

The dynamics of the biomass of the bottom fish major families in the eastern part of the Sea of Okhotsk in 1960-2017



Olga Novikova

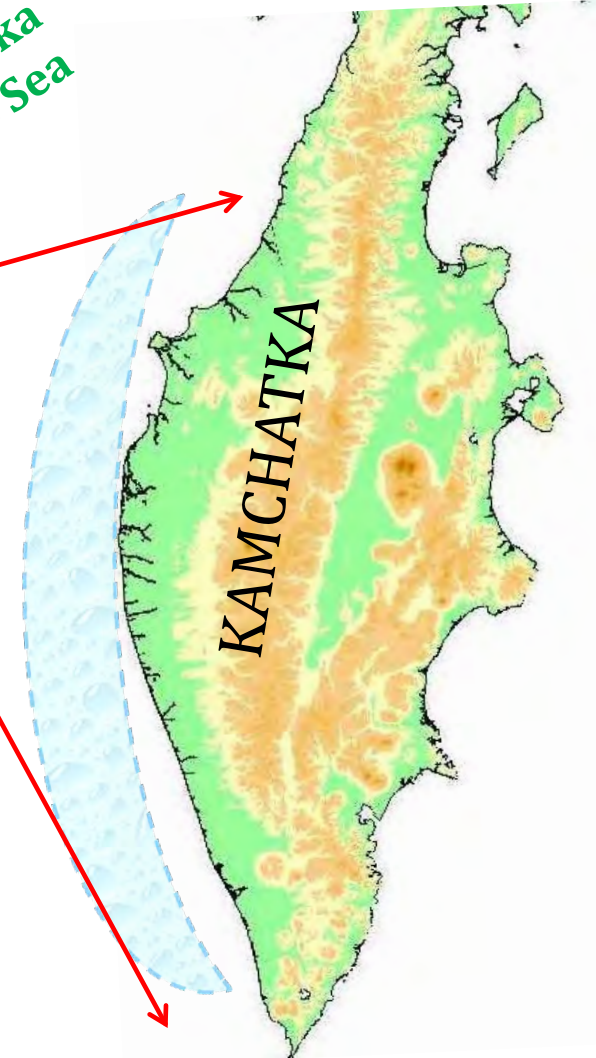
**Kamchatka Research Institute of Fisheries and Oceanography
(KamchatNIRO), Petropavlovsk-Kamchatsky, Russia**





The sample size used.
The data for -1960-2017
Number of tows – 8373

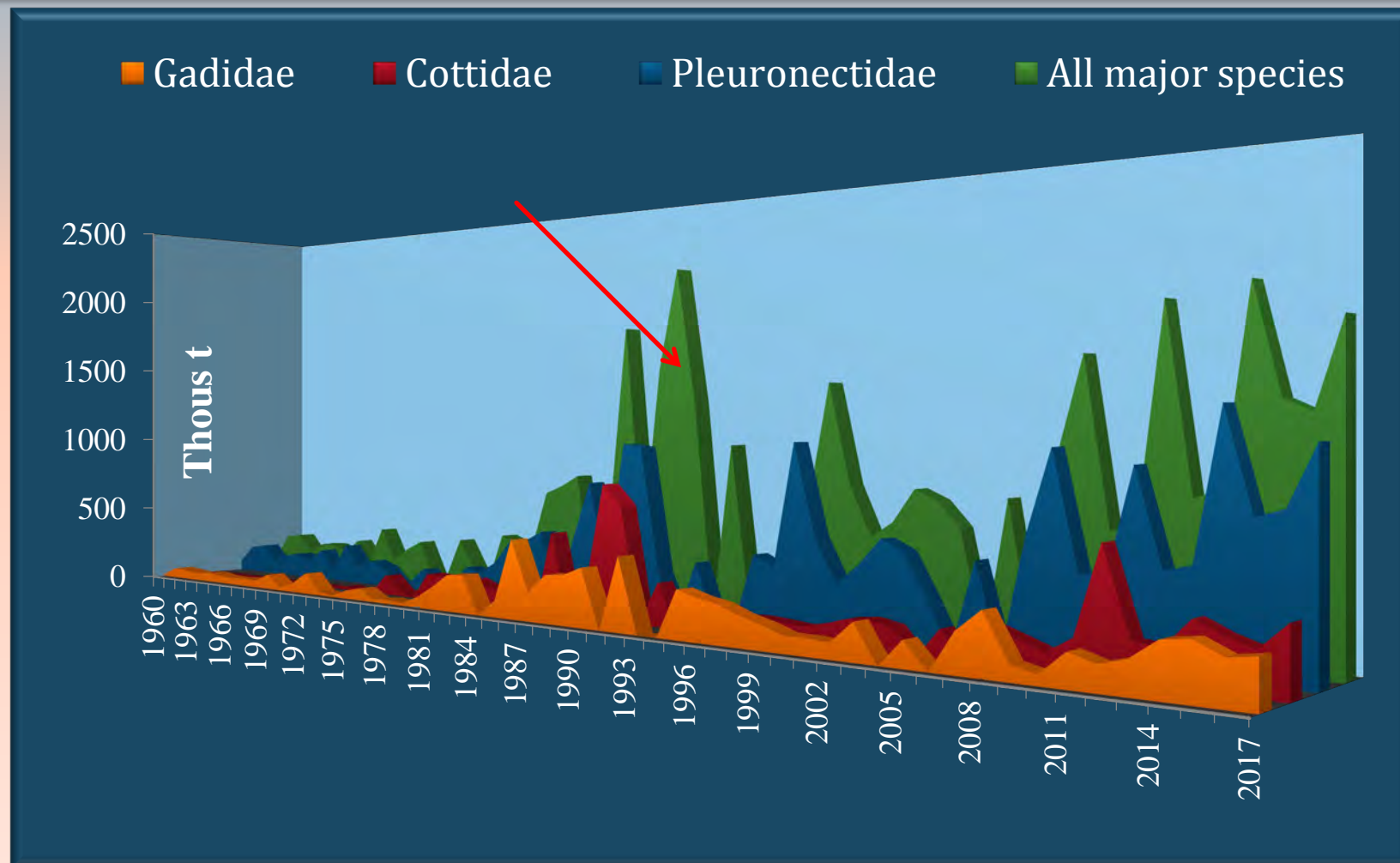
The shelf of West Kamchatka
in the eastern part of the Sea
of Okhotsk



The biomass was estimated on the data
of trawl surveys with using
the GIS «CartMaster».

The dynamics of the biomass of the bottom fish species observed on the West Kamchatka in 1960-2017, (thous t)

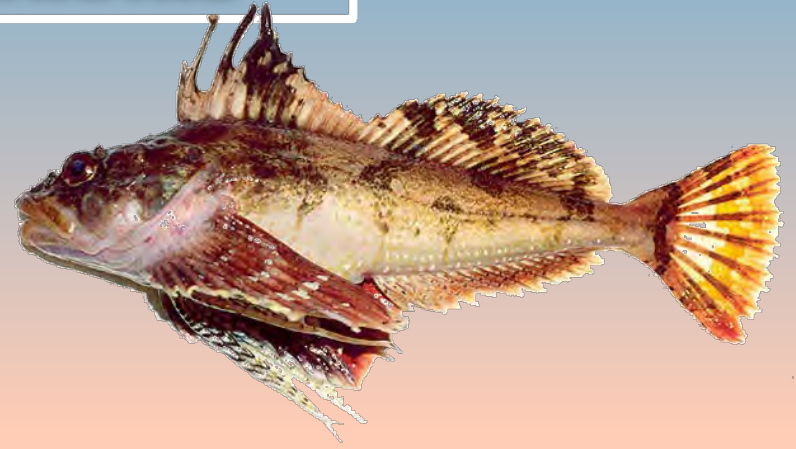
The average annual value of the biomass of dominant families of bottom fish on West Kamchatka in 1960-2017 - 674,7 thous t.



The major species of
Cottidae dominating
on West Kamchatka



Myoxocephalus polyacanthocephalus



Melletes papilio



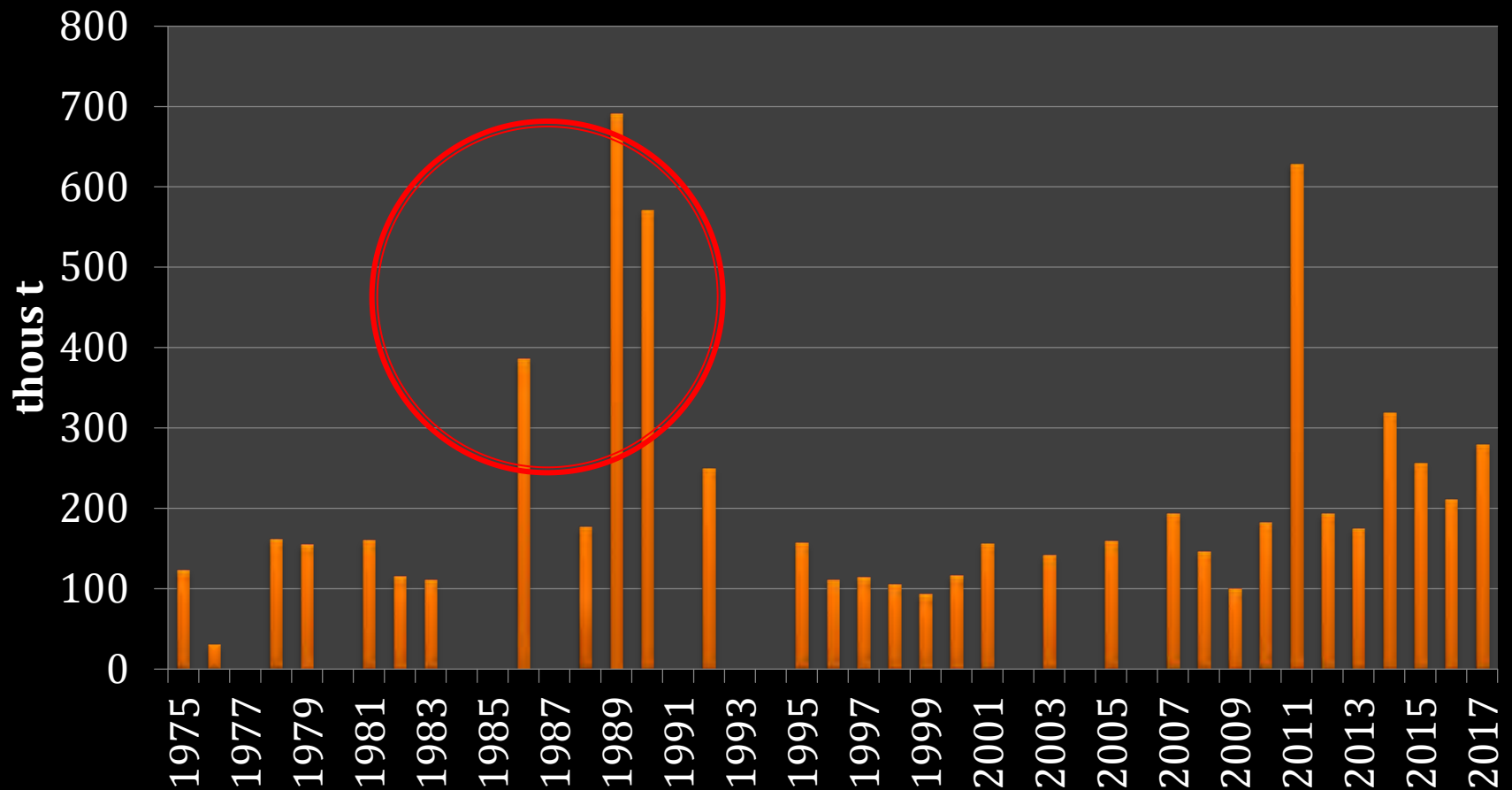
Myoxocephalus jaok



Gymnacanthus detrisus

The dynamics of the biomass of the major species of Cottidae on the West Kamchatka in 1960-2017, (thous t)

The average annual value of the total biomass of Pleuronectidae representatives— 211,7 thous t





Limanda sakhalinensis



Lepidopsetta polyxystra



Pleuronectes quadrituberculatus

The major species of Pleuronectidae dominating on West Kamchatka



Limanda aspera

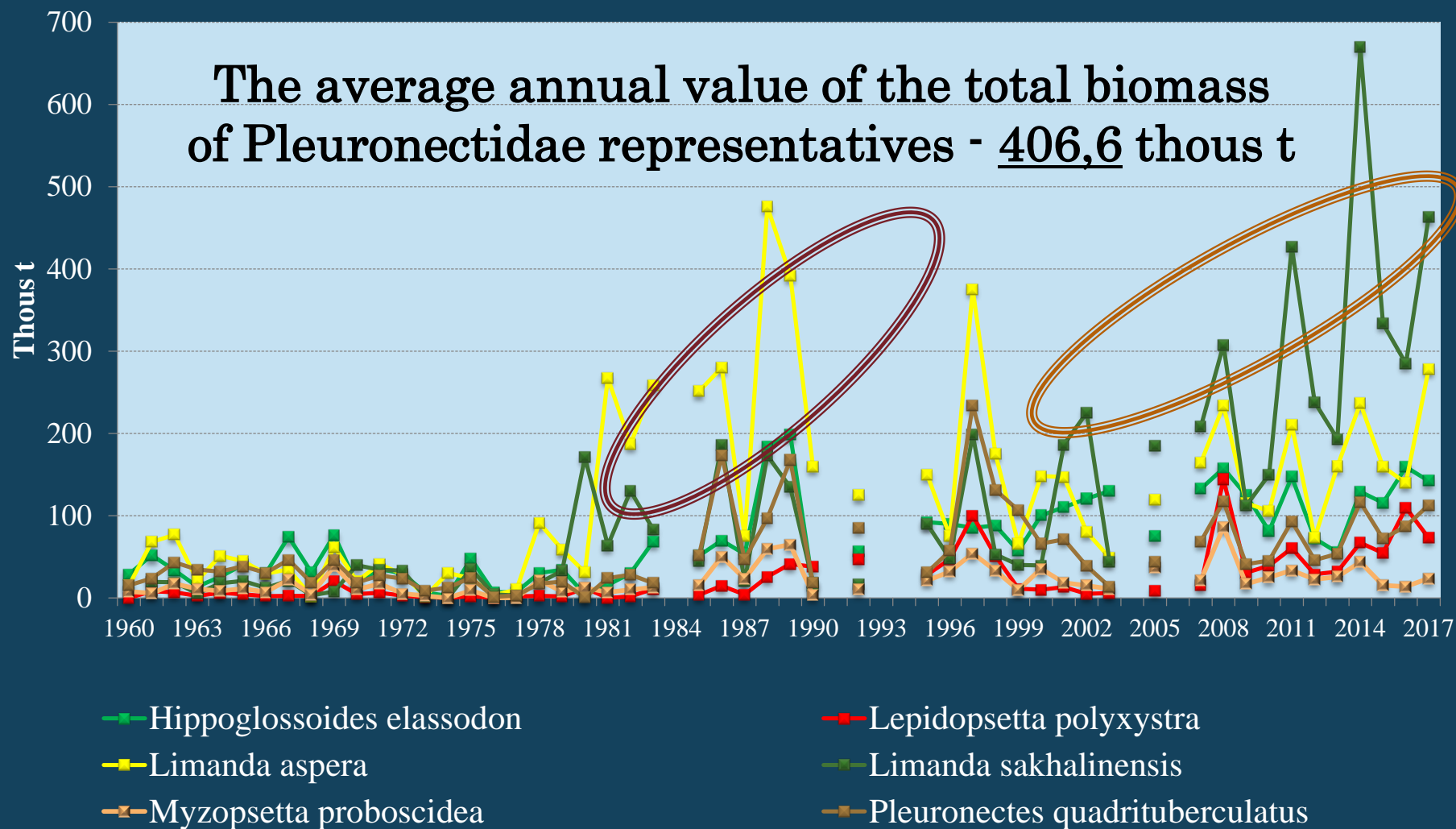


Myzopsetta proboscidea



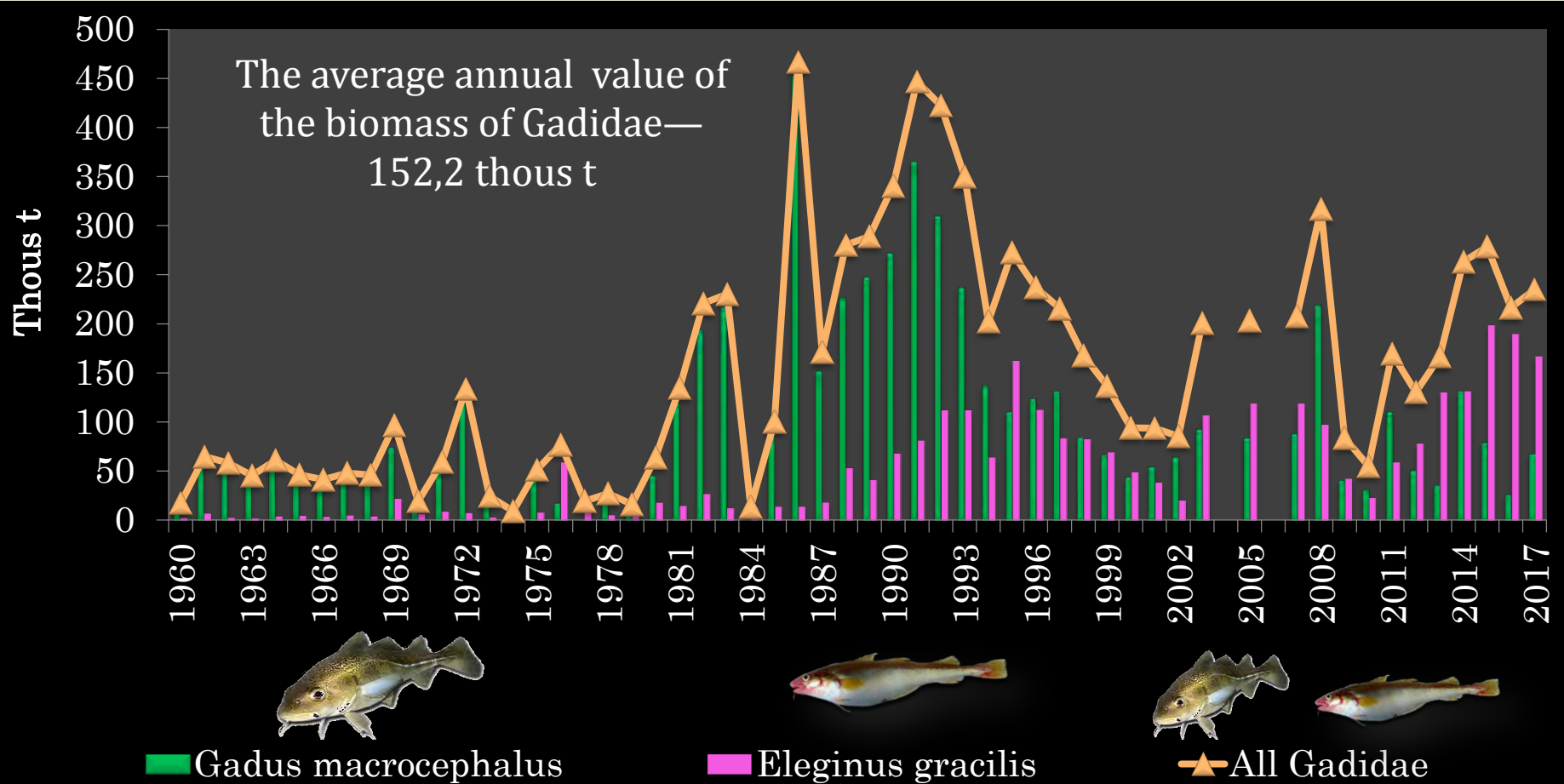
Hippoglossoides elassodon

The dynamics of the biomass of the major species of Pleuronectidae on West Kamchatka in 1960-2017, (thous t)

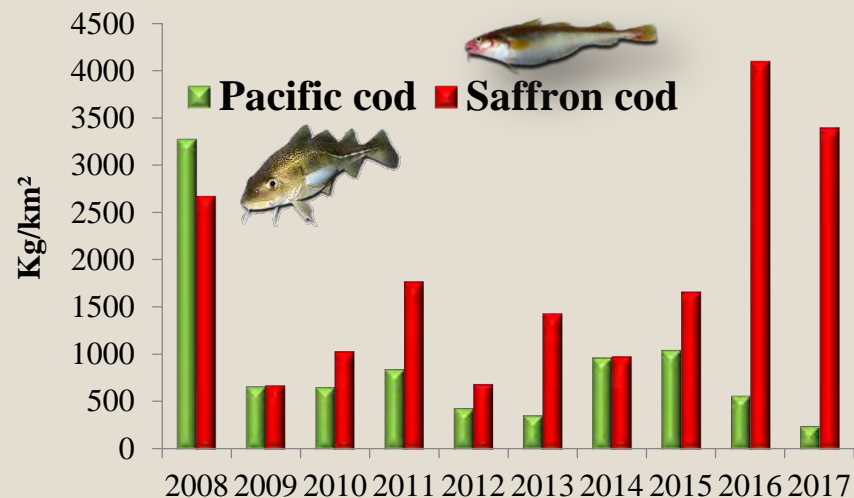
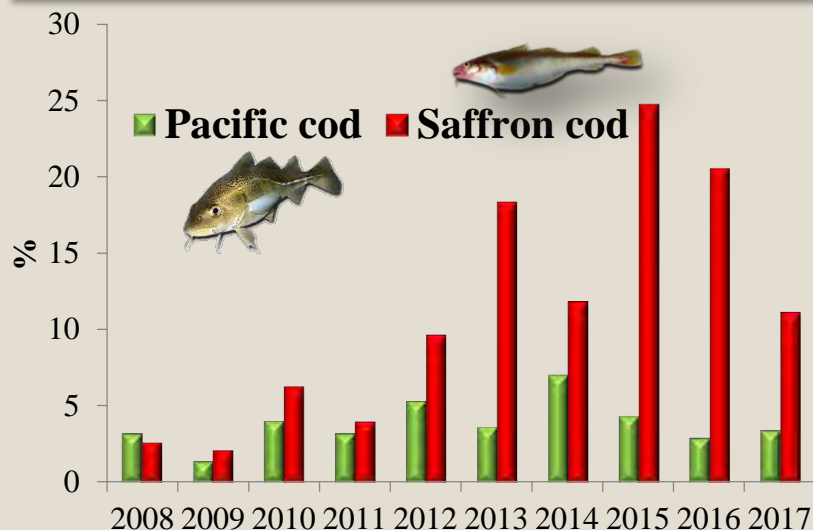


The dynamics of the biomass of Pacific cod and saffron cod on West Kamchatka in 1960-2017, (thous t)

The total biomass of Pacific cod in recent three years (2015-2017) was averaged 58,3 thousand tons, whence saffron cod reached 185 thousand tons.



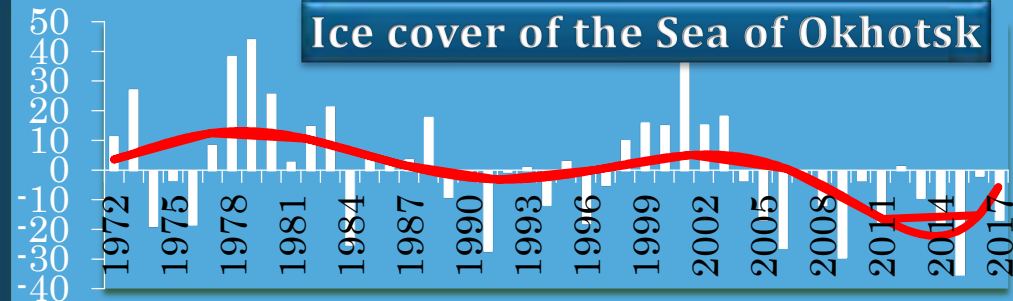
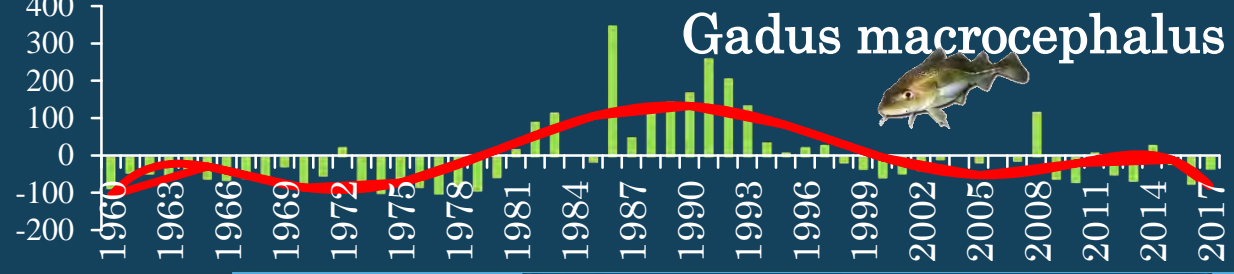
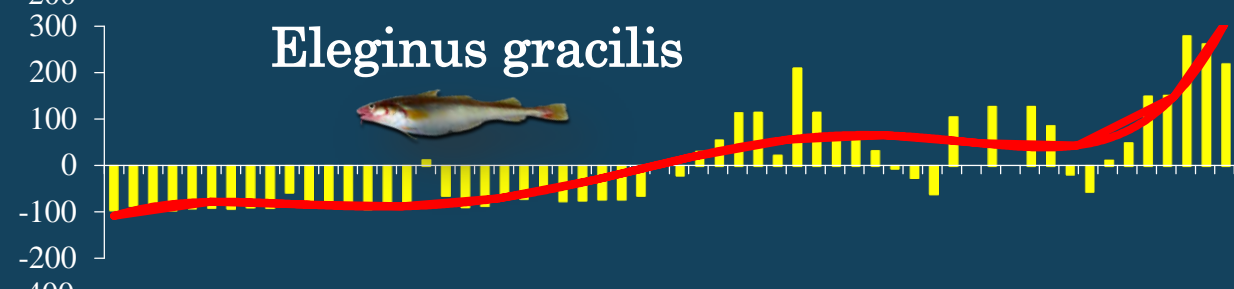
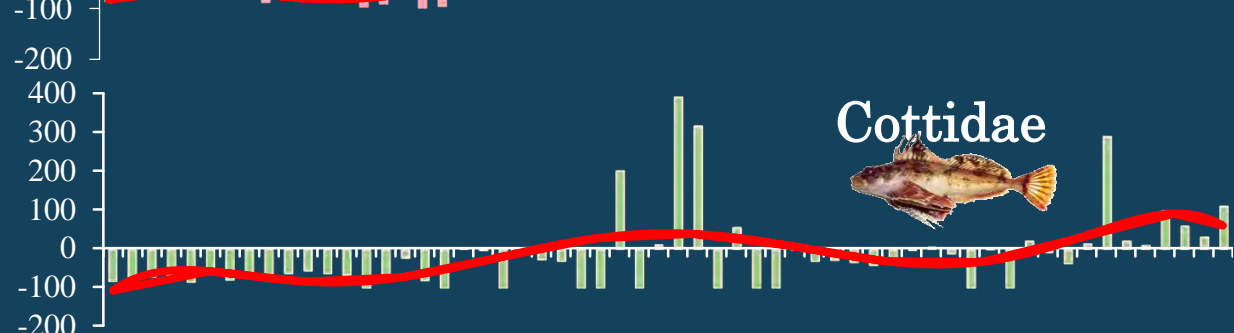
The part (%) and the density of the biomass of Pacific cod and saffron cod on the shelf of West Kamchatka on the data of bottom trawl surveys for 2008-2017.



On the data of trawl surveys the contribution and the biomass density of **Pacific cod** for 2008-2017 was **3,8%** and **908,2 kg/km²** averaged, and of **Saffron cod** — respectively **11,2%** and **1843,2 kg/km²**.

The deviations of the ice condition of the Sea of Okhotsk and the biomass of bottom fish on the shelf of West Kamchatka on the data of trawl surveys for 1960–2017 from the average annual value

In parallel with the decrease in the ice cover of the Sea of Okhotsk (January-March), there was a tendency to an increase in the biomass of flounders, sculpins and saffron cod. The biomass of Pacific cod otherwise increased in the periods of dominant cool processes developing or in the years with temperate hydrological regime.





Conclusion

Results of bottom trawl surveys carried for 1960–2017, confirm, that in the bottom fish communities on the West Kamchatkan shelf three families dominate – Gadidae, Pleuronectidae and Cottidae.

For now the biomass of the bottom fish species on the shelf of West Kamchatka demonstrates trend to growth and approximately reaches the level of which is as 2 times as higher the biomass observed for the 1960–1980s.

Taking into account not high intensity of commercial use of the resource of the bottom fish species (Pacific cod in particular) it can be concluded that the stock fluctuations are still in the corridor of natural dynamics.



A group of dark seabirds, possibly shearwaters, are perched on a white, textured surface. They have dark plumage, red beaks, and white eye-rings. The birds are clustered together, with some looking towards the camera. The background is dark, and there are some white structures visible, possibly part of a building or a nest. The text "Thank you for your attention!" is overlaid in red, bold, sans-serif font on the left side of the image.

**Thank you
for your
attention!**