

The CRANNET project

Which mesh is most profitable for brown shrimp trawling?

J. Berkenhagen, E. Bethke, C. Günther, M. Hufnagl, B. Limmer, G. Kraus, T. Neudecker,
J. Santos, S. Schultz, D. Stepputtis, A. Temming

Thünen-Institutes of Sea Fisheries and Baltic Sea Fisheries, University of Hamburg



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The target species: brown shrimp

Annual landings ~ 35 thousand tonnes, (2-6 €/kg)

Caught almost exclusively in the North Sea (85% by NL, D)

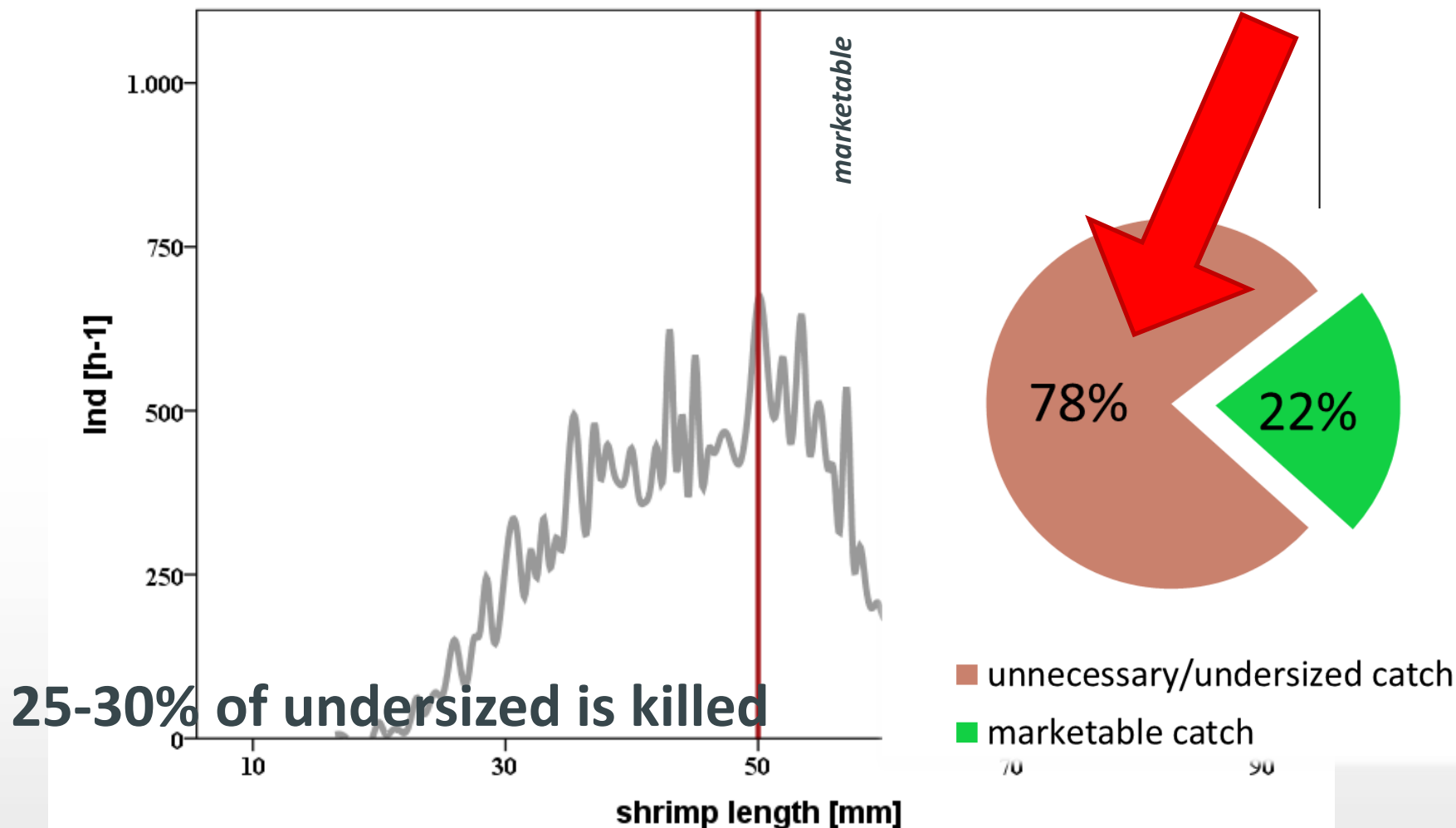
Trucked for peeling (Morocco)

Fishing mortality exceeds natural mortality

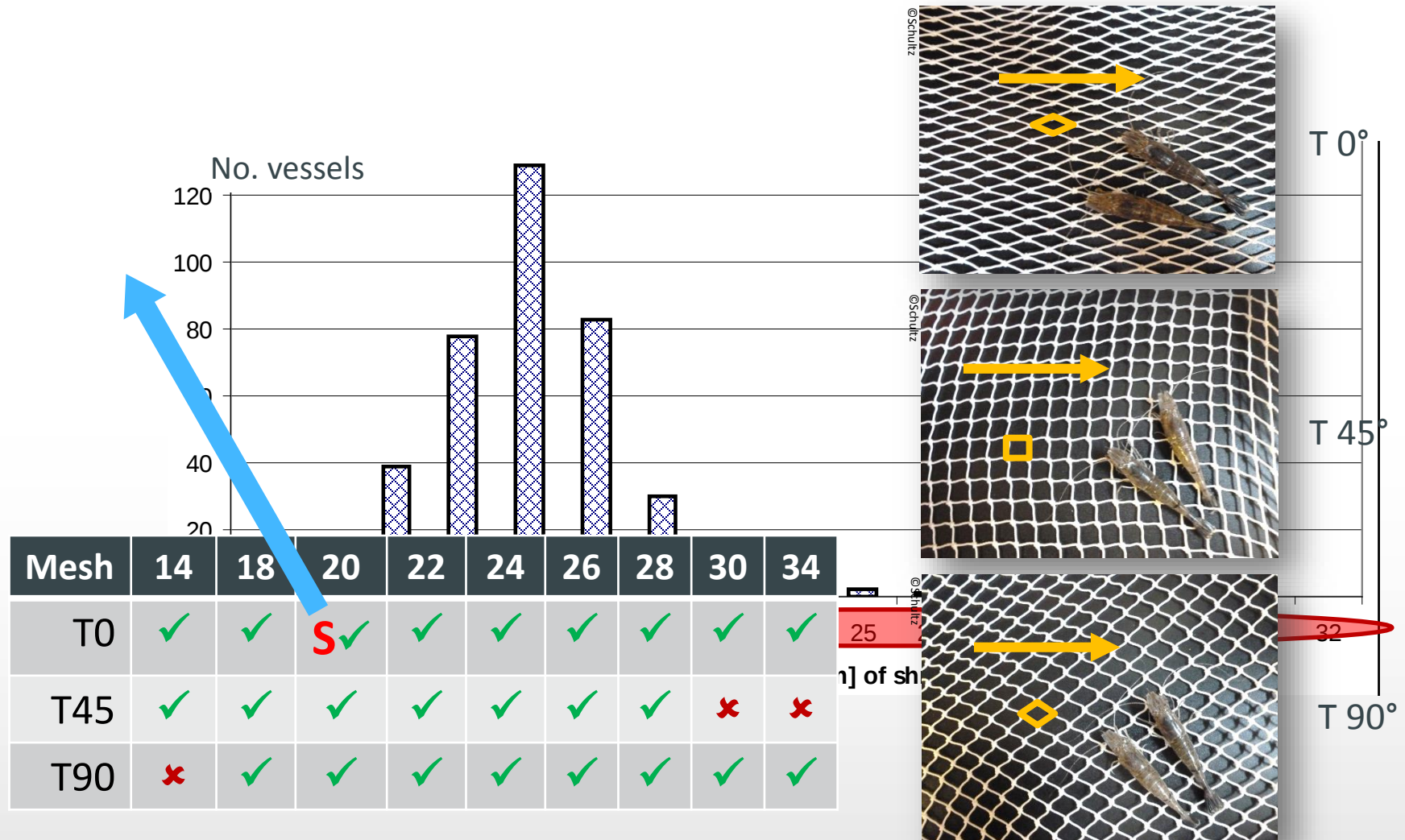
High discard rates



Typical catch composition – standard codend 20mm



Codend meshes



The Crannet Project

Aim:

Optimisation of codend mesh for highest catch/revenue

I.

*Estimation of
selectivity*

*scientific cruises
& statistics*

II.

*Investigation of
long-term effects*

*Y/R – model
with life-cycle*

III.

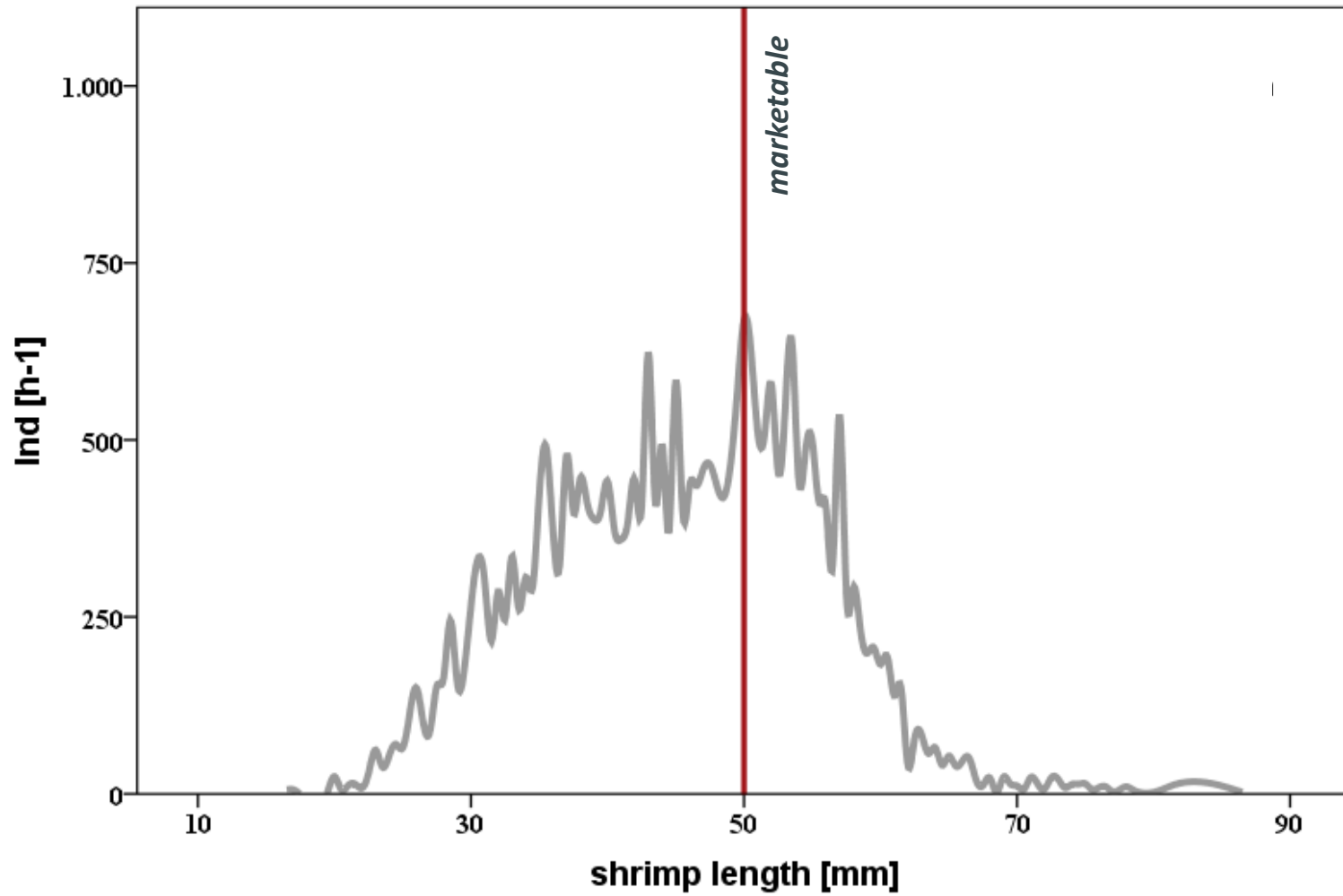
*„In situ“
performance of
„Crannet“ codends*

*Test of short-
term effects*

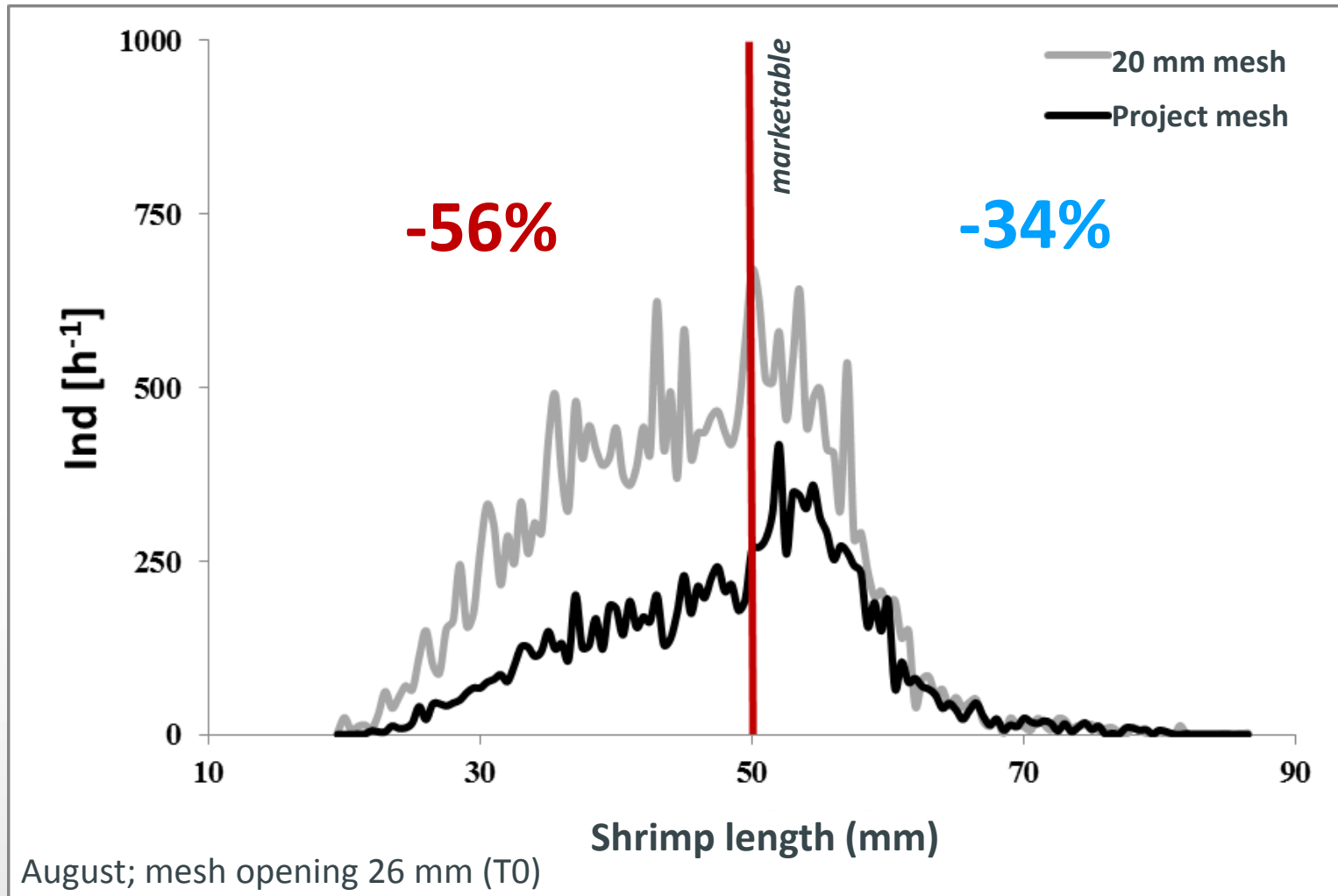
funded by

European Fisheries Fund (EFF), two *Federal States* and *Fishermen's Cooperatives*

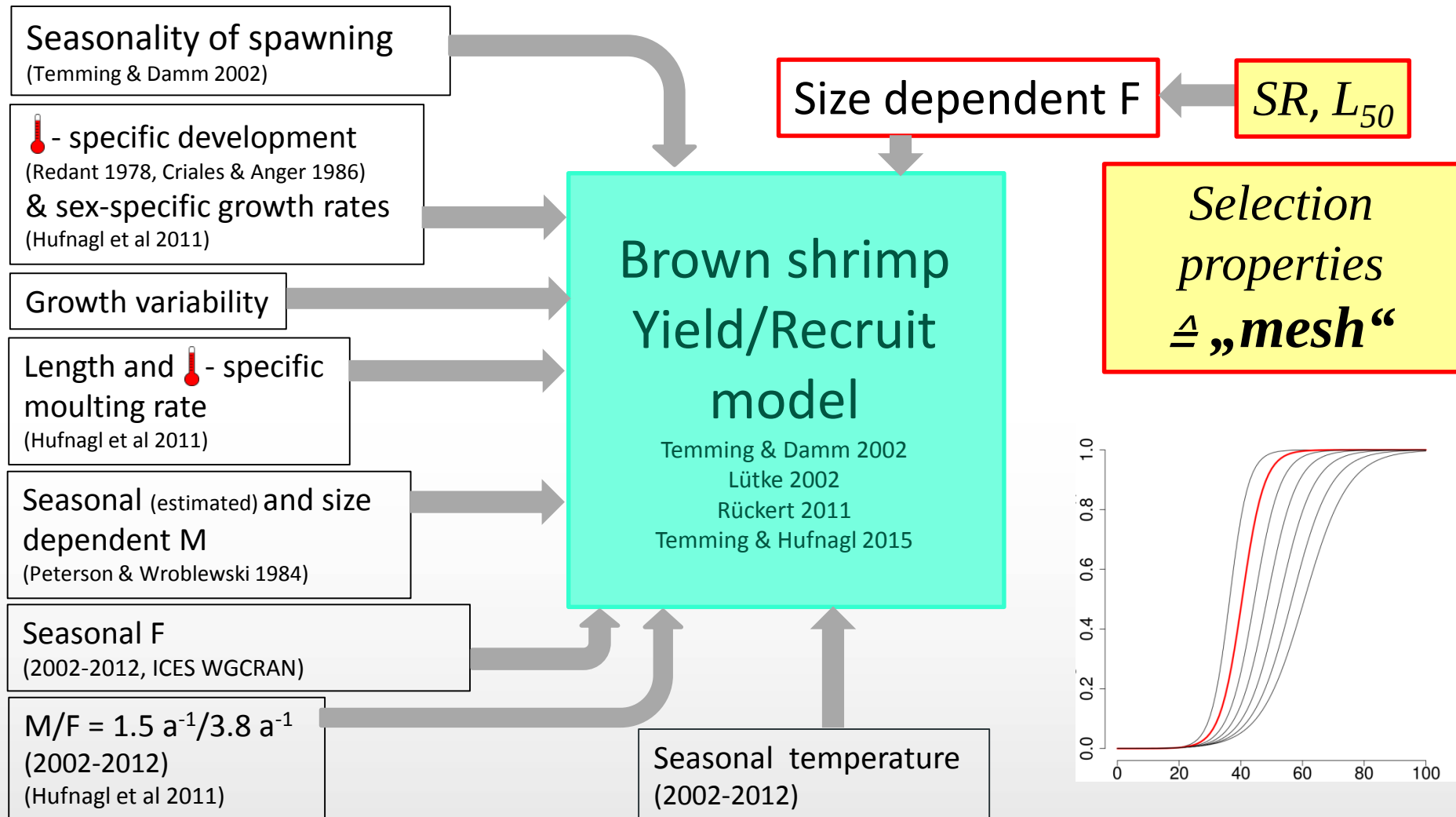
What happens to the survivors?



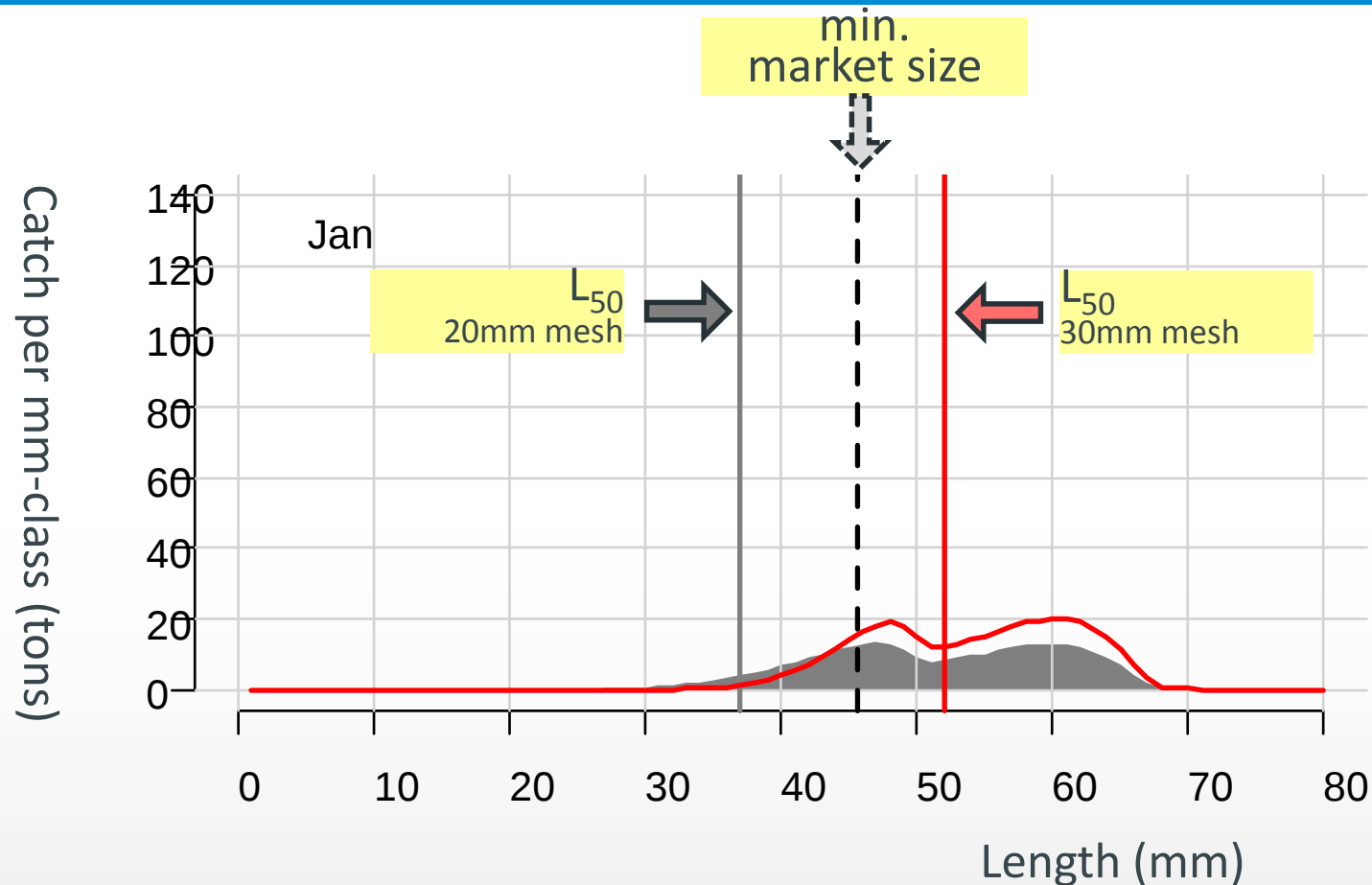
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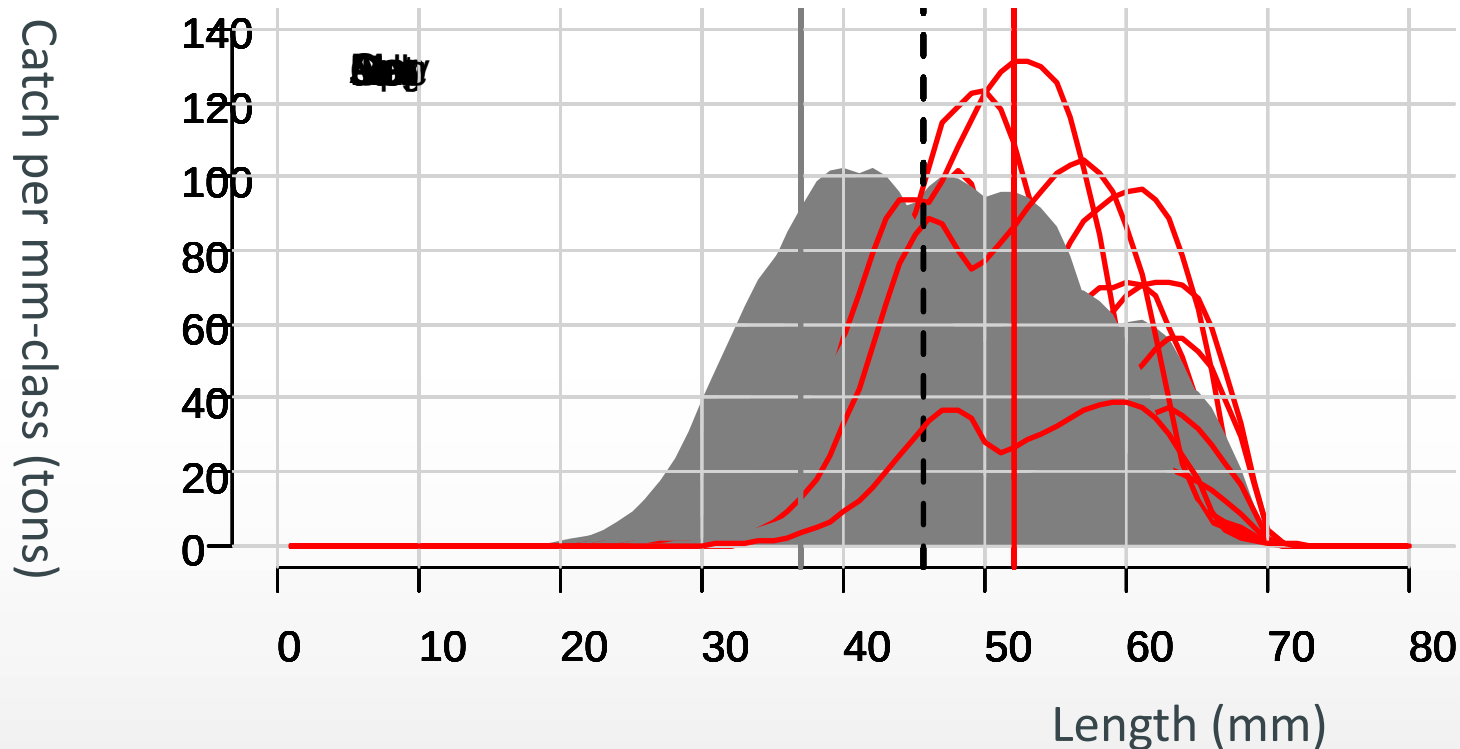
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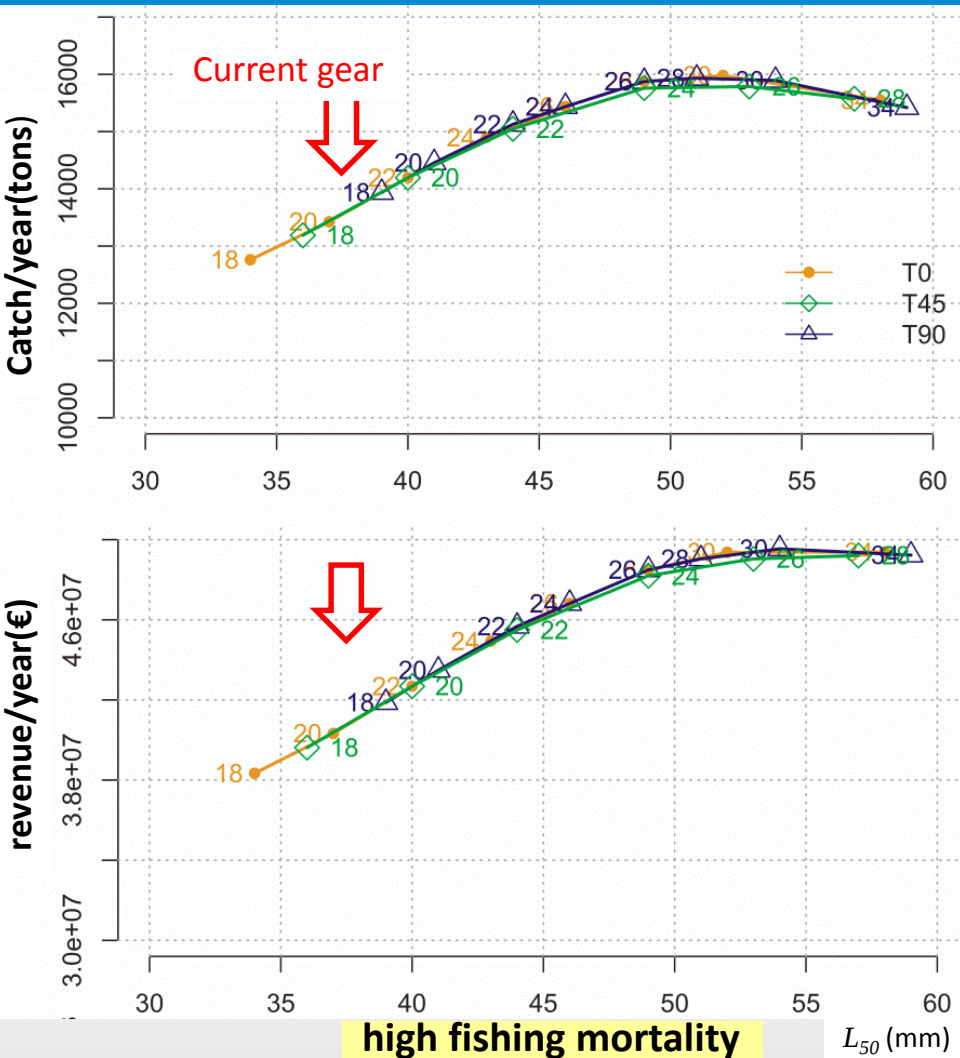
What happens to the survivors (long term)?



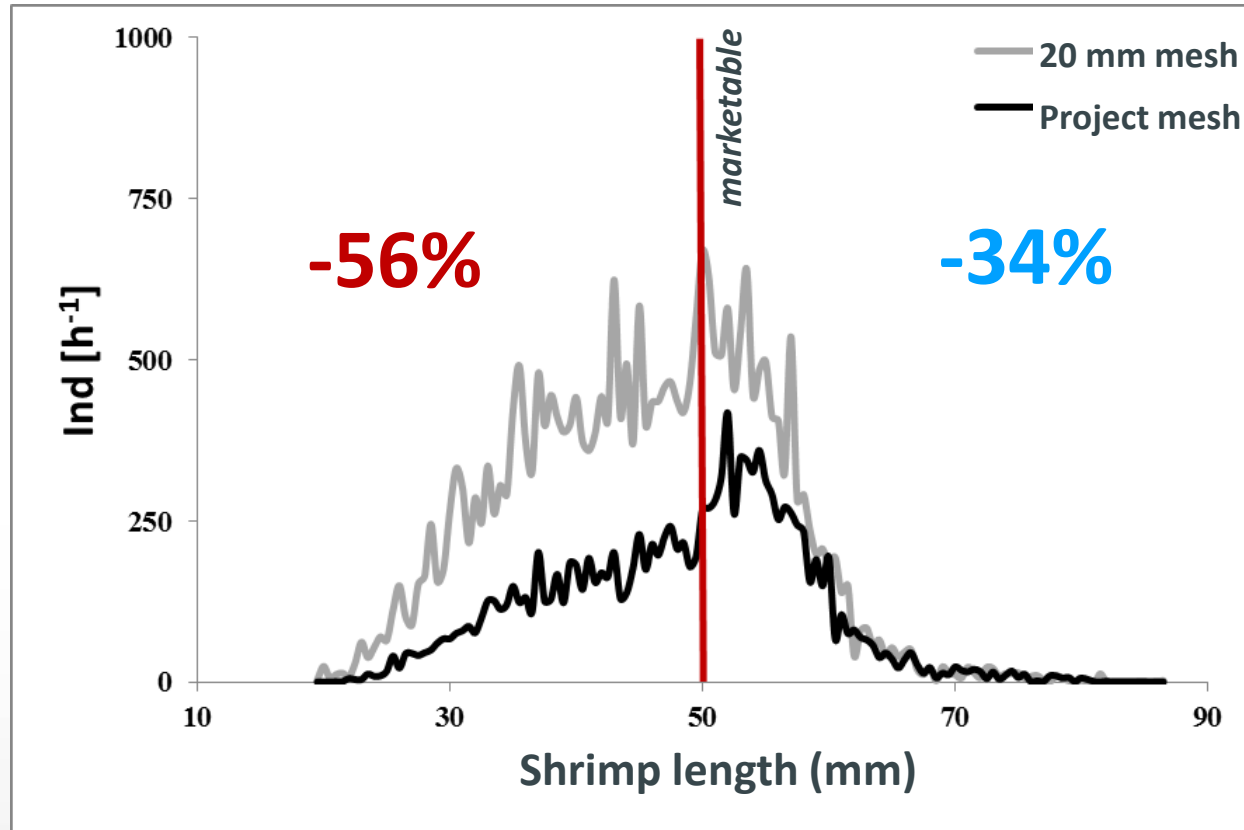
What happens to the survivors (long term)?



Long term benefits

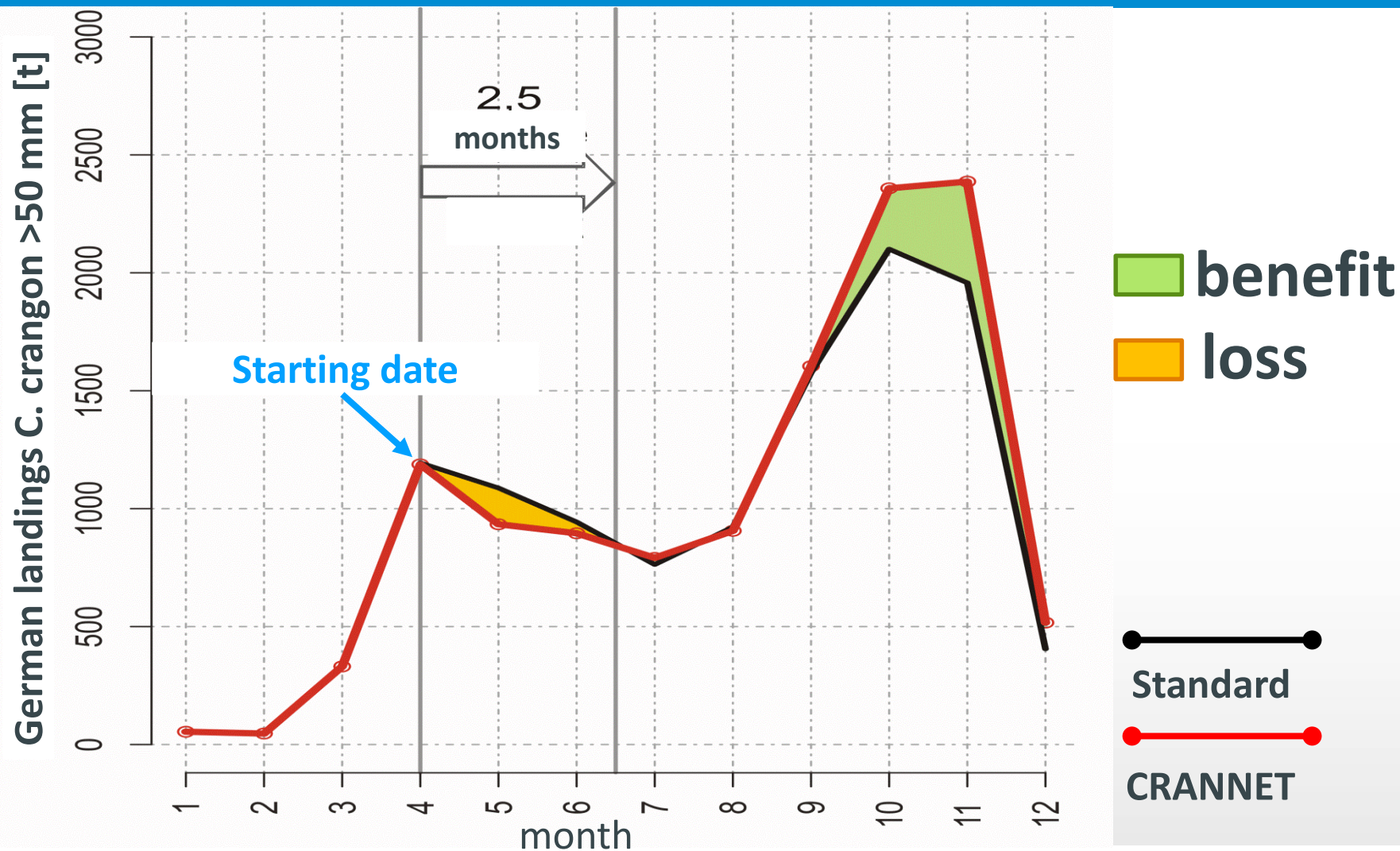


The field experiment (= The first day)



August: mesh opening 26 mm (T0)

The first season



Summary I

Today's escapee is tomorrow's catch:

- Increased mesh openings (**up to 30+mm!**) result in increased population and catches (effort = constant)
- After a short period catches with larger mesh will exceed catches with currently used small mesh
- Results apply when fishing mortality exceeds natural mortality

Summary II

- Fishermen only reluctantly accept changes towards larger meshes

WHY?

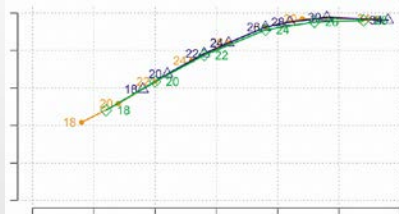
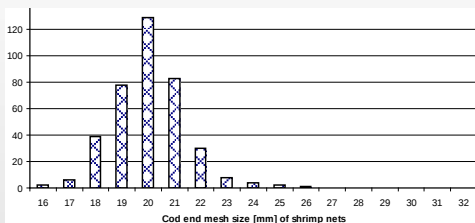
- Only valid when applied throughout entire fishery

- Implications:

- More catch with same effort *or*
- Less effort for same catch

-> Price drops and/or layoffs

- **Mesh size increase = part of MSC certification procedure**
(but only up to 24mm -> far below optimum Crannet results)

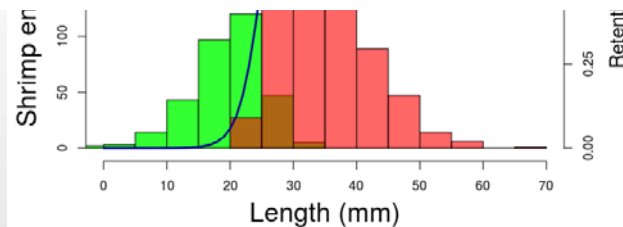
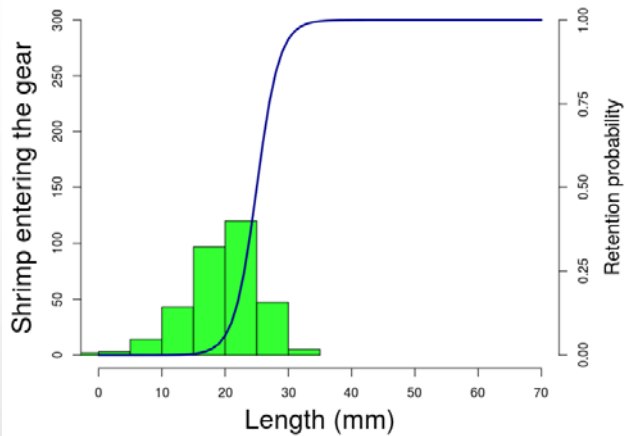
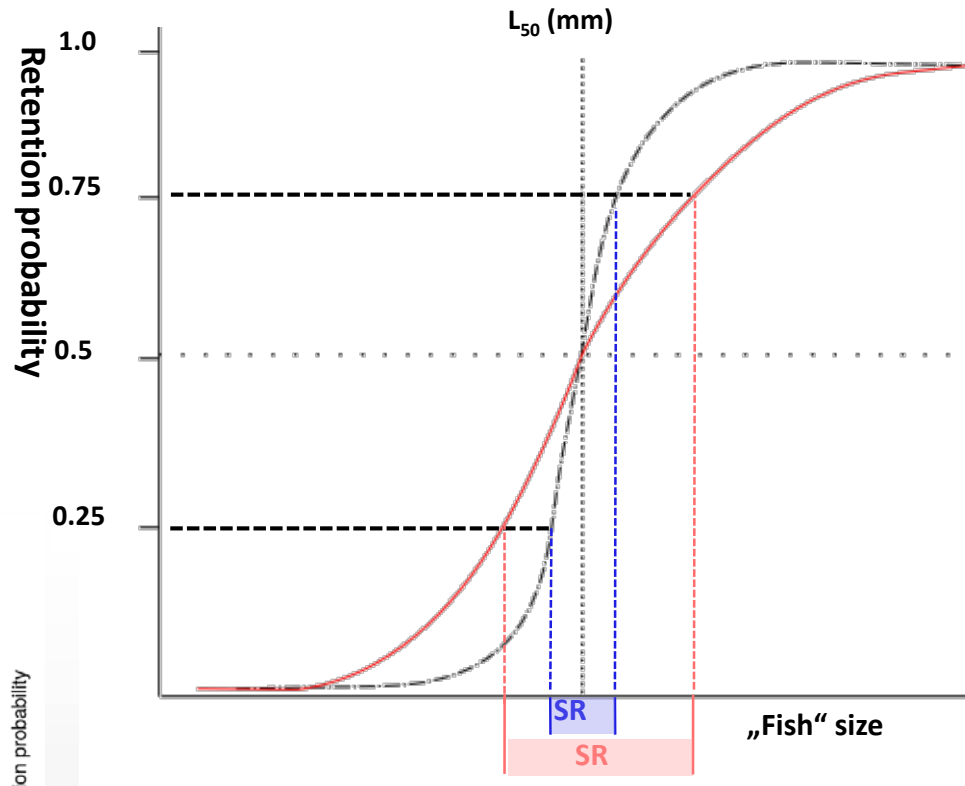
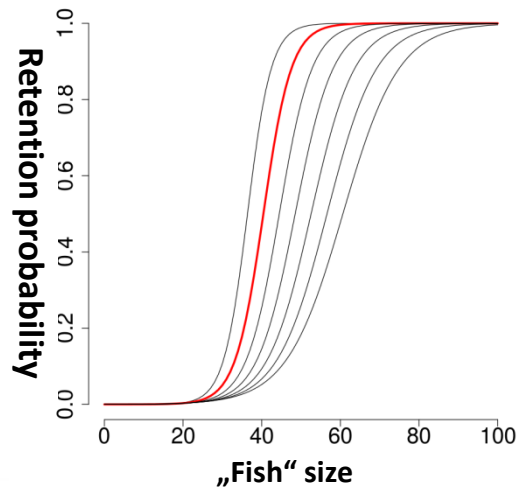


Thank you!

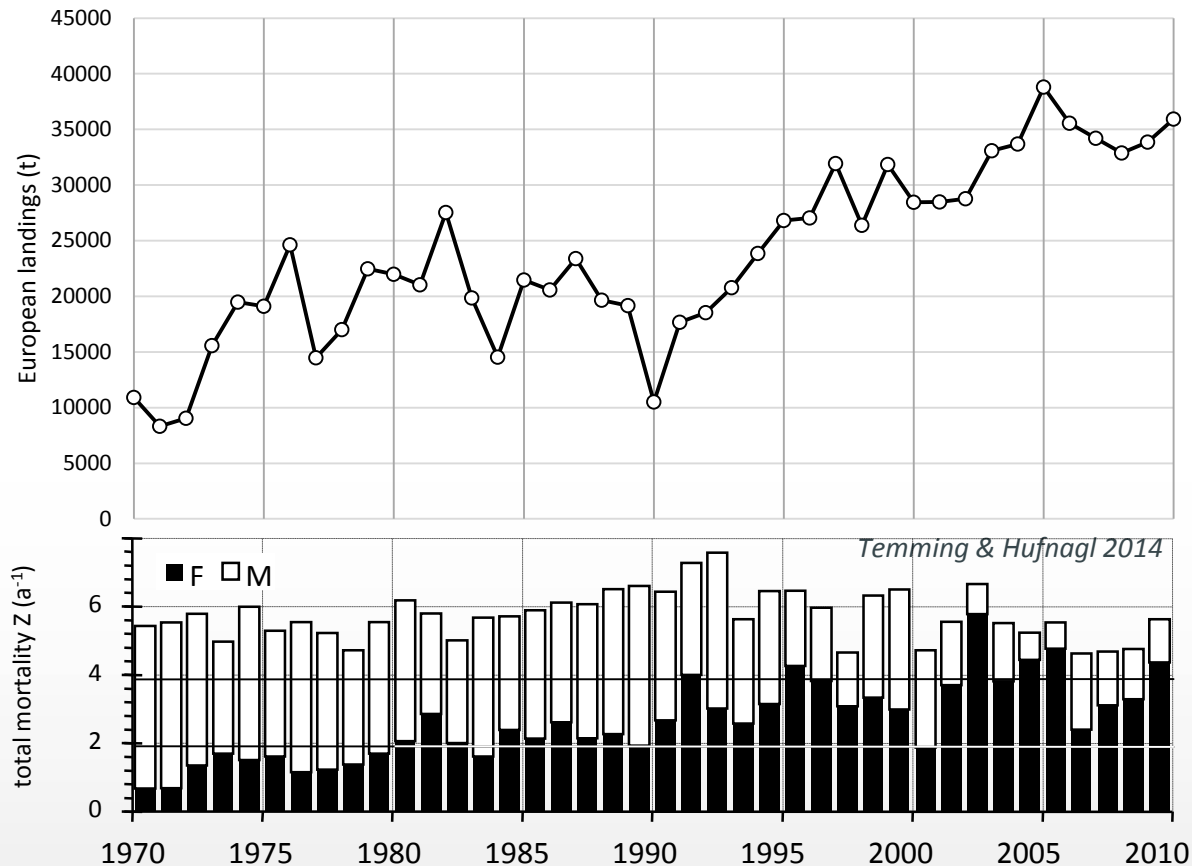


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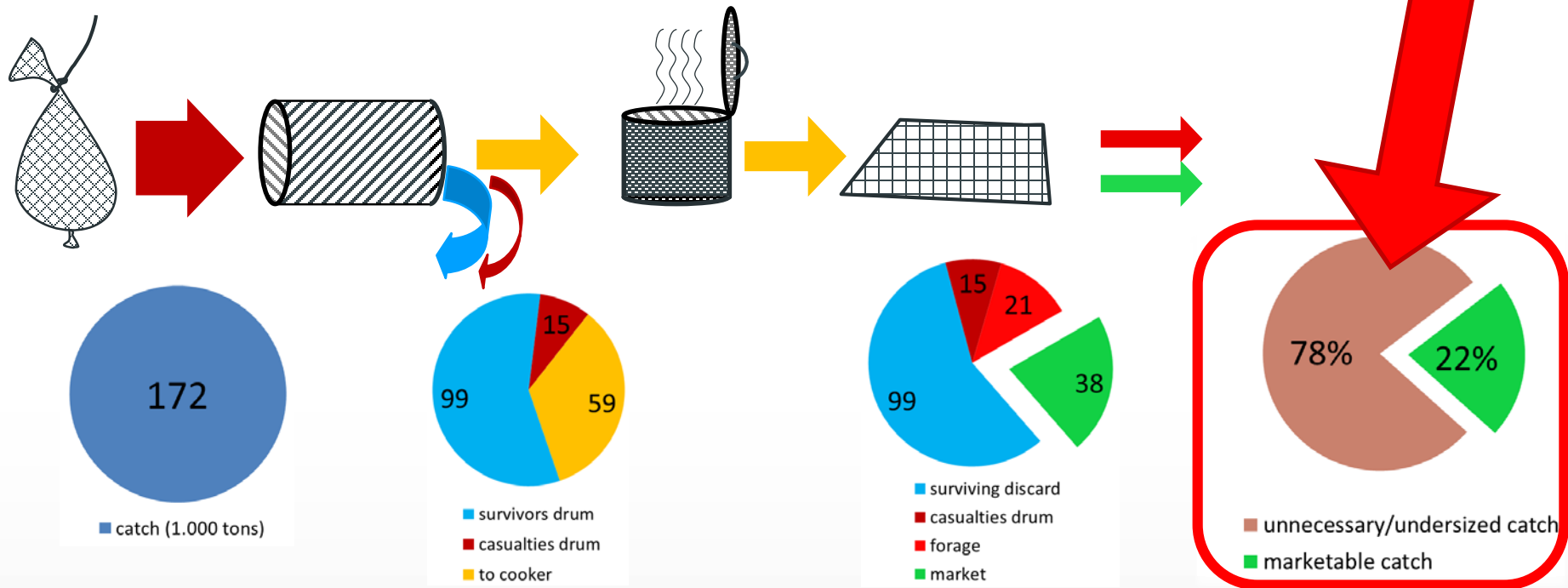
Selection curves



Increasing landings ; fishing mortality dominant



From catch to sales



Results

Tabelle 7: Decrease [%] of *C. crangon* in CRANNET cod ends compared to standard T0 20. Length classes: <50 mm (discards) and >50 mm (marketable).

	June 2014		August 2014		September/October 2014	
	Length <50mm	Length >50mm	Length <50mm	Length >50mm	Length <50mm	Length >50mm
T0 20 T0 26	-43,22%	-13,78%	-55,36%	-33,98%	-40,53%	-21,77%
T0 20 T45 24	-79,15%	-23,36%	-66,75%	-35,96%	-32,18%	0,55%
T0 20 T90 26	-73,53%	-35,13%	-62,89%	-36,47%	-39,66%	-17,91%