

The river Torne älv – the salmon factory of the Baltic

Results from the latest research

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21st March 2019, Luleå

Torne älv

Catchment area 40 157 km²

Mean annual flow 400 m³/s



Electrofishing (parr)



Foto: Ville Vähä

River fishing statistics

Catch samples (size, sex, scale sample)



Foto: Atso Romakkaniemi



Foto: Pasi Romakkaniemi



Foto: Atso Romakkaniemi

Echo sounder, Kattilakoski



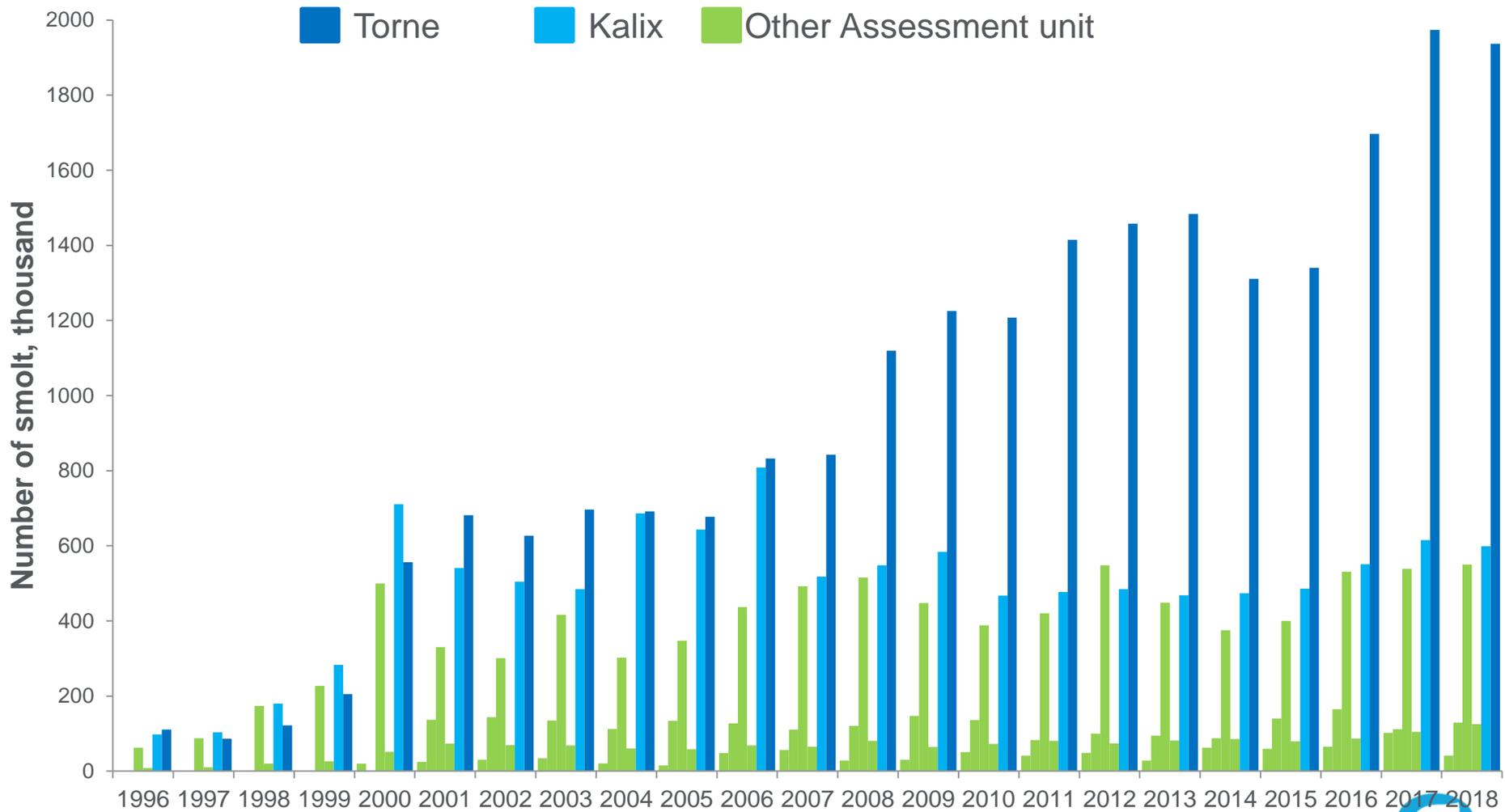
Foto: Ville Vähä

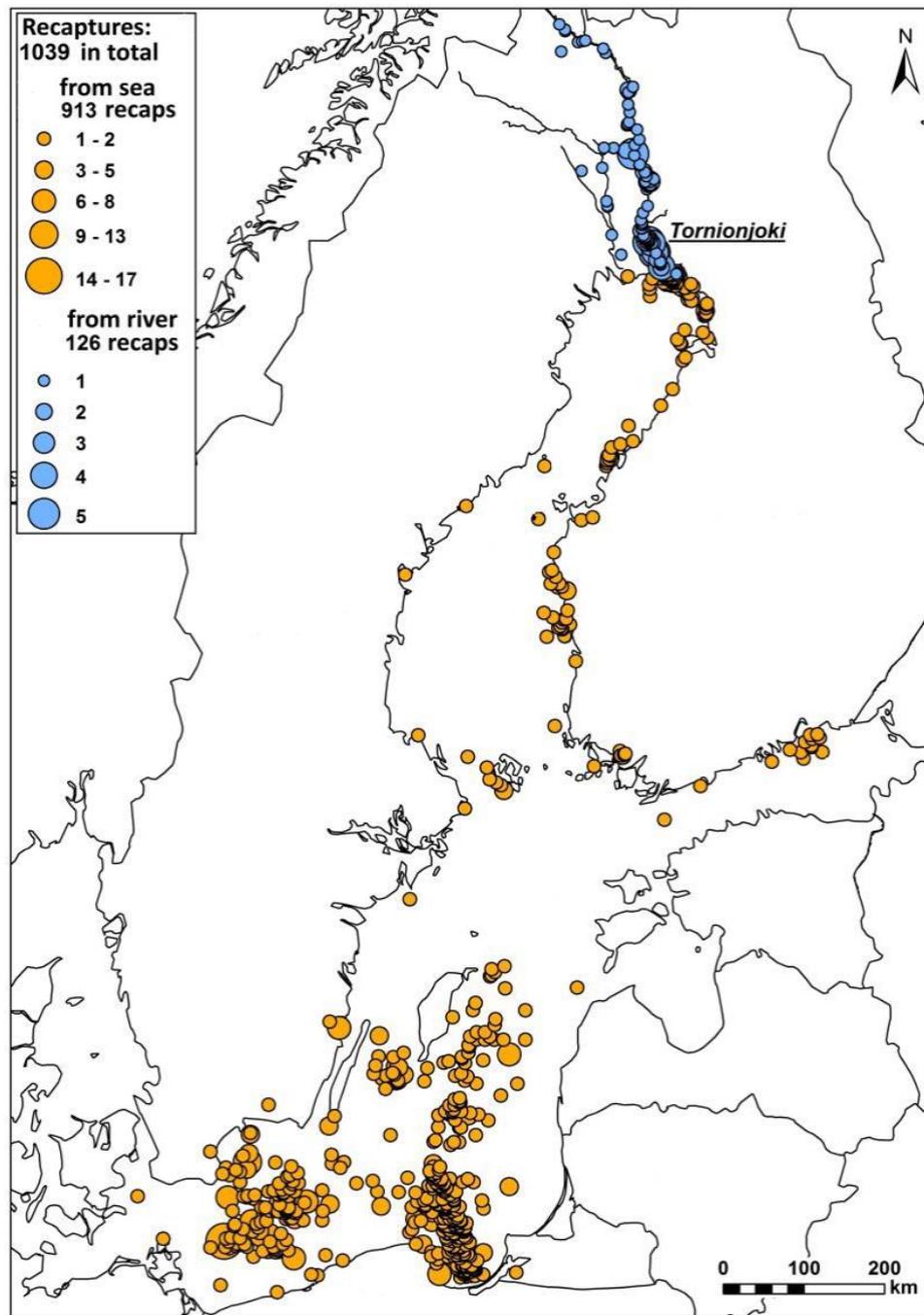
Smolt trap

Fishing at sea (commercial fishing statistics)



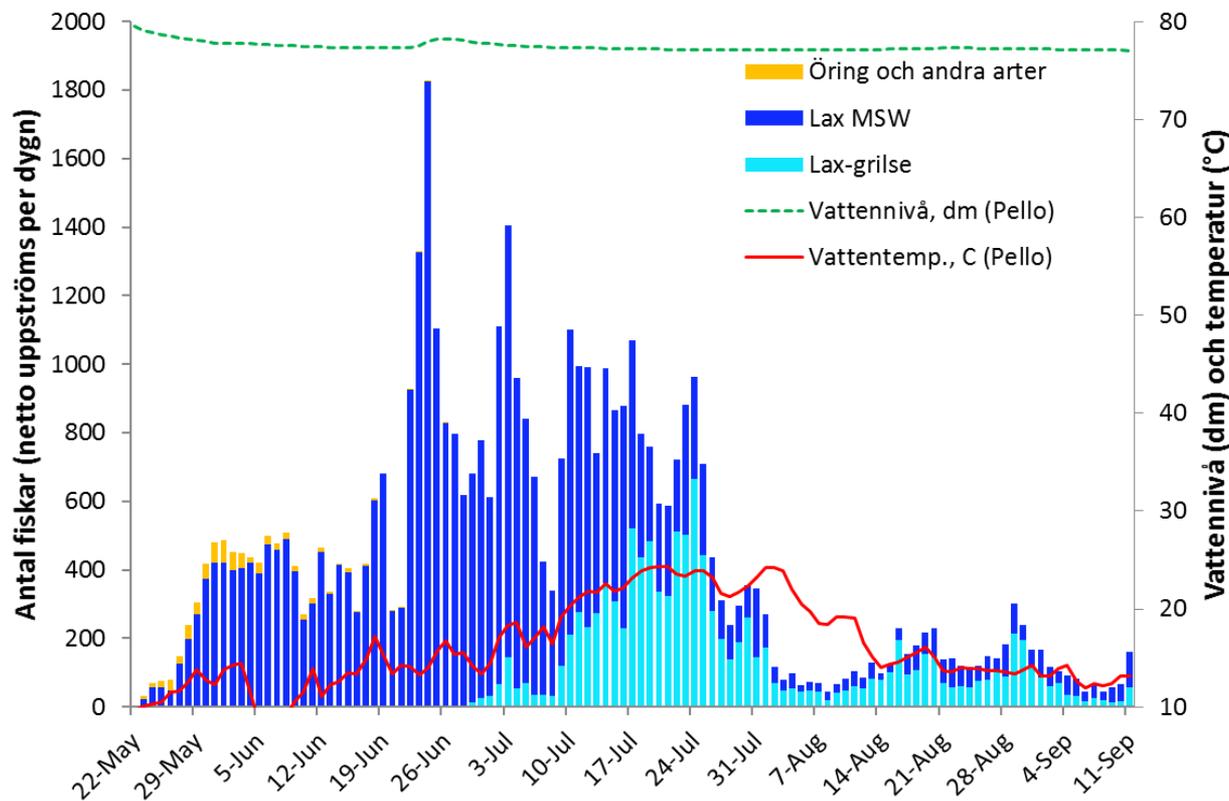
Smolt production



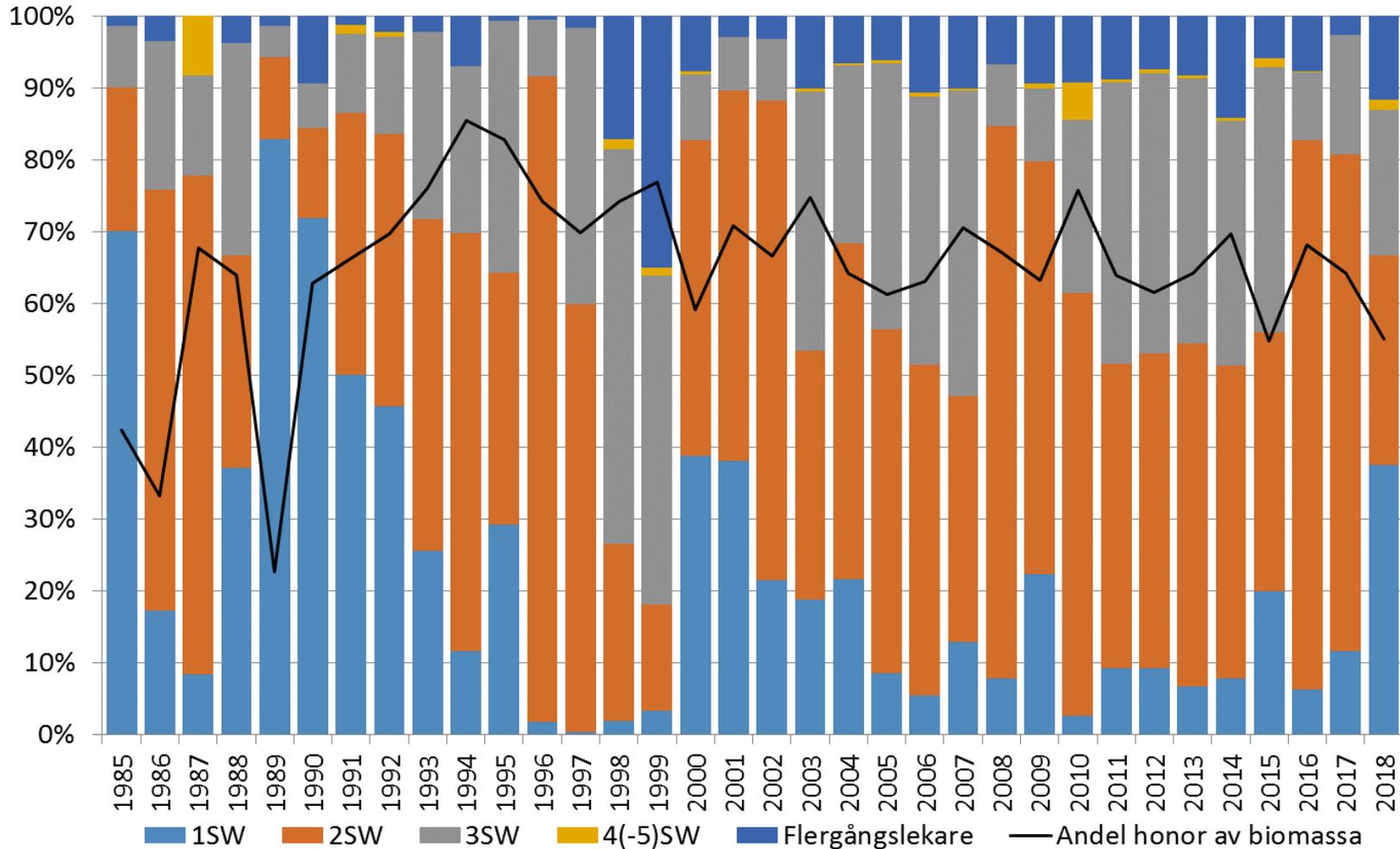


Upstream migration in the river Torne älv

- Kattilakoski counting site
 - c. 100 km from the river mouth



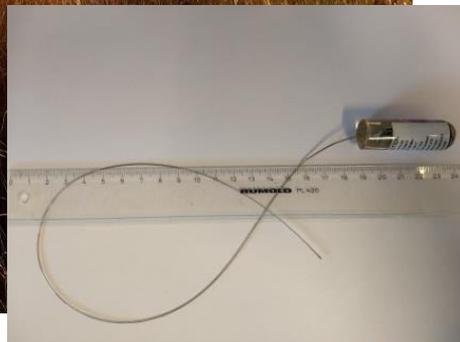
Sea age structure among catch samples of river fishing



Spawning migration patterns of salmon and sea trout in the Torne älv / Tornionjoki river system



Radiotelemetry study
2018 - 2021



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Institutionen för akvatiska resurser

26.3.2019

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Radiotelemetry study: Main objectives



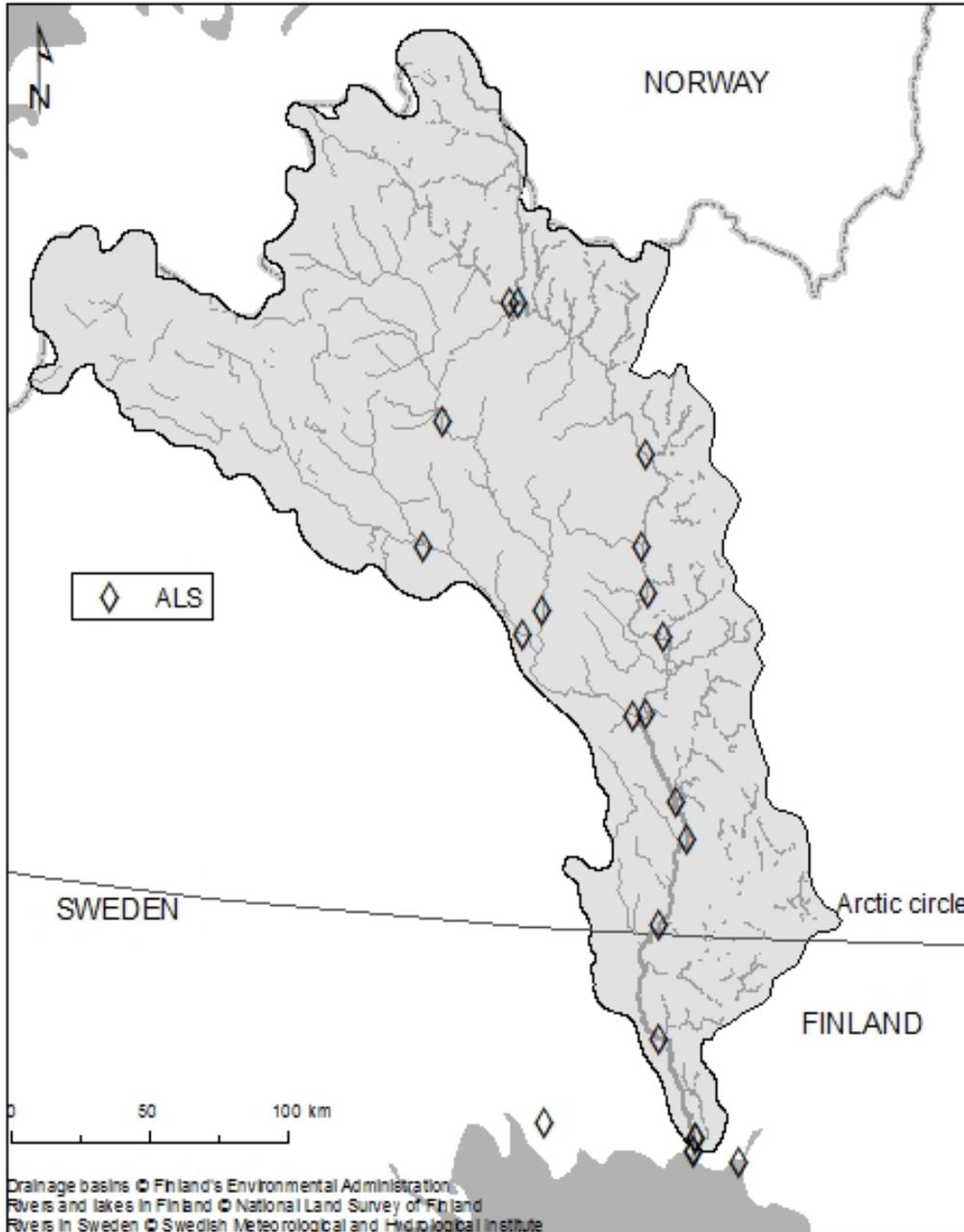
- What kind upstream migration behavior do salmon and sea trout?
- How do salmon and sea trout spawners spread into different parts of the catchment for spawning?
- How do spent salmon and sea trout overwinter, return back to the sea and survive to the next spawning?



- How does catch and release (C&R) affect behavior and survival of fish?

★ The results can use as reference for e.g. River Ume-Vindel älv salmon migration studies.

Radiotelemetry study: Tracking of fish



- 18 automatic listening stations (ALS) in the River Torne älv + Kalix and Kemijoki
- Manual tracking by car, boat and airplane



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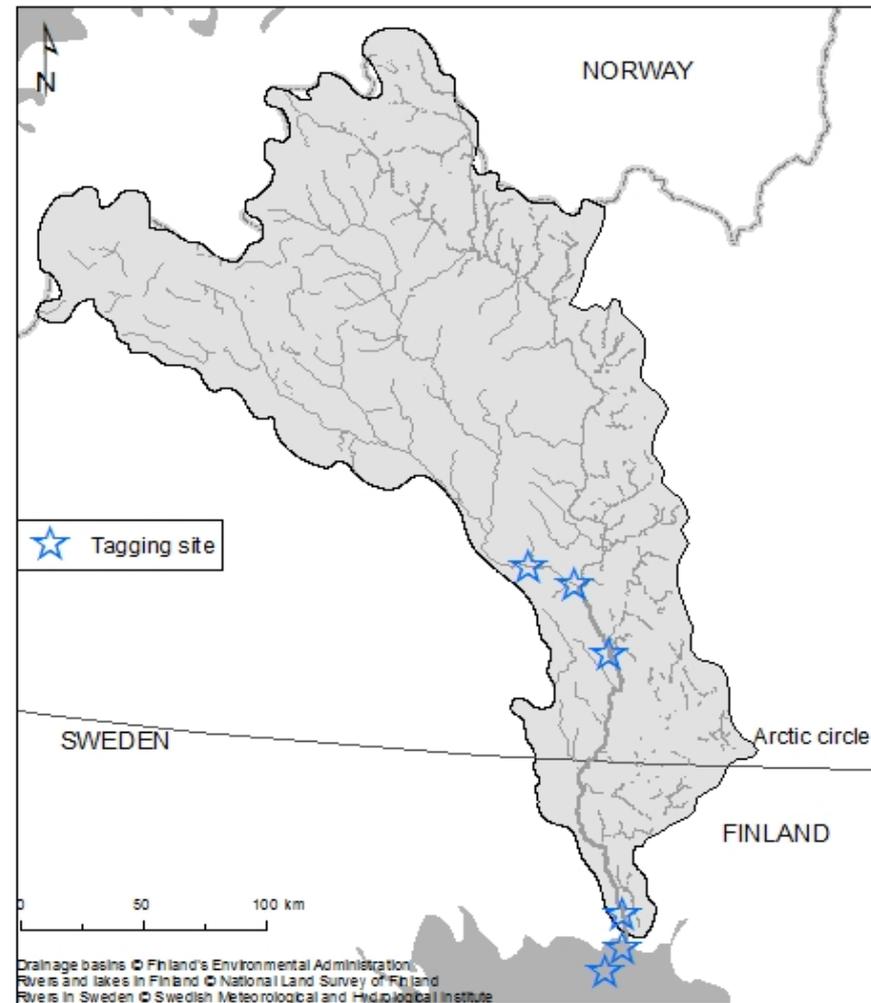
Radiotelemetry study: Taggings in 2018

At the river estuary

- Hamppuleiviskä
 - 93 salmon (7th June – 13rd July)
- Seskärö
 - 45 salmon (in July, trap study)

In the river

- Vaarankoski, Vojakkala
 - 6 salmon (1st October - 17th October)
- Naamisuvanto, Pello
 - 5 salmon (22nd August - 6th September)
- Kengis
 - 5 salmon (6th June - 15th June)
- Pajala
 - 1 salmon (23rd August)

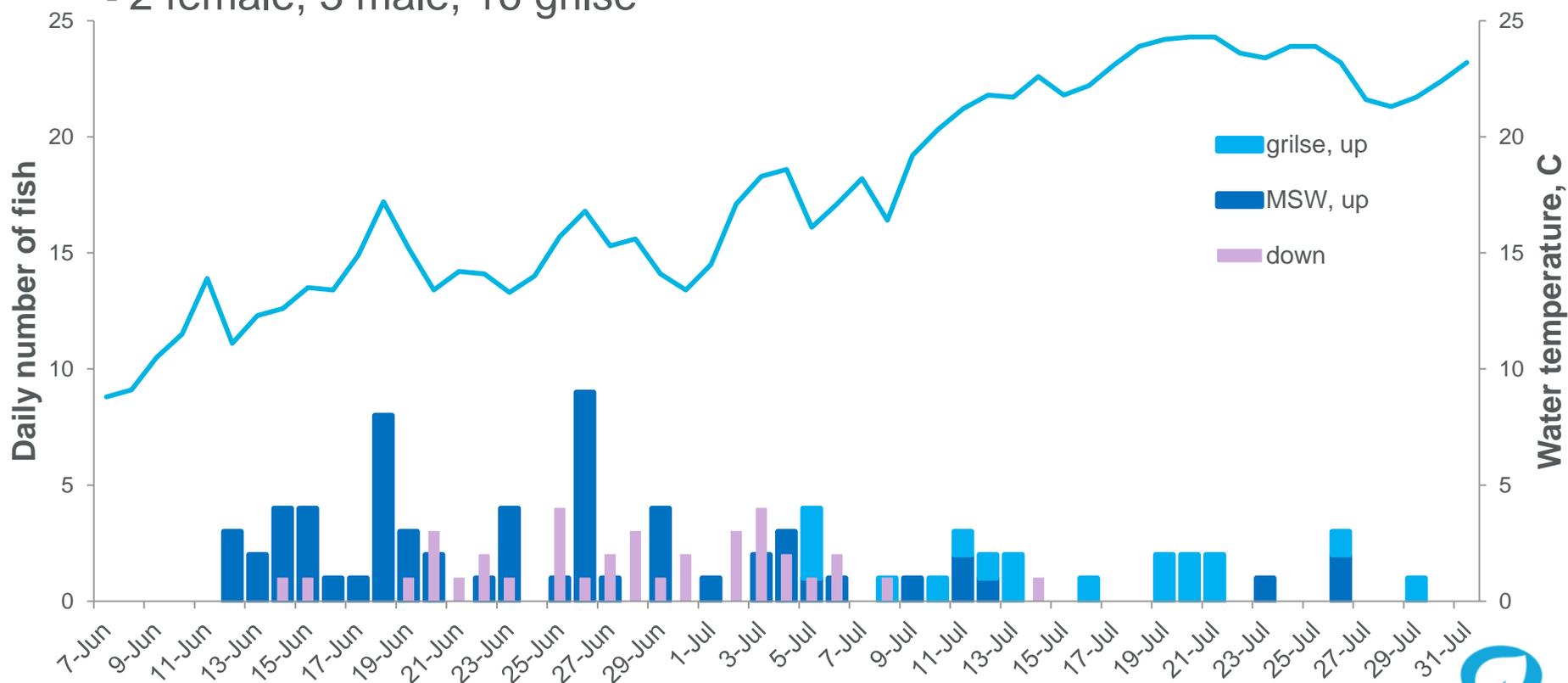


Radiotelemetry study: Results

- 62 salmon (67%) detected in the river mouth
 - 41 female, 18 male, 3 grilse

+ Trap study

- 21 salmon (47%)
 - 2 female, 3 male, 16 grilse

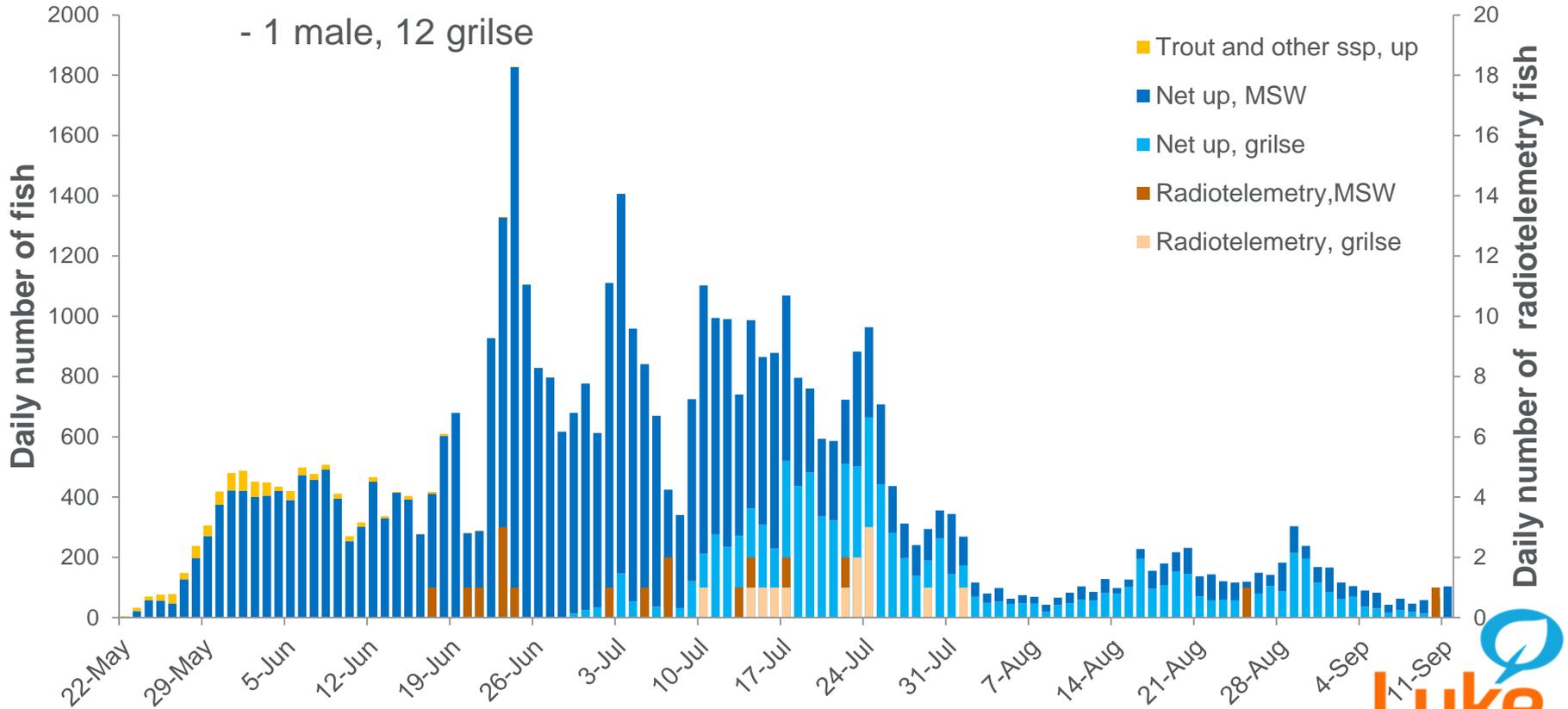


Radiotelemetry study

- 18 salmon recorded Kattilakoski listening station
 - 10 female, 7 male, 1 grilse

+ Trap study

- 13 salmon
 - 1 male, 12 grilse



Swimming time from the river mouth to Kattilakoski

| | Median, days | Min | Max |
|-------------|--------------|-----|------|
| Female, MSW | 8.0 | 5.1 | 56.5 |
| Male, MSW | 7.6 | 4.4 | 90.0 |
| Grilse | 5.7 | 2.8 | 11.1 |

Radiotelemetry study: Locations of salmon in October 2018

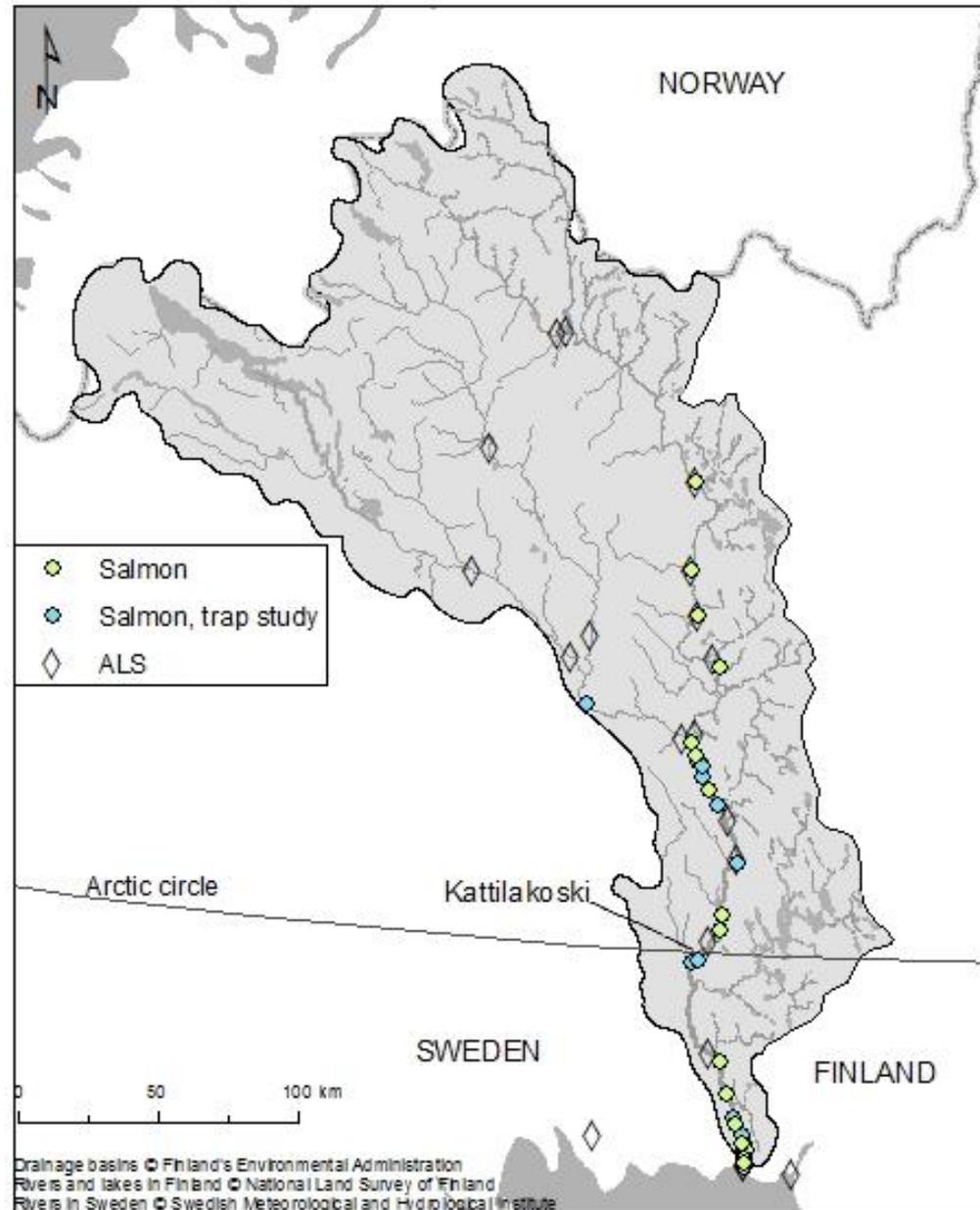
➤ 21 salmon in the river

- 10 female, MSW
- 9 male, MSW
- 2 grilse

+ Trap study

➤ 16 salmon in the river

- 1 female, MSW
- 3 male, MSW
- 12 grilse

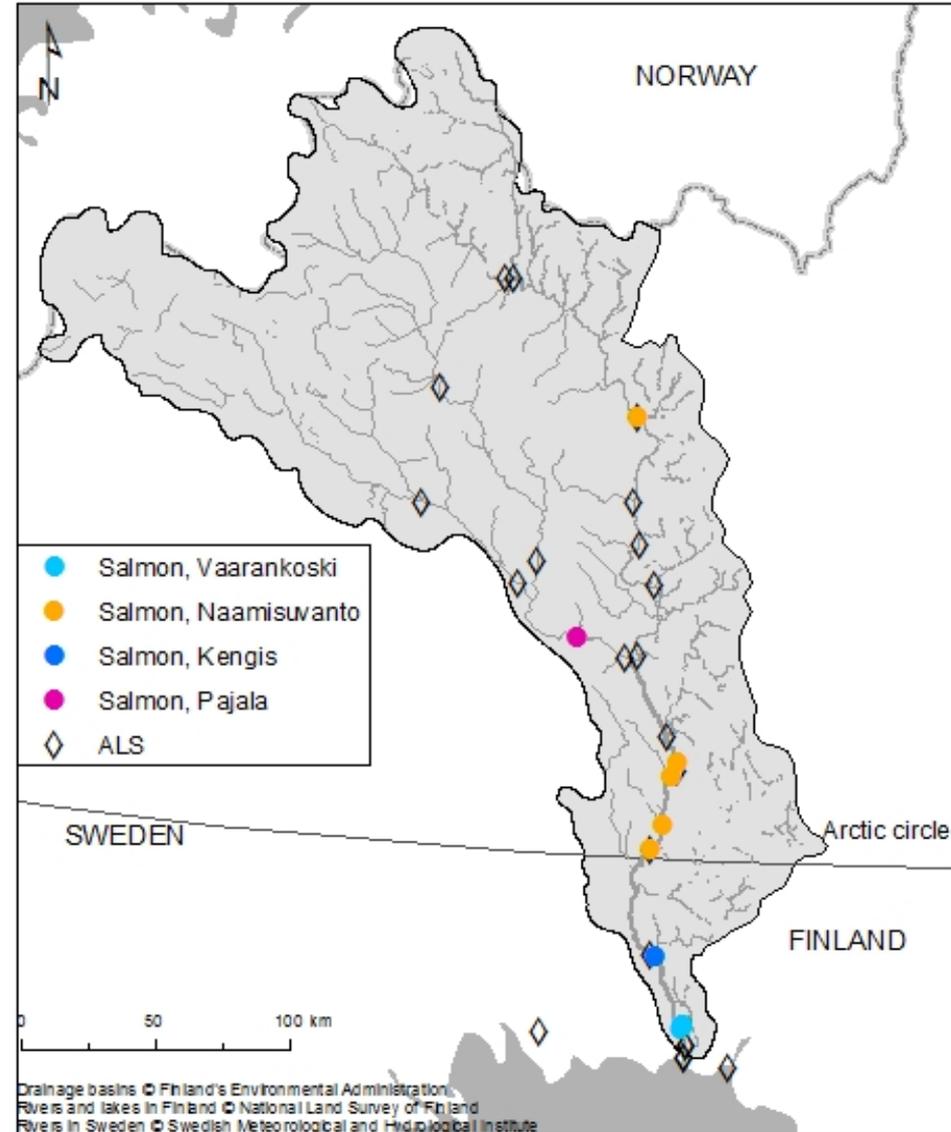


Radiotelemetry study: Behavior of salmon caught and tagged in the river

- Salmon tagged in June moved downstream from the catching area
- Salmon tagged in August/October stayed nearby the catching area



Locations of salmon in October



Kiitos!



Acknowledgements: Atso Romakkaniemi, Mikko Jaukkuri, Saana Tepsa, Eliisa Rantanen, Gustav Hellström, Christer Blomqvist, Johan Östergren, Olli van der Meer, Vesa Rantanen and local fishermen