Traditional Knowledge of Northern Waters



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Executive summary

Traditional Knowledge of Northern Waters 2018 was a project that focused on two iconic Arctic river basins in the Fennoscandian and Russian North – the Skolt Sámi home stream of Näätämö river flowing from Finland to the Barents Sea and Ponoi river on Kola Peninsula, Russia. A third geographical area of the project was the coastal community of Sosnovka which is in close proximity to the Ponoi river mouth. The project benefitted from previous scientific work that commenced in the area 2006.

The project was led by the Snowchange Cooperative (FI) with House of Culture (Lovozero, Rùssia) and CBM – Swedish **Biodiversity Center being project partners** together with Sámi organisations. Funding was provided by NEFCO PECC-1 Programme.



Over 9,000 data items ranging from Indigenous knowledge and oral histories to historical weather records resulting back to 1863 were produced in the project. The main findings are:

- 1. Climate change is now an urgent reality that is affecting the health of both fish and ecosystems in Näätämö and Ponoi catchment areas as well as Sosnovka. Water temperatures are becoming dangerously warm and threat of fish deaths is real. Record warm spells triggered forest fires both in Finland and in Russia. Threats to salmonide fish, especially Arctic Char, is now imminent and their survival is at stake.
- 2. Villages involved have living traditional knowledge and a willingness to observe, report and act on the results. A monitoring network is now in place and should be supported, long-term, to understand climate and ecological change in the basins both from science and traditional knowledge. This includes Indigenous and local customary governance and self-limiting of harvests especially of spawning salmon. Many people expressed their growing concern on the impacts of catch and release practices within sport fishing. Villages have sets of holistic biocultural indicators, often gendered, with which they monitor ecosystems. Women in the villages have special knowledge of the rivers.
- 3. Striking similarities in biodiversity changes, especially fish health, emerged from all regions. Whitefish suffer from major parasites, salmon stocks are dwindling, the expansion of the range of Pink salmon (Oncorhynchus gorbuscha), introduced species, is now a reality on both Näätämö and Ponoi as well as Sosnovka river. For the Russian communities, the back-log of Soviet land use and pollution events should be investigated as a long-term driver of change.

- conditions.



4. Scientific results, in part beginning from 1863, on water quality, humidity and temperature indicate that Näätämö, Ponoi and Sosnovka are some of the last wilderness areas in the European North. They are for the most part in pristine condition. However the weather data confirm the local observations of the urgency of climate change and creates conditions for fish death and algal bloom events. Summer 2018 was the hottest on record in this area and the project documented the impacts of the warm spells on fish, rivers and water

5. The project partners will disseminate the key results of the work in a range of media including Arctic science meetings, visual histories and online platforms, social media and peer-reviewed co-produced papers. The success of the project should be replicated and expanded urgently across the European North to allow more community-based monitoring of change (CBM) to take place.