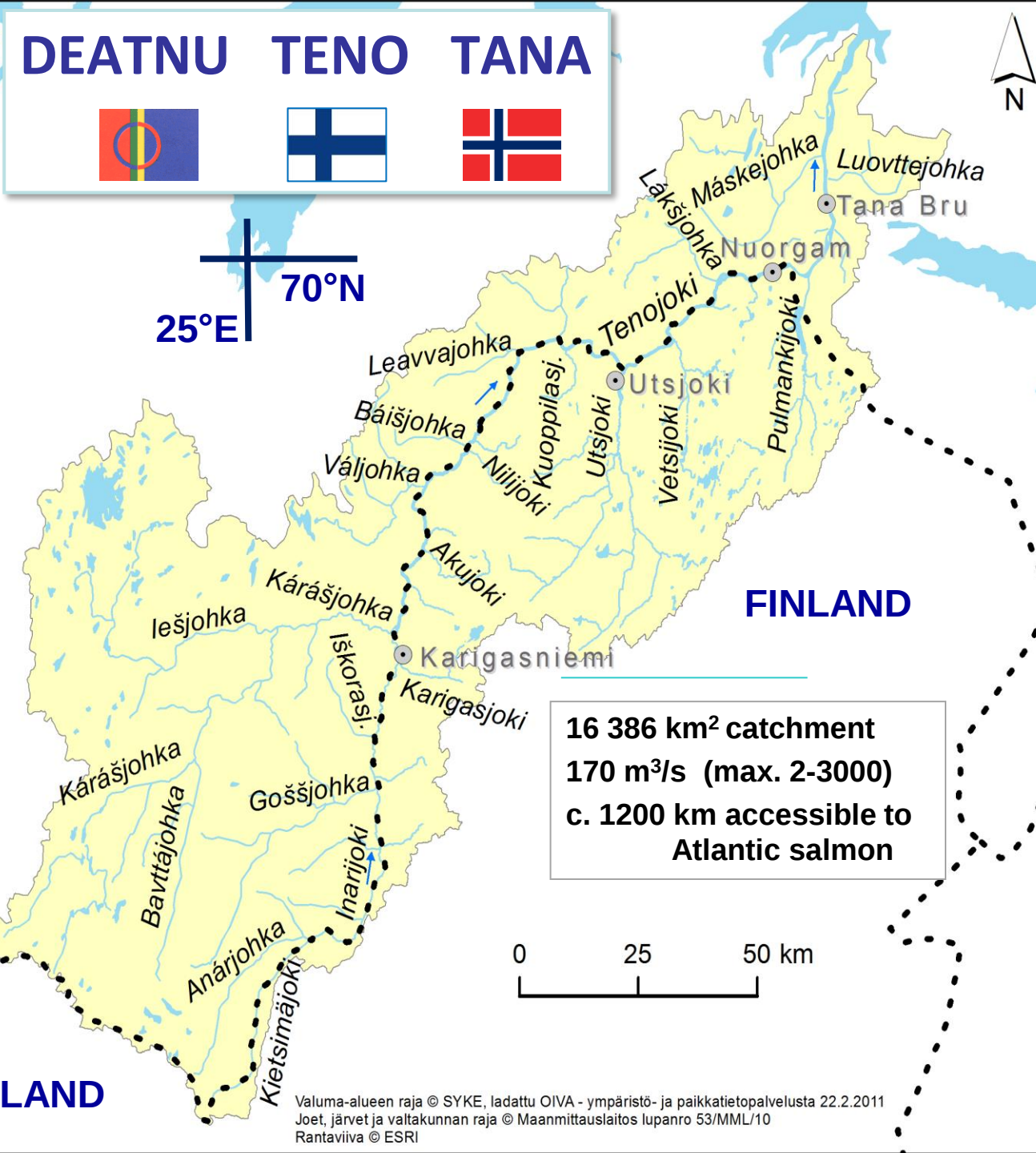


Change in ecosystems and sociocultures: The Teno river salmon stock collapse and an invasive species

Jaakko Erkinaro

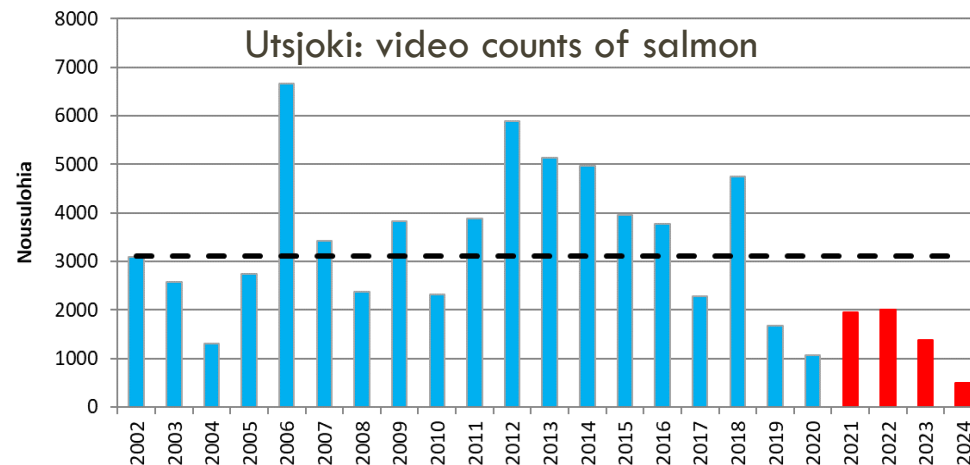
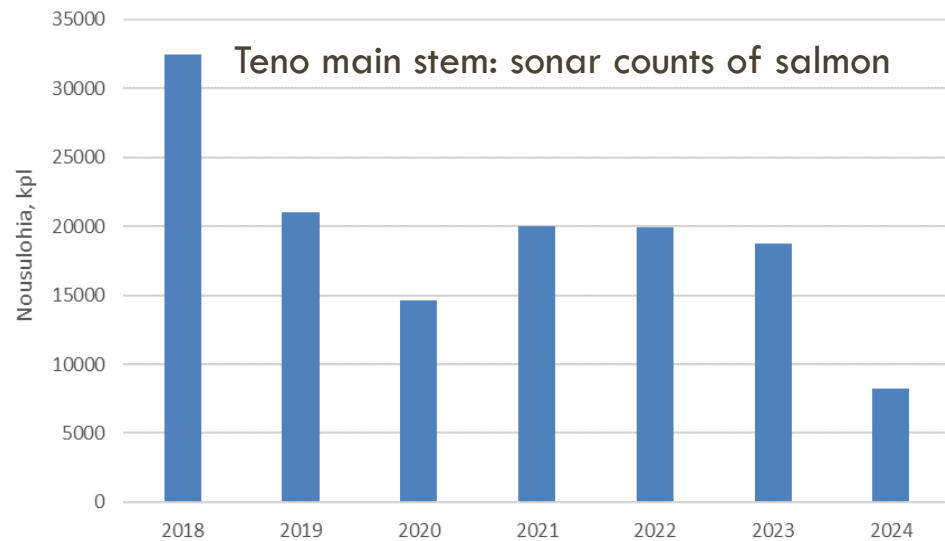
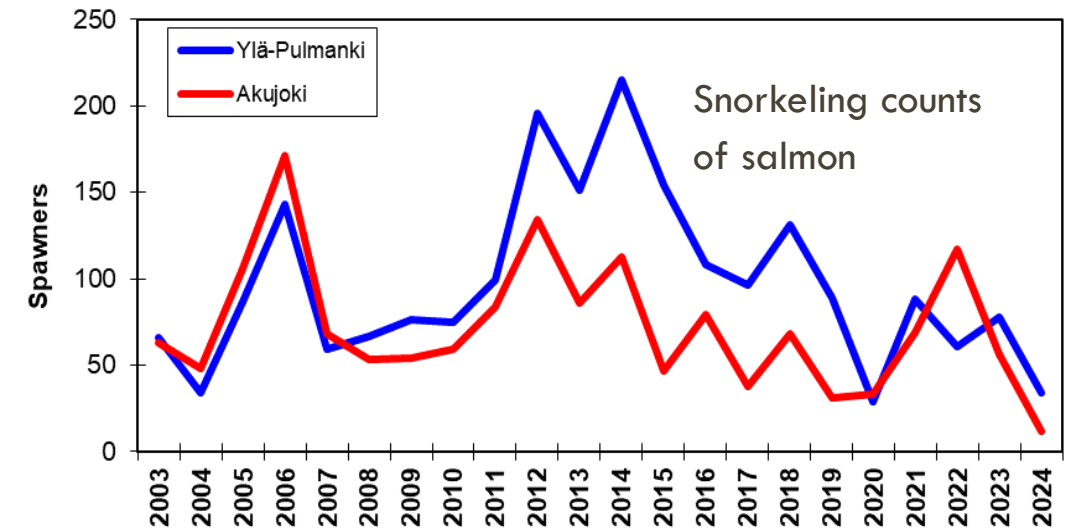
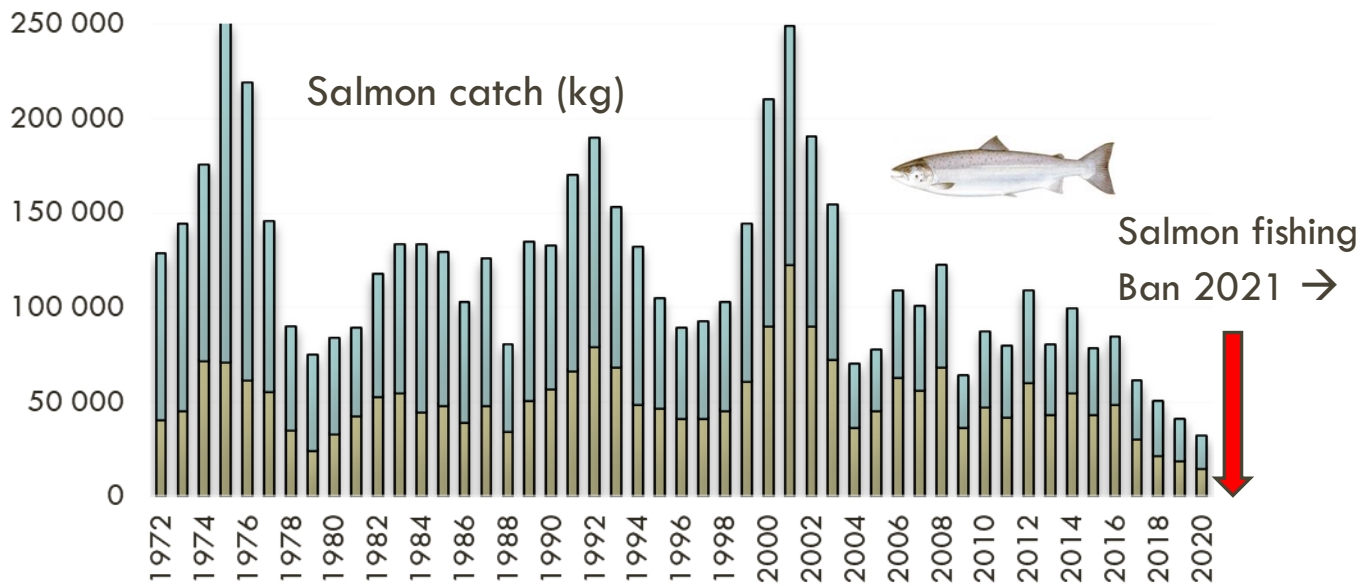
Natural Resources Institute Finland (Luke)





Photos: P.Orell, J.Erkinaro, T.Korpela, E.Niemelä, M.Lämsman

Status of the Teno River Atlantic salmon populations



Collapse of Atlantic salmon populations in the Teno River

Ecological, societal, cultural, economic disaster

Tana/Teno Monitoring and Research Group



Status of the Tana/Teno River salmon populations in 2024

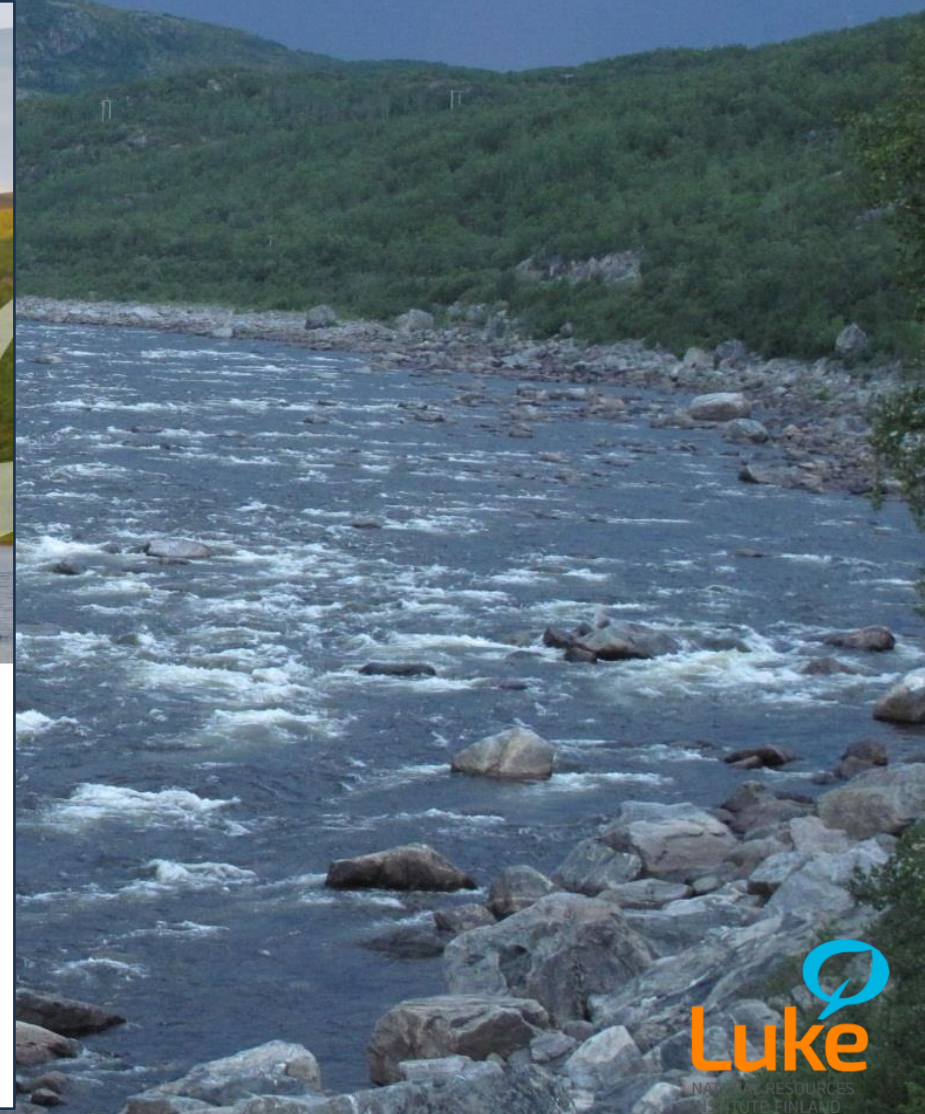
Report from the Tana/Teno Monitoring and Research Group 1/2025



Luonnonvara- ja biotalouden tutkimus 103/2022

Tenojoen lohenkalastuskiellon yhteiskunnalliset vaikutukset ja niiden seuranta

Päivi Abernethy, Joni Saijets, Mikko Jokinen, Marja Knuuttila ja Juha Hiedanpää



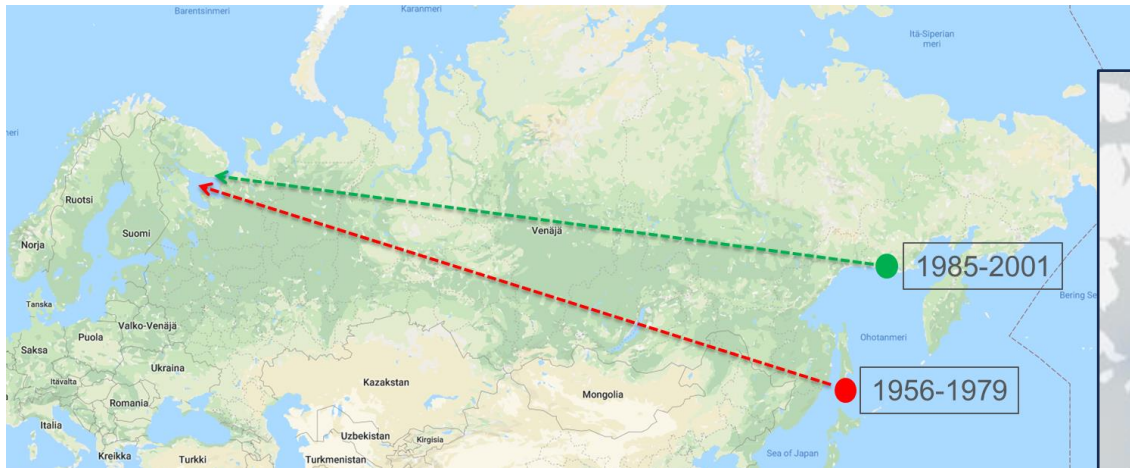
Alien Pink salmon in the Atlantic area



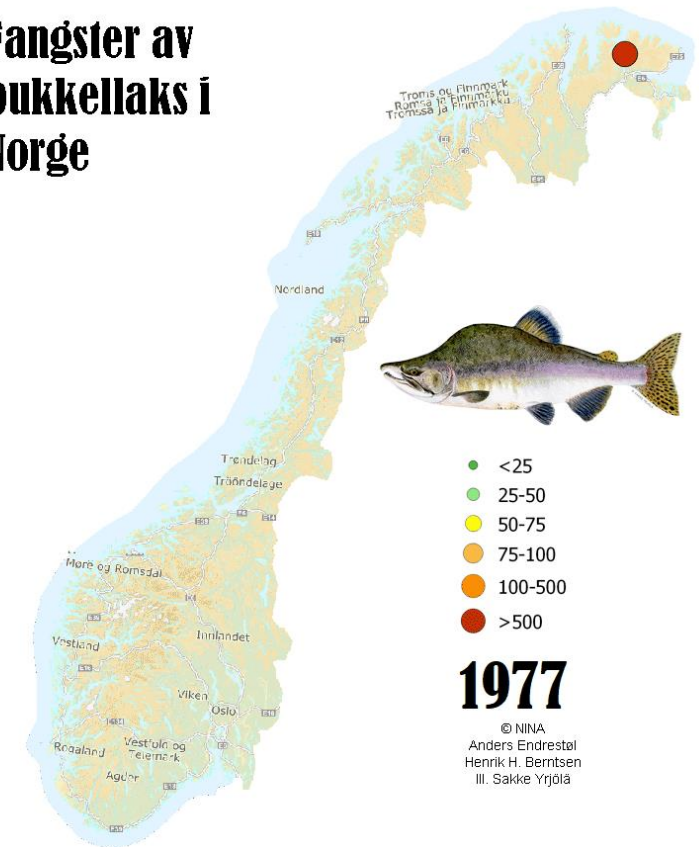
Photo: Pekka Tuuri

Alien Pink Salmon in the Atlantic area

- ✓ Introduced from the North Pacific region to the Russian Kola Peninsula/White Sea basin since late 1950s
- ✓ Odd-year stock successfully introduced; even-year population weak
- ✓ Stocking ceased 2001 → thereafter all returns from natural production
- ✓ Sudden increase in abundance and distribution since 2017



Fangster av pukkellaks i Norge



Estimated numbers of pink salmon ascending the Teno River

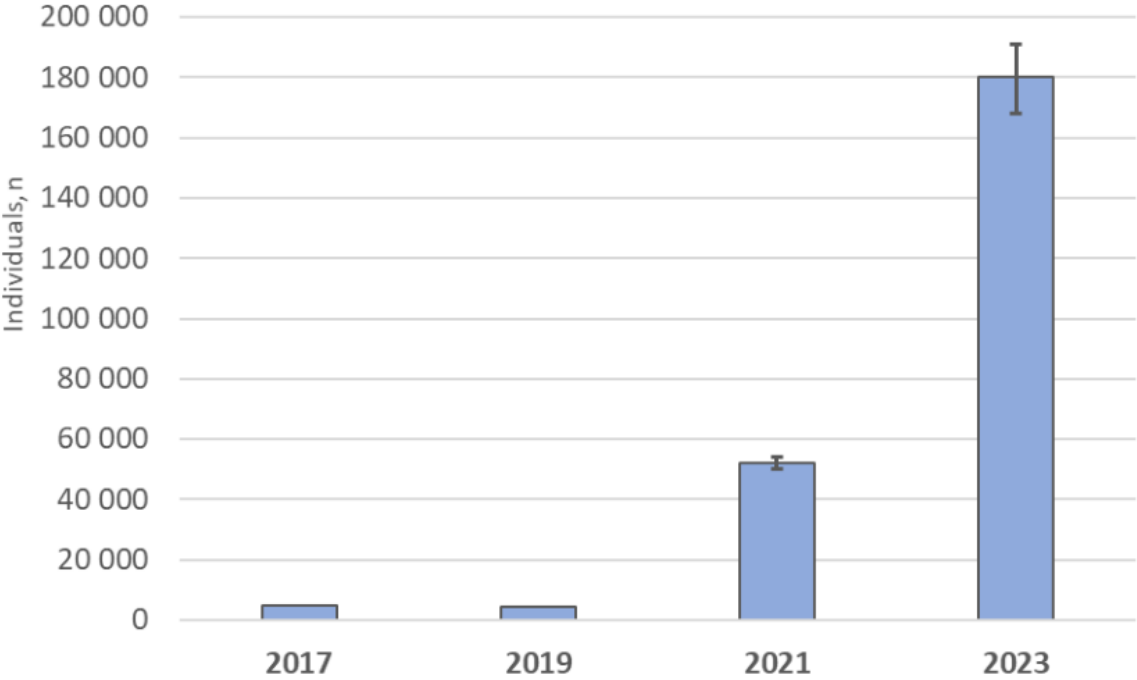
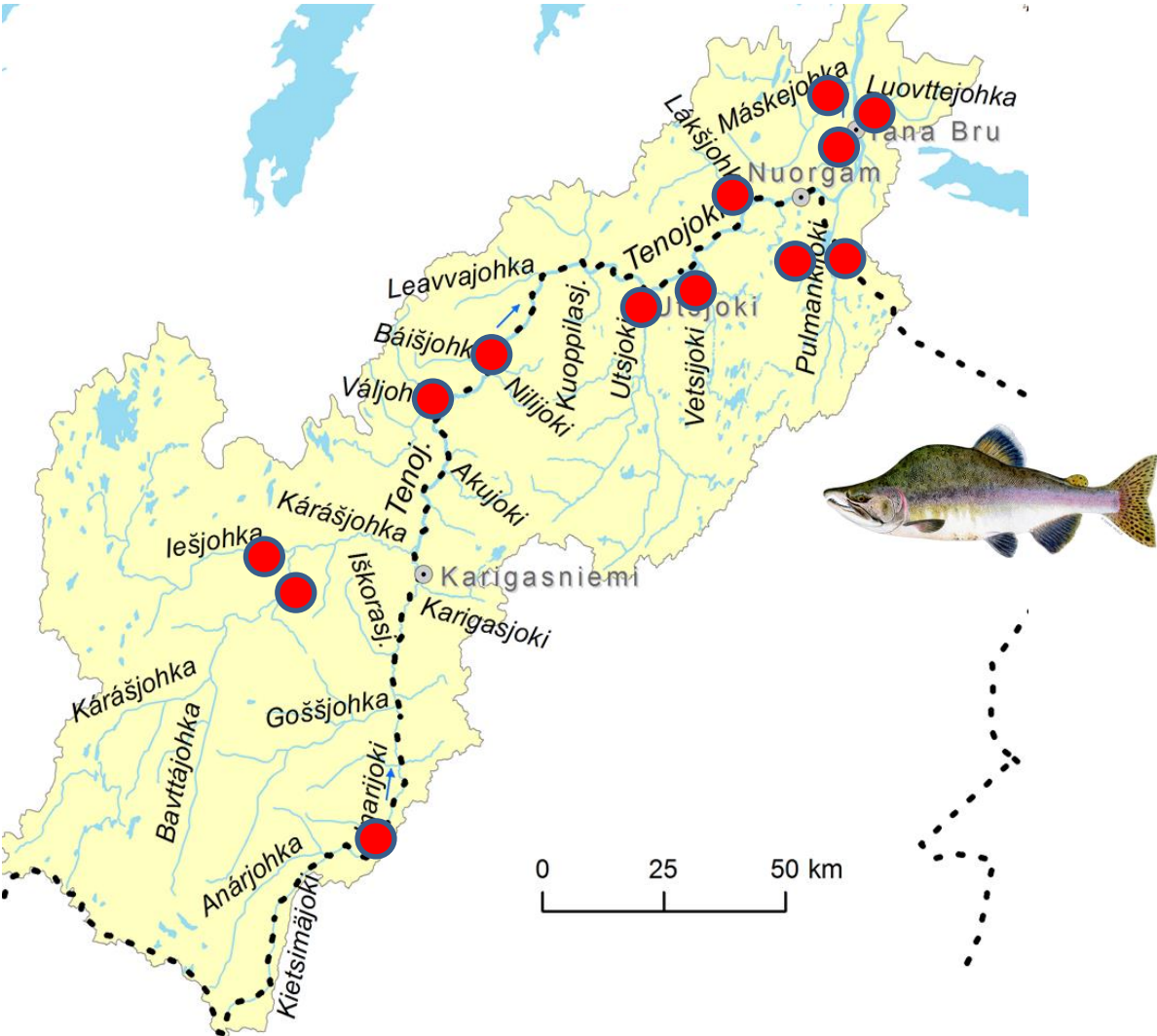


Photo: Panu Orell

Records of pink salmon in the tributaries of the Teno River



Niche construction

The organism influences its own evolution, by being both the object of natural selection and the creator of the conditions of that selection

(Levins and Lewontin 1985)

The evolution of human... skills and languages are...forms of niche construction... the key process that allows and requires incorporating social practices... in human development and evolution

(Rouse 2023)

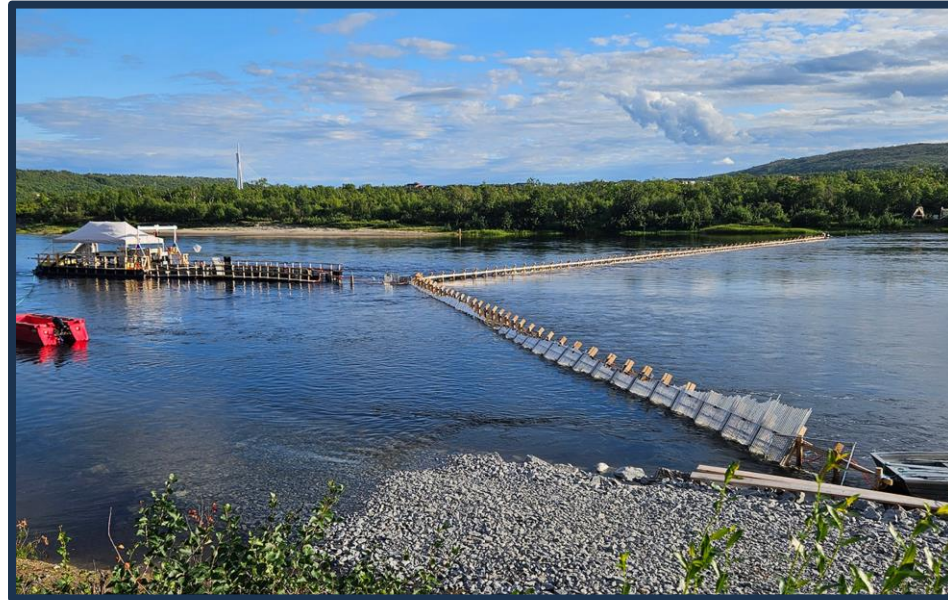
Niche construction?

Ecological, perturbational?



Niche construction? Societal, cultural?

- ✓ 2017, 2019: **Shock**, disgust !
- ✓ 2021: Demand for action !
- ✓ 2023: **Action** !
 - **Strong (Norwegian) policy: barrier**
 - Doubts, worries about the impacts on native salmon
 - Projects to apply **Sámi traditional knowledge** for developing pink salmon fishing gear
 - **Resource!?!**
- ✓ 2025: A new fence under planning
 - Doubts, worries about the impacts on native salmon
 - Exploitation of pink salmon as a resource !?



- Change in attitudes
- New concerns, hopes, demands
- Change in culture and way of life: could the alien species replace the depleted native species in Sámi fishing cultures?
- Change in culture modify the sources of selection?
- Biological evolution vs. cultural change?



Photo: M. Kytökorpi



Photo: H. Blom





The Great Reset ?

Alien niche construction underway.

For the worse or better to the native ecosystems and Sámi culture?



Multispecies Cultural Niche Construction?

Ecce Homo



Photo: Mikko Ellmen

**The native
Atlantic**



The alien Pink

Photo: Pekka Tuuri