



**Landing Obligation 2019:  
What have we learned, what are the next steps?**

*A Science - Policy conference for the closing of H2020 DiscardLess  
project*

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**How does Iceland manage to use  
*approximately* 85% of a cod?**

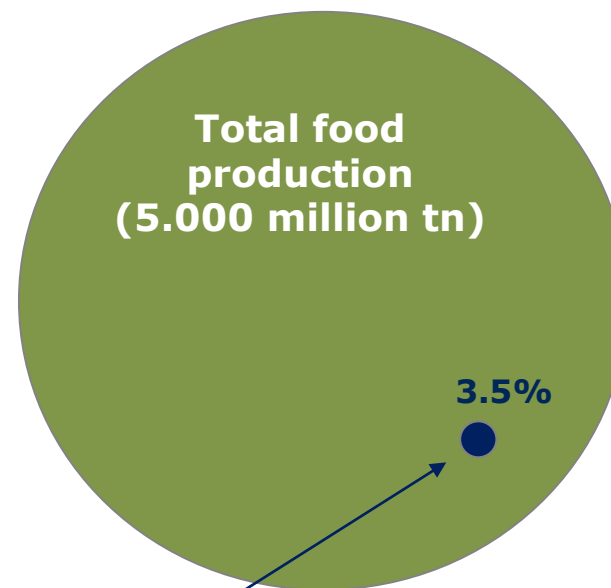
**Jónas R. Viðarsson  
Matis Ltd. Iceland**



# The Big Picture



71% of the world's is covered by water



Total fish production  
(178 million tn)



# The Big Picture

## What of this actually becomes human food?

### Biomass lost as discards at sea 10% on average

- EU finfish discards 20-60% prior to LO

### Utilization in processing of finfish 30-75%

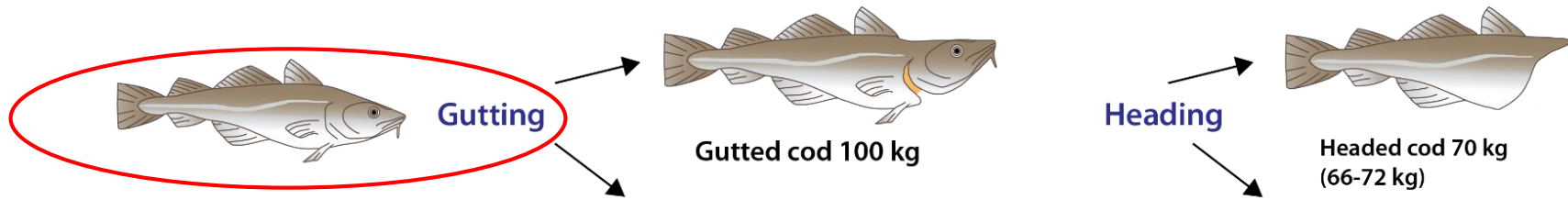
- Common to have 40% utilization for finfish

Biomass wasted in retail & distribution 7%

Biomass wasted at consumer level 28%

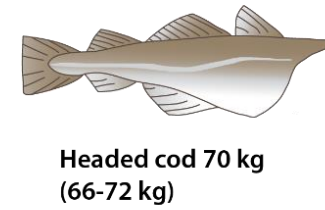
In the end it is only 21% of the catch that is actually consumed



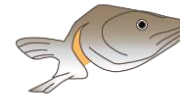


Liver and roes 9-15%  
Milt and viscera 5-15%

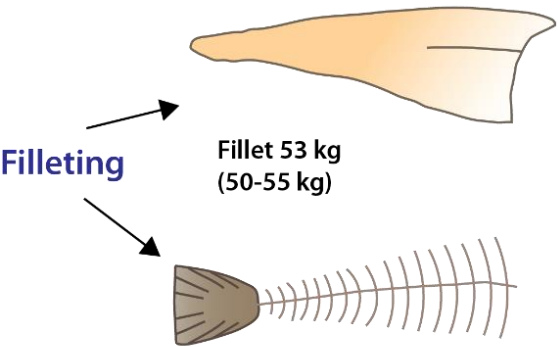
Heading



Headed cod 70 kg  
(66-72 kg)



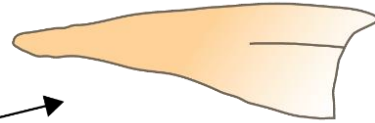
Head 30 kg  
(28-34 kg)



Fillet 53 kg  
(50-55 kg)

Bones 18 kg  
(15-20 kg)

Skinning

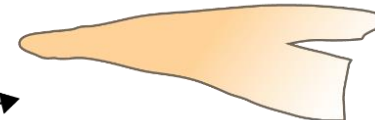


Skinless pbi 49 kg  
(46-51 kg)



Skin 4 kg  
(3,5-4,5 kg)

Trimming



Skinless - boneless 47kg  
(44-49 kg)

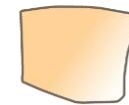


Pinbone & cut off,  
for mince production 1-2 kg

Cutting



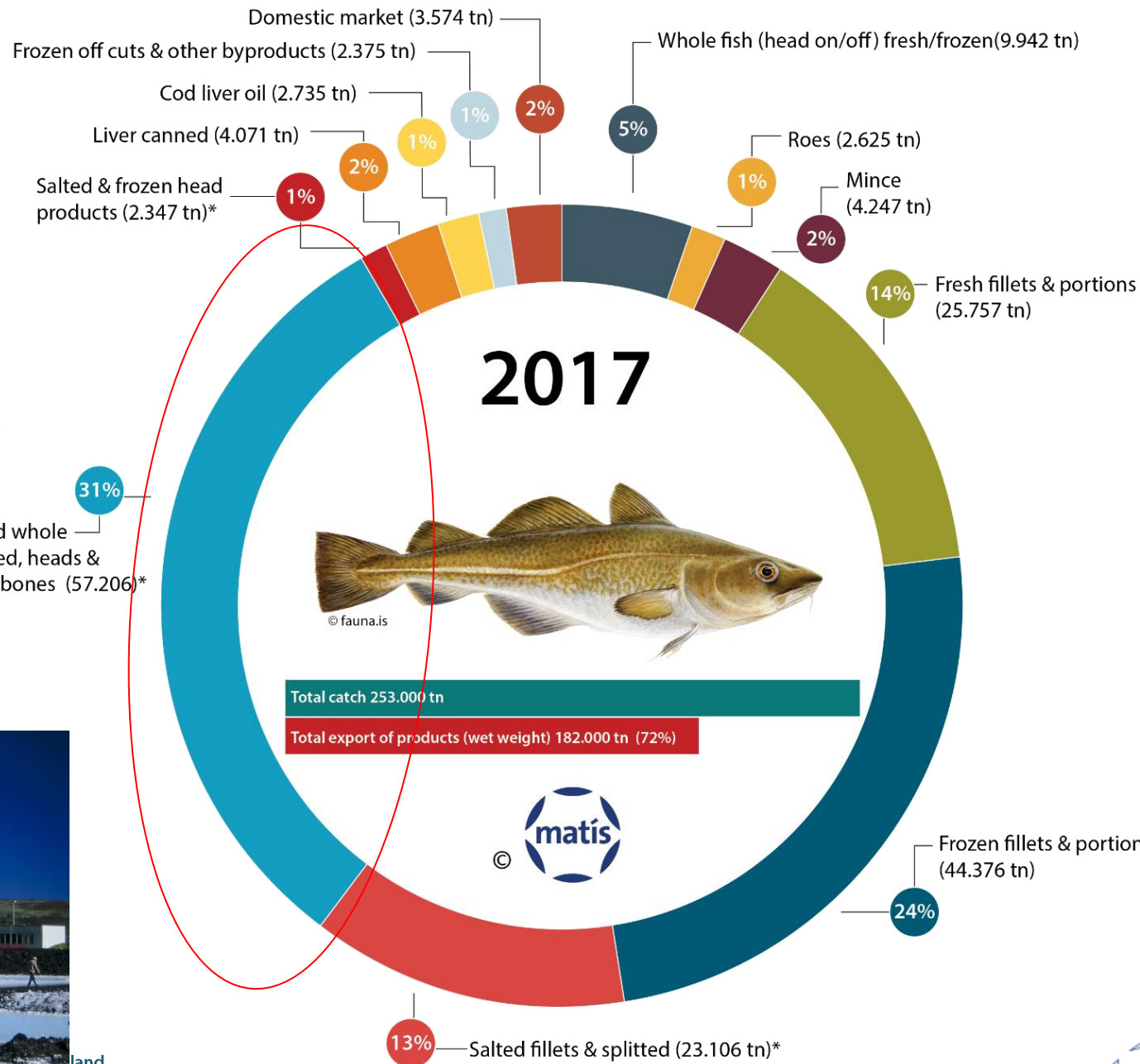
Whole fillet skinless, boneless or cut into portions - loin, centercut and tail 43 kg  
(41-46 kg)



Bellyflap 3 kg

<u>Whole fish</u>	<u>116</u>	<u>100,0%</u>
Roes / Milt	5	4,3%
liver	5	4,3%
Viscera	6	5,2%
Head	30	25,9%
Fraim	18	15,5%
Pinbones & cutoffs	2	1,7%
Skin	4	3,4%
Bellyflap	3	2,6%
Fillet	43	37,1%





- ...also
- Skin
- Viscera
- Swim bladder
- Pharmaceuticals
- Nutraceuticals
- Flavorings
- Collagen
- Gelatin
- Enzymes
- ....



land

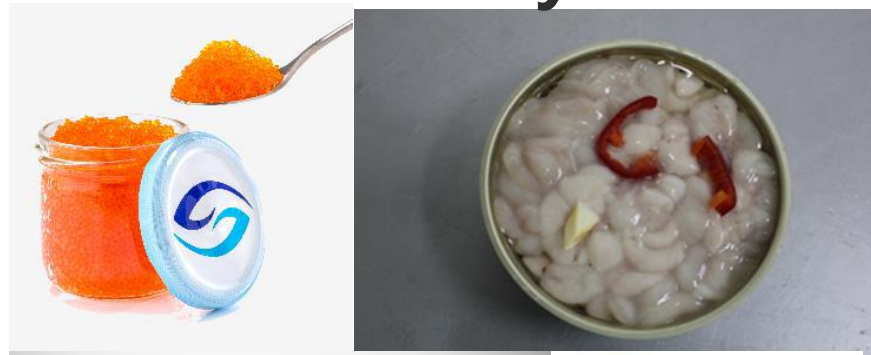


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# Key to be able to maximize value of all catches



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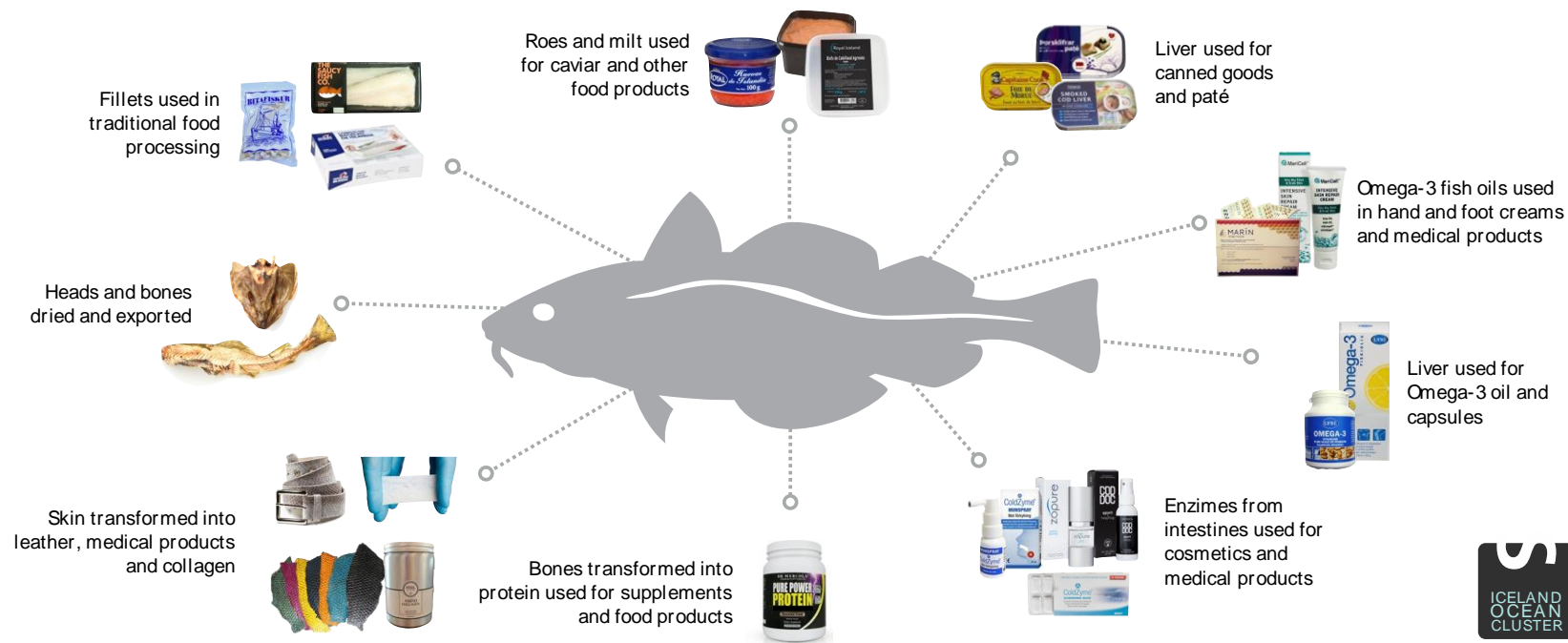
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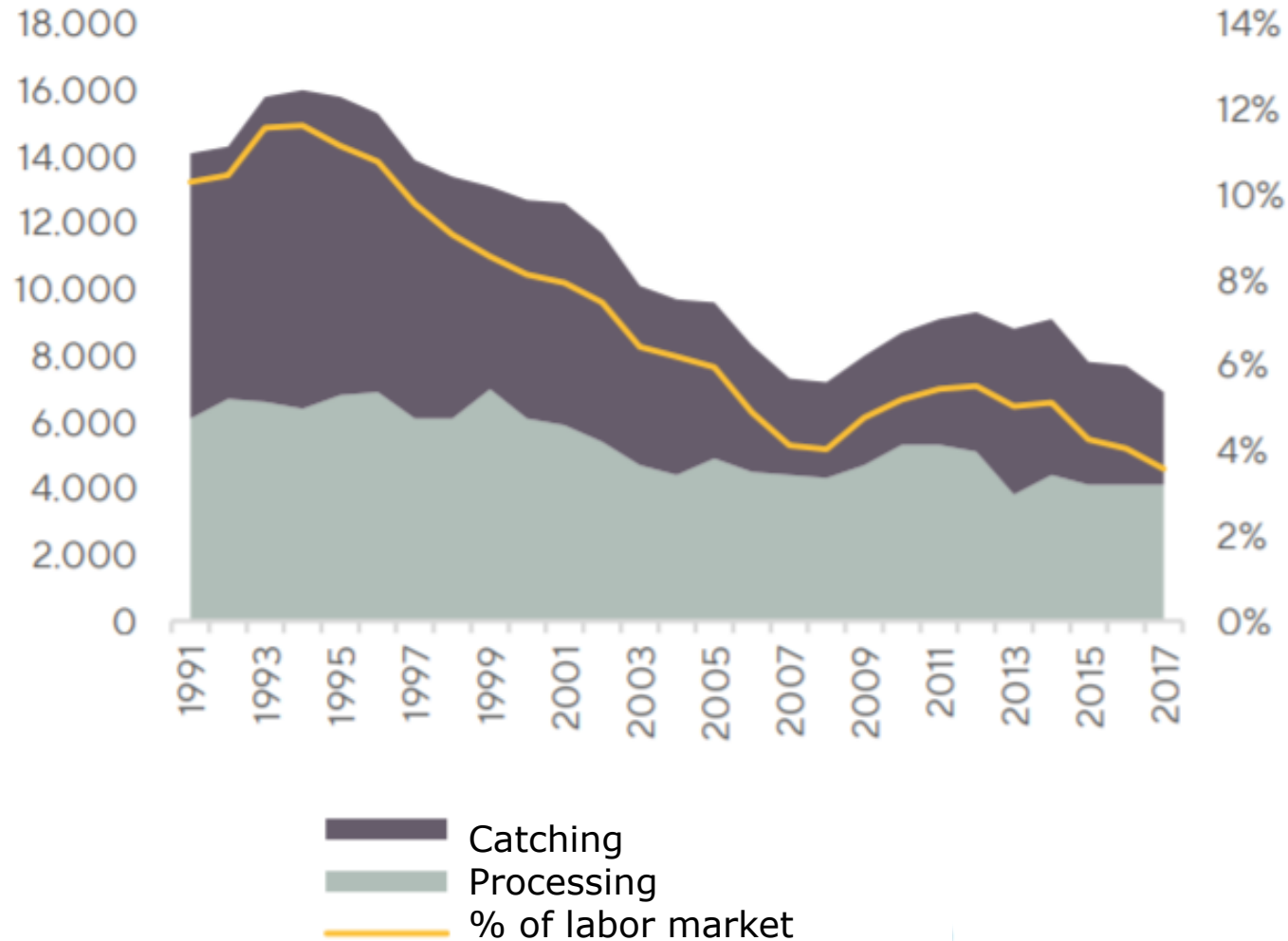
# Why is utilization this high in Iceland?

- **Discard ban since 1977**
- **ITQ since 1984 / 1991**
- **Vertical integration** (catching, processing and marketing on same hands)
- **Consolidation / optimization**
  - 10 biggest companies with 51% of the ITQ
  - 20 biggest companies with 71% of the ITQ
- **Technology and automation**



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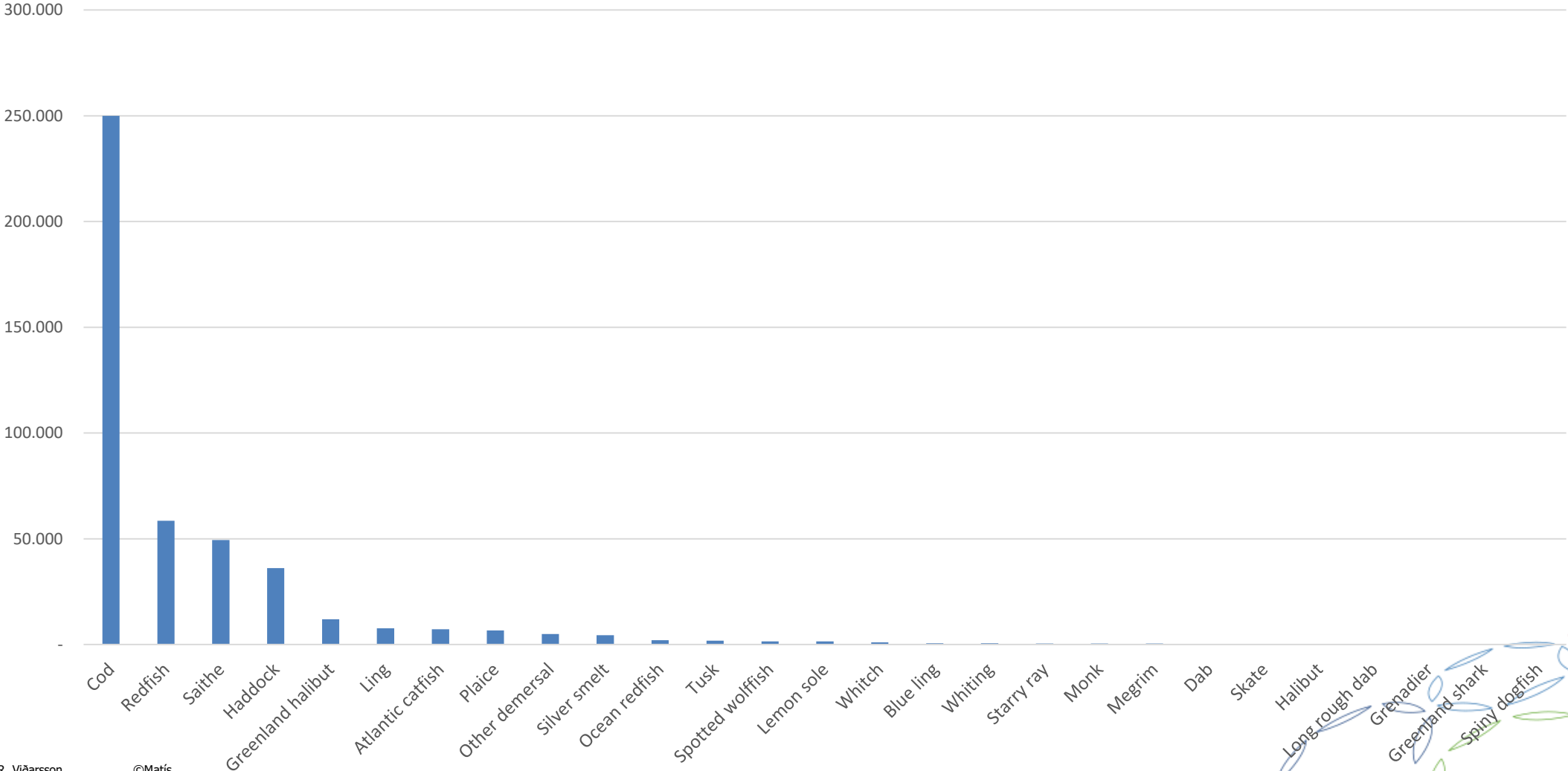
Fewer people processing and producing more



# Why is utilization high in Iceland?

## "clean fishery"

Demersal catches in 2017





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