Results of a monitoring survey for North Pacific armorhead in the Emperor Seamounts in 2023

In accordance with CMM 2023-05 for Bottom Fisheries and Protection of VMEs in the NW Pacific Ocean and the adaptive management plan, Japan conducted a monitoring survey for North Pacific armorhead (NPA) in the Emperor Seamounts in 2023. The purpose of the survey was to monitor the recruitment strength of the NPA stock. The fishing vessel Kaiyo Maru No.51 conducted four trawl hauls for at least one hour each in the Kammu and Koko Seamounts from March to June. Criteria for high recruitment of NPA have not been met in the survey. The results of the monitoring survey are presented in the tables below.

In accordance with CMM 2023-05, Annex 6, it is considered that high recruitment has occurred if the following two criteria are met in four consecutive monitoring surveys: (1) Nominal CPUE > 10t/h, and (2) Individuals of fat index (FI)> 0.3 account for 80% or more. Since the adaptive management approach for NPA was implemented in 2019, nominal CPUEs have never reached the threshold level of 10t/h (Fig. 1).

Monitoring survey data

Name of Member	Japan
Vessel name	KAIYO MARU No.51
Monitoring Block	Northern part of Kammu
Starting date(YYYY-MM-DD) and time(JST)	2023/3/14 14:45
Ending date(YYYY-MM-DD) and time(JST)	2023/3/14 16:30
Starting location	N32°18'91" E172°52'60"
Ending location	N32°13'42" E172°52'60"
Nominal-CPUE(kg/hour)	0
Ratio of FI(body height(BH) / fork length(FL)) > 0.3 (%)	N/A
Comments	

Annex 6-1. Criteria for strong recruitment of NPA
The criteria for one monitoring survey by trawl is as follows based on the best scientific knowledge available on trawl fishery (Nishida et al. (2016)
Trawl nominal CPUE > 10 t/ h and individuals of FI > 0.3 account for 80% or more.

Monitoring survey data

Name of Member	Japan
Vessel name	KAIYO MARU No.51
Monitoring Block	Koko seamount
Starting date(YYYY-MM-DD) and time(JST)	2023/4/24 2:55
Ending date(YYYY-MM-DD) and time(JST)	2023/4/24 4:35
Starting location	N34°58'71" E171°49'25"
Ending location	N34°54'41" E171°53'36"
Nominal-CPUE(kg/hour)	72
Ratio of FI(body height(BH) / fork length(FL)) > 0.3 (%)	53
Comments	Not be cleared for the strong recruitment level

Annex 6-1. Criteria for strong recruitment of NPA
The criteria for one monitoring survey by trawl is as follows based on the best scientific knowledge available on trawl fishery (Nishida et al. (2016)
Trawl nominal CPUE > 10 t/ h and individuals of FI > 0.3 account for 80% or more.

Monitoring survey data

Name of Member	Japan
Vessel name	KAIYO MARU No.51
Monitoring Block	Koko seamount
Starting date(YYYY-MM-DD) and time(JST)	2023/5/9 2:30
Ending date(YYYY-MM-DD) and time(JST)	2023/5/9 4:05
Starting location	N34°58'56" E171°57'55"
Ending location	N34°54'67" E171°52'70"
Nominal-CPUE(kg/hour)	0
Ratio of FI(body height(BH) / fork length(FL)) > 0.3 (%)	N/A
Comments	

Annex 6-1. Criteria for strong recruitment of NPA
The criteria for one monitoring survey by trawl is as follows based on the best scientific knowledge available on trawl fishery (Nishida et al. (2016)
Trawl nominal CPUE > 10 t/ h and individuals of FI > 0.3 account for 80% or more.

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Monitoring survey data

Name of Member	Japan
Vessel name	KAIYO MARU No.51
Monitoring Block	Koko seamount
Starting date(YYYY-MM-DD) and time(JST)	2023/6/4 3:25
Ending date(YYYY-MM-DD) and time(JST)	2023/6/4 5:00
Starting location	N34°58'66" E171°49'40"
Ending location	N34°54'19" E171°52'84"
Nominal-CPUE(kg/hour)	62
Ratio of FI(body height(BH) / fork length(FL)) > 0.3 (%)	14.4
Comments	Not be cleared for the strong recruitment level

Annex 6-1. Criteria for strong recruitment of NPA
The criteria for one monitoring survey by trawl is as follows based on the best scientific knowledge available on trawl fishery (Nishida et al. (2016)
Trawl nominal CPUE > 10 t/ h and individuals of FI > 0.3 account for 80% or more.
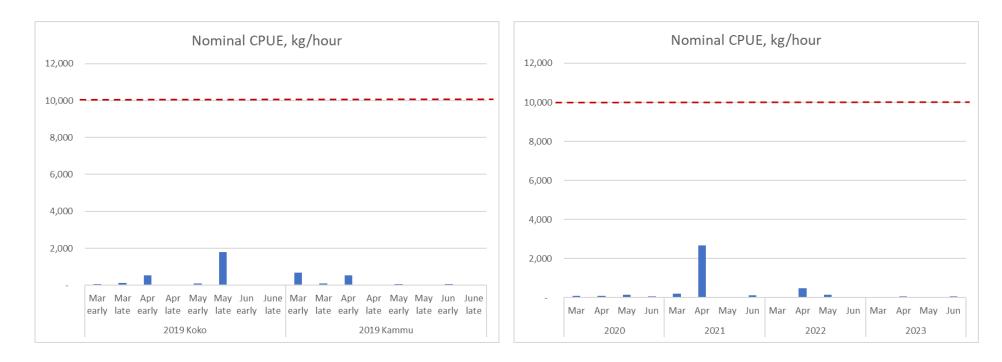
Fig. 1. Time series of the nominal CPUEs from the monitoring survey for North Pacific armorhead in the Koko and Kammu Seamounts in 2019 and Koko Seamount in 2020-2023. The red dash line indicates the threshold level of 10 t/hour which is one of the criteria for high recruitment.