

International Conference
***Predators and invasive species – a threat or a
business opportunity***
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ROUND GOBY – STATUS AND MARKET DEVELOPMENTS



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AI opinion

- What is Round Goby fish?
- How the fishery of round goby in Lithuania looks like?
- Create a delicious meal featuring round goby fish



- The **round goby** (*Neogobius melanostomus*) is a euryhaline bottom-dwelling species of the fish family Gobiidae.
- It is **native** to **Central Eurasia**, including the Black Sea and the Caspian Sea.
- Round gobies have established **large non-native populations in the Baltic Sea**, several major Eurasian rivers, and the North American Great Lakes.

- Monument of the **goby fish** breadwinner in Berdyansk, Ukraine





Why the Baltic Sea?

What is the impact of round goby to the ecosystem?

How to regulate the stock?

What to do with the fish when it's caught?

First impressions – negative



FISHERY IN LITHUANIAN COASTAL AREA

- ✓ **90 km** of Baltic Sea coast
 - ✓ **Up to 20 m depth** isobath, av. of **3 km width**
 - ✓ **Biodiversity:** fish spawning and migration, bird wintering, migration path
 - ✓ **Active area for:** business and recreation operations
 - ✓ **29 commercial fishing areas** (bars), **50-60 fishery operators**
 - ✓ Fishers get a **transferable right to use fishing gears for the coastal fishery**
 - ✓ **Fishing gears:** fyked nets, traps
 - ✓ **Small-scale fisheries** – 300-600 t/yr.
 - ✓ **Main species:** smelt, Baltic herring, round goby, plaice, sprat, other
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- ✓ **Round goby first caught in the Baltic Sea** in Polish waters in 1990
 - ✓ **Occurred** in Lithuanian coastal waters in 2002
 - ✓ **Registered** in commercial catches since 2010

FISHERY IN LITHUANIAN COASTAL AREA

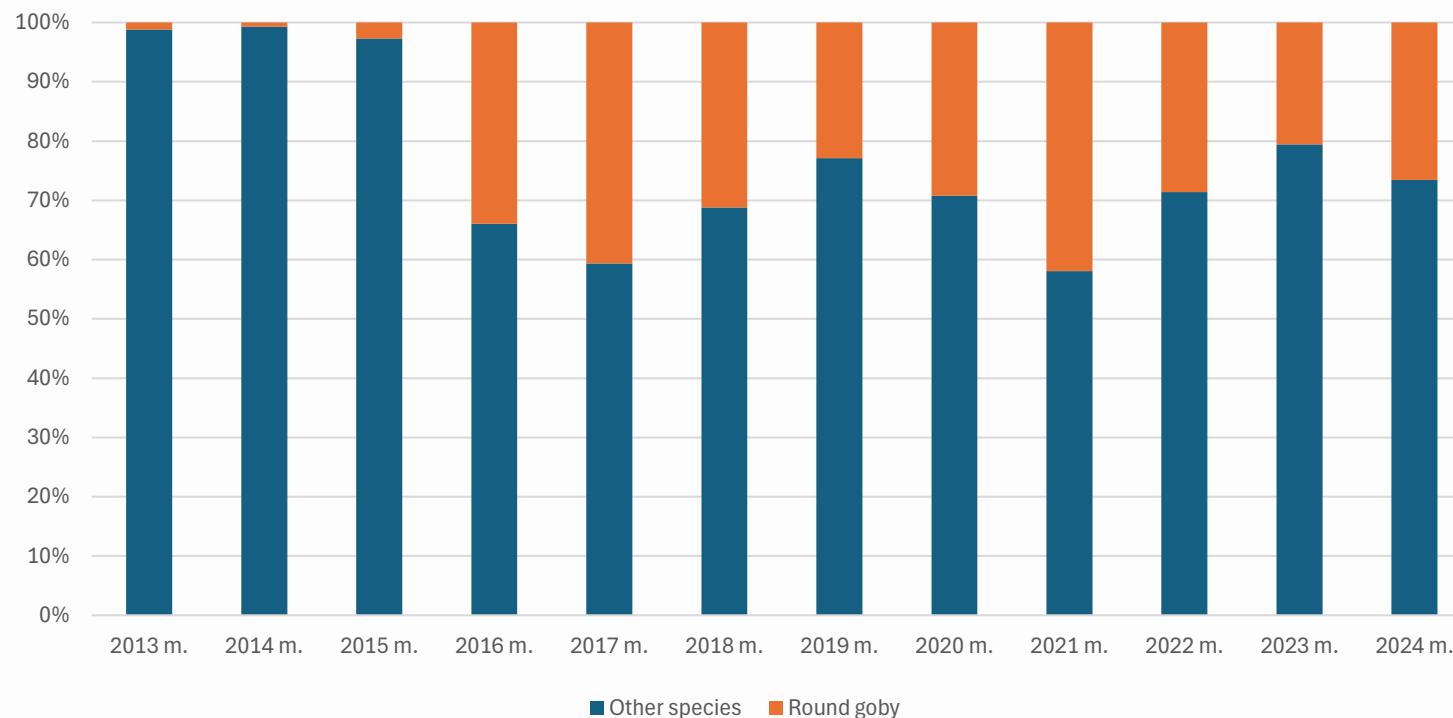


Round goby caught in April 2016 in a large trap at Šventoji

ROUND GOBY IN LITHUANIA

(DISTRIBUTION IN COASTAL CATCHES)

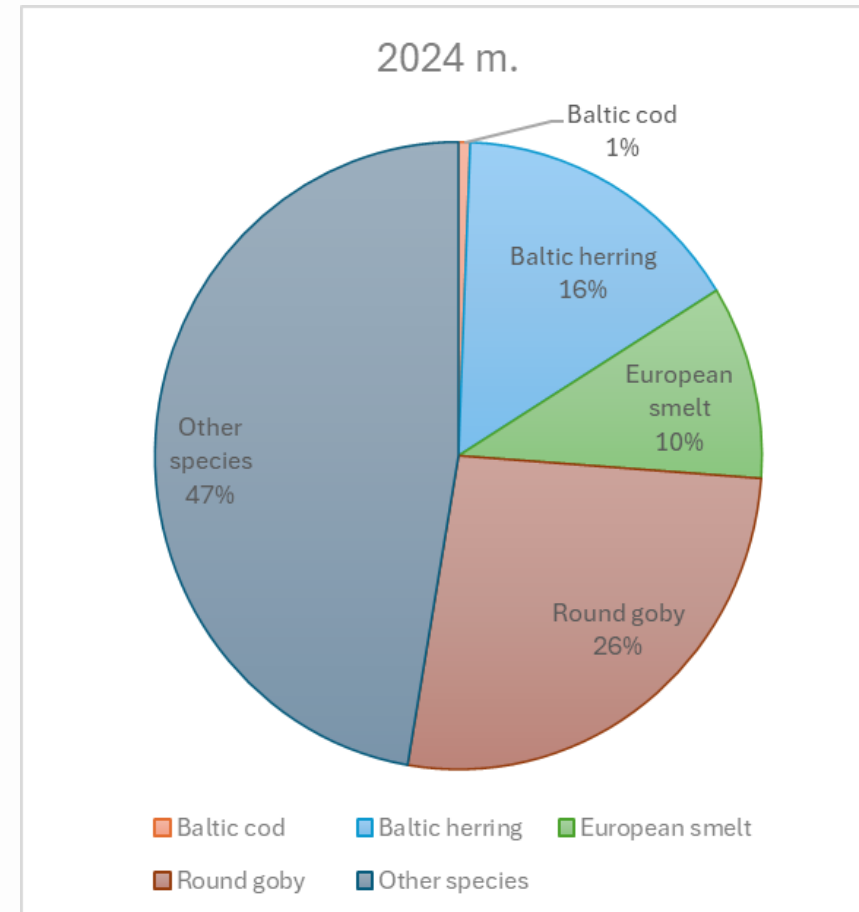
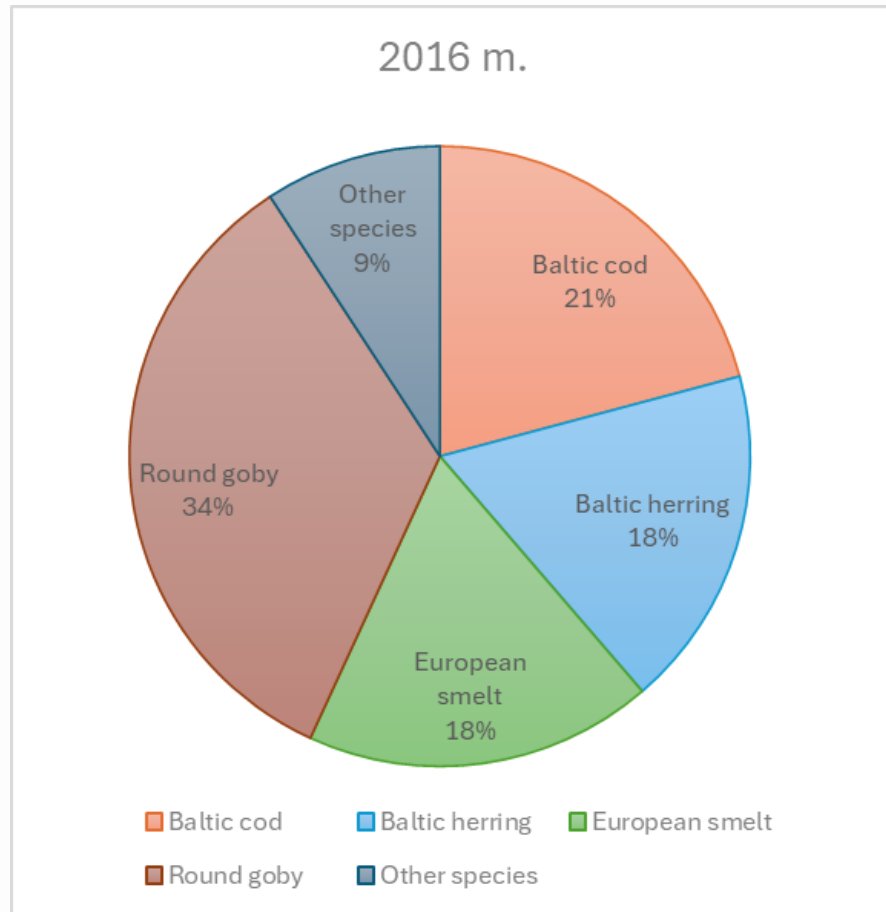
- **Round goby (an invasive species)** – not subject to fishing restrictions
- **Intensive commercial and recreational fishing** promoted – importance in the wake of the cod fishing ban
- **The catches booming since 2016**
- The catches of round goby have **partially replenished the income lost due to the cod ban**
- **The share of round goby** in the coastal area in the total catch was around **42% in 2021 but fell to 21% in 2023 with a rise in 2024**



Distribution of catches of round goby in the Lithuanian coastline for the period 2013-2024

ROUND GOBY IN LITHUANIA

(DISTRIBUTION OF CATCHES OF COASTAL SPECIES)

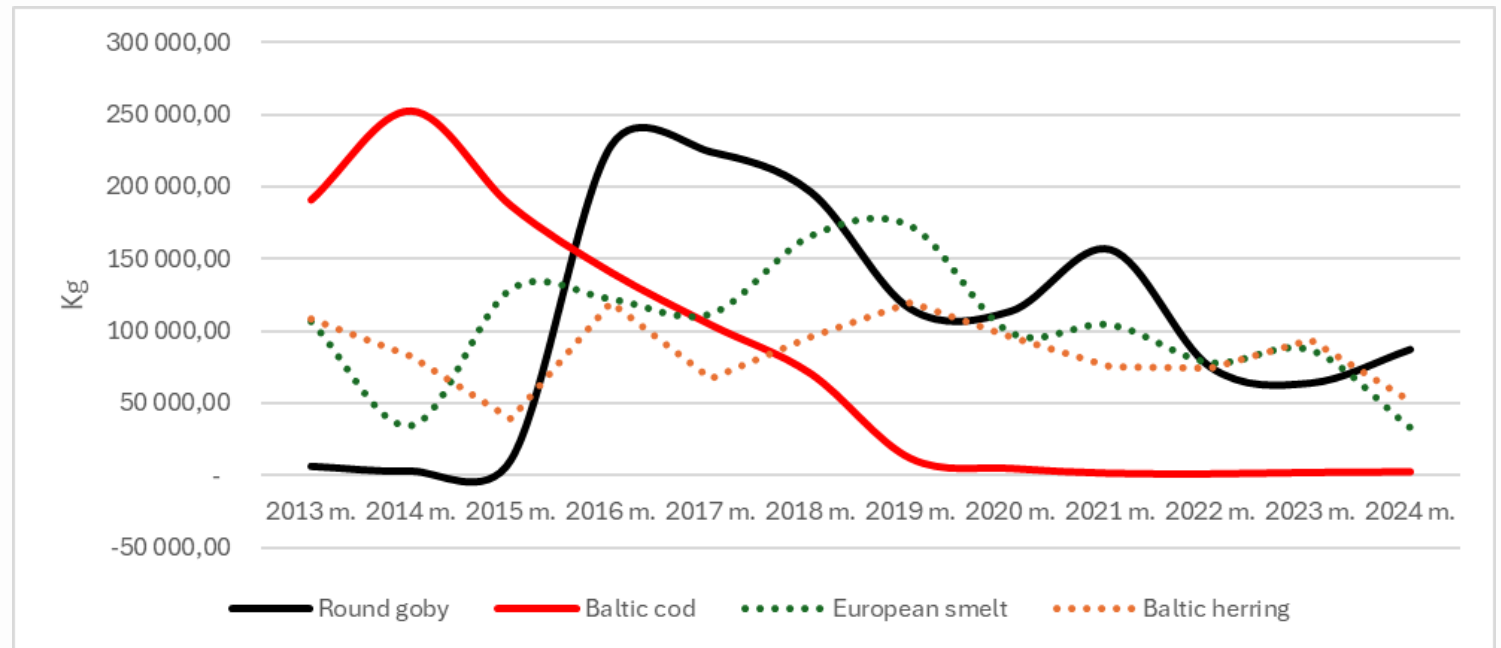


Distribution of round goby catches in total coastal catches 2016, 2024

ROUND GOBY IN LITHUANIA

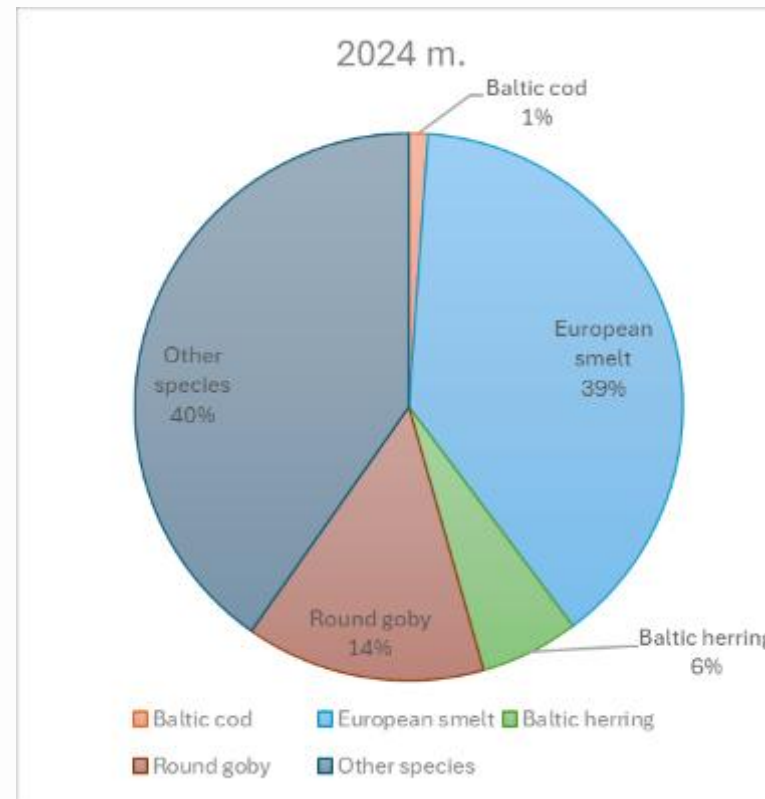
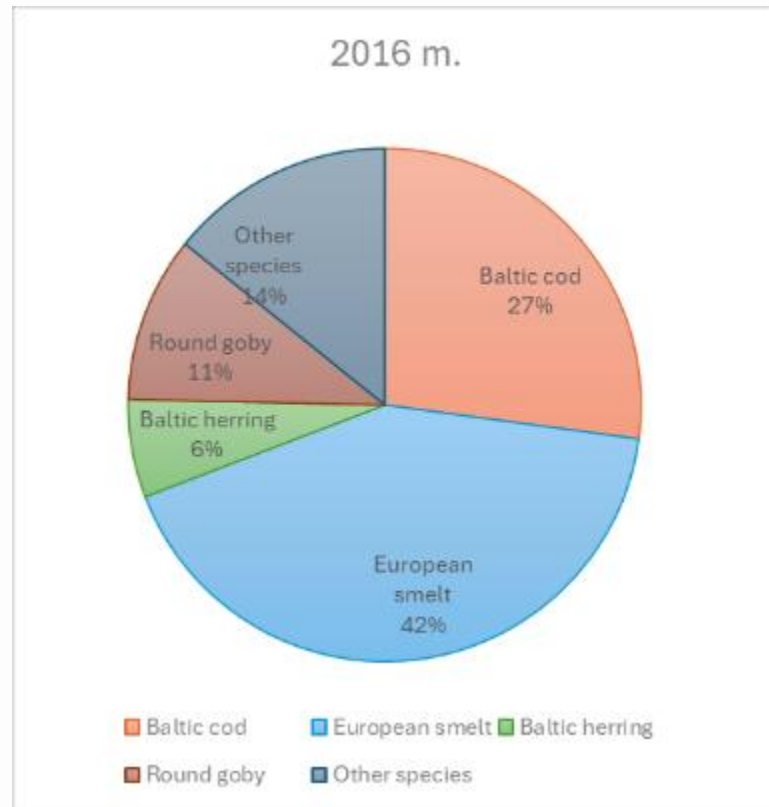
(TRENDS IN CATCH VOLUMES)

- ❑ Catches and landings of round goby have **tended to decline over the long term.**
- ❑ **Decrease by ~72% from 228 t to 64 t.** (2023 in comp. to 2016)
- ❑ **The total catches decreased by 54%** in the period 2016-2023
- ❑ Influenced by **reduced fishing opportunities for the main species** (herring, cod)
- ❑ **Indirect external factors:**
 - COVID19
 - war in Ukraine



Catch volumes (kg) for the main coastal species 2013-2024

ROUND GOBY IN LITHUANIA (ANNUAL VALUE)



! Although catch volumes have declined sharply between 2016 and 2023, **the value of landings increased by 11%**

Distribution of the value of round goby catches in the total coastal fishery catches 2016-2024

ROUND GOBY IN LITHUANIA (FISHERIES SEGMENT)

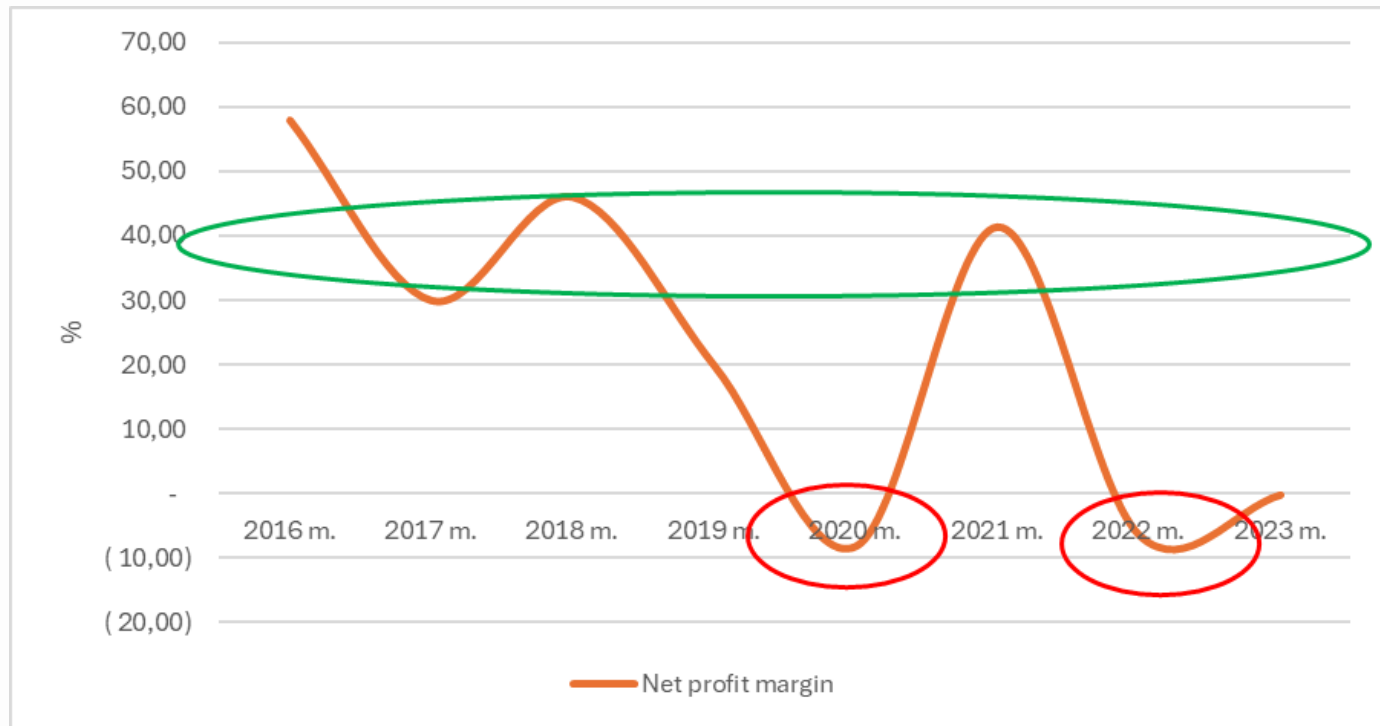


- Several coastal fishing companies specialise in the round goby fishery segment
- 43 coastal area fishers
- 18 fishing for round goby
- **5 companies** accounted for **90%** of the total round goby catch

Profitability indicators for companies in the round goby fisheries segment 2016-2023

ROUND GOBY IN LITHUANIA (NET PROFIT MARGIN)

- ✓ The average annual net profit margin of the round goby segment was **38%** in the period 2016-2019
- ✓ While the average annual net profit margin of **the rest of the coastal fishery** companies –**14%**
- ✓ Net profit margin of the round goby segment **increased to 47% in 2021**, while the rest of the coastal fishery companies suffered losses and had a negative net profit margin



Changes in the net profit margin of companies in the round goby fishery segment between 2016 and 2023

ROUND GOBY IN LITHUANIA (PROMOTION MEASURES TAKEN)



European Maritime and Fisheries Fund (EMFF) 2014-2020, 2021-2027:

- Added value and fish processing (*priority criteria for invasive species*)
- Science and fishers' cooperation (*joint projects on round goby*)
- Reducing impact of commercial fisheries to the environment (*selective gears*)

Scientific research:

- Round goby stock assessment and monitoring
- Recommendations on round goby fishery in the coastal waters (gears etc.)
- Composition, nutritional value and use in human nutrition of round goby

National campaign to promote the consumption of fisheries products 2014-2023 (*incl. round goby*)

Fisheries regulation in the national rules of commercial fishing (*beneficial for round goby fishery*)



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ROUND GOBY IN LITHUANIA (MARKETING OF PRODUCTION)

The landings of round goby are sold to:

- ❖ Lithuanian fish processors for local and export market
- ❖ Large part is sold to fish buyers from Latvia
- ❖ In Latvia, round goby is **processed and exported** (*frozen, canned*) to the **Black Sea region** (Ukraine, Bulgaria) where the species originates and where there is a long **tradition of consumption**






ROUND GOBY IN LITHUANIA (NEW DEVELOPMENTS)

International project „Promoting Commercial Fishing of Round Goby in the Baltic Sea“ (RoundGoby)

- ❖ **Duration** 06/2024 -01/2027
- ❖ **Project Partners:** Sweden, Denmark, Germany, Poland, Estonia, Latvia, Lithuania
- ❖ **LT partners:** Kaunas Technology University and LTD Baltijos konservai
- ❖ Prototyping and upscaling of new, higher value Round Goby food products



-  Developing of **canned food products from minced Round Goby** and testing the production process of the selected products of Round Goby at laboratory scale (KTU, Baltijos konservai)
-  **Pilot production of the selected products of Round Goby at industrial scale** (Baltijos konservai, KTU)
-  **Sensory, microbiological and physico-chemical studies** of pilot products (KTU, Baltijos konservai, GMU, TFTAK, BIOR, other partners)

If you can't beat them, eat them!

PROSPECTS OF ROUND GOBY IN LITHUANIA

(OTHER INVASIVE, LOW VALUE FISH)



Every problem is an
opportunity in disguise.

John Adams

- ✓ National Fisheries Policy measures promoting the fishery, processing, marketing and consumption of round goby
- ✓ Scientific activities and knowledge building, 3-level cooperation
- ✓ Demand in the market (create increase)
- ✓ Shift in the attitude

Thank you for your attention!

