Development in the Pink salmon catches in the transboundary rivers of Tana and Neiden-in Norway and Finland Niemelä, Hassinen, Johansen, Kuusela, Länsman, Haantie, Kylmäaho

- Who can identify pink and Atlantic salmon
- Feelings against pink salmon
- First catches in the history
- Distribution in the River Tana watershed
- Total catches in the rivers Tana and Neiden
- Timing of the catches
- Ecology



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To recognize silvery pink salmon might be difficult for tourist fishermen or even for some local fishermen early in the summer





In the second half of July and especially in August fishermen have no problem to distinguish Atlantic salmon and Pacific salmon in the catches





Fishermen do not like this new fish species in their catches especially in the end of July and August. Why?





Why not pink salmon in the catches?

- Local fishermen are not get used to catch other species than salmon and seatrout
- Tourist fishermen have payed a lot of money to catch silvery Atlantic salmon
- Local fishermen catching Atlantic salmon with gillnets and weirs have an opinion that pink salmon in their fishing gears are scaring the real target, Atlantic salmon, away. Does this scaring help Atlantic salmon to avoid to be caught with traditional fishing methods?
- In rod fishing from shore and boat pink salmon is disturbing the real Atlantic salmon fishery. Maybe distroying the fly?
- Pink salmon population is the highest in the River Tana during the small salmon migration in the middle of July
- Pink salmon is not eatable after it has lost the silvery coloration-however Atlantic salmon is caught and eaten although it is brown



First observations from Pacific salmon

- Fishermen did not recognize all the pink salmon especially early in July
- First observations from pink salmon in the River Tana watershed in late 1960s'; in early and middle 1970s' this new species appeared into the Tana watershed
- First juvenile (smolt) was caught with electrofishing c. 20. July in the year 1979 close to the the tributary river Borsejohka in Tana
- During the annual electofishing in the Tana system there has not been observed pink salmon smolts because usually this monitoring starts after pink smolts have left the river system
- Pink salmon catches have been caught from even- and odd year stocks
- Nowadays fishermen are informed better than earlier to report also pink salmon catches
- New reporting system introduced in 2017 is determing that all fishermen must inform detailed data from all their catches



Distribution in the River Tana watershed

-can migrate into the same areas as Atlantic salmon

-has been caught some hundreds of kilometers up in the watershed







Sites in the river Tana watershed where pink salmon was caught by local fishermen in Norway in the years 2012– 2015 -sites are indicating also

the fishing pressure





Numbers of fishermen who have informed annual pink salmon catches on the Finnish side in the Tana River in the years 1973–2008

-almost every year they have caught pink salmon since 1973



Pink salmon catches in Norway and Finland in the River Tana watershed





Catch distributions of pink salmon between Norway and Finland in the River Tana watershed







Annual pink salmon catches within fishing areas in Tana, Norway, in 2004-2017



Catch distributrion between fishing areas in Norway in 2004-2017





Pink salmon catches in Norway in the River Tana watershed in 2017





Pink salmon catches in Norway in the River Neidenelva during the last 11 years





Pink salmon catches in Finland in the River Neidenelva

-usually very low catches of pink salmon but it is possible to find spawners in the large spawning areas up in the system

-decliging trend in the numbers of salmon gillnets which could allow pink salmon to spawn succesfull.





Timing of pink salmon catches in 2017 in the rivers Tana and Neidenelva



Weekly numbers of pink salmon in the River Neidenelva (Norway), (weeks 23-26 are in June)





Daily numbers of pink salmon below and above the large waterfall (Skoltefossen) in the River Neiden in 2017 -pink salmon can pass the fishladder (fishway) or even the big fall





Large fall in the River Neidenelva (Skoltefossen) does not prohibit totally pink salmon migration to the uppermost areas





Occurrence of pink salmon in the daily catches in various fishing areas in Norway in the **River Tana** watershed in 2004-2017

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Curves are indicating the mean timing of pink salmon catches in Norway for different fishing areas in 2004-2017



Curves are indicating the annual timing of pink salmon within the area **from Tana rivermouth to common border area**



Median date of capture for pink salmon in the area from the Tana rivermouth to common border area







Weekly numbers of pink salmon in the Norwegian and Finnish catches in the River Tana mainstem in 2017

-catches in the area Tana rivermouth-Tana Bridge are indicating the migration period into the river Tana -migration period is overlapping with the migration of small Atlantic salmon



Cumulative catches in the River Tana for Norway and Finland

-most of the Norwegian pink salmon catches is taken in the lowermost area (within 60 km) in the Tana mainstem and earlier than pink salmon is ascending into the common border area





Pink salmon weekly catches in 2004-2014 in Norway in the River Tana watershed and catch distribution between fishing methods

-weir is the most important fishing method to catch pink salmon





Pink salmon proportions (%) over the years between the fishing methods in the River Tana maistem in Norway -pink salmon is caught also with rod and gillnets but mainly with weirs







How pink salmon was caught in Norway in the River Tana watershed in 2017

- waterlevel was higher than normal for the use of effective gillnet fishing methods



Ecology: migrates from the river as small smolt quite earlybefore middle of July; is feeding in shore areas (blue line in the scale) some time, migrates to open sea. Is growing also in the late spring and early summer in the year of ascend





The length when 0+ pink salmon (post smolt) is leaving the shore areas at sea has large annual variations. This size variation may reflect to the later survival at sea. "Smaller size may result to higher mortality"





Sex distributions

-almost 50:50 but some annual variation (depends on the numbers of samples or catch report information)





Females are ascending in higher proportions than males in June and early July into the River Tana





Is fishing from the shore exploiting more females than males and is fishing from boat exploiting more males? -shore fishing is mainly fly fishing. Data from Tana in 2017 in tourist fishery in Finland





Pink salmon is growing at sea only one year. The size of females is between 0.5 kg to 2.3 kg and of males between 0.3 kg to 3.5 kg. Males can be as large as 4 kg.







Annual variation in the size of pink salmon is reflecting the variations in the environment in Barents Sea (food availability, sea temperature) -can increased sea temperature with increased primary production result to high abundance of pink salmon in northern rivers





In tourist fishing in Finland early in July most pink salmon has been caught from shore (fishing with fly) but towards 10. of August the proportion of catch from boat (mainly fishing with lure) is increasing significantly



In the River Neidenelva pink salmon catch during the latest years is taken 50:50% with fly and lure.







Thank you!



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