

# ROACH IN LAPLAND -FROM UNWANTED BYCATCH TO MARKETABLE PRODUCT

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EUROPEAN MARITIME AND FISHERIES FUND  
OPERATIONAL PROGRAMME  
FOR FINLAND  
2014-2020

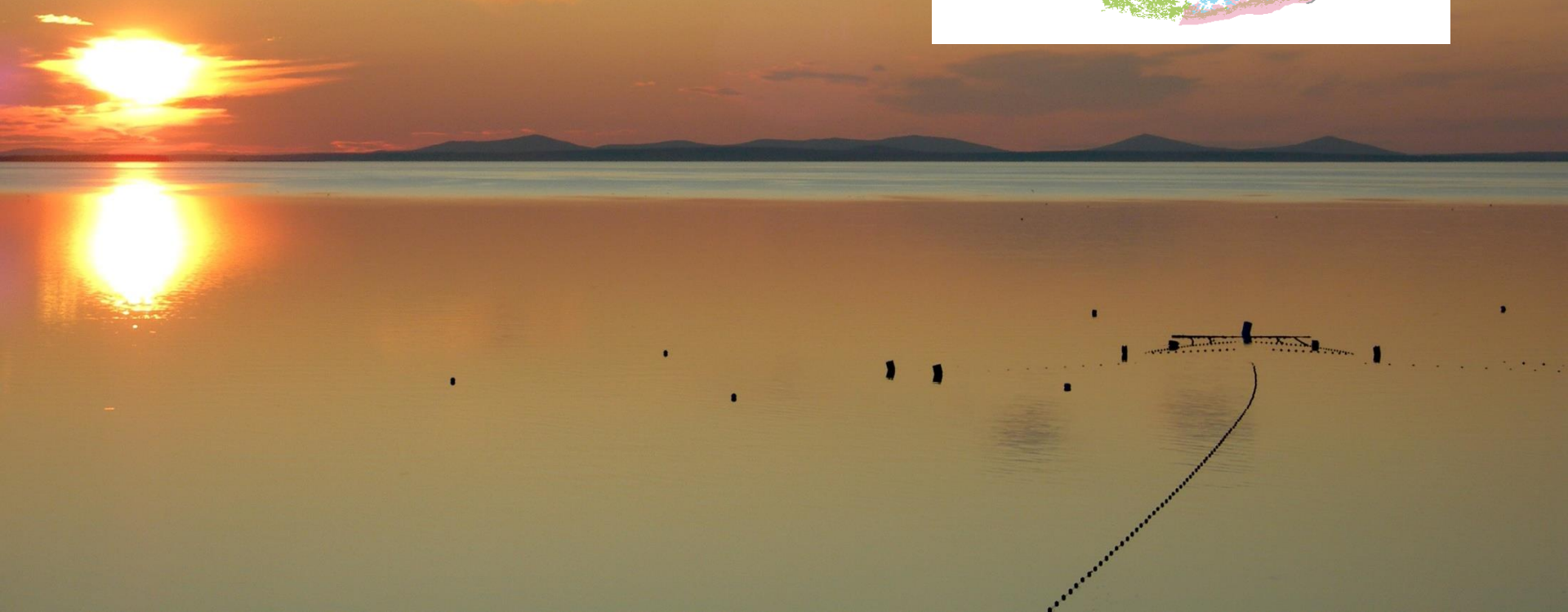
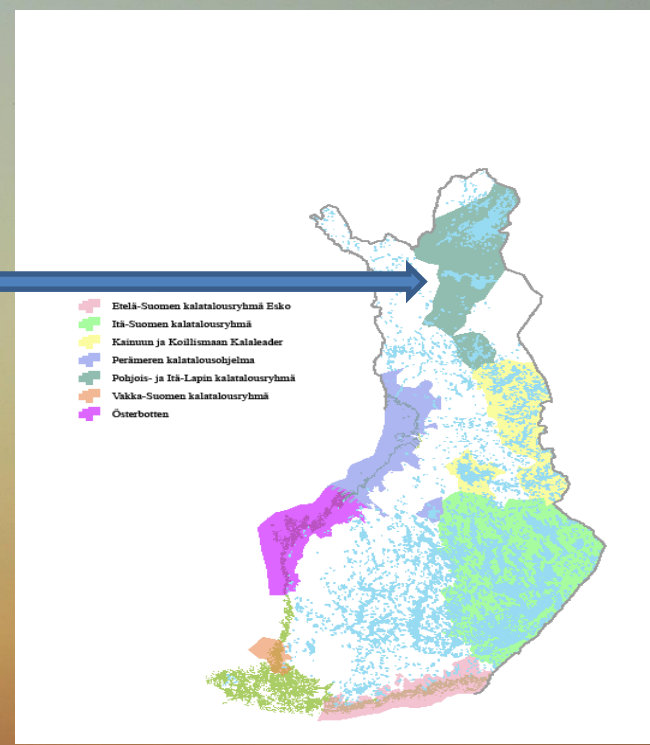


LAPIN KALATALOUDEN  
TOIMINTARYHMÄ



Lake Lokka, beginning of July, midnight

-Municipality of Sodankylä,  
Lapland, Finland:  
two large artificial lakes,  
Lokka 315 km<sup>2</sup> and  
Porttipahta 150 km<sup>2</sup>



There are 20 full-time and 5-10 part-time commercial fishermen working on Lake Lokka, organized as a cooperative. The main fish species are

- perch (*Perca fluviatilis*) May-August (wire fish-trap) 
- pike (*Esox lucius*) May-September (fyke-net) 
- whitefish (*Coregonus lavaretus*) June-October (trap-net, gill net), November-April (gill net) 
- burbot (*Lota lota*) January-March (fyke-net) 
- Fish are prepared for marketing in facilities owned by municipality

(preparing fish, see:

<https://www.youtube.com/watch?v=orvZJ4F2erM> ,  
fishing methods

<https://www.youtube.com/watch?v=vJL2UlpMAPM&feature=youtu.be>)



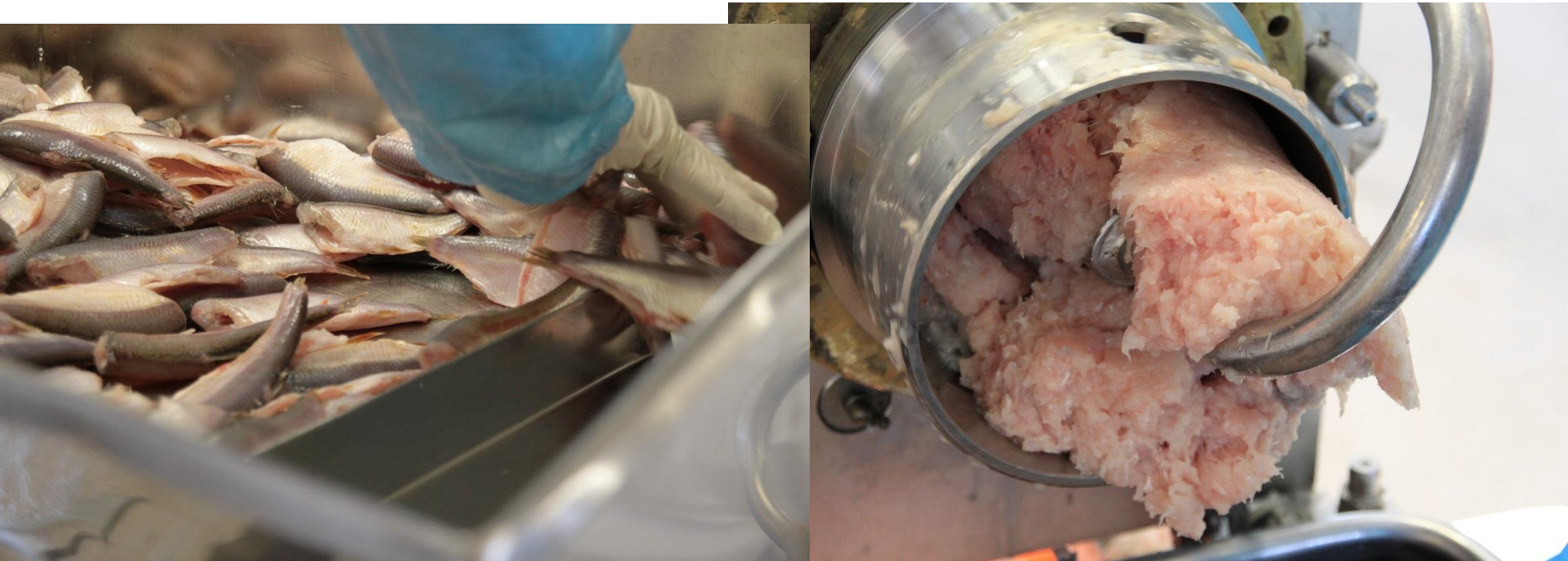
A few years ago by-catches of roach (*Rutilus rutilus*) started to increase, mainly in trap-nets, totaling 100-140 tonnes a year. As there was no market for roach, it was buried into ground.



**NOT SUSTAINABLE, NOT AT ALL!**

# HOW TO UTILIZE ROACH?

After some trials with making pet food, it became evident that the best option would be making minced fish (= homogeneous, boneless mass, a good raw material for making e.g. fish sticks and steaks, and 'fish loaf').



## PROBLEMS TO SOLVE:

Fishermen did not have either the **expertise or machine** to make minced fish for human consumption

Is it **economically profitable** to make minced fish from roach? What about **other species**?

**Legislation**: is it allowed to make minced fish in facilities owned by municipality? Local food authorities said: no – only gutting and making fillets is allowed, not making processed products

# A PROJECT TO SOLVE THE PROBLEMS

**Initiative came from the fishermen's cooperative**

The **project was planned in co-operation** between fishermen, municipality and FLAG, and municipality was willing to be the project promoter

**BEFORE THE PROJECT:** The Finnish Food Authority was consulted, and the answer was clear: it is allowed **to make raw, minced fish, but not any processed, ready-to-eat products** in facilities owned by municipality -> after constructive and successful negotiations with local authorities, fishermen's coop got a permission to make it in Lokka

## OBJECTIVES OF THE PROJECT (2017-2019):

- To train the fishermen to make minced fish from roach properly and examine the effort needed
- To examine the economical profitability of making minced fish and test the demand in market
- To make hygienic tests of the product
- To test some other fish species

**ADDED VALUE, SUSTAINABLE USE OF RESOURCES, IMPROVED SKILLS**

**Total costs** 25 774 EUR (90 % EU+national, 10 % municipality)



## PRELIMINARY RESULTS:

- Making minced fish from roach is profitable, as the prize of gutted roach is very low or nil, but there is a market for minced roach : a lot of added value -> fishermen's cooperative has already bought a machine to make minced roach and burbot
- Minced pike or perch is a superb raw material for gastronomic delights, but it is not profitable to make it, as the prize of fillets is so good – the prize of minced fish gets too high for the market

- Demand for gutted burbot is very big in January and February all over Finland, but only in those two months. The burbot catches in Lokka are, however, still good in March. Then it is profitable to make minced burbot, as restaurants in Lappish tourist resorts are willing to buy it.



Pieces of burbot ready to be minced



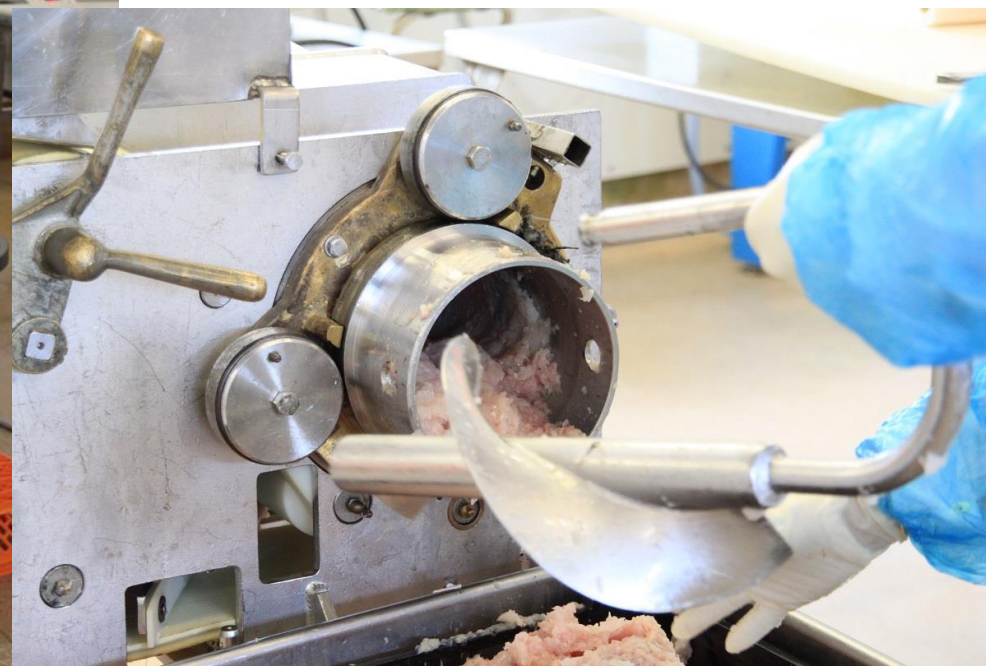
The leftover after mincing



TRAP-NET FISHING FOR WHITEFISH



FYKE-NET FISHING FOR BURBOT



# An example of the basic data for profitability calculations

<b>COMPARISON: PIKE FILLET AND MINCED PIKE</b>				
	<b>PIKE FILLET</b>		<b>MINCED PIKE</b>	
WEIGHT OF UNGUTTED FISH	<b>300kg</b>		<b>300kg</b>	
YEILD OF FILLET / MINCED FISH %	<b>45%</b>		<b>45%</b>	
YEILD OF FILLET / MINCED FISH kg	<b>135kg</b>		<b>135kg</b>	
THE PRIZE FISHERMAN GETS (VAT 0 %)	<b>5,00eur/kg</b>		<b>6,44eur/kg</b>	
<b>TOTAL INCOME FOR FISHERMAN</b>	<b>675,00eur</b>		<b>869,40eur</b>	