

*The Kolarctic ENI CBC project CoASal "Conserving our Atlantic salmon as a sustainable resource for people in the North; fisheries and conservation in the context of growing threats and a changing environment (KO4178)", aims to document and examine the new sea salmon fishery regulations, study the effects of growing threats Atlantic salmon populations face today with climate change, growing cage culture industry and emerging diseases.*



## The amazing wild Atlantic salmon

The Atlantic salmon is a fascinating creature, which captures the human imagination. Its birth and growth in streams and rivers of the Barents region; its transformation from freshwater to a seawater habitat with all physiological changes that are involved; its migration across thousands of kilometres from the feeding grounds to the coastal areas and its accurate return to the river and even the riffle where it was born, so as to breed and re-start its life cycle – all these qualities fill us with admiration.

Despite implementation of stronger conservation and management measures, international and bilateral agreements to protect both salmon stocks and their habitats, the current situation for wild salmon stocks is alarming.



Photo: Eero Niemelä, Eevaliisa Kivilahti, VNIRO/ PINRO. Layout: Tikkanen Workshop

### Project partners:

**Norway:** The County Governor of Troms and Finnmark (FMTF; Lead Partner) and Institute of Marine Research (IMR)

**Russia:** Polar branch of VNIRO (former PINRO Murmansk)

**Finland:** University of Turku, Biodiversity Unit (UTU)

**Sweden:** Swedish University of Agricultural Sciences (SLU)

### Project period:

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### Financing:

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### Project web site:

[www.fylkesmannen.no/coasal](http://www.fylkesmannen.no/coasal)

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# CoASal

Conserving our Atlantic salmon  
as a sustainable resource  
for people in the North



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*Our aim is to address multiple key questions in salmon biology and management, including:*

*What is the effect of the new salmon fishery regulations on salmon stocks in the region?*

*How climate change, growing cage culture industry and emerging diseases affect wild populations of Atlantic salmon in the Barents Sea area?*

*What are the most effective ways to mitigate these threats?*

## **Aims of the project**

- To document and investigate possible changes in the coastal salmon fishery due to new regulations.
- To document and examine salmon ecology, origin and the catches composition in the mixed-stock fisheries.
- To examine major threat factors to wild salmon stocks in the Barents region: effects of climate change, growing cage culture industry and emerging diseases (PKD and viruses).
- To raise awareness and knowledge, and enhance communication between local fishermen, fishery managers and scientists in Norway, Russia, Finland and Sweden.

The project follows up and builds on the unique results from the "Kolarctic salmon (KO197)" project (2011–2013).

## **Major threats to wild salmon populations**

While new fishery regulations measures are implemented to maintain conservation limits and to harvest salmon stocks sustainably, more and more wild salmon populations are becoming threatened, most likely because of multiple factors, including global climate change, intensive development of salmon cage culture industry, introduction of foreign fish species and habitat destruction. Another major threat, where present knowledge is limited, is the transmission of various pathogens from farmed to wild salmon and outbreaks of diseases due to global increase of temperatures.

## **Why is cross-border cooperation needed?**

Atlantic salmon is a common nature resource and an icon of viable and healthy ecosystems. It is of great importance for local communities and traditions. As nature does not follow man-made borders, cross-border scientific collaboration is necessary to obtain relevant knowledge and find the best solutions. The aim for all countries involved is to take care of and contribute towards maintaining healthy wild salmon stocks for the future generations, and for the viable and attractiveness of the Arctic region.

## **Activities and Expected results**

Through harmonised and cost-efficient field sampling in the project area rivers and in the coastal fisheries we will update the existing juvenile baseline for chosen Atlantic salmon stocks in the Barents region. Through modern genetic analyses and genetic stock identification, catch composition and genome-wide changes will be examined and migratory patterns for stocks along the coast will be updated. Climate change will be examined through comparison of long-term environmental data sets and juvenile smolt ages. Number of escaped salmon in the coastal catches will be identified in scale analyses. Distribution and prevalence of emerging parasites' diseases and screening of viral diseases will be conducted. Knowledge and awareness will be raised through seminars, web site and a multilingual temporal exhibition.

