

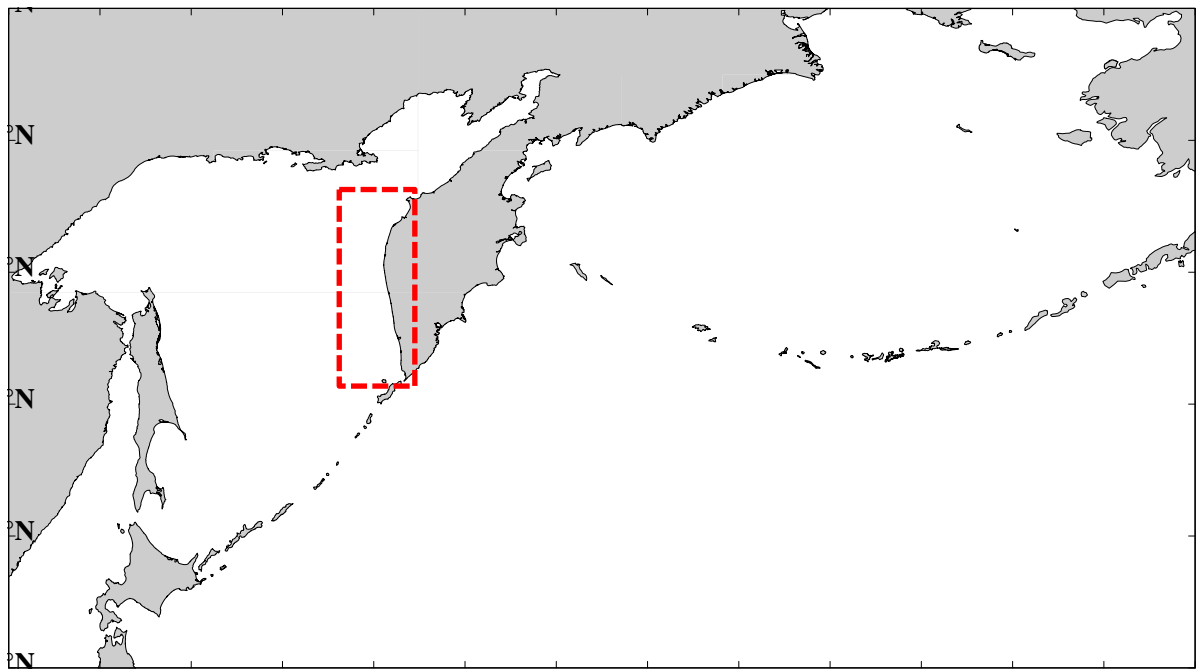
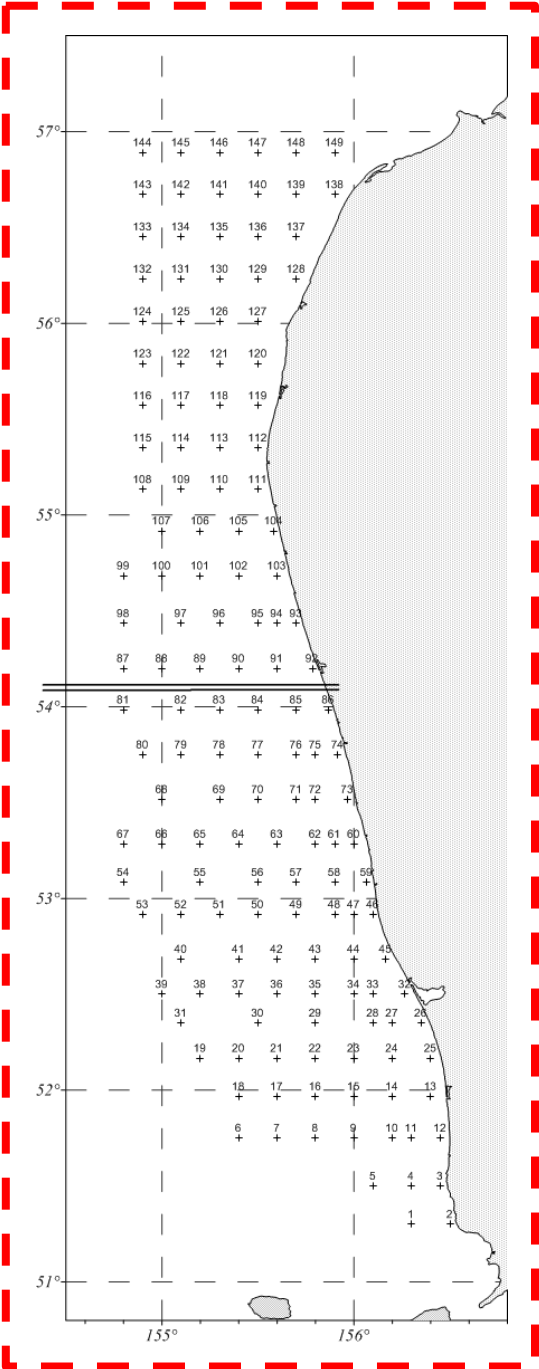
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Petropavlovsk-Kamchatsky, Russia  
(e-mail: [klimov@kamniro.ru](mailto:klimov@kamniro.ru))*



# Relationship of energy metabolism and juvenile Pacific salmon survival of during adaptation at sea

A.V. Klimov, A.P. Lozovoy,  
I.V. Zhiganova

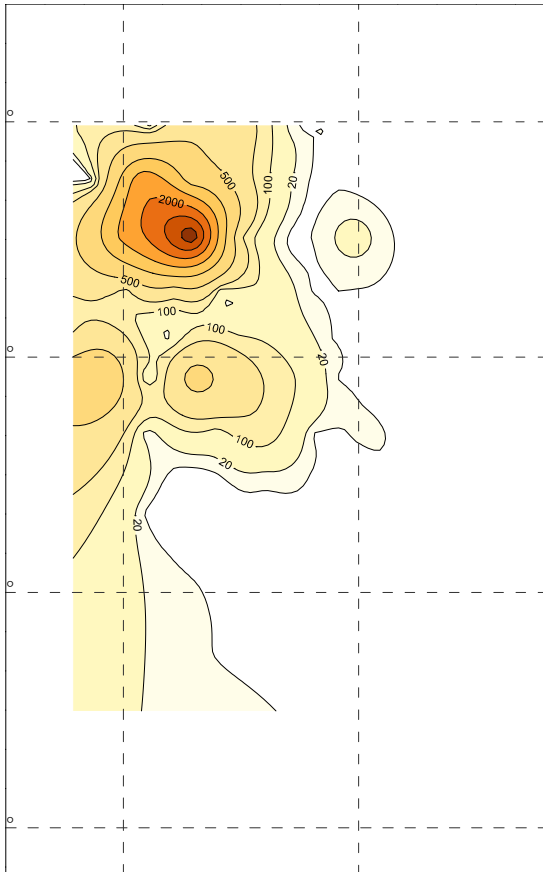




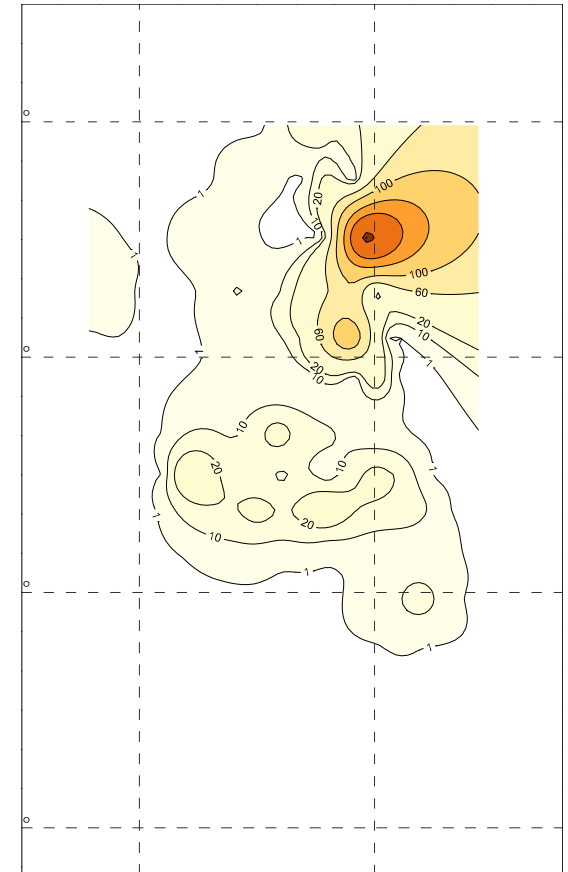
**Map of trawl station**

# Summer trawl surveys of juvenile salmon in the coastal zone of West Kamchatka 2017

*Oncorhynchus*  
*gorbuscha* + *keta*

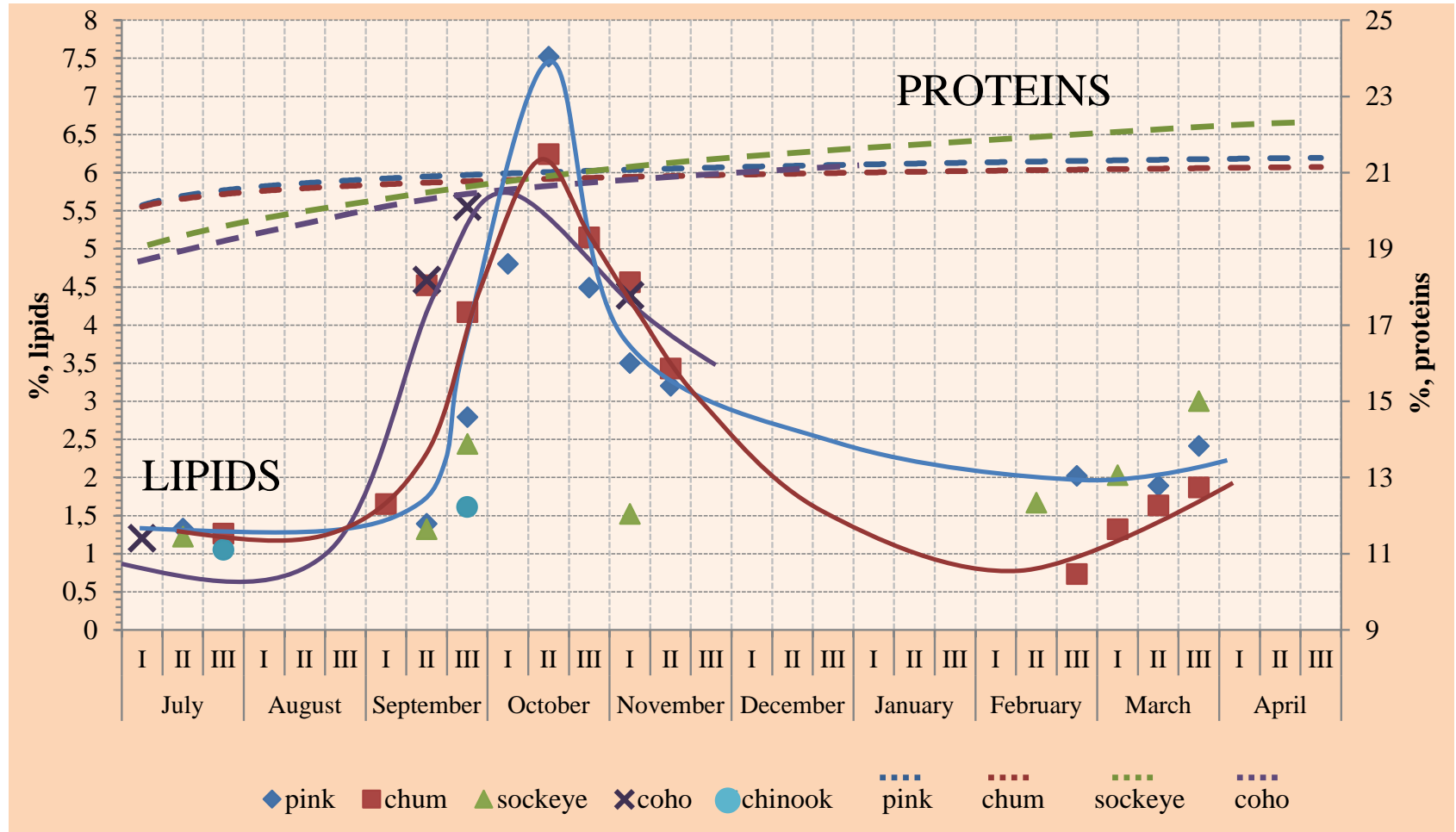


*O. nerka*

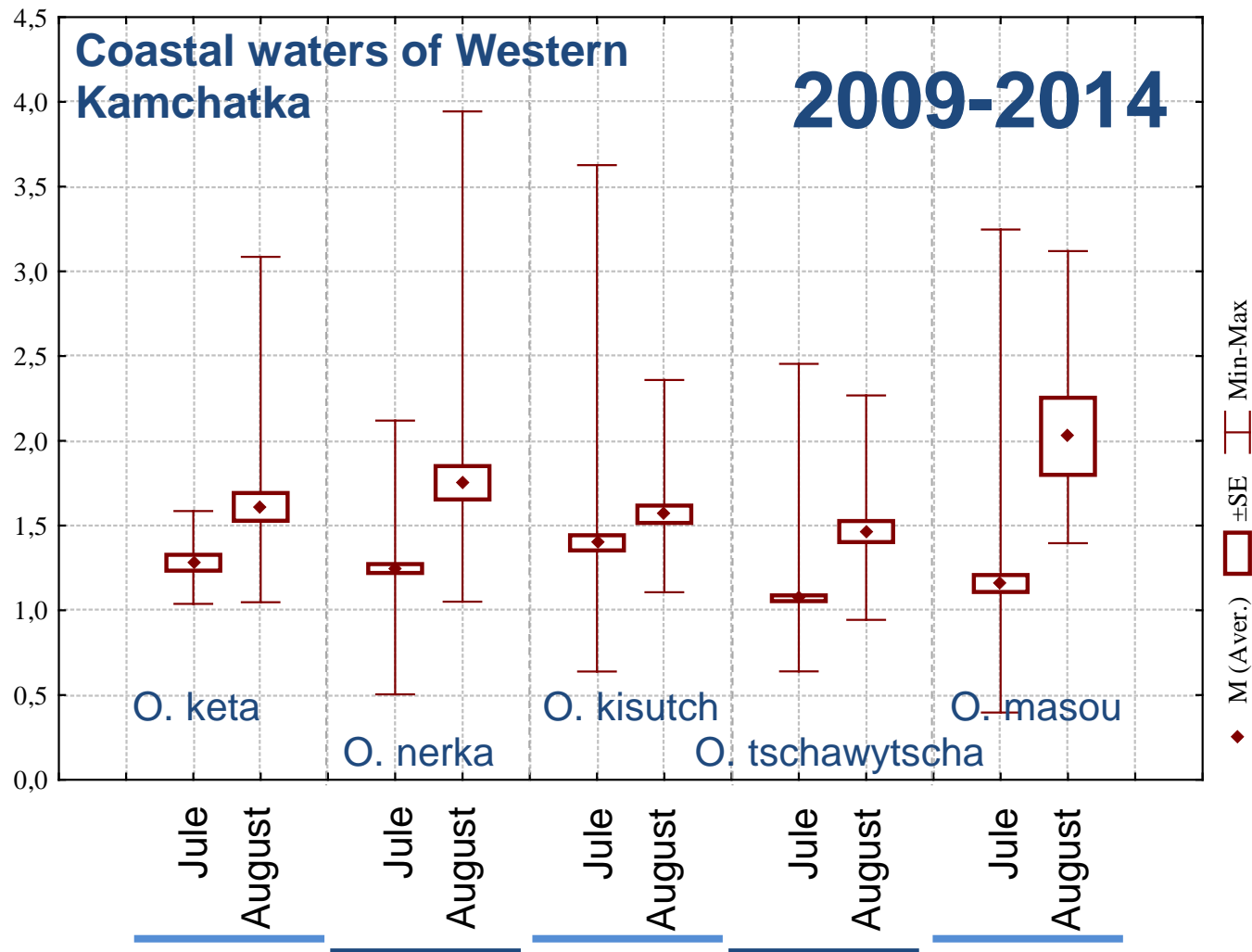


*O. kisutch*

# Seasonal dynamics of total lipids and proteins in the muscle tissue of juvenile Pacific salmon during migrations in the Okhotsk Sea

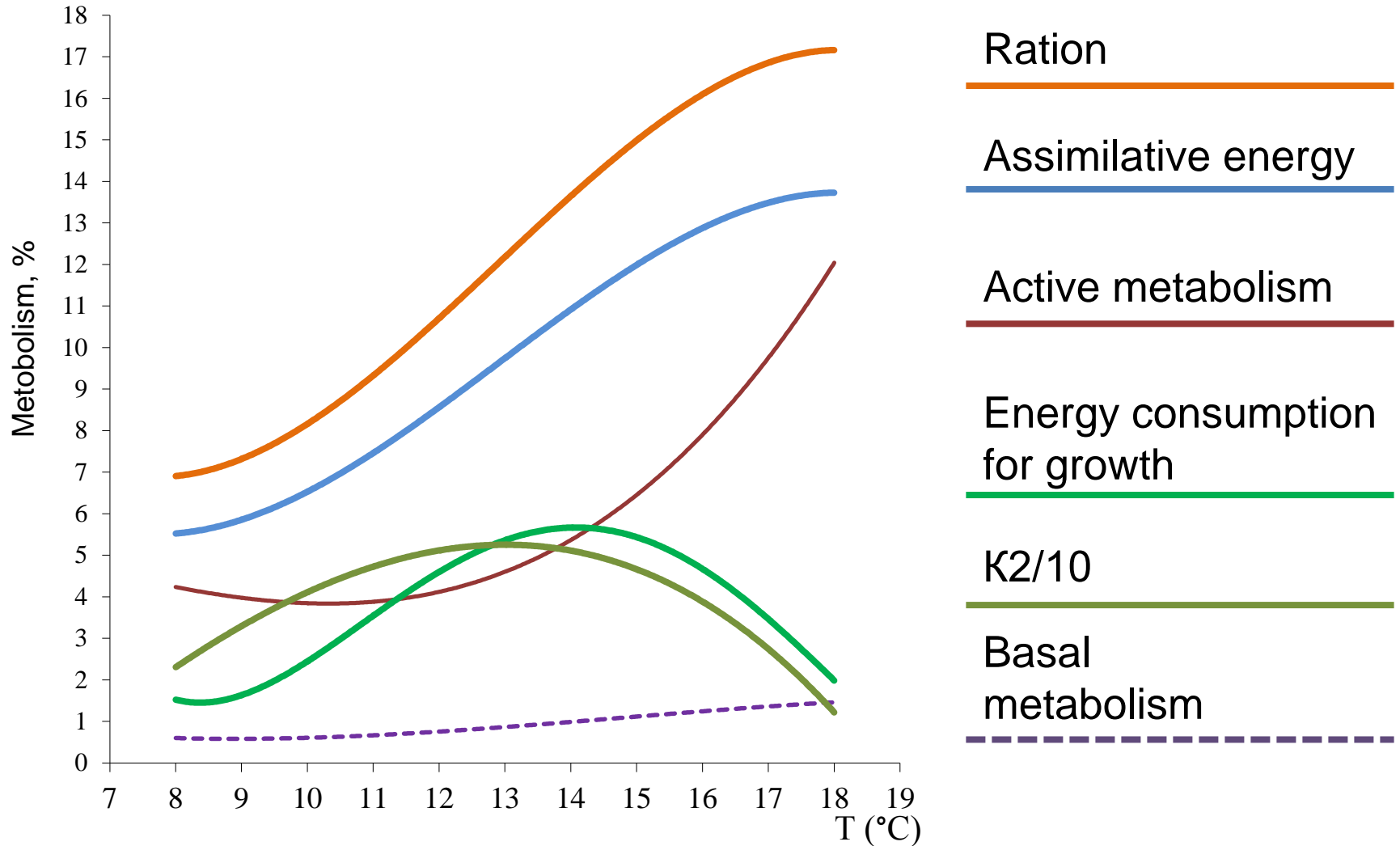


# The long-term dynamics of lipid content in the muscle tissue of juveniles of Pacific salmon

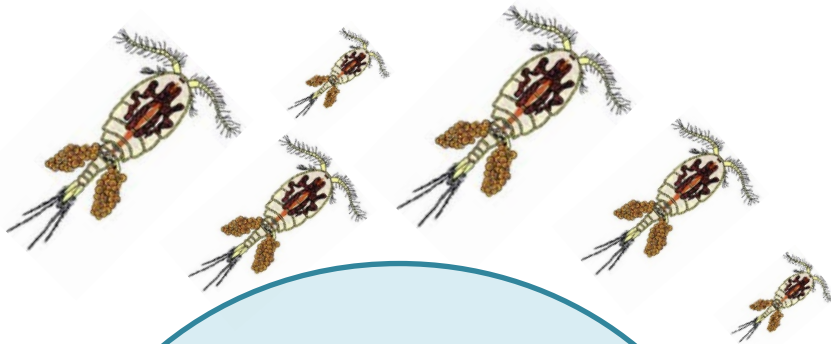




# Trends of empirical dependences of water temperature on somatic growth and elements of metabolism of juvenile pink in the sea basing on the empirical (7-13 °C) and rated modeling (14-18 °C)



# Conversion coefficient ( $K_2$ ) approximate to the physiological side-chapel



## Daily ration

O. gorbuscha – 10%

O. kisutch – 10 %

O. keta – 8 %

from body weight

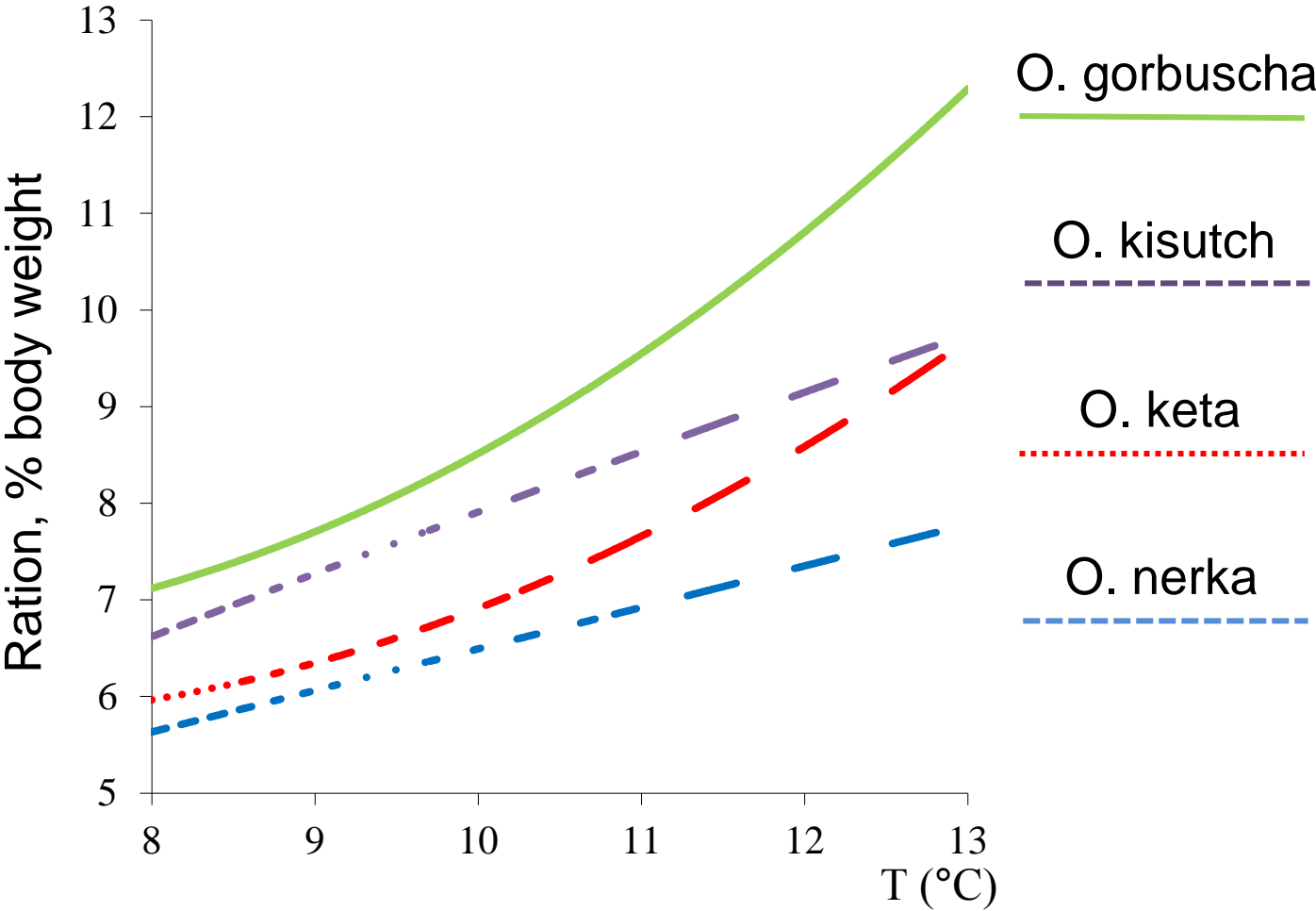


$K_2 \approx 50\%$

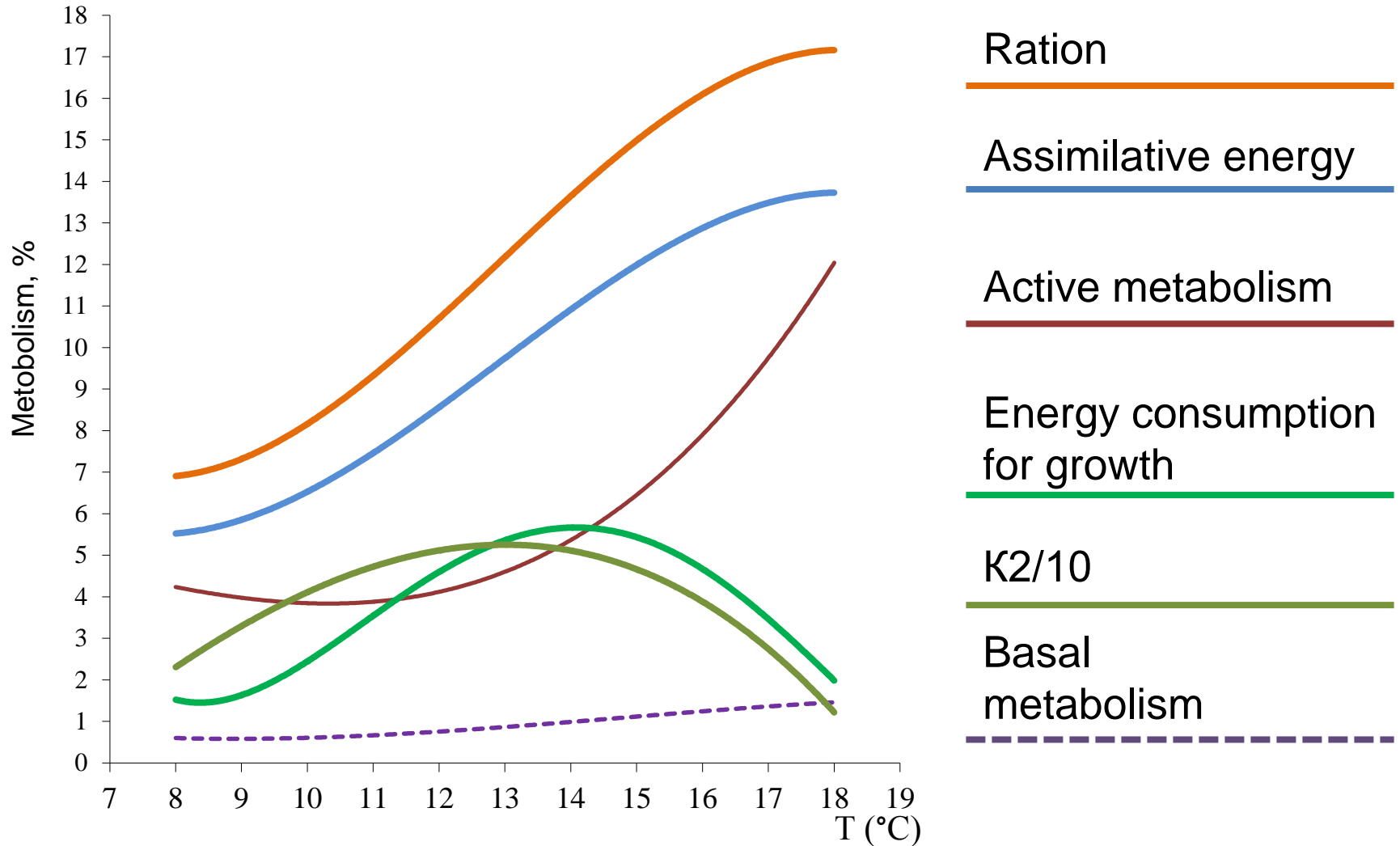
complete renewal  
of the food lump  
per day



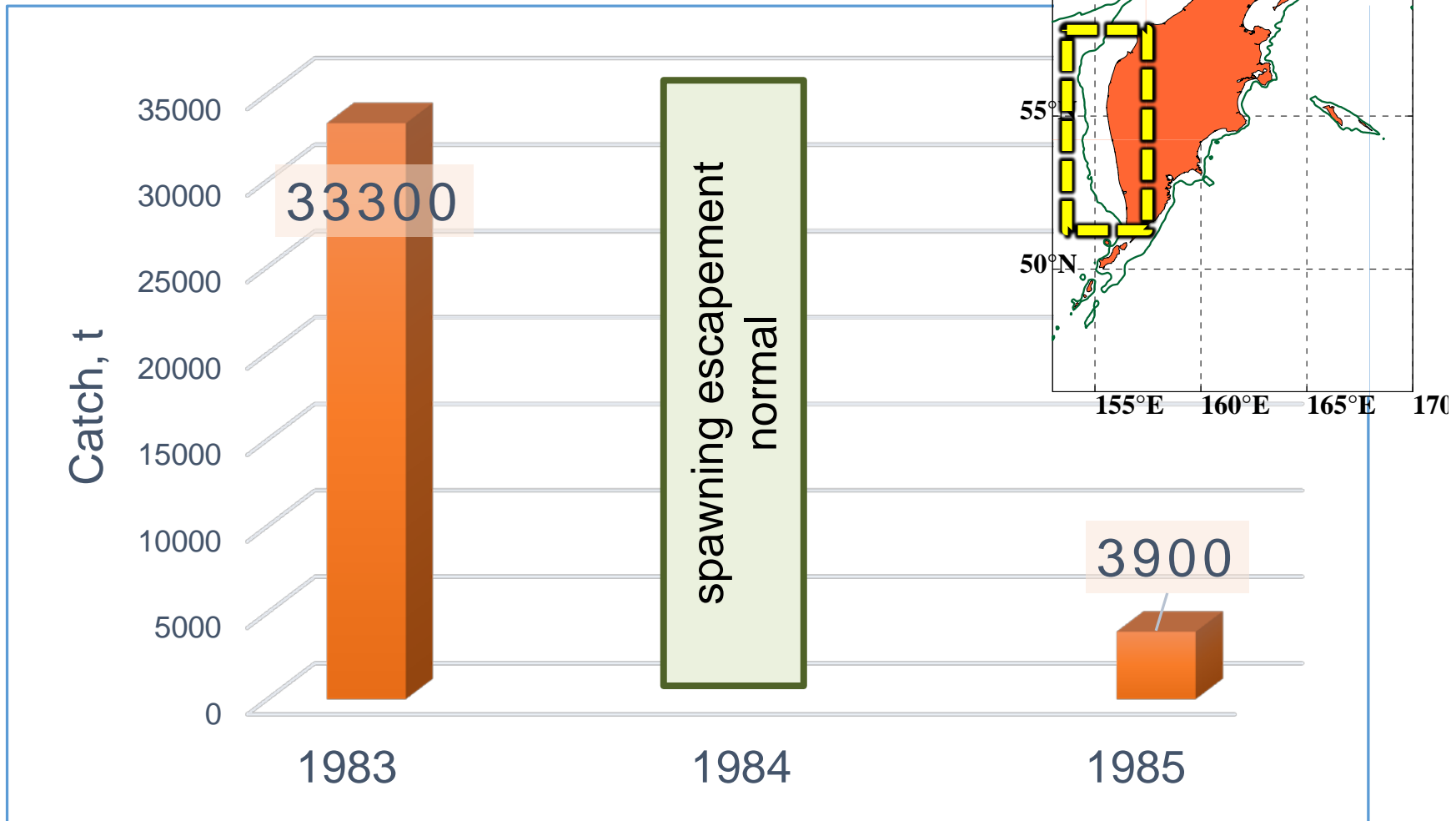
# The relationship between temperature and the juvenile salmon ration



# Trends of empirical dependences of water temperature on somatic growth and elements of metabolism of juvenile pink in the sea basing on the empirical (7-13 °C) and rated modeling (14-18 °C)

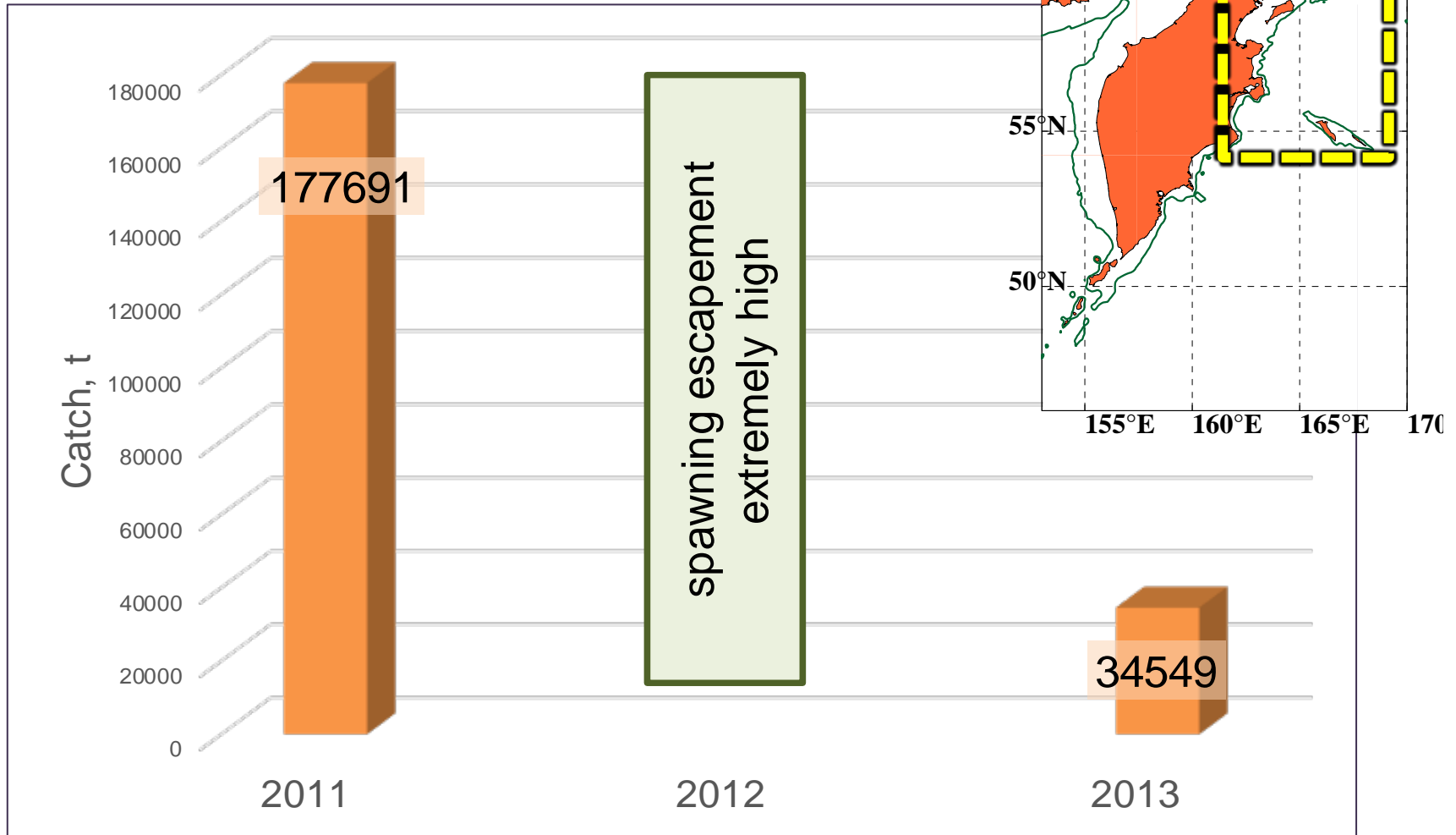


# 1<sup>st</sup> case



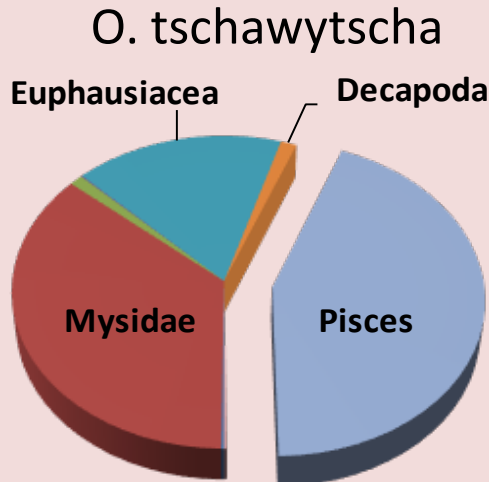
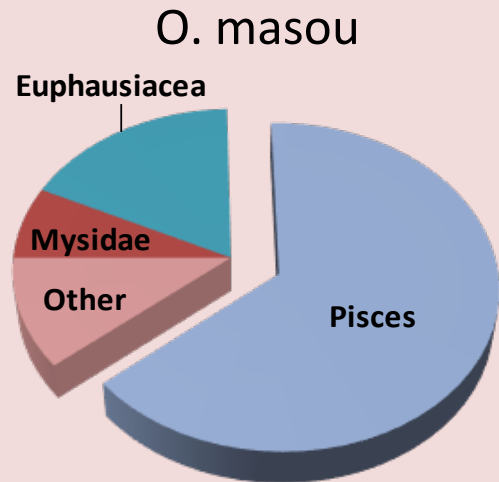
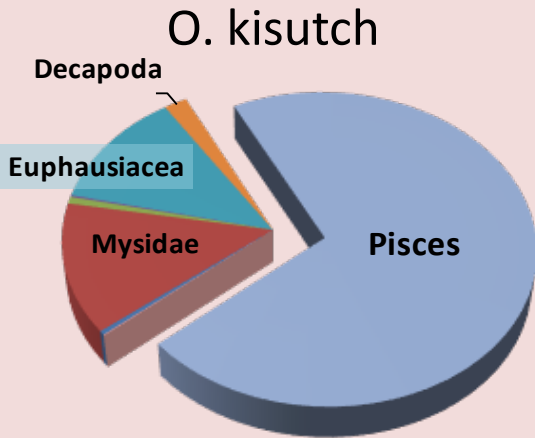
причина

## 2<sup>nd</sup> case

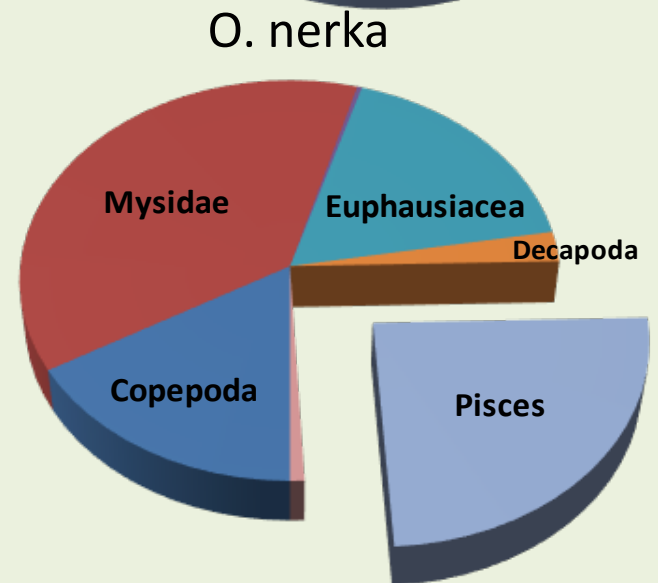
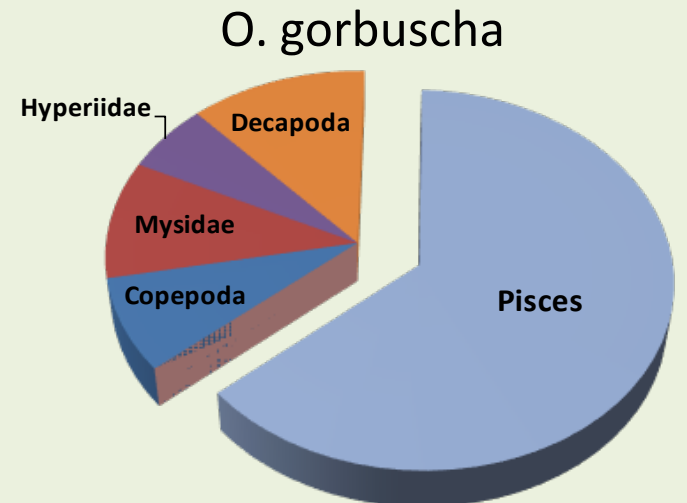
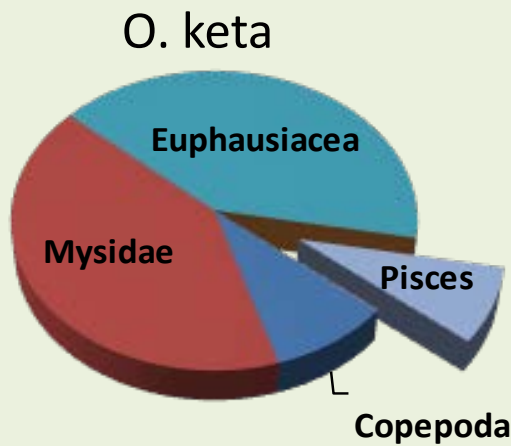


# Power spectrum

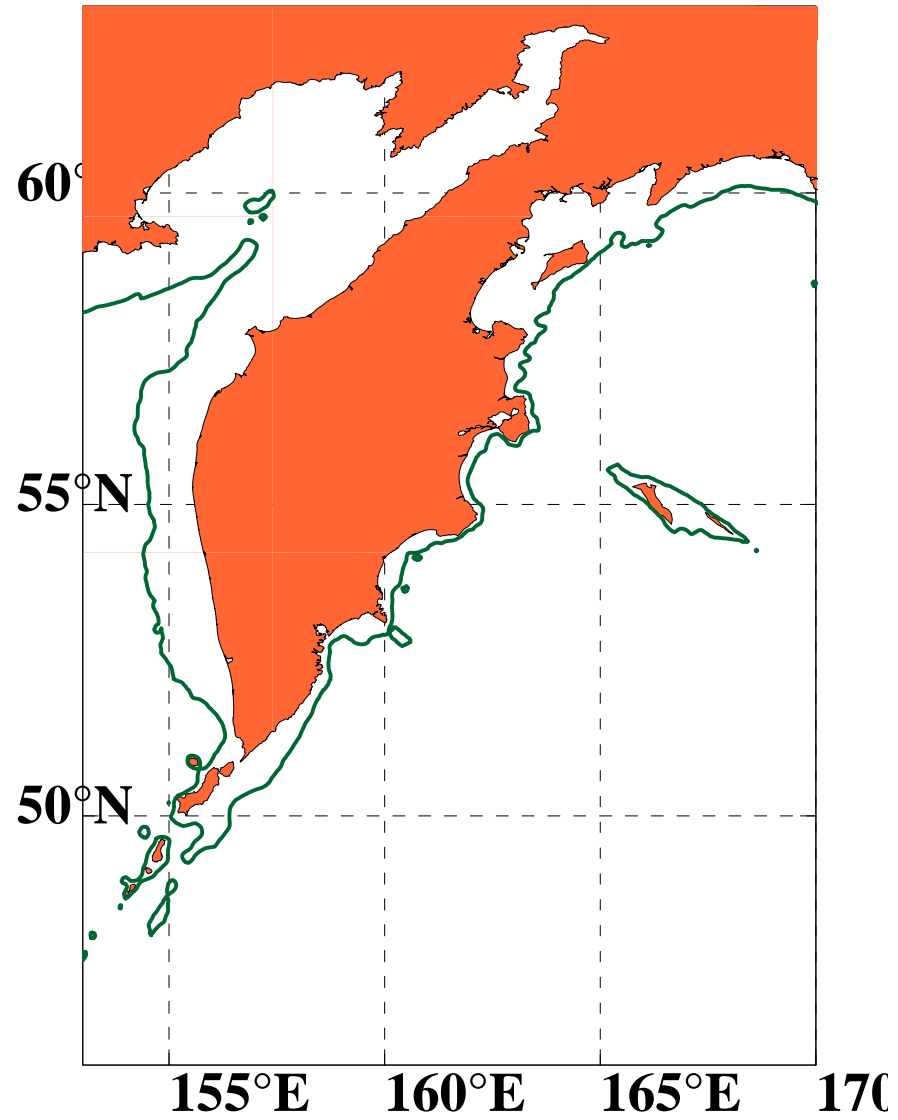
## Predators



## Planktophages



# Shelf zones



# CONCLUSION

The most critical time in the period at sea is the time when smolts leave the river

Period from juvenile emigration from the river and until leaving for the sea from the coastal zone there can take place a scenario under especial terms, where mortality is high

Over developed shelf juvenile salmon get adapted to live at sea in the coastal zone and leave it for the open sea being ready physiologically.

Narrow shelf makes small juvenile salmon to leave the zone quickly

A photograph of a ship's deck. In the foreground, there is a large yellow crane structure. To the left, a white crane arm is visible with the text "MCH. 27 10 2310" on it. The deck is cluttered with various equipment, including a large blue tarp and a pile of ropes. The ocean is visible in the background under a cloudy sky with a faint rainbow. The text "Thank you for attention" is overlaid in the center in a blue, bold font with a white outline.

**Thank you for attention**