

Cruise Summary

1. Cruise Information

(1) **Cruise ID:** KS-22-7

(2) **Vessel:** R/V SHINSEI MARU

(3) **Cruise Title**

Estimation of the northward migration route of chum salmon juvenile and its oceanographic environment off the Sanriku Coast

(4) **Chief Scientist**

Yuki Minegishi (AORI)

(5) **Representative of the Science Party**

S22-20 Yuki Minegishi (AORI)

(6) **Research Titles**

S22-20 Estimation of the northward migration route of chum salmon juvenile and its oceanographic environment off the Sanriku Coast

(7) **Cruise Period**

2022/05/17 - 2022/05/22

(8) **Ports of departure/call/arrival**

Hachinohe - Yokosuka

(9) **Research Area**

Off Sanriku Coast

(10) **Cruise Track**



2. Overview of the Observation

The purpose of this research cruise was to estimate the northward migration route to the Sea of Okhotsk of juvenile chum salmon and its oceanographic environment off the Sanriku Coast. Specifically, the distribution of juvenile chum salmon off the Sanriku Coast will be estimated based on the multilayer water collection and environmental DNA analyses. Using CTD, analyses of the dissolved materials and aggregates, and ADCP, the physical and chemical environment preferred to juvenile chum salmon will be elucidated. In addition, the species composition and abundance of prey zooplankton of juvenile chum salmon will be estimated. To this end, CTD profiles and water were collected from multiple layers from surface to sea bottom at the stations set at 0, 20, 50 and 90 nm from the coast. ADCP data was also collected through the cruise. NORPAC net towing was conducted to collect the zooplankton from surface to 100 m depth at maximum. Marine snow was captured using a marine snow catcher to estimate the abundance of aggregates (marine snow) responsible for vertical carbon transport from the surface layer to the deep layer of the ocean and the composition and activity of the microbial community inhabiting them.