC/2(USA). North Pacific Albacore is

distributed from the equator to the North Pacific Transition Zone and from Asia to North America. It is generally assumed that the North Pacific albacore population is distinct from the South Pacific population with little or no significant interchange between the two.

North Pacific albacore spawn in the subtropics in the period May through September. Spawning females range in size from 83 cm and greater with 50% maturity occurring at about 90 cm.

Based on tag data, the North Pacific albacore exhibits extensive migrations. Juveniles recruit to the fisheries of the west pacific and undertake annual migrations to North America and then return, and repeat the cycle. Adults move into lower latitudes.

North Pacific albacore are fished by both surface and subsurface fisheries. Surface fisheries take primarily subadults and include the Japanese pole-and-line fishery and the North American troll and pole-and-line fishery. The subsurface fishery is a longline fishery for adults conducted primarily by Japanese vessels. Total catches from the North Pacific albacore stock peaked in the mid-1970s at 100,000 to 125,000 t. Catches declined through the 1980s to the 45,000 t level. Since 1990 catches have been stable in the low 50,000 t level.

The condition of the North Pacific albacore stock was most recently evaluated during the Fourteenth North Pacific Albacore Workshop in 1995. Based on existing data through 1990 Maximum Sustainable Yield (MSY) was estimated at 71,800 t (80% confidence interval limits 67,700-79,500 t). The addition of additional data made analysis results unstable.

The sensitivity of the results to the addition of only 2 years of data to a 30 year time series suggests that the result may not be reliable. This is underscored by results from tagging which suggest a light exploitation rate of about 0.23.

There is still considerable doubt concerning what catch levels the North Pacific albacore resource can support on a sustained basis, particularly when considering effects of major environmental shifts which may affect overall productivity and migration patterns. CUE trends for the various gears present a mixed picture; better for gears targeting adults and poorer for gears targeting juveniles. The uncertainty in the stock assessment also creates uncertainty in the outlook.

Discussion: Several points were clarified during the discussion. Tag recoveries actually show that juveniles migrate from Japan the North America and vice versa. The distribution of longline catches shown reflect the area of significant albacore catches although the longline fishery covers a larger area. Incorporation of environmental parameters into assessment models may improve assessments. It is possible that albacore productivity in the North pacific has been affected by decadal climate shifts this century and during the period of available

data.

4.2.C. North Pacific Albacore off Canada

Dr. W. Shaw reviewed the status of the albacore resource off Canada (ISC/DOC/(CAN). The Canadian albacore troll fishery has a relatively long history extending back to 1938. However, the albacore has been of minor importance to the Canadian troll fishery. This is due to the variable distribution of the albacore stock and the involvement of the troll fleet in the lucrative salmon fishery at the time when albacore are usually available. The number of vessels participating in this fishery ranges between 120 to 400. An estimated number of 147 and 396 boats fished during the 1994 and 1995 fishery, respectively.

Annual landings over the 50-yr history have ranged from less than a few hundred tons/yr with the exception of the late 1940s, early 1970s and 1980s, and 1994-95. The largest catch recorded was in 1971 where 364 boats contributed to a catch of 3558 t. The next highest recorded catch was in 1995 with 1415 t caught by 396 boats. The low catches in other years is attributed to the low abundance of albacore in areas fished by the fleet and trollers engaging the salmon fishery.

The fleet starts fishing albacore around the beginning of July and ending in October. Some catches have been recorded as late as November-December. The period of high catches occur usually in September or October. In 1995 catches peaked in September. The fleet will fish the entire west coast of British Columbia however peak areas of catch normally occur off the northwest coast of Vancouver Island. This area represents on average the northern limit of the 15-degree C sea surface isotherm.

Albacore length frequency information for fish caught in Canadian waters during the 1995 season indicate a mode at 80 cm. The majority of the fish were larger than 70 cm.

Over the last three years the ocean conditions off British Columbia were affected by three consecutive El Nino events. This resulted in significant declines in the salmon resource normally engaged by the troll fleet. However, albacore abundance was high which offered an alternative resource for trollers to harvest which was reflected in the increasing catch estimates recorded for 1994-95. It is anticipated that in light of the recent issues affecting the Canadian west coast salmon fishery a larger fleet will actively participate in the albacore fishery in the future.

Discussion. It was clarified that the statistics presented for 1972 do not include purse seine catches of albacore. Further, the historic catches are under review and may be revised upward in some cases. It was noted that economics related to the price gap between albacore and salmon makes research difficult because effort becomes highly variable.

4.2.D. Bigeye Tuna

Dr. N. Miyabe reviewed the status of the bigeye tuna stock in the Pacific (ISC/DOC/2 (JPN). Bigeye tuna distribute in the almost entire Pacific between 40°N and 40°S. Circumstantial evidences indicate a single stock in the whole Pacific but the existence of plural stocks can not be disregarded. The stock has been exploited by three major fisheries; longline, purse seine and pole-and-line. Longline gear catches medium to large size fish while the other two gears catch small to medium fish. The largest catch has been made by longline accounting for about 80 % in the most recent years. Countries which operate this fishery are Japan, Korea and Taiwan. Starting at around 1987, small-scale longliners, including the Japanese and Taiwanese boats, commenced air freighting their catch targeting on the Japanese fresh sashimi market. Mainland China joined this fishery in more recent years. Purse seine catch has been low but in the eastern Pacific it went up to about 30,000 t since 1994 due to the shift of fishing from dolphin associated-school to floating object associated-school. Nations including Japan, Korea, Taiwan and US are currently operating this fishery in the western Pacific while in the eastern Pacific Mexico and US have been the two major countries but during the most recent years several other Latin American countries recorded significant catch of this species. Pole-and-line fishery exists in the both sides of Ocean but its catch has been much smaller than the other two major fisheries.

Total catch of bigeye continued to increase to a high of 146,000 t in 1963 and declined thereafter. The second increase was observed during the late 1980s and reached a record high of 163,000 t in 1990. It remained more or less stable since then at a higher level (>140,000 t).

Stock status of this species has been carried out mostly relying on the Japanese longline data. Index of abundance was estimated from longline CUE using General Linear Model. CUE are standardized against various factors, which affect CUE, such as fishing season, area and so on. In addition to the single stock hypothesis, two stocks hypothesis which was separated by 160°W was also considered. Trajectories of estimated abundance index showed quick decline after the initial exploitation and leveled off with slight decreasing trend in all cases. The current level of abundance compared to the early 1960,s is 40 %, 60 % and 25% for the single, west and east stocks, respectively.

Production model applied to the catch and index of abundance data sets indicated that the estimated MSY was about 120,000 t, 40,000 t and 65,000-87,000 t for the single, west and east stocks, respectively. Recent catch and estimated F have been exceeded the level which gives MSY. This and a continued declining trend in the index of abundance are a matter of concern although more thorough analysis is needed to ensure the current knowledge on stock status. Improvements in data, biological parameters as well as methodologies are essential.

Discussion: It was clarified that the CUE trends between the east and west Pacific suggested the bigeye population may be divided as east-west stocks as opposed to a single stock. It was noted that there is concern in the ETP over increasing catches of bigeye in the surface fisheries. A natural experiment is in progress to confirm M. High catches from the surface fisheries should be seen in the longline fishery if M and stock structure are as assumed.

4.2.E. Bluefin Tuna

Dr. S. Tsuji reviewed the status of the bluefin tuna in the north Pacific (ISC/DOC/3(JPN). Bluefin tuna in the Pacific is mainly distributed in an area between 20 and 40 N and small number of fish are also caught in an area along the western rim of the Pacific extending to the southern hemisphere and in an area around 30 S along South America. Spawning occurs between the southern part of Japan and off Philippines during April to July and in the Sea of Japan in July and August. Juvenile fish migrate toward north in summer and back to south in fall and winter along the Japanese coast. Some portion of fish departs for trans-Pacific migration at the end of age 0 or at age 1. Fish reached in the eastern Pacific also appears to show a seasonal migration, moving close to the coast during summer and going offshore during winter. Those fish move back to the western Pacific, probably for spawning, after staying in the eastern Pacific for various time periods.

Bluefin are exploited in the western Pacific from Taiwan to Hokkaido, Japan by various gears, including trolling targeting juveniles up to age 3, purse seine mainly harvesting pre-adult and mature tuna in summer, and longline catching large tuna. Purse seine also starts operating on age 0-1 fish along the south-western coast of Japan in winter. In the eastern Pacific, the major fishing gear is purse seine operating along the western coast of Baja California and Southern California during May to October.

The total catch of bluefin tuna in the Pacific remained at the level of around 20,000 t with fluctuations until 1982 but has dropped to the level of around 12,000 t afterwards. The more significant decline was observed in the eastern Pacific, where total catch has dropped from 6,000 - 9,000 t level before 1980 to around 1,000 t level afterwards. Preliminary cohort and Y/R analyses suggested that an exploitation during juvenile stages reduced overall production. However, because of a complexity of fisheries harvesting bluefin tuna especially in the western Pacific, serious and careful consideration should be taken on socio-economic factors when developing an appropriate management scheme for this species.

Discussion: It was clarified that small bluefin tuna are caught in the Korean coastal purse seine fishery as a by-catch and classified as "others". In 1995 this amount was about 200 t. Also in the fall-winter period there is a recreational troll

catch of bluefin tuna. Korea noted that starting with 1995 statistics for bluefin tuna are being kept. It was noted that the drop in bluefin catches off Mexico was due in part to effort shifting to other areas within Mexico's EEZ.

4.2.F. Swordfish.

Dr. G. DiNardo reviewed the status of swordfish in the North Pacific (ISC/DOC/2(USA). Swordfish are widely distributed in tropical, subtropical, and temperate waters of the Pacific Ocean and are harvested using a variety of gear including longline, gillnet, and harpoon. Swordfish are most abundant along temperature fronts where major ocean currents meet and areas of consistently high swordfish concentrations occur in the North Pacific Transition Zone, between 30-degrees - 40-degrees north, off the east coast of Australia, and in the eastern Pacific Ocean. Much of the swordfish harvested in the Pacific Ocean is a bycatch of high-seas longline fishing operations which target tuna. Japanese reported catches from the tuna longline fishery account for nearly 50% of the Pacific catches since the mid-1980s. Significant swordfish directed fisheries have been developed by Chile, Mexico, and the United States (U.S.). Most of these fisheries are conducted in coastal waters and utilize driftnet gear. The Hawaii fishery is unique in that it is a directed longline fishery operating outside of the U.S. Exclusive Economic Zone in the central Pacific. A few longline vessels from California and Alaska fish the same grounds.

Estimates of basic, critical population parameters for swordfish are either lacking or at best crude. The difficulty in obtaining reliable estimates stems from our inability to age swordfish. The stock structure of swordfish in the Pacific Ocean is not clearly known. For stock assessment purposes, a single Pacific-wide stock generally has been assumed, with the possibility of separate stocks associated with known fishing grounds in the western-central North Pacific, the eastern Pacific, and the western South Pacific. Standardized CUE time series for swordfish caught in the Japanese Pacific longline and large-mesh driftnet fisheries suggest no trend but are characterized by high between-year variability. The CUE time series for swordfish-directed trips in the Hawaii longline fishery is noisy with no apparent downward trend.

Based on available data there is no indication that swordfish are being overfished in the Pacific Ocean. However, the declining catch of swordfish in the Atlantic Ocean during the last few years, apparently due to overfishing, and the movement of fishing vessels from the Atlantic Ocean and Gulf of Mexico to the Pacific Ocean, necessitate the need for comprehensive monitoring and integration of statistical and biological information from all significant fisheries for swordfish in the Pacific Ocean and cooperation in stock assessment. Detailed data on catch and effort, operational characteristics, and biology are presently being collected by several nations, and these efforts are likely to continue. However, much of these data are

presently unavailable. Research on swordfish is conducted by several national research institutions. In cases where international research is conducted, analyses are generally limited to only those portions of the stocks that are of concern to particular nations. Considering the characteristics of swordfish and the fisheries for them in the Pacific Ocean, it is clear that cooperation among nations is required for proper management of the resources. This would involve the integration of monitoring data and the establishment of a mechanism to coordinate the collection and exchange of data. In addition, a multinational working group needs to be established to develop and promote cooperative swordfish research among nations. It is only through such international cooperation that effective stewardship of swordfish resources in the Pacific Ocean can be maintained.

Discussion: It was noted that the general approach to genetic studies in fishes often cannot reject the null hypothesis on no differences between areas due to sampling considerations rather than real differences. It was noted that the gear used in the Philippines to catch swordfish is longline gear. It was noted that there is now a gillnet fishery for swordfish off Mexico and data collection is better now than in the past. It was clarified that the delay-difference model incorporated a term for recruitment as part of the delay. It was noted that the IATTC has accumulated statistics from a variety of sources and there is a general need for good catch and effort data directly from countries rather than rely on the FAO statistics.

4.2.G. Central-Western Pacific Ocean Yellowfin Tuna

Dr. J. Hampton reviewed the status of the Central-Western Pacific (CWP) yellowfin tuna stock (ISC/DOC/1(SPC). Yellowfin are distributed throughout the Pacific, with the greatest concentration of biomass occurring in tropical waters on either side of the equator. Spawning concentrations occur in the eastern and western Pacific in the vicinity of large land masses and islands and possibly in the central equatorial Pacific. Tagged yellowfin have been observed to move over large distances (45% of tag recaptures have displacements >200 nm), with much meridional movement in the equatorial region. Several large displacements have also been observed from tropical areas to near 40N and 40S latitude. No yellowfin tagged in the western tropical Pacific have been recaptured in the eastern Pacific purse seine fishery, suggesting that mixing between western and eastern Pacific areas is limited. Limited east-west mixing is also suggested by recent population genetics studies, which supports the contention that stock assessment for yellowfin tuna is best conducted assuming separate eastern and western/central Pacific stocks. However, within these areas, no separation north and south of the equator is warranted on the basis of available data.

The fishery developed rapidly in the 1980s, with recent catches approaching 400,000 t per year. The major gear type is purse seine. CUE indices for the purse seine fishery are stable,

although some declining trend is present in nominal longline CUE. Some of the decline is due to changing targeting practices, and a standardized time series corrected for changes in targeting shows a much weaker trend. Estimates of mortality rates based on tagging data suggest that exploitation rate (proportion of total mortality due to fishing) is low to moderate (about 0.2). A size-structured analysis of the tagging data shows that natural mortality is much higher for smaller fish (20-40 cm), but that exploitation rates are not high for any size class. Analyses of the tagging data using a high-resolution spatial model show that the spatial distribution of fishing mortality is not uniform across the fishery, but is concentrated near the equator, particularly north of Papua New Guinea and Solomon Islands. Some potential for local, short-term interactions might exist in such areas.

Research projects on age-structured modelling, age and growth, reproductive biology, movement and stock structure continue to provide new information on yellowfin population biology in the western and central Pacific Ocean.

Discussion: It was clarified that movements of tagged yellowfin tuna of different size classes have not yet been estimated. It was noted that differential recoveries by size have been observed in the Atlantic. It was noted that there is a differential return rate of tags between purse seine and longline catches but the reason can not yet be determined. Logistics and cost has prevented directed tagging of very large yellowfin. It was noted that yellowfin should not be considered a by-catch of the surface skipjack fishery because vessels indeed target the species even though it has lower overall catches.

4.2.G. Eastern Pacific Ocean Yellowfin Tuna

Dr. J. Joseph reviewed the status of the yellowfin tuna stocks in the eastern Pacific Ocean (ISC/DOC/3(IAT). Yellowfin tuna in the eastern Pacific Ocean (EPO) have been commercially exploited since early in the 20th century. Until the late 1960s the surface fishery operated in the area between about 25 N and 5 S and within 300 to 400 miles of the coastline. Results of early production model analysis indicated that the stock being exploited could on the average, maintain yields of about 100,000 t annually. Catches exceeded this amount for a time and in the face of increasing fishing effort, both catches and catch-rates declined. A conservation program to limit catches to below estimated sustainable yields was implemented. Catch-rates and catches increased. The fishing fleets explored and developed new fishing grounds in the more offshore regions of the EPO. By 1970 the fishery had expanded by about three times, to its current area of operation. Estimates of average maximum sustainable yield (AMSY) from this expanded area were about 200,000 t at about 25,000 days of fishing.

In the late 1970s the conservation program failed because nations could no longer agree to limit the activities of their

vessels. This resulted in the AMSY levels of catch and effort being exceeded for a period of years. Catches and catch-rates declined to very low levels. Because of poor conditions in the fishery many vessels left the eastern Pacific. Low levels of fishing effort for several years allowed the stock to recover. In recent years fishing effort has been about one-half of what it was during the late 1970s. This effort has been concentrated mostly on large fish resulting in a yield-per-recruit that is about 25% higher than during the late 1970s. Additionally, recruitment to the fishery during recent years has been higher than average and this has contributed to increased stock abundance and yield. It is estimated that if current age-specific fishing mortality and recruitment levels are maintained, yields from the fishery in the area eastward of 150 W could be sustained at about 300,000 t per year.

With respect to recruitment there does not appear to be an identifiable correlation between the biomass of the spawning stock and the number of recruits produced. If levels of recruitment return to averages observed during the 1970s abundance and potential yield will decline by perhaps 25%. If the fishery reverts to capturing smaller fish as was the case during the late 1970s, yield-per-recruit and total yields will decline by perhaps 25%.

At present the biomass of yellowfin in the EPO is at the highest levels it has been in the recent history of the fishery.

Discussion: It was clarified that vessels are still producing between 60% and 70% of the yellowfin catch fishing on dolphins, thus maintaining a stable yield-per-recruit on yellowfin tuna, however reductions in mortalities on dolphins caught in fishing operations have been made. It was noted that no directed research into the mechanism between el Nino and recruitment is underway, but large changes in water transport in the ETP during el Nino events may be related.

4.3.A. Review of data collections for fisheries operations

The review of data collection arrangements for tunas and tuna-like species were categorized into formal arrangements and informal arrangements.

Dr. G. Sakagawa reviewed the existing formal arrangements to collect statistics of tuna and tuna-like species on a world-wide basis. The level of details range from accessing large area summary catch statistics as required by member countries of FAO to collecting and accessing detailed data obtained from logbooks as is required by the Inter-American Tropical Tuna Commission (IATTC), the South Pacific Tuna Treaty (SPTT), and the Convention for the Conservation of Southern Bluefin Tuna (CCSBT). The detailed data includes catch (weight), species, location, and effort. Data are collected by logbooks, port sampling and placement of observers on commercial vessels. Reference was made to intermediate data collection systems operated by the

International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Indo-Pacific Tuna Development and Management Programme (IPTP). These organizations require submission of summarized information relating to catch and effort by species, gear, and country. The South Pacific Commission (SPC) obtains data from arrangements with the Forum Fisheries Agency (FFA) and by informal arrangements with distant water fishing nations. In summarizing the operations of these international bodies, it was noted that availability of these data ranged from full disclosures (FAO, ICCAT, and IPTP) to limited access; decision of the latter is made on a case-by-case basis.

Dr. G. Compean reported that Mexico has a detailed logbook system patterned after the IATTC system to collect data from the purse seine and pole-and-line fisheries operating within Mexico's EEZ and adjacent waters. Since 1992, Mexico in cooperation with the IATTC has maintained an observer program which involves 100% coverage of purse seiners over 400 t carrying capacity. The data are made available to IATTC and are reported in IATTC documents.

Dr. Y. Uozumi reviewed the informal arrangements that presently exists in the Pacific to compile and analyze tuna statistics for scientific purposes. These include the North Pacific Albacore Workshop, the South Pacific Albacore Research (SPAR) and the Western Pacific Yellowfin Research Group (WPYRG).

The principals in the North Pacific Albacore Workshop include Japan, USA, Canada and Taiwan. In recent years scientists from Mexico and Republic of Korea have also participated in the workshops. Data on catch, effort, and size frequency are provided voluntarily and archived at the Southwest Fishery Science Center. The SPAR meetings began in 1986 and are structured similarly to the North Pacific Albacore Workshop. The SPAR involves scientists from South Pacific island nations and several distant water fishing nations and entities, principally Japan, Taiwan and the USA. Data are archived at the South Pacific Commission. The WPYRG is the third informal meeting of scientists to review specific tuna groups. The WPYRG focusses on yellowfin tuna in the central and western tropical Pacific. The first meeting of this group took place in 1991. The framework of the WPYRG is similar to that of the two albacore working groups.

Dr. R. Allen indicated that the informal northern bluefin meeting involving Japan and the IATTC could be included in the list of informal scientific arrangements to gather and analyze tuna data.

National and Organizational Reports. Since country and organization representatives presented varying details of their data collection systems in written reports and orally, a series of tables have been constructed to summarize the information. Tables 1-4 include summaries of the longline, purse seine, pole-and-line, and troll fisheries; information from several smaller fisheries have been combined and included in Table 5. In general,

the coverage of fishery statistics of major distant water fisheries appear to good, e.g. distant water longline fishery, distant water pole-and-line fishery, and the distant water purse seine fishery. The fisheries using these same gears, but operating closer to home ports, do not appear to have as extensive data coverage as the distant water fisheries. Finally, the near-shore coastal fisheries appear to be the least monitored. In some instances, the lack of data is due to the relatively small catches of tuna and tuna-like fishes from these fisheries.

4.4. Review of Current Situation regarding research

Participants provided a review of current research being conducted on North Pacific tuna and tuna-like species and the information was summarized according to species and general topic areas (Table 6). The information provides an overview of on-going research primarily for understanding the biology, ecology and population abundance of commercially important species of tuna and tuna-like species in the North Pacific.

A report on the history, structure and research activities of PICES, an organization not specifically focused on tuna research, was presented by Dr. M. Kashiwai (ISC/DOC/1(PIC) and /2(PIC)). Dr. Kashiwai noted that there might be areas for future scientific cooperation and collaboration between ISC and PICES under the PICES-GLOBEC International Program on Climate Change and Carrying Capacity because this program includes studies on the ecosystem dynamics of the North Pacific Transition Zone as well as of offshore areas of the North Pacific. The ecosystem dynamics appear to be important in understanding the life history and dynamics of tunas in the North Pacific.

4.5. Future Work Program

Three aspects related to future operations of the Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) were discussed. In particular, area and species of interest and data collection systems, including data format were discussed and this section summarizes the results.

4.5.A. Species and Areas of Interest

Species of interest to the ISC include swordfish, bigeye tuna, northern bluefin tuna, yellowfin tuna, marlins, and North Pacific albacore tuna. Decisions related to each of these species follows:

Swordfish A swordfish working group will be established and the U.S. will assume leadership of this ISC Swordfish Working Group. The ISC endorses the International Symposium on Pacific Swordfish Symposium and supports its next meeting, scheduled in Hawaii. Furthermore, the ISC agreed that organizing future symposia would be an activity of this working group. It further

agreed that a steering committee shall be established to coordinate and facilitate these symposia and that the U.S. assume leadership in organizing the steering committee from among interested parties, including those participating in the first Symposium.

Bigeye tuna A bigeye tuna working group will be established and Japan will assume leadership of this ISC Bigeye Tuna Working Group. The ISC discussed the need for a Bigeye Tuna Workshop and was informed by the IATTC that such a workshop is scheduled for late 1996 or early 1997. It was agreed that a steering committee be established within the ISC to coordinate and facilitate organization of a Workshop and that Japan assume leadership of the steering committee. It was further agreed that the ISC would work and collaborate with the IATTC in co-sponsoring and in planning the Workshop rather than duplicating efforts.

Northern Bluefin Tuna. A northern bluefin tuna working group will be established and Japan will assume leadership of this ISC Bluefin Tuna Working Group.

Yellowfin Tuna. The ISC recognizes the work by other international groups concerning yellowfin tuna (e.g. SPC and IATTC) and realized the potential for duplication. While the species is of interest to the ISC, no decision was made at this time to establish a working group for this species.

Marlins. The ISC recognized the special needs of the marlins; however, no working group was established for this species complex. Instead, the ISC agreed to consider establishing a working group at a future time.

North Pacific Albacore. The ISC recognized the importance and need for scientific studies on North Pacific albacore. The ISC endorsed the North Pacific Albacore Workshop and agreed that it should continue and not be jeopardized by membership rules of the ISC, if assumed under its auspices. It, therefore, agreed to postpone a decision on assuming the activities of the Workshop until the membership rules are clarified.

The ISC recognizes that some of the species of interest are widely distributed and range beyond the North Pacific Ocean. However, the participants agreed to be pragmatic and adopt flexible geographic boundaries for the North Pacific and to be consistent with the range of the species. Therefore, it was agreed that the area of ISC interest would remain the North Pacific Ocean but could extend beyond this region depending on the species and issues being addressed by the ISC.

4.5.B. Data Collection Systems Including Data Format

The ISC recognized the importance of data collection including format, and established a working group to address fisheries data collection, format, processing and distribution matters. Japan will assume leadership of this ISC Statistical

Working Group. The Group will develop guidelines for achieving fisheries statistics needs for consideration at the next ISC meeting.

4.6. Expansion of Participation

The discussion focused on participation in future meetings and membership status. All participants agreed that current participants will be automatically invited to participate fully in future meetings of the ISC. Japanese participants expressed the opinion that the ISC should include all the coastal and fishing nations in the North Pacific Ocean, such as Indonesia, Philippines, Federated State of Micronesia, Marshall Island, Kiribati and Palau. However, U.S. and China participants noted that the ISC has just been formed and is in a developmental state and needs time to organize before considering this matter of expanding membership.
This matter will be discussed through further correspondence. Furthermore, it was agreed that the ISC would endeavor to establish a structural framework and guidelines, including operational procedures, participants' role, etc. for consideration at the next meeting.

Chinese-Taipei participants provided a statement (Attachment 5).

5. Report of the Meeting

A draft report of the meeting was reviewed by the participants and the report approved. The participants agreed that a final version of the report will be distributed to participants by mail.

6. Future Meetings

Dr. Tillman announced that the U.S. was prepared to host the second ISC meeting in 1998. The venue for the meeting will be Hawaii and the U.S. team will be selecting convenient dates for the meeting in consultation with key participants of this meeting.

7. Other business

Mr. Mae reviewed result of the Institute of Zoology/WWF/IUCN Workshop on listing of marine fish species under the IUCN red listing category. The meeting was held in London, Apr. 29 to May 1, 1996. Mr. Mae's presentation focused on the results with respect to tunas and swordfish.

The chairman noted the need for a single contact person, national correspondent, for each member to facilitate ISC business. He requested nominations of ISC National

Correspondents from the members. The correspondents are listed in Attachment 6.

8. Closing

Dr. Hatanaka thanked the participants for their full cooperation and participation in the first ISC meeting and the support staff for providing secretariat services during the meeting. Participants thanked the chairman and the Government of Japan for hosting the meeting and in making it a success. The meeting adjourned on May 10.

Table 1. SUMMARY OF DATA COLLECTION SYSTEMS

Longline

Country	Area	Number Vessels	Coverage	Method	Catch/ Effort	Area	Size Data	Age Data
Rep. of Korea	distant water	160 (1994)	64%	Indust logbk	kg,no., hooks; species	5 x 5	limited data via obs	
China	C&W Pacific	300	none to date					
Japan	distant water	700	95%	logbk sales	no, hooks species	set	yes	
Japan	offshore	300	80%	logbk on-board sampl. sale	no, hooks, species	set	yes	
Japan	coastal	800	50%?	logbk port sale	no. hooks species	set	yes	
USA	islands Pacific		varies	varies logbk				
Chinese/ Taipei	distant water	67		logbk	catch	5 x 5	no	
Chinese/ Taipei	offshore	30		logbk	catch	5 x 5	no	
SPC	C&W Pacific		logbk-50% summ-100%	logbk port arranged	varied	5 x 5	yes	
IATTC (mem)	eastern Pacific		100%	summary. port	no.,set, species	1 x 1 5 x 5	yes	
IATTC (non-mem)	eastern Pacific			logbk				
IATTC (non)	eastPac			logbk				

Table 2. SUMMARY DATA COLLECTION SYSTEMS

Purse Seine

Country	Area	Number Vessels	Data Coverage	Method	Catch/ Effort	Area	Size	Age
Rep.of Korea	C&W Pacific	32 (1994)	74%	Indust logbk	tons;sets; species	1 x 1	yes	
Mexico	east.Pac	42>400t	100%	logbk obs	tons;set; species	1 x 1	yes	
Mexico	east.Pac	12<400t	100%	logbk	tons;set; species	1 x 1	yes	
Japan	coastal	50	80%	logbk port	tons; set; species	set	yes	
Japan	distant	37	100%	logbk port	tons;set; species	set	yes	
USA (treaty)	eastPac	8	100?	IATTC	tons;set species	pos. of set	yes	
USA (treaty)	C/WPac	48	100%	logbk port	tons;set species	pos. of set	yes	
Chinese/ Taipei	C&W Pacific	42 (1996)	100%	logbk	tons;set species	pos.of set	no	
SPC	C&W Pacific		logbk-80% summ-100%	logbk port	tons;set species	1 x 1	yes	
IATTC (mem)	eastPac	65	100%	logbk port	tons; set species	each set	yes	
IATTC (non)	eastPac	65	100%	logbk port	tons;set species	each set	yes	

Table 3. SUMMARY OF DATA COLLECTION SYSTEMS

Pole-and-line

Country	Area	No. Vessels	Coverage	Method	Catch Effort Species	Area	Size	Age
Japan	coastal	10?	80%	landing	catch only	general	some	
Japan	offshore	160	>80%	logbk port	catch;day species	noon position	yes	
Japan	distant	40	>80%	logbk port	catch;day species	noon position	yes	
USA	eastPac	6-8	100% (IATTC)					
USA	Hawaii	5	100%	logbk	catch;day species	stat. area		
Mexico	eastPac	10	100% (IATTC)	logbk	catch;day; species			
SPC	C&W Pacific	Fiji-Sol.-Japan-	logbk-50% 1x1 summ-100%		catch;day? species	1 x 1	yes	
IATTC (mem/ nonmem	east. Pacific	10	100%	logbk port	wt;day; species	set	yes	

Table 4. SUMMARY OF DATA COLLECTION SYSTEMS

Troll Fishery

Country	Area	Number Vessels	Coverage	Method	Catch Effort	Area	Size	Age
Canada	Coastal	396 (1995)		Logbk	yes (value)	1 x 1?		
USA (alb)	NPac			logbk (volun)	daily c,e			
USA (coastal)	Pac		varies	logbk surveys				
Japan	coastal	3,000	70%?	landing	catch	general area	some	

Table 5. SUMMARY OF DATA COLLECTION SYSTEMS

Others: handline, nearshore troll, recreational, traps

Country	Number Vessels	Data Coverage	Method	Catch, Effort, Species	Size Data	Age Data
Rep. of Korea		Starting to collect info	landing sites	catch only	not yet	
Japan (traps)		?	landing	catch only	some	
USA		varies	some surveys			
Mexico	4-6 GN		logbk obs			
Mexico	others		landing sites			
Chinese/ Taipei	varied by fishery		landing sites			
Japan (GN)	100	50%	logbk	catch;day species	yes	
Japan (others)	?	?	landing	catch only		
IATTC		varied	varied	summary		

Legends
mem - members
non-mem - non-members
logbk - logbooks
summ- summary report

Table 6. Summary of current research

	Bluefin Tuna	Albacore	Bigeye Tuna	Yellowfin Tuna
Reproductive biology	Gonad histology (Jp)	Gonad histology (US)		Gonad histology (Jp/USA/IATTC /SPC), Gonad indices, fecundity (Kor)
Aging/Growth :hard tissues :modal regression	Otolith aging, DGR validation (Jp) Microincrements in vertebrae and otoliths (IATTC)	Aging by fin rays (Can) Otolith collection, DGR (Jp)	Otolith aging (Jp), Otolith DGR (IATTC)	Otolith aging (Jp), Aging for larvae (IATTC)
Stock structure :genetic study :microconstituent analysis		Electrophoretic analyses (Can) Natural tag (parasite) (Can) mt-DNA analyses (Jp/Tw)	mt-DNA analyses (Jp), Sampling for genetic study (IATTC)	mt-DNA analyses (Jp)
Early life history	Plankton net survey in spawning grounds every other year (Jp) Relation with anchovies in EPO (IATTC)			Food selectivity during larvae (IATTC)
Feeding habits			Stomach contents (Kor/US)	Stomach contents (Kor/US), Trophic interaction (IATTC)
Tagging :conventional :archival	Archival tagging from 1995 (Jp)	Conventional tagging on regular basis (Jp), Intensive conventional tagging in 1990-1992 (SPC), Conventional tagging intermittent (US)	Conventional tagging on regular basis (Jp/Kor), Opportunistic conventional tagging (US) Intensive conventional tagging in 1989-1992 (SPC)	Conventional tagging on regular basis (Jp/Kor), Opportunistic conventional tagging (US) Archival tagging (US), Intensive conventional tagging in 1989-1992 (SPC)
Scientific fishing	Non-commercial LL (Jp)	Non-commercial LL (Jp/Tw) T/D recorder with LL (Jp)	Non-commercial LL (Jp/Tw) T/D recorder with LL (Jp/US)	Non-commercial LL (Jp/Tw) T/D recorder with LL (Jp/US)
Environmental effects		Oceanographic data in fishing ground (Can), Decadal climate change effects (US)	Large scale environmental factor (US), Oceanographic feature in fishing grounds (Tw)	Oceanographic feature corresponding to PS operations (Mex)
Stock assessment/Modelling	Cohort analysis, CPUE and habitat index, spawner-rec model (IATTC)	Evaluation of data base (Can) Production model, VPA etc (Jp/US/Tw), Modellin -- SPARCLE (SPC)	Production model, VPA etc (Jp/US/IATTC), New model (US), PS/LL interaction (IATTC)	Modelling -- RASCLE (Jp/US/SPC), Modelling of fleet behavior (Mex), General assessment (Tw/IATTC)
Others	Artificial fertilization and rearing (Jp), Pen-rearing (Mex)		Observers on PS (Jp/Mex) Port samling for PS landings (Jp)	Observers on PS (Jp/Mex) Experitmental FAD's, multi-species analysis (Mex)

Table 6. Summary of current research (cont.)

	Skipjack Tuna	Swordfish	Marlines/Billfishes	Other species
Reproductive biology	Gonad indices, fecundity (Jp/Kor/ Mex), Gonad histology (IATTC)	Gonad analyses (Mex/IATTC)		Euthynnus and Auxis (IATTC)
Aging/Growth :hard tissues :modal regression	Otolith DGR for juveniles (Jp) Otolith aging (Mex)	Spine aging (Mex/US), Otolith aging (US)		
Stock structure :genetic study :microconstituent analysis		mt-DNA analyses (Jp/US)	mt-DNA analyses (US/IATTC)	
Early life history	Juveniles collection by midwater trawl (Jp), Juvenile occurrences in predators' stomach (Mex)			Euthynnus and Auxis (IATTC)
Feeding habits	Stomach contents (Jp)	Stomach contents (US)	Trophic interaction with YFT (IATTC)	Trophic interaction between YFT and other pelagic species (IATTC)
Tagging :conventional :archival	Conventional tagging on regular basis (Jp/Kor), Intensive conventional tagging in 1989-1992 (SPC)	Opportunistic conventional tagging, Archival tagging (US)	Opportunistic conventional tagging, Archival tagging (US)	
Scientific fishing	Non-commercial LL/PL (Jp) T/D recorder with LL (Jp/US)	Non-commercial LL (Jp) T/D recorder with LL (Jp/US)	Non-commercial LL (Jp) T/D recorder with LL (Jp/US)	LL bycatches -- seabirds, turtles, sharks (US)
Environmental effects	Oceanographic feature in fishing grounds (Mex), Oceanographic effects on SKJ distribution (SPC)	Oceanographic feature in fishing grounds (US)		On LL bycatches (US)
Stock assessment/Modelling	Spatial model (Jp/US/SPC), General assessment (Tw)	Production model (Jp/IATTC), General stock assesment (US)		Stock assessment for all LL by-catch species (US)
Others	Observers on PS /PL (Jp) Port sampling for PS/PL landings (Jp), Experimental FAD's (Mex)			Black skipjack (Mex) LL fleet economics (US)

Attachment 1

List of Participants

JAPAN

AOKI, Yoshihiro
FUJITA, Hitoshi
HATANAKA, Hiroshi (Chair)
HONDA, Minoru
ITO, Tomoyuki
KATSUYAMA, Kiyoshi
MORONUKI, Hideki
NAKANO, Hideki
NOMURA, Ichiro
OMORI, Hiroko
SAITO, Tatsuo
SAKURAI, Hitoshi
SUZUKI, Ziro
TSUJI, Sachiko
UTSUMI, Kazuhiko
CHO, Naritoshi
HAMAGUCHI, Naoko
HAYASHI, SHUJI
ISHIKAWA, Masahiro
KAGAWA, Kenji
MIYABE, Naozumi
NAKAMURA, Takatetsu
NISHIZAKI, Mamoru
OGURA, Miki
OZAKI, Eiko
SAKAMOTO, Seiichi
SINCHO, Mitsuto
TAKAHASHI, Mio
UOZUMI, Yuji
WATANABE, Hidenao

CANADA

SHAW, William

CHINA

PAN, Ronghe
LIU, Xiaobing

KOREA(REPUBLIC OF)

MOON, Dae-Yeon

MEXICO

DREYFUS, M.C. Michel
COMPEAN, Guillermo

UNITED STATES

BARTOO, Norman
HALLMAN, Brian
SAKAGAWA, Gary (Rapporteur)
TILLMAN, Michael
DINARDO, Gerald
LAURS, Michael
SHOMURA, Richard

CHINESE TAIPEI

HO, Peter
HU, Nien-Tsu Alfred
SHIEH, Dah-Wen
HSU, Lily L.W.
LIU, Hsi-Chiang

IATTC(Inter-American Tropical Tuna Commission)

ALLEN, Robin
JOSEPH, James

PICES (North Pacific Marine Science Organization)

KASHIWAI, Makoto

SPC (South Pacific Commission)

HAMPTON, John

Attachment 2

List of Documents

ISC/DOC/1(JPN) National Report of Japan

ISC/DOC/2(JPN) Review on the Present Status of Bigeye Tuna Resources

ISC/DOC/3(JPN) Review of Status of Stock - Bluefin Tuna

ISC/DOC/1(CAN) A Brief Review of the Canadian Albacore Fishery

ISC/DOC/1(KOR) Collection of Korean Tuna Fisheries Data in the Pacific and Research Activities

ISC/DOC/1(USA) The Ecosystem of North Pacific Ocean Highly Migratory Fishes

ISC/DOC/2(USA) A Review of the North Pacific Albacore(*Thunnus alalunga*) Stock

ISC/DOC/3(USA) The Status of Swordfish(*Xiphias gladius*) in the North Pacific Ocean

ISC/DOC/4(USA) 1996 Report to the Interim Scientific Committee on United States Fisheries for Tuna and Tuna-Like Species in the North Pacific Ocean

ISC/DOC/5(USA) Review of Tuna Fisheries Statistics Required by Multilateral Agreements

ISC/DOC/6(USA) Draft ISC Operational Procedures

ISC/DOC/1(CTP) Review of Conventional Tuna fisheries of Taiwan in the North Pacific

ISC/DOC/1(IAT) Review of Data Collection for Stock Assessment of Tunas and Swordfish in the Eastern Pacific Ocean

ISC/DOC/2(IAT) Review of the Current Situation Regarding Research on Tunas and Swordfish in the Eastern Pacific Ocean

ISC/DOC/3(IAT) Review of the Current Situation Regarding Research on Yellowfin Tuna in the Eastern Pacific Ocean

ISC/DOC/4(IAT) Review of the Current Situation Regarding Research on Swordfish in the Eastern Pacific Ocean

ISC/DOC/5(IAT) Review of the Current Situation Regarding Research on Northern Bluefin Tuna in the Eastern Pacific Ocean

ISC/DOC/1(PIC) History of the North Pacific Marine Science Organization (PICES) 1994 Report of the PICES-GLOBEC International Program on Climate Change and Carrying Capacity

ISC/DOC/2(PIC) Implementation Plan(Phase 1)

ISC/DOC/1(SPC) Western and Central Pacific Yellowfin Tuna : Biology, Fisheries and Stock Condition

Attachment 3

THE FIRST MEETING OF THE INTERIM SCIENTIFIC COMMITTEE FOR TUNA AND TUNA-LIKE SPECIES IN THE NORTH PACIFIC OCEAN

7 - 10 APRIL 1996, TOKYO, JAPAN

1. Opening

2. Appointment of Chairman and Rapporteurs

3. Adoption of Agenda

4. Exchange of Views
   - 1) Explanation of the purposes and objectives of the Committee
   - 2) Review of Status of Stocks
   - 3-A) Review of data collection for fisheries operations
   - 3-B) Review of data collection for stock assessment
   - 4) Review of current situation regarding research
   - 5) Future work program
     - a. Species and area to be focused
     - b. Data collection systems including data format
   - 6) Expansion of participants
   - 7) Operational procedures

5. Report of the meeting

6. Future meetings

7. Other business

8. Closing

SCHEDULE FOR ISC MEETING

Tueseday, May 7 (13:00 - 17:00)

1. Opening
2. Appointment of Chairman and Rapporteurs
3. Adoption of Agenda
4. Exchange of Views
   1) Explanation of the purposes and objectives of the Committee
   2) Review of Status of Stocks
      North Pacific Ecosystem ----- USA

Wednesday, May 8 (9:30 - 17:00)

4. continue
   2) continue
      Albacore ---------- USA
      Albacore ---------- CAN
      Bigeye Tuna ---------- JPN
      Bluefin Tuna ---------- JPN
      Sword Fish ---------- USA
      Yellowfin Tuna (CW Pacific) - SPC
      Yellowfin Tuna (E Pacific) -- IATTC
   3A) Review of data collection for fisheries operations
      Overview (formal) ---------- USA
      Overview (informal) --------- JPN
      National Reports
      Organizations' Reports
   3B) Review of data collection for stock assessment
      Overview ---------- JPN
      National Reports
      Organizations' Reports
   4) Review of current situation regarding research
      National Reports
      Organizations' Reports

Thurseday, May 9 (9:30 - 17:00)

4. continue
   5) Future work program
      a. Species and area to be focused
      b. Data collection systems including data format
   6) Expansion of participants
   7) Operational procedures

Friday, May 10 (9:30 - 17:00)

5. Report of the meeting
6. Future meetings
7. Other business
8. Closing

Attachment 4

GUIDELINES FOR THE INTERIM SCIENTIFIC COMMITTEE FOR TUNA AND TUNA-LIKE SPECIES IN THE NORTH PACIFIC OCEAN

A. PURPOSES

1. To enhance scientific research and cooperation for conservation and rational utilization of the species of tuna and tuna-like fishes which inhabit the North Pacific Ocean during a part or all of their life cycle;

2. To establish the scientific groundwork, if at some point in the future, it is decided to create a multilateral regime for the conservation and rational utilization of these species in this region.

B. MEMBERSHIP

1. Members:
   a. Coastal states of the region
   b. States with vessels fishing for these species in the region.

2. Observer Participants:
   a. Relevant intergovernmental fishery organizations;
   b. Relevant intergovernmental marine science organizations;
   c. Other entities with vessels fishing for these species in the region.

C. PROCEDURES

1. The Committee will be composed of representatives with suitable scientific and fisheries qualifications from Members.

2. Observer Participants should participate in the Committee in a manner decided by the Members.

3. Other scientific and fisheries experts may be invited to participate in the work of the Committee by consensus of the Members.

4. The Committee is expected to meet during 1995 in Japan and thereafter once every two years or as otherwise as may be agreed.

5. The Committee may establish subsidiary bodies which may meet in the interim between Committee meetings with a view to reporting to the Committee.

6. In carrying out its functions, the Committee will take into account the work of other relevant technical and scientific organizations.

7. The Committee will establish by consensus further procedures for its activities.

D. FUNCTIONS

The Committee will:

1. Regularly assess and analyze fishery and other relevant information concerning the species covered;

2. Prepare a report on its findings or conclusions on the status of such species such as trends in population abundance of such species, developments in fisheries, and conservation needs;

3. Strive to adopt reports and findings by consensus of all Members, however, it is not necessary that consensus be achieved on all matters, and reports and findings may reflect options and differing views when a consensus has not been achieved;

4. Formulate proposals for conduct of and, to the extent possible, coordinate international and national programs of research addressing such species; and,

5. Consider any other matters, as appropriate, at the request of one of the Members.

Attachment 5.

THE FIRST MEETING OF THE INTERIM SCIENTIFIC COMMITTEE FOR TUNA AND TUNA-LIKE SPECIES IN THE NORTH PACIFIC OCEAN

May 7-10, 1996
Tokyo, Japan

STATEMENT
BY CHINESE TAIPEI

Thank you Mr. Chairman:

At the outset, I would like to say, on behalf of myself and my fellow delegates, that we feel obligatory to attend and participate in this meeting. We certainly appreciate the initiatives and efforts made by Japan and the United States in setting up the initial phase of this Interim Scientific Committee. The very reason that we feel obligatory to join your efforts, and I believe, that with that same reason which has brought us together to this forum is our common concern to the conservation of tuna and tuna-like species in the North Pacific region.

As we all know, scientific and statistical data and information are the foundation for rational management and sustainable development of any fisheries resources, certainly including those on high seas. While these data and information indicate a need for establishing some sort of management scheme for the conservation or restoration of certain fisheries resources, multilateral cooperation regime then comes into play. This is exactly the situation that we are facing at this stage.

Concerning the tuna fisheries resources in the North Pacific region, many fisheries scientists have participated in the work of the North Pacific Albacore Workshop. These scientists have identified four major research themes in the 14th meeting of the North Pacific Albacore Workshop held in Taipei on 10-14 April, 1995. They recommended that data management, fishery monitoring, abundance indexing and a comprehensive research plan be subject to further research. We feel that the work of their workshop shall be incorporated into this Interim Scientific Committee.

To strengthen the efforts in the conservation and management of fisheries resources is one of the fundamental fisheries policies of my Government. Having substantive contributions to international efforts in tuna stocks assessment as well as possessing a large ocean going fishing fleet in the world, we would like to see collective and cooperative efforts and respectable participation on a non-discriminatory basis in any regional or subregional fisheries organization or arrangement.

Attachment 6

List of National Correspondents

CANADA	SHAW, William
CHINA	PAN, Ronghe
JAPAN	SUZUKI, Ziro
KOREA REP.	MOON, Dae-Yeon
MEXICO	COMPEAN, Guillermo
UNITED STATES	TILLMAN, Michael
CHINESE TAIPEI	SHIEH, Dah-Wen
IATTC	JOSEPH, James
PICES	McKONE, Doug
SPC	LEWIS, Tony