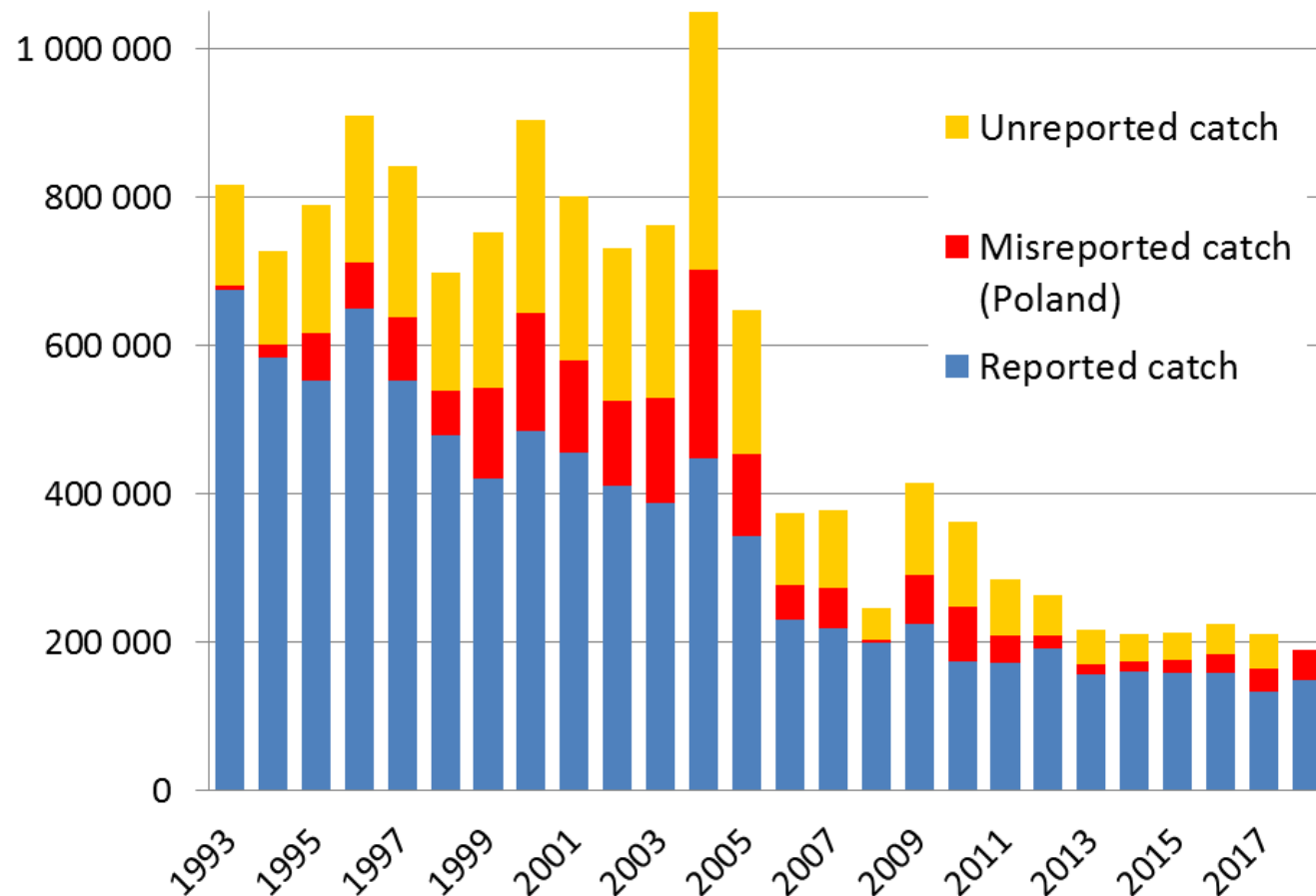


The renewed Finnish management of coastal Gulf of Bothnia salmon fisheries

Atso Romakkaniemi and Tapani Pakarinen,
Naturresursinstitutet (Luke), Finland

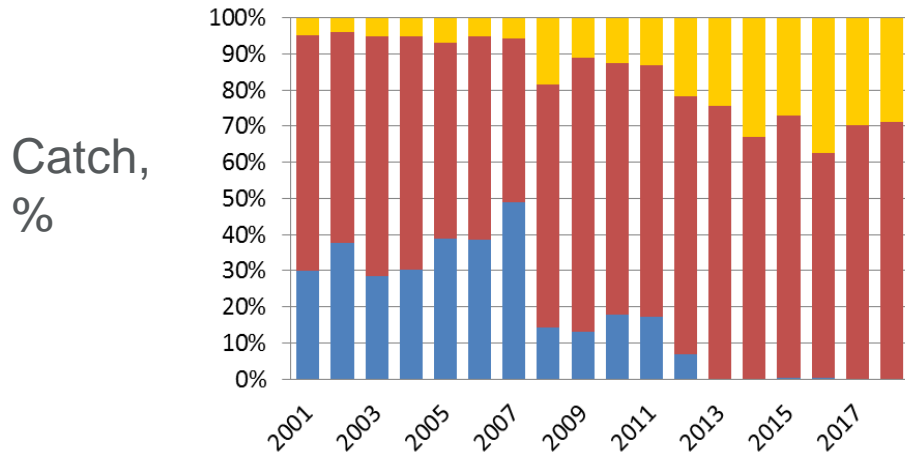
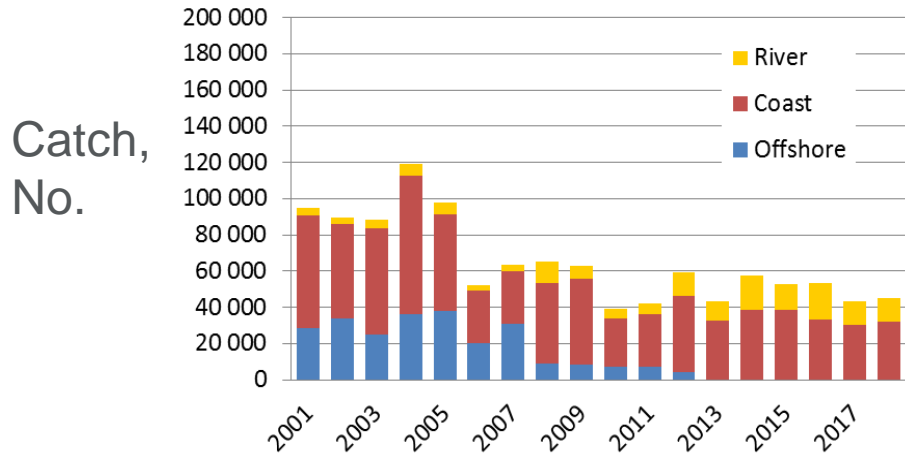
...with special thanks to Stefan Palm and
Anders Kagervall, SLU, Sweden!

From almost one million to 200 000 caught Baltic salmon – half are caught and reported under TAC

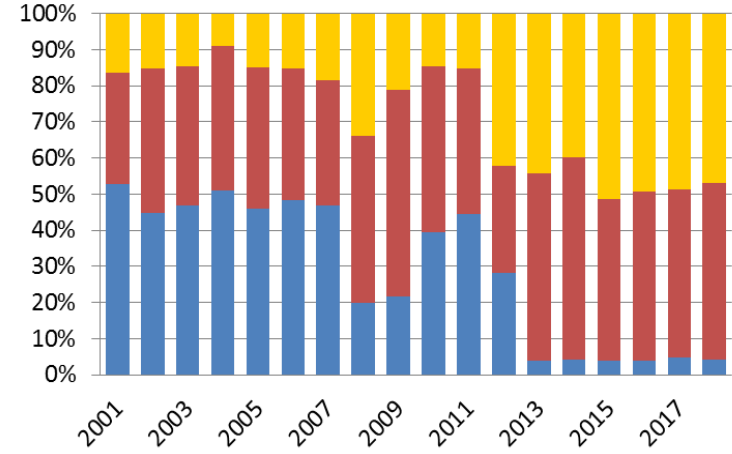
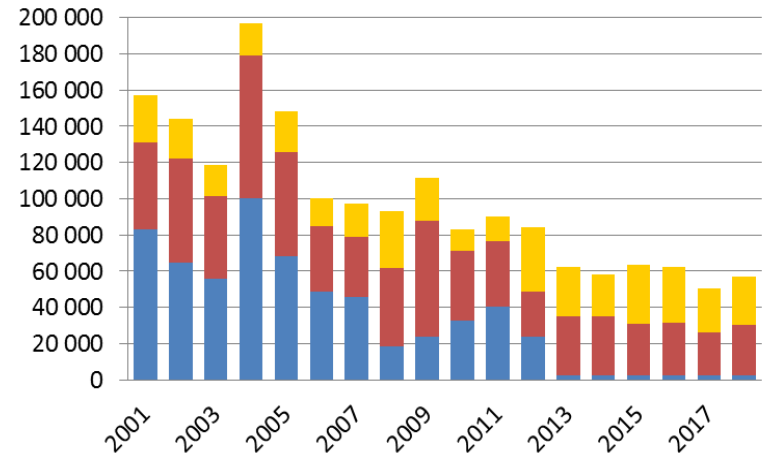


Relative importance of coastal and river fishing has increased in Finland and Sweden

FINLAND*)

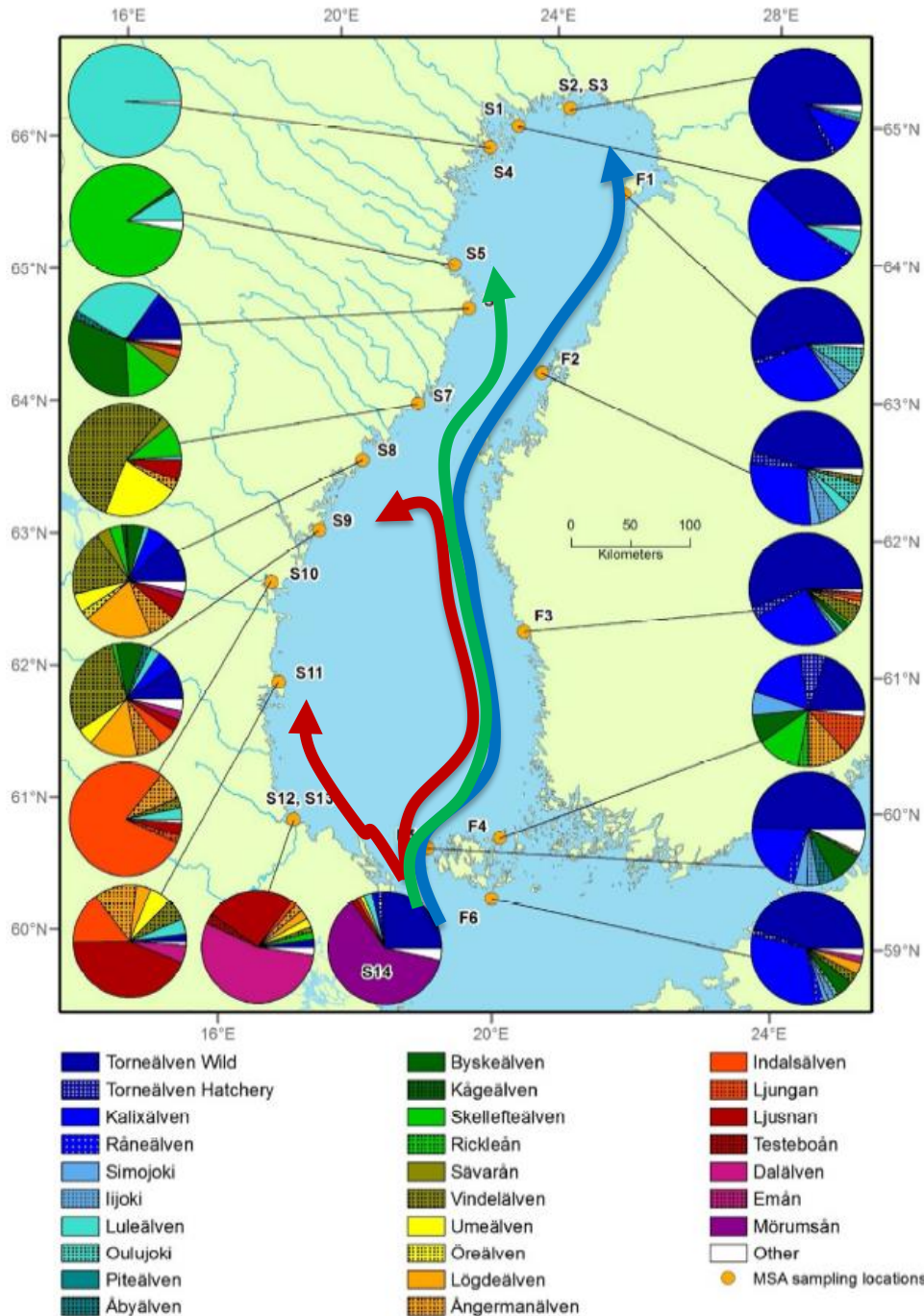


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Salmon stock composition in Swedish and Finnish coastal catches

(Whitlock et al. 2018)



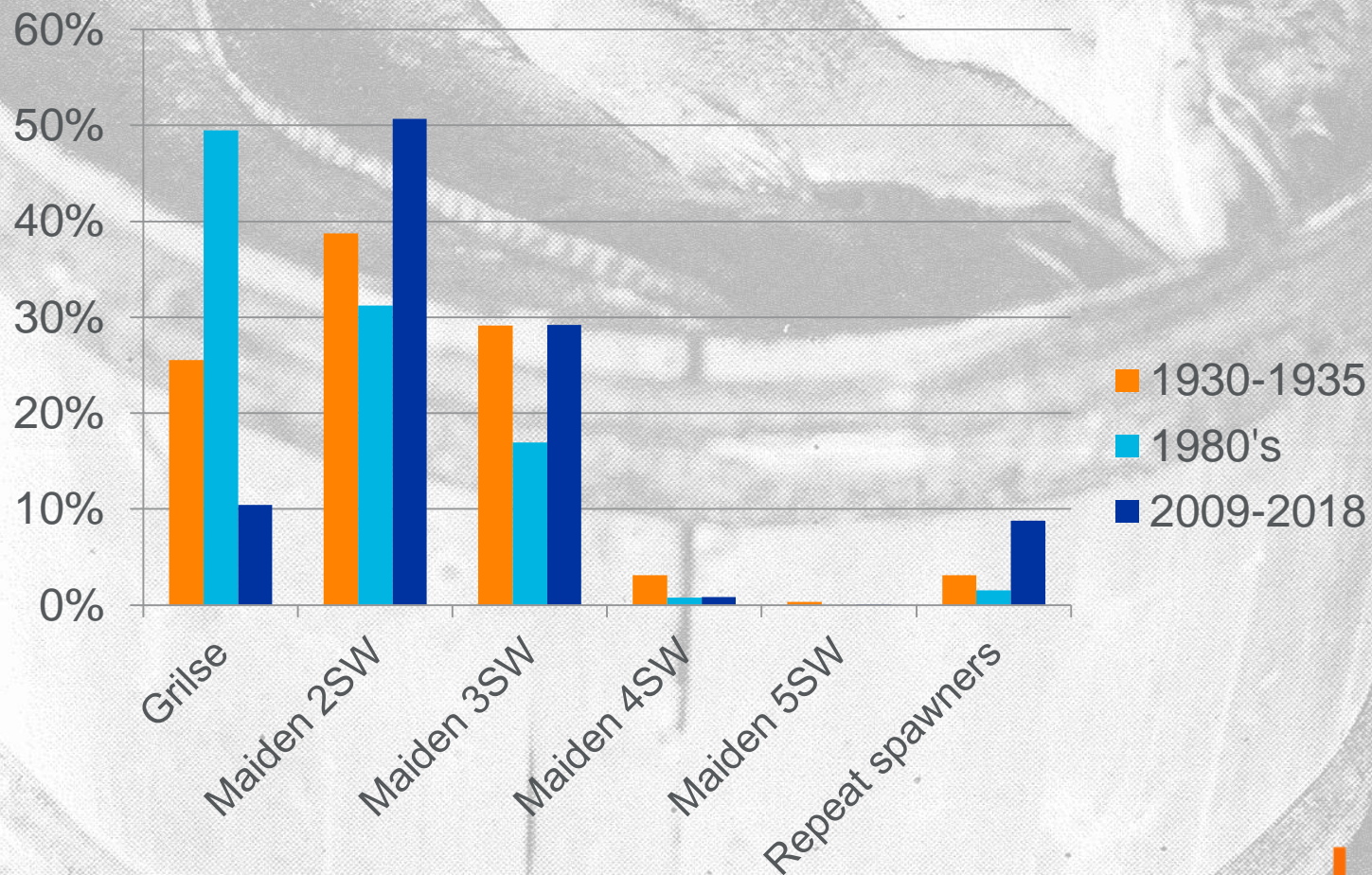
How to arrange sequential intercepting mixed-stock fishing sustainably?

- Stocks at different status → low enough total catch, special protection of the weakest stocks (run timing, river mouths)
 - Avoid selection for/against any specific genetic & phenological characteristics (sub-populations, early/late maturing fish, run timing etc.)
 - Possible to take into account the prevailing selection in other fisheries?
 - **Offshore fishing** (feeding areas): late-maturing fish are selected against
 - **River fishing**: early ascending (old) fish are selected against
- In principle **coastal fishing** may select to some extent against early-maturing and young fish

TOO COMPLICATED, IMPOSSIBLE TO FINE-TUNE THIS WAY???

What to strive for – how a non-disturbed Baltic salmon stock looks like?

Sea-age structure of Tornionjoki/Torneälv catch samples



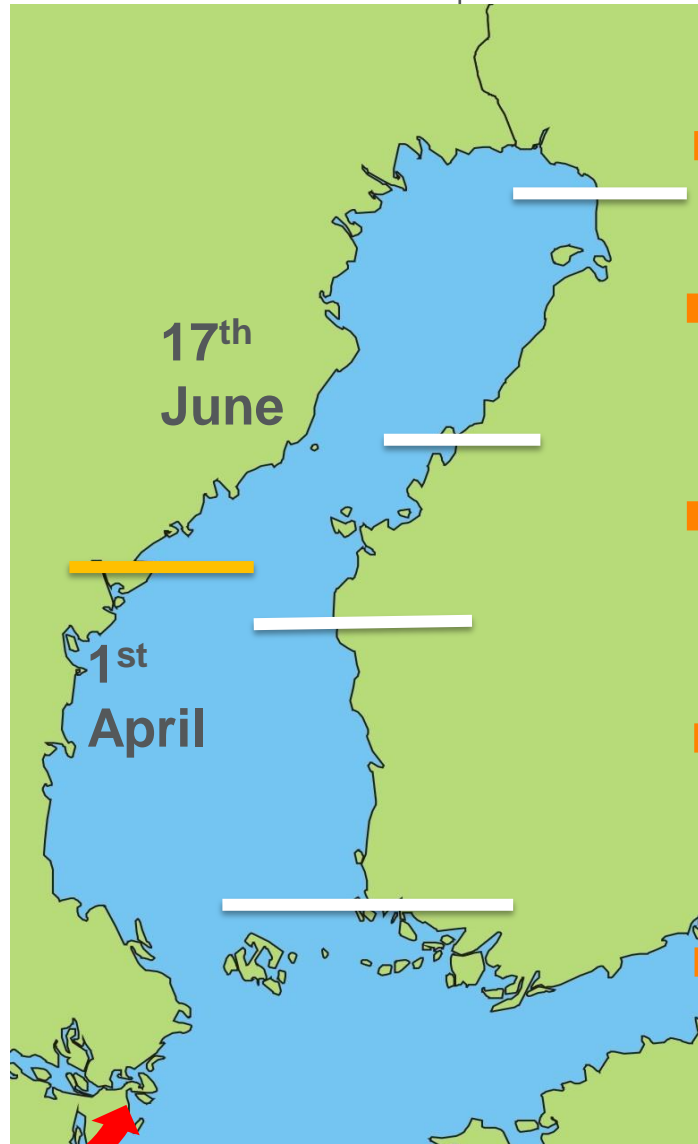
SWEDEN

Region specific quotas

Individual quotas

FINLAND

Total quota divided between 3 regions & separate quota for wild-born salmon in northernmost region

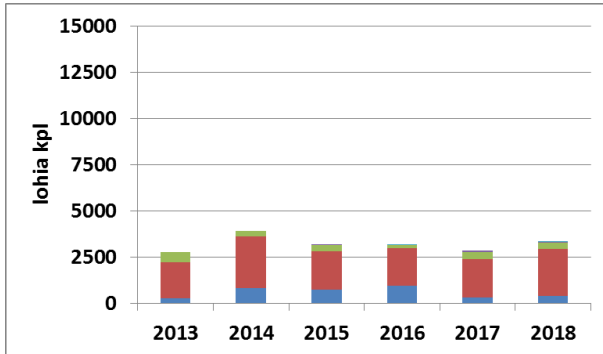


| | 1 trap | 2 traps | 4 traps |
|--|----------------|-----------------|-----------|
| | 16 May-25 June | 25 June-2 July | 2 July → |
| | 11 May-20 June | 20 June-27 June | 27 June → |
| | 6 May-15 June | 15 June-22 June | 22 June → |
| | 1 May-10 June | 10 June-17 June | 17 June → |

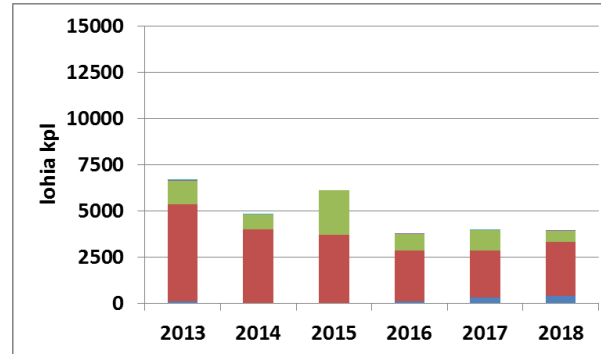
Separate share of quota, no other specific measures



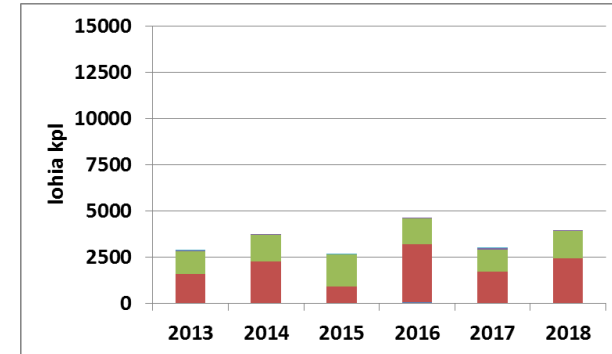
Finnish salmon catches by mgmt zone in Gulf of Bothnia



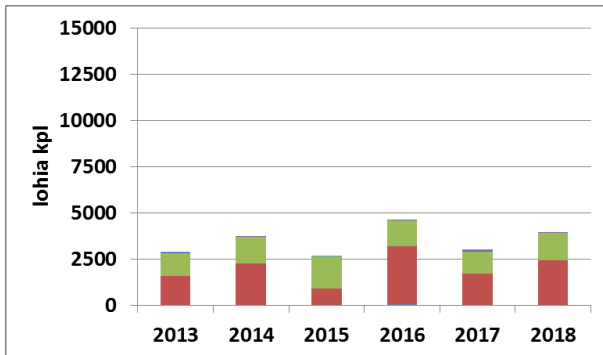
Åland island & surroundings



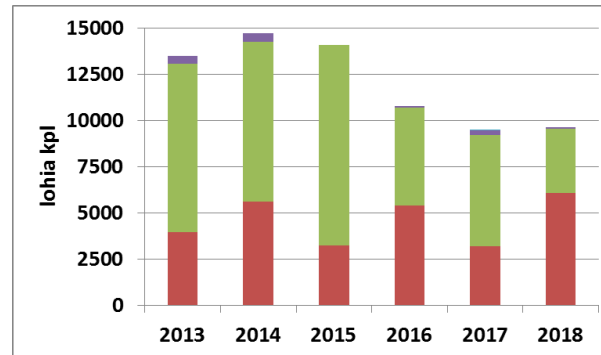
Bothnian Sea



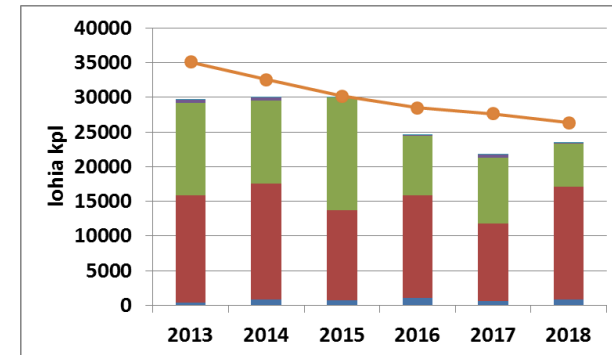
Quark



South-mid- Bothnian Bay



Northern Bothnian Bay

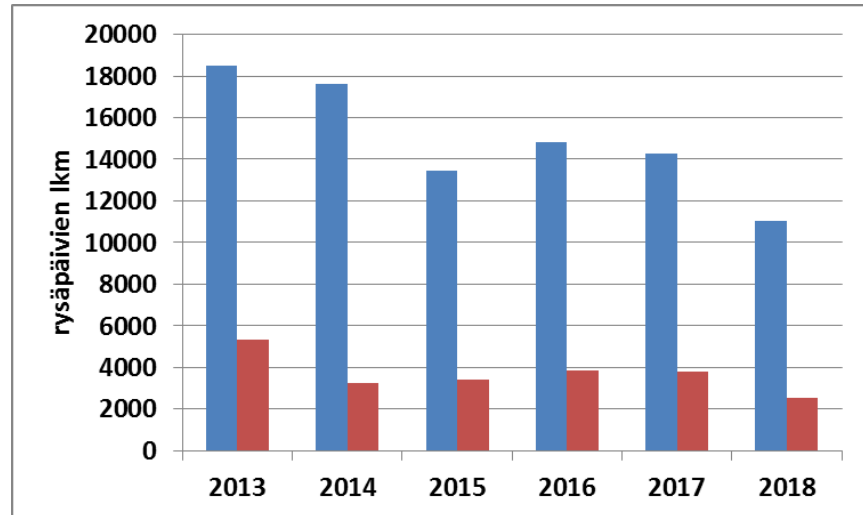


Whole Gulf of Bothnia

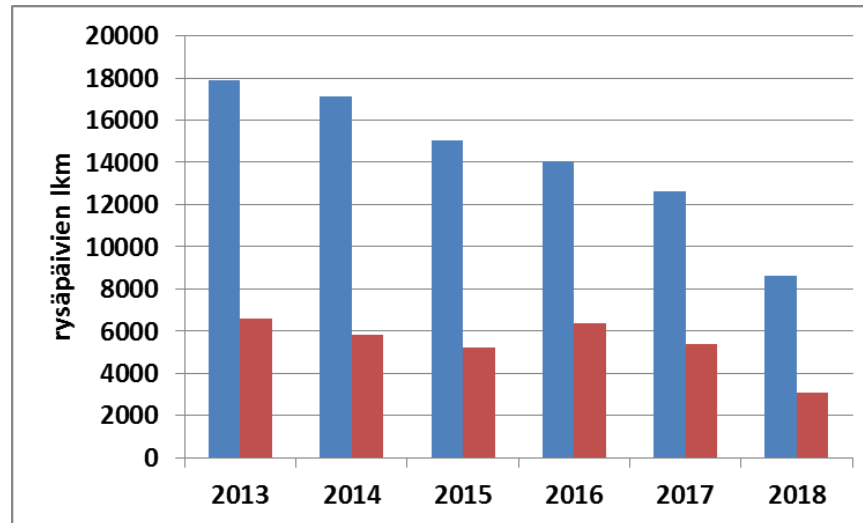
■ may
 ■ june
 ■ july
 ■ aug.
 ■ sept.
 ● TAC

Number of Finnish trapnet fishing days (effort)

**Bothnian Sea & Quark
(i.e. 2 southernmost zones)**



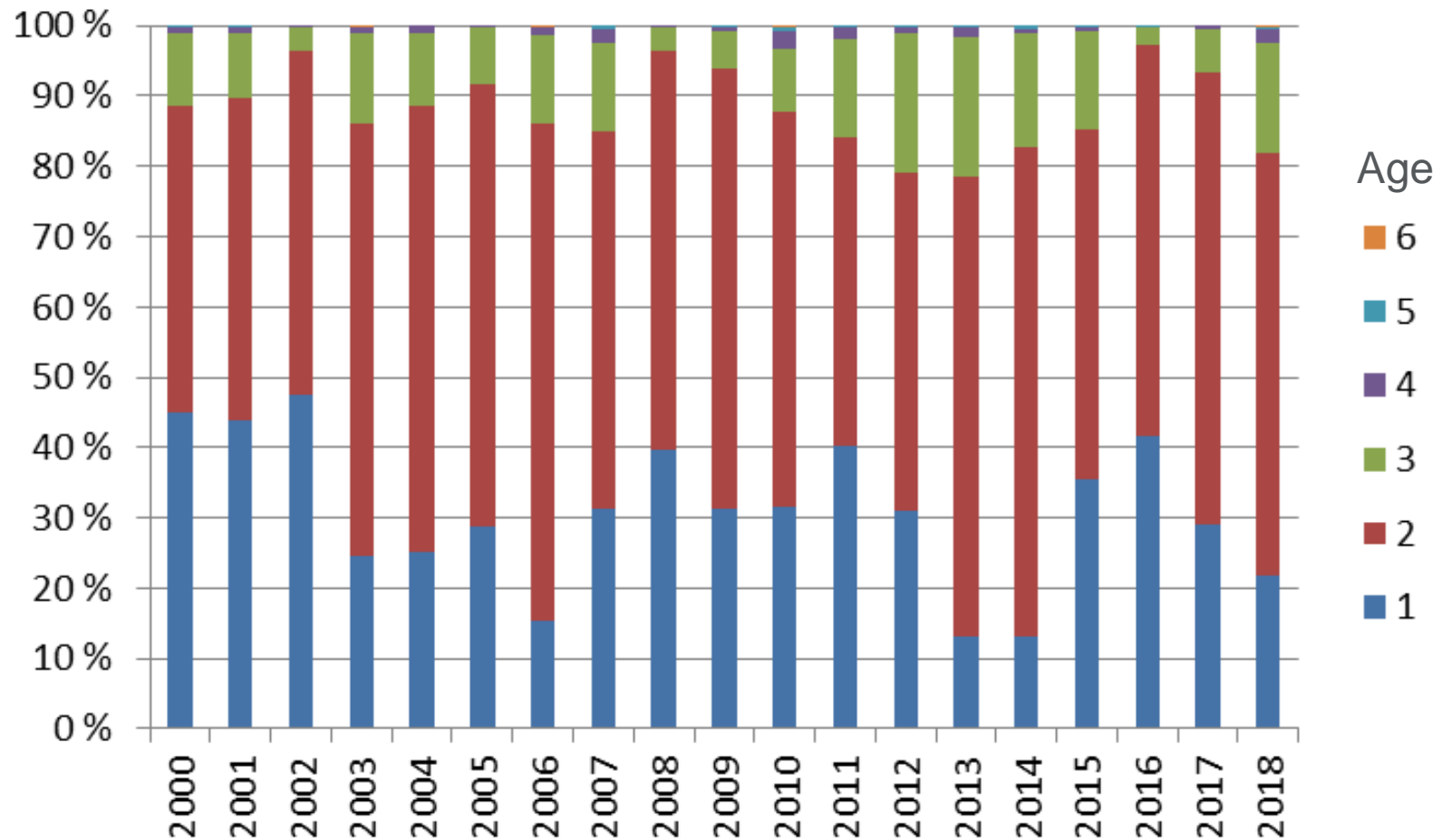
**Bothnian Bay
(i.e. 2 northernmost zones)**



■ = total effort

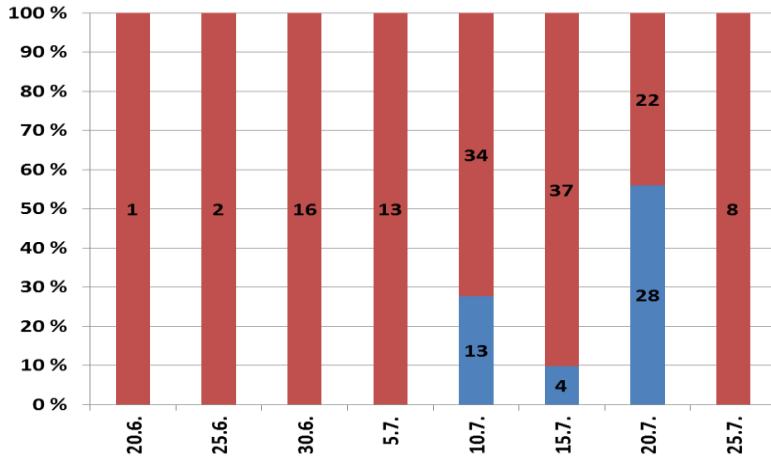
■ = effort with reported salmon catch

Sea age structure among catch samples of Finnish coastal fishing

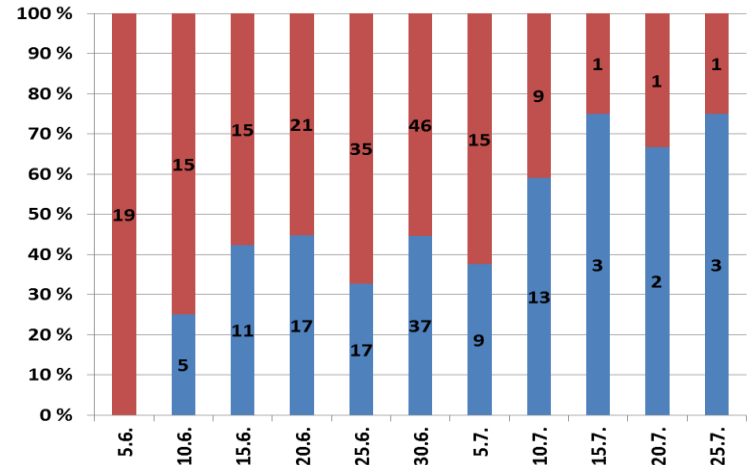


Within sea age wild and reared origin salmon migrate ~at the same time – 2018 catch samples, Bothnian Bay

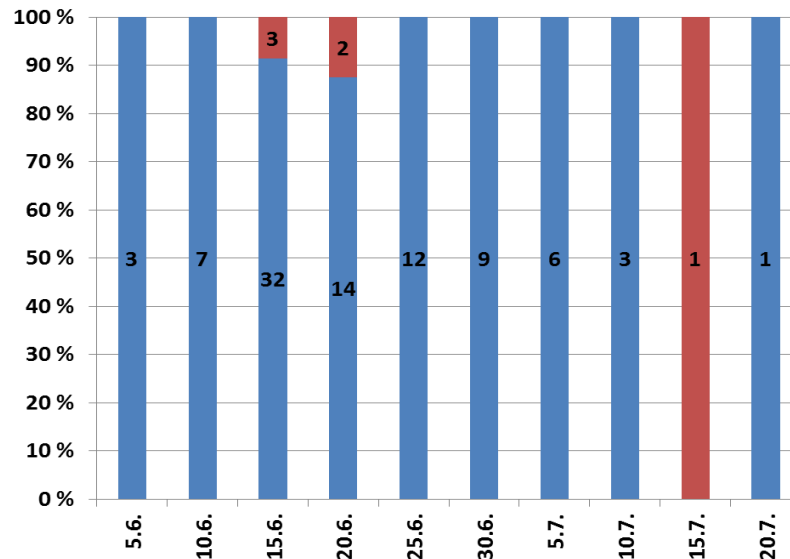
Grilse



2SW salmon



≥3SW salmon

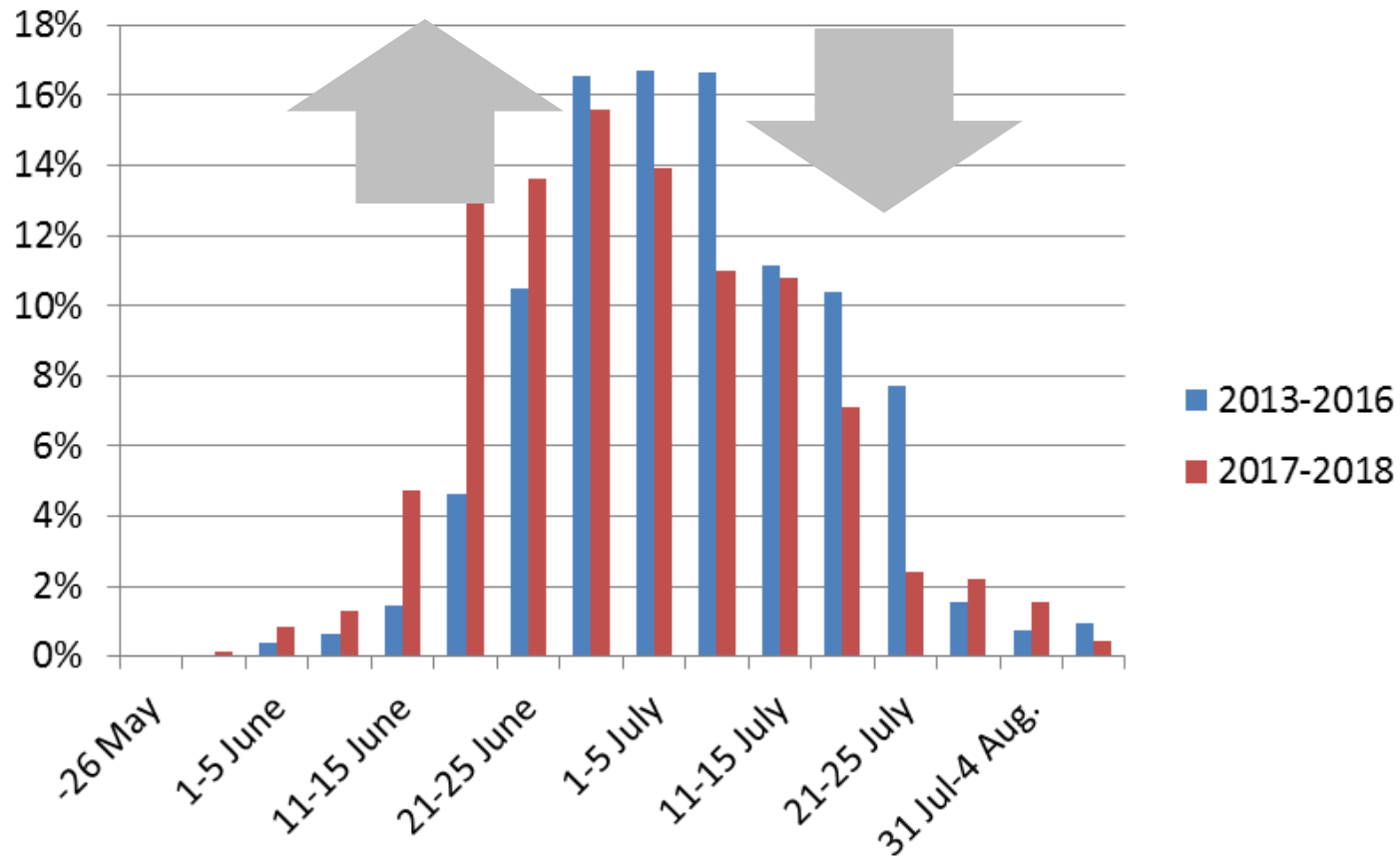


 = wild-born

 = reared

Yet, a larger proportion of the seasonal catch is caught early and mid-June under the new regulation

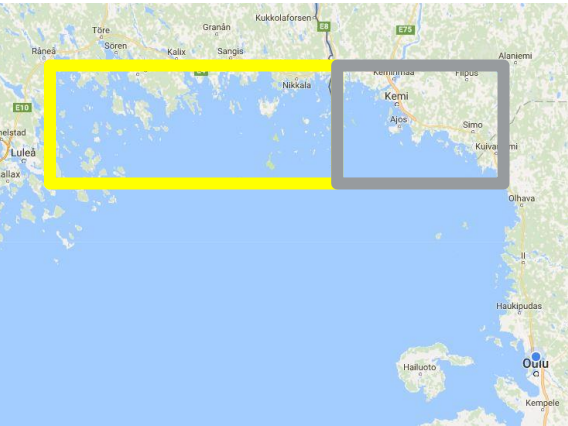
Seasonal catches divided into 5-day intervals, Bothnian Bay (2 northernmost zones)



Timing of Swedish and Finnish catches, northernmost Bothnian Bay

SWEDEN

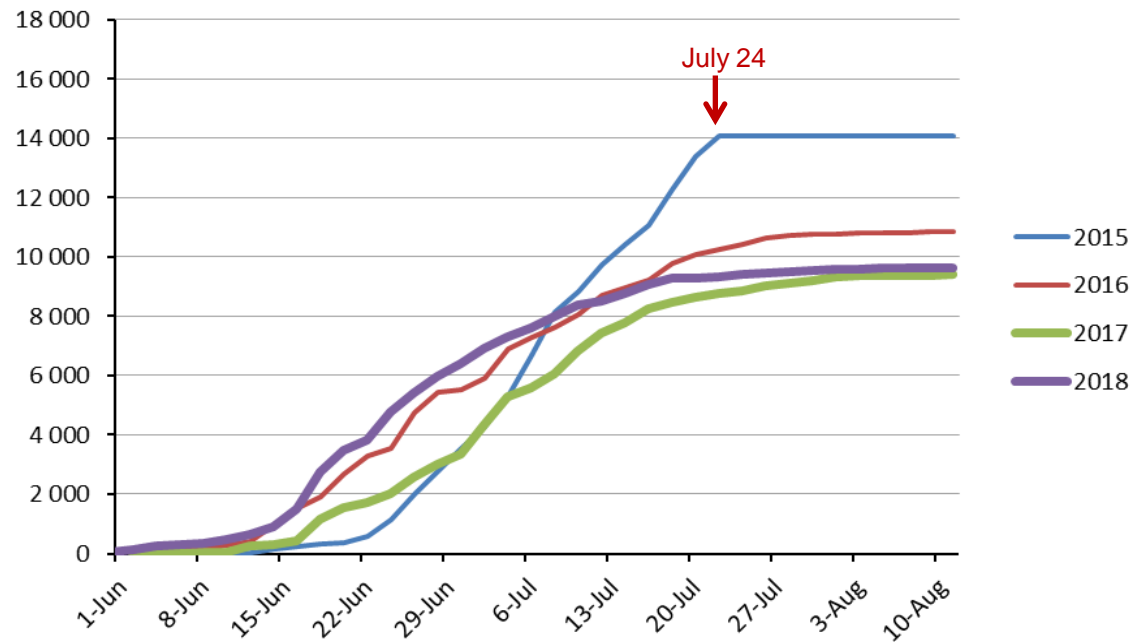
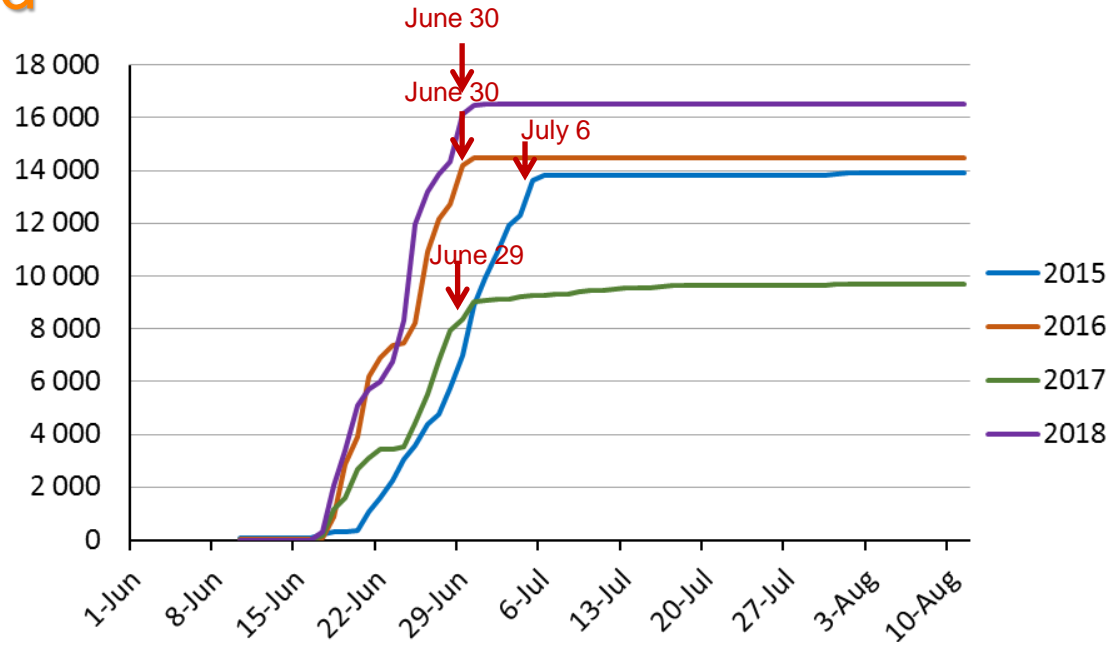
2018: 3882 trapnet days



Map: www.eniro.se

FINLAND

2018: 1732 trapnet days



Concluding remarks

- Decreased fishing pressure on feeding areas of Baltic Sea turns more attention to mgmt of coastal and river fishing
- Migration of salmon seems to differ much between Finnish & Swedish coasts → different practices may be needed
- The new mgmt of Finnish coastal fishing has decreased overall fishing effort and divided catches more evenly across season – however the changes so far have been modest
- Low enough TAC is essential starting point
- Attaining good mgmt practices for coastal fishing is challenging – much information may be needed for spatio-temporal fine-tuning
- Earlier start of fishing catches earlier migrating (=older) salmon, among which are higher proportions of wild salmon → care must be taken not to free up early-season fishing too much!
- What are the targeted actions, if/when more restrictions are needed?

Kiitos!

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