

NPFC-2017-WS CM01-Final Report

TEL +81-3-5479-8717
FAX +81-3-5479-8718
Email secretariat@npfc.int

North Pacific Fisheries Commission Ad-hoc Workshop for Chub Mackerel REPORT

16-17 February 2017

April 2017

This paper may be cited in the following manner:

Chub Mackerel Workshop. 2017. 1st Workshop Report. NPFC-2017-WS CM01-Final Report. 15 pp. (Available at www.npfc.int)

North Pacific Fisheries Commission Ad-hoc Workshop for Chub Mackerel

16-17 February 2017 Yokohama, Japan

REPORT

Agenda Item 1. Opening of the Workshop

- 1. The Ad-hoc Workshop for Chub Mackerel took place in Yokohama, Japan on 16-17 February 2017 at the National Research Institute of Fisheries Science (NRIFS), Japan Fisheries Research and Education Agency, and was attended by Members from China, Japan, the Republic of Korea, the Russian Federation, and Chinese Taipei.
- 2. The workshop was opened by Dr. Hiromu Zenitani (Director, Research Center for Fisheries Management, NRIFS, Japan), who served as the Workshop Coordinator, and outlined the objective and procedures for the meeting.
- 3. Mr. Hisashi Endo (Executive Director, Japan Fisheries Research and Education Agency) welcomed the participants and highlighted the rapidly increasing fishing of chub mackerel as a matter requiring the urgent attention of the North Pacific Fisheries Commission (NPFC). He expressed his hope that the workshop would serve as a good starting point for reviewing the conservation and measurement measure (CMM) for chub mackerel adopted in 2016 (CMM 2016-07), and for productive discussions and positive outcomes.

Agenda Item 2. Selection of Chair and Rapporteur

4. The Workshop Coordinator proceeded with the selection of the Chair and Rapporteur. Dr. Hiromu Zenitani was unanimously elected to chair the Workshop. Mr. Alexander Meyer was selected as Rapporteur.

Agenda Item 3. Adoption of Agenda

5. The agenda was adopted without amendment.

Agenda Item 4. Biology, Life History, Population Dynamics and Stock Assessment of Chub Mackerel

- 6. The session was chaired by Dr. Toshihide Iwasaki (Japan).
- 7. Japan presented on biology and life history of chub mackerel in the western North Pacific Ocean. The workshop was informed that the main distribution and spawning area of chub mackerel was inside Japan's exclusive economic zone. According to the presentation, the distribution area is expanding to the high seas because the biomass is at the recovery stage.
- 8. Japan presented on population dynamics of chub mackerel in the Northwestern Pacific Ocean. The workshop was informed that tremendous efforts had been made by coastal states historically for sustainable use of the stock. To promote the recovery of biomass, it is necessary to maintain an appropriate harvest rate. Further statistical analysis was suggested to improve the quality of survey.
- 9. Russia presented its review on biology, life history, population dynamics and stock assessment of chub mackerel. The stock biomass of chub mackerel in the Northwestern Pacific Ocean is recovering. However, it is much lower than that in the 1970s.
- 10. Chinese Taipei presented on the fishery, age, growth and reproduction of chub mackerel in the northeastern waters off Chinese Taipei. It was pointed out that chub mackerel that spawned in the waters off Chinese Taipei belonged to a different stock from the Northwestern Pacific stock. In recent years, the fishing mortality of chub mackerel has not decreased but catch per unit of effort has decreased. In 2013, conservation measures were introduced. However, the length of 50% maturity has still decreased. Further study is needed to understand the reason behind this decrease.
- 11. China presented a stock assessment and risk analysis of alternative management strategies for chub mackerel stock in the East China Sea and Yellow Sea using the Bayesian approach. China explained that it intended to conduct a stock assessment of chub mackerel in the Convention Area in the near future. The Members encouraged China to do so as soon as possible.
- 12. Japan presented a stock assessment of chub mackerel in the Northwestern Pacific Ocean. It was noted that more complete data and information, including age composition in the Convention Area, would enable a more accurate assessment of chub mackerel fisheries. Japan stressed the necessity not to increase the fishing mortality of chub mackerel from the level in 2014-2015.

Agenda Item 5. Chub Mackerel Fisheries

13. The session was chaired by Dr. Siguan Tian (China).

- 14. Japan presented on chub mackerel fisheries by Japan, and highlighted the historical, cultural, and socio-economic importance of this fishery. Japan explained the strong commitment made by fishermen in the form of voluntary management measures, such as day closure and monthly quotas, in addition to national management measures which included prohibition of light equipment. Japan hoped that the NPFC would respect these efforts and consider them as possible management measures in the future. Furthermore, Japan also highlighted the importance of ensuring that fishing intensity does not exceed a level that prevents the recovery of chub mackerel stock.
- 15. Russia presented on chub mackerel fisheries in Russia. Japan expressed concern over the number of Russian vessels engaged in chub mackerel fishing, referring to Article 1 of CMM 2016-07. Russia explained that the vessels engaged in chub mackerel fishing were operating outside the NPFC Convention Area.
- 16. China presented on the status of chub mackerel fisheries in China in the Northwestern Pacific Ocean in 2014-2015. Japan expressed concern over the rapid increase in Chinese catches of chub mackerel in the Convention Area. China explained measures it is taking to ensure compliance with the relevant NPFC CMMs.
- 17. Japan also expressed concern over the illegal, unreported and unregulated (IUU) fishing of chub mackerel, and China emphasized that such issues should be discussed by the Technical and Compliance Committee of the NPFC.

Agenda Item 6. Chub Mackerel Fisheries Management

- 18. The session was chaired by Dr. Oleg Katugin (Russia).
- 19. Japan presented on the management of chub mackerel in Japan, including management of total allowable catch, domestic fishing permits system, and voluntary management measures by fishermen. The Members shared concern regarding the increased activities of suspected IUU fishing vessels and its uncertainty to the stock assessment. Japan expressed strong concern that the expansion of high seas fishing of chub mackerel would disrupt the recovery trend of the resource achieved by those efforts.
- 20. Russia presented on the chub mackerel fishery management in Russia, which includes stock assessment in national and adjacent waters, producing forecasts on recommended catch, and catch control during the fishing season.

21. China presented on the chub mackerel fisheries management of China in NPFC waters. Japan was concerned by the recent increase in the number of Chinese vessels engaging in chub mackerel fishing, referring to CMM 2016-07. China explained measures it is taking to ensure compliance with the relevant NPFC CMMs.

Agenda Item 7. Panel Discussion on Chub Mackerel Biology, Fisheries and Management

- 22. A panel discussion was held on chub mackerel biology, fisheries and management. The key points of the discussion were as follows:
 - a. It is important to continue efforts to conduct a stock assessment of chub mackerel for the proper and sustainable management of chub mackerel stocks.
 - b. There is a need to improve collection of scientific data and fishing information. In this regard, Japan volunteered to take the lead in drafting a data list and work plan.
 - c. There are currently areas of uncertainty in the stock assessment that should be identified and quantified. In this regard, an estimation of IUU catch should be considered in the stock assessment.
 - d. Although there are still areas of uncertainty in the stock assessment, fishing activities are ongoing. It is therefore important to take precautionary management measures in parallel with work for the stock assessment.
 - e. Regarding the commencement of fishing activities by Members who have to date not engaged in the fishing of chub mackerel in the Convention Area, according to Article 1 of CMM 2016-07, Members are encouraged to refrain from expansion of the number of fishing vessels authorized to fish for chub mackerel until the stock assessment is complete.
 - f. Management measures for chub mackerel need to be strengthened based on scientific evaluation and information.

Agenda Item 8. Recommendations to the Scientific Committee

- 23. The following recommendations were made:
 - a. The workshop recognized the necessity to conduct stock assessment for chub mackerel, and requested the Scientific Committee of the NPFC to identify the appropriate venue for continuous discussion of this matter.
 - b. The workshop acknowledged that Japan and Russia have been conducting research for stock assessment and fisheries management and recommended that such scientific activity be further encouraged.
 - c. Taking into account Japan's knowledge and experience in scientific research, fisheries and fisheries management, the workshop recommended that Japan prepare a draft work plan for stock assessment, including a draft list of data.

- d. The workshop recalled the importance of eradicating IUU fisheries. In this regard, the workshop expressed concern over the uncertainty of catch data for stock assessment and recommended Members to provide the relevant information.
- e. The workshop recommended that the Scientific Committee in 2017 evaluates precautionary approaches on management of chub mackerel fisheries and develops optimal management measures, such as stricter measures.
- 24. In this regard, the workshop requested that the Secretariat inform these recommendations to the Scientific Committee through a circular.

Agenda Item 9. Adoption of the Report

25. The Ad-hoc Workshop for Chub Mackerel Draft Report was adopted by consensus.

Agenda Item 10. Close of the Workshop

26. The Ad-hoc Workshop for Chub Mackerel closed at 18:27 on 17 February 2017.

Annexes

Annex A – Agenda

Annex B – List of Documents

Annex C – Workshop Programme

Annex D – Participants List

^{*}Any products of this workshop, including presentations and reports, do not affect the legal position on the territorial rights of Members.

Annex A

NPFC-2017-WS CM01-MIP02

North Pacific Fisheries Commission Ad-hoc Workshop for Chub Mackerel 16-17 February 2017 Yokohama, Japan

Agenda

Agenda Item 1.	Opening of the workshop	
Agenda Item 2.	Selection of Chair and Rapporteur	
Agenda Item 3.	Adoption of Agenda	
Agenda Item 4. mackerel	Biology, life history, population dynamics and stock assessment of chub	
Agenda Item 5.	Chub mackerel fisheries	
Agenda Item 6.	Chub mackerel fisheries management	
Agenda Item 7.	Panel discussion on chub mackerel biology, fisheries and management	
Agenda Item 8.	Recommendations to the Scientific Committee	
Agenda Item 9.	Adoption of the Report	
Agenda Item 10. Close of the Workshop		

North Pacific Fisheries Commission Ad-hoc Workshop for Chub Mackerel 16-17 February 2017 Yokohama, Japan

LIST OF DOCUMENTS

MEETING INFORMATION PAPERS

Symbol	Title
NPFC-2017-WS CM01-MIP01	Meeting Information
NPFC-2017-WS CM01-MIP02	Provisional Agenda
NPFC-2017-WS CM01-MIP03	Annotated Provisional Agenda
NPFC-2017-WS CM01-MIP04	Indicative Schedule
NPFC-2017-WS CM01-MIP05	Provisional List of Documents
NPFC-2017-WS CM01-MIP06 (Rev. 1)	Workshop Programme

REFERENCE DOCUMENTS

Title		
Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean		
NPFC Administrative Documents		

WORKING PAPERS

Symbol	Title
NPFC-2017-WS CM01-WP01	Brief introduction on fishery, age, growth and reproduction of the chub mackerel (<i>Scomber japonicus</i>) in the northeastern waters off Taiwan

North Pacific Fisheries Commission Ad-hoc Workshop for Chub Mackerel 16-17 February 2017 Yokohama, Japan

Programme

Day 1 (16 February)

Morning Session (10:00-12:30)

- Opening Remarks (Agenda Item 1)
 - Coordinator, H.ZENITANI (Director, Research Center for Fisheries Management, National Research Institute of Fisheries Science, FRA) will introduce himself, briefly explain the objective of workshop and give the floor to Mr. H.ENDO for opening remarks.
 - Mr. H.ENDO (Executive Director, FRA) will present an opening address to welcome the participants.
- Selection of Chair and Rapporteur (Agenda Item 2)
- Adoption of Agenda (Agenda Item 3)
- Presentations on biology, life history, population dynamics and stock assessment of chub mackerel related topics (Agenda Item 4)

Chair: T.IWASAKI (Japan)

- Biology and life history of chub mackerel in the western North Pacific Ocean (Y.KAMIMURA, Japan)
- Population dynamics of chub mackerel in the western North Pacific Ocean (R.YUKAMI, Japan)
- Biology, life history, population dynamics and stock assessment of chub mackerel -Russian review (D.V.ANTONENKO, Russia)
- Fishery, age, growth and reproduction of chub mackerel (*Scomber japonicus*) in the northeastern waters off Taiwan (Hsueh-Jung LU, Chinese Taipei)
- Stock assessment and risk analysis of alternative management strategies for Chub mackerel stock in the East China Sea and Yellow Sea using Bayesian approach (Wei

YU, China)

• Stock assessment of chub mackerel in Japan (S.Nishijima, Japan)

<u>Lunch Break (12:30-14:00)</u>

Afternoon Session (14:00-17:00)

• Presentations on chub mackerel fisheries related topics (Agenda Item 5)

Chair: Siquan TIAN (China)

- Chub mackerel fisheries in Japan (K.TANAKA, Japan)
- Chub mackerel fisheries in Russia (O.N.KATUGIN, Russia)
- Status on chub mackerel fishery in China in the North Pacific Ocean in 2014-2015 (Heng ZHANG, China)

Afternoon break (15:15-15:45)

Presentations on chub mackerel fisheries management related topics (Agenda Item 6)

Chair: O.N.KATUGIN (Russia)

- Management of chub mackerel in Japan (R.MATSUDA, Japan)
- Chub mackerel fishery management in Russia (V.KULIK, Russia)
- Introduction to chub mackerel fisheries management of China in NPFC waters (Lianyong FANG, China)

Reception (17:30-20:00)

Day 2 (17 February)

Morning Session (10:00-12:30)

• Panel discussion on chub mackerel biology, fisheries and management (Agenda Item 7)

Moderator: H.ZENITANI

• Recommendations to the Scientific Committee (Agenda Item 8)

Lunch Break (12:30-14:00)

Afternoon Session (14:00-17:00)

- Adoption of the Report including recommendations to the SC (Agenda Item 9)
- Close of the Workshop (Agenda Item 10)

Annex D

Ad-hoc Workshop for Chub Mackerel PARTICIPANTS LIST

CHAIR 999 Huchenghuan Road, Shanghai 201306,

Hiromu ZENITANI China

Director, Research Center for Fisheries Tel: +86-21-61900221

Management, National Research Institute of E-mail: cxhua@shou.edu.cn

Fisheries Science, Japan Fisheries Research

2-12-4 Fukuura, Kanazawa-ku, Yokohama, Dr., Shanghai Ocean University

2-12-4 Fukuura, Kanazawa-ku, Tokonama, Di., Shanghai Ocean University

236-8648 Japan 999 Huchenghuan Road, Shanghai 201306,

Wei YU

Ba LI

Tel: +81-45-788-7630 China E-mail: zenitani@affrc.go.jp Tel: +86-21-61900221

E-mail: yuwei806326@163.com

CHINA

and Education Agency

Siquan TIAN Research Associate, Shanghai Ocean

Dr. and Associate Professor, Shanghai Ocean University

University 999 Huchenghuan Road, Shanghai 201306,

999 Huchenghuan Road, Shanghai 201306, China

China Tel: +86-21-61900221

Tel: +86-21-61900221

Tel: +86-21-61900221 E-mail: bai.li@maine.edu E-mail: sqtian@shou.edu.cn

Heng ZHANG

Lianyong FANG Dr. and Associate Professor, East China Sea

Director Assistant, China Overseas Fisheries Fisheries Research Institute,

Association 300 Jungong Road, Shanghai 200090, China

Room 1216 Jingchao Mansion, No.5 Tel: +86-13816338452

Nongzhanguan Nanlu, Chaoyang District, E-mail: zhangziqian0601@163.com

Beijing, China

Tel: +86-10-65853488 **JAPAN**

E-mail: tomfang71@hotmail.com

Toshihide IWASAKI

Chuanxiang HUA Division Director, Fisheries Management

Dr., Shanghai Ocean University Division, Tohoku National Fisheries Research

Institute, Japan Fisheries Research and

Education Agency

25-259 Shimomekurakubo, Samemachi,

Hachinohe, Aomori 031-0841 Japan

Tel: +81-178-33-1500

E-mail: tiwasaki@affrc.go.jp

Hiroshi OKAMURA

Group leader, Fisheries management Group,

Research Center for Fisheries Management,

National Research Institute of Fisheries

Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7645

E-mail: okamura@affrc.go.jp

Momoko ICHINOKAWA

Researcher, Fisheries management Group,

Research Center for Fisheries Management,

National Research Institute of Fisheries

Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7645

E-mail: ichimomo@affrc.go.jp

Shota NISHIJIMA

Researcher, Fisheries management Group,

Research Center for Fisheries Management,

National Research Institute of Fisheries

Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7645

E-mail: nishijimash@affrc.go.jp

Yasuhiro KAMIMURA

Researcher, Stock assessment Group,

Research Center for Fisheries Management,

National Research Institute of Fisheries

Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7633

E-mail: yasukami@affrc.go.jp

Ryuji YUKAMI

Researcher, Stock assessment Group,

Research Center for Fisheries Management,

National Research Institute of Fisheries

Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7638

E-mail: yukami@affrc.go.jp

Chikako WATANABE

Researcher, Stock assessment Group,

Research Center for Fisheries Management,

National Research Institute of Fisheries

Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7634

E-mail: falconer@affrc.go.jp

Syou FURUICHI

Researcher, Stock assessment Group, Research Center for Fisheries Management, National Research Institute of Fisheries Science, Japan Fisheries Research and

Education Agency

2-12-4 Fukuura, Kanazawa-ku, Yokohama,

236-8648 Japan

Tel: +81-45-788-7633

E-mail: sfuru@affrc.go.jp

Hisashi ENDO

Executive Director, Japan Fisheries Research

and Education Agency

Queen's Tower B 15F, 2-3-3- Minato Mirai, Nishi-ku, Yokohama, Kanagawa, 220-6115

Japan

Tel: +81-45-227-2602

E-mail: hisashiendo@affrc.go.jp

Yoshioki OOZEKI

Councilor, Japan Fisheries Research and

Education Agency

Queen's Tower B 15F, 2-3-3- Minato Mirai, Nishi-ku, Yokohama, Kanagawa, 220-6115

Japan

Tel: +81-45-227-2710

E-mail: oozeki@affrc.go.jp

Yoshiaki HIYAMA

Director, Research management department,

Japan Fisheries Research and Education

Agency

Queen's Tower B 15F, 2-3-3- Minato Mirai,

Nishi-ku, Yokohama, Kanagawa, 220-6115

Japan

Tel: +81-45-227-2674

E-mail: hiyama@affrc.go.jp

Tomowo WATANABE

Deputy Director, Research management department, Japan Fisheries Research and

Education Agency

Queen's Tower B 15F, 2-3-3- Minato Mirai, Nishi-ku, Yokohama, Kanagawa, 220-6115

Japan

Tel: +81-45-227-2675

E-mail: wattom@affrc.go.jp

Toshiya KISHIRO

Research coordinator, Research management department, Japan Fisheries Research and

Education Agency

Queen's Tower B 15F, 2-3-3- Minato Mirai,

Nishi-ku, Yokohama, Kanagawa, 220-6115

Japan

Tel: +81-45-227-2698

E-mail: kishiro@affrc.go.jp

Masayasu NAKAGAMI

Research coordinator, Research management

department, Japan Fisheries Research and

Education Agency

Queen's Tower B 15F, 2-3-3- Minato Mirai,

Nishi-ku, Yokohama, Kanagawa, 220-6115

Japan

Tel: +81-45-227-2680

E-mail: gami@affrc.go.jp

Takashi KOYA

Director, Resources and Environment

Research Division, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-6744-2381

E-mail: takashi koya180@maff.go.jp

Kengo TANAKA

Counsellor, Resources Management Department, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-

8907 Japan

Tel: +81-3-3591-1086

E-mail: kengo tanaka880@maff.go.jp

Chiaki MIZUGAKI

Assistant Director, International Affairs

Division, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-

8907 Japan

Tel: +81-3-3591-1086

E-mail: chiaki mizugaki400@maff.go.jp

Nobushige SHIMIZU

Technical Official, International Affairs

Division, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-

8907 Japan

Tel: +81-3-3591-1086

E-mail: nobushige shimizu640@maff.go.jp

Ryota MATSUDA

Assistant Director, Resources Management

Division, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-

8907 Japan

Tel: +81-3-5510-3303

E-mail: ryota matsuda220@maff.go.jp

Miho WAZAWA

Assistant Director, Resources and

Environment Research Division, Fisheries

Agency

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-6744-2377

E-mail: miho wazawa160@maff.go.jp

Yasutaka KATAGIRI

Assistant Director, Resources and Environment

Research Division, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-6744-2377

E-mail: yasutaka katagiri430@maff.go.jp

Toshiyuki ISHII

Unit Chief, Resources and Environment

Research Division, Fisheries Agency

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-6744-2377

E-mail: Toshiyuki ishii680@maff.go.jp

Atsushi KAWABATA

Deputy Director, Resources and Environment

Research Division, Fisheries Agency of Japan

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-6744-2380

E-mail: atsushi kawabata890@maff.go.jp

Takako INOGUCHI

Staff, Resources and Environment Research

Division, Fisheries Agency of Japan

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-6744-2380

E-mail: takako_inoguchi340@maff.go.jp

Sayoko ISU

Staff, Research and Technological Guidance

Division, Fisheries Agency, Japan

1-2-1 Kasumigaseki, Chiyoda-Ku, Tokyo 100-

8907 Japan

Tel: +81-3-3591-7410

E-mail: sayoko isu170@maff.go.jp

Kotaro TANAKA

Executive Managing Director, Federation of north Pacific District Purse Seine Fisheries

Co-operative Associations of Japan

1-9-13, Akasaka, Minato-ku, Tokyo, 107-0052

Japan

Tel: +81-3585-7941

E-mail: hokubu-taiheiyou@kbe.biglobe.ne.jp

Hide NAKAYAMA

Manager, Federation of north Pacific District

Purse Seine Fisheries Co-operative

Associations of Japan

1-9-13, Akasaka, Minato-ku, Tokyo, 107-0052

Japan

Tel: +81-3585-7941

E-mail: hokubu-taiheiyou@kbe.biglobe.ne.jp

KOREA

Jae-bong LEE

Senior Researcher,

Distant Water Fisheries Resources Research

Division. National Institute of Fisheries

Science

216 Gijang-Haenro, Gijang-eup, Gijang-gun,

Busan 46083, Republic of Korea

Tel: +82-51-720-2321

E-mail: leejb@korea.kr

Eunjung KIM

Scientist,

Distant Water Fisheries Resources Research

Division, National Institute of Fisheries Science

216 Gijang-Haenro, Gijang-eup, Gijang-gun,

Busan 46083, Republic of Korea

Tel: +82-51-720-2328

E-mail: eunjungkim@korea.kr

RUSSIA

Oleg KATUGIN

Head of the Department for International

scientific cooperation

4 Shevchenko Alley, TINRO-Center,

Vladivostok 690091, Russia

Tel: +7-914-792-4364

E-mail: oleg.katugin@tinro-center.ru

Dmitrii ANTONENKO

Chief Researcher in the Laboratory for Pelagic

resources

4 Shevchenko Alley, TINRO-Center,

Vladivostok 690091, Russia

Tel: +7-914-697-8130

E-mail: dmantonenko@yandex.ru

Vladimir KULIK

Head of the Laboratory for Regional data

center

4 Shevchenko Alley, TINRO-Center,

14

Vladivostok 690091, Russia

Tel: +7-999-057-9969

E-mail: vladimir.kulik@tinro-center.ru

CHINESE TAIPEI

Hsueh-Jung LU

Professor and Director,

National Taiwan Ocean University

2, Pei-Ning Road, Keelung, Taiwan

Tel: +886-2-4622192 ext. 5033

E-mail: hjlutw@gmail.com

NPFC SECRETARIAT

Dae-Yeon MOON

Executive Secretary, NPFC

2nd Floor Hakuyo Hall, Tokyo University of

Marine Science and Technology, 4-5-7 Konan,

Minato-ku, Tokyo, 108-8477, Japan

Tel: +81-3-5479-8717

E-mail: dymoon@npfc.int

Aleksandr ZAVOLOKIN

Science Manager, NPFC,

2nd Floor Hakuyo Hall, Tokyo University of

Marine Science and Technology, 4-5-7 Konan,

Minato-ku, Tokyo, 108-8477, Japan

Tel: +81-3-5479-8717

E-mail: azavolokin@npfc.int

Peter FLEWWELLING

Compliance Manager, NPFC,

2nd Floor Hakuyo Hall, Tokyo University of

Marine Science and Technology, 4-5-7 Konan,

Minato-ku, Tokyo, 108-8477, Japan

Tel: +81-3-5479-8717

E-mail: pflewwelling@npfc.int

Alexander MEYER

Rapporteur, Urban Connections,

Osaki Bright Core 15F, Kita-Shinagawa,

Shinagawa-ku, Tokyo 141-0001, Japan

Tel: +81-3-6432-5691

E-mail: meyer@urbanconnections.jp