



*Näätämö Co-Management Work Report 2015-2016*  
*Snowchange Discussion Paper #12*  
*Tero Mustonen and Pauliina Feodoroff*

## Contents

<i>1. Introduction</i>	3
<i>2. Work in the Näätäjä Watershed September 2015 – September 2016</i>	4
<i>2.1. Traditional knowledge weather observations in Sevettijärvi</i>	5
<i>2.2. Näätäjä River Observations</i>	6
<i>2.3. Case Study of Nilijoki: Photos 2009-2016</i>	7
<i>2.4. Ecological Restoration Plans: Summer 2016</i>	13
<i>2.5. Baseline Maps of the Whole Catchment Area</i>	15
<i>3. International Partnerships</i>	18
<i>3.1. Second Festival of Northern Fishing Traditions, Zhigansk, Republic of Sakha-Yakutia, Russia, September 2016</i>	19
<i>3.2. Documenting Traditions in the Solomon Islands: Comparative View</i>	22
<i>References</i>	27

## 1. Introduction



*Lake Opukasjärvi in late May*

This work report documents the efforts of the Näätämö river co-management project that was initiated in 2012-2013. Materials in the report focus on events from September 2015 to September 2016. Work in the Ponoï and other Kola Peninsula communities was on preparatory mode for this season, with plans for a renewed community documentation in 2017.



*Skolt Co-researcher Jouni Moshnikoff*

*Thanks to all supporters, staff in the project and Rospuutto group!*



## 2. Work in the Näätämö Watershed September 2015 – September 2016

The Näätämö co-management project proceeded as in the previous years. Main directions of work were:

- Skolt Sámi co-researchers surveying ice conditions, fish stocks, weather, water quality and levels as well as other indicators from September to August (end of reporting period).
- Science team analyzing traditional knowledge and limnological data regarding the status and trends of the basin
- Mapping of ecological restoration sites in the Vainosjoki river sub-catchment area and lake Sevettijärvi subcatchment area
- Outreach efforts to media and society, including national press (YLE), international press (Independent Barents Observer, Take Part , National Geographic)
- Participation in science and river management events (Species on the Move 2016 in Tasmania, Australia, Community workshops, on-going, U.S. – Finnish Workshop on Local Knowledge, Inari, Finland, Round Table on River Restoration, Yakutsk, Russia and the International River Symposium, India)
- Co-organisation of the second Festival of Northern Fishing Festival in Zhigansk, Republic of Sakha-Yakutia, Russia



*River Näätämöjoki*



## 2.1. Traditional knowledge weather observations in Sevettijärvi

The Skolt Sámi observed, as a part of the project, the weather using diaries, traditional knowledge and other means as a part of the project cycle. A female co-researcher situated at the village of Sevettijärvi made the following observations of relevance:

- *In September 2015 temperatures were up to 19-20 C. From the 17<sup>th</sup> storms and heavy rains arrived. On the 29<sup>th</sup> September a big storm from the southwest.*
- *In October there was sleet on the 3<sup>rd</sup> and a cold spell. Around the 10<sup>th</sup> frosts of -6C. Between 13<sup>th</sup> and 25<sup>th</sup> a warm spell and all ice melted. Some snow fell on the 27<sup>th</sup> and melted again on the 2<sup>nd</sup> November.*
- *November 2015 was rather cold at first. Snow arrived on the 9<sup>th</sup> for 10 centimeters. More cold temperatures in mid-November, with -16-18C. But again on the 15<sup>th</sup> warm weather, plus degrees and the rivers start to melt again. On the 27<sup>th</sup> snow was up to 15 cm.*
- *December 2+15 brought snowfall almost daily. In mid December frosts down to -22, -29C. Rest of the month great fluctuations in weather – on the 25<sup>th</sup> plus degrees and strong SW winds, 26<sup>th</sup> temperatures down to -24C. Then towards new year cold spell of -25C.*
- *January 2016 began very warm and windy. On the 7<sup>th</sup> temperature plummeted down to -36C and further to -39C. The cold spell stayed on until the end of January. Snow depth at 15<sup>th</sup> January 70cm. Usually at this time in the 2000s snow depth 35-40 cm.*
- *'Unstable' weather continued between plus degrees and -31 C in February 2016.*
- *March 2016 as well very 'unstable', snow arrived, and also melted, snow depth 75 cm at 15<sup>th</sup> March, 2016.*
- *Early April brought warm spells, on the 16<sup>th</sup> temperatures were already + 6C. 29<sup>th</sup> April plus 15C.*
- *Ice left the river Nilijoki ponds on the 4<sup>th</sup> May, towards the end of the month very warm.*
- *In June very cold, and storms on the 7<sup>th</sup> to 9<sup>th</sup> with heavy rains. 18<sup>th</sup> June plus 20 C, with 'pouring rain'. End of June rather rainy and cold, mosquitoes arrived on the 17<sup>th</sup> June.*
- *July 2016 temperatures reached +29 C, with heavy rains. 21<sup>st</sup> to 24<sup>th</sup> July warm spell with 27 C almost daily. Water levels in all rivers very, very high.*
- *August 2016 began cold and rainy. 5<sup>th</sup> August a sunny day with +19C. Otherwise temperatures fluctuated with a lot of rain. In the Autumn many mushrooms have been available, including matsutake<sup>1</sup>. Cloudberry season was rather weak, lingonberries were ripe rather early and blueberries were big in size due to the rains.<sup>2</sup>*

Much in line with earlier 2012-2016 observations, this year was marked with the uneven arrival of winter. Several cold spells were affected by the W-SW low pressures that brought warmer weather, especially in late November, affecting the formation of ice on lakes and river. Around New Year very warm winds came, but January a 'proper' winter temperature and high pressure was present, but with unseasonally large snow fall. Early spring marked very warm temperatures, with leaves being developed early. The summer was rather cool with a lot of rain.

---

<sup>1</sup> *Tricholoma matsutake (lat.)*

<sup>2</sup> Weather Records 1: 2015-2016

## 2.2. Näätämö River Observations

The Skolt Sámi team was in place for the open water season from early May to September along the Näätämö river, as in other years. Researchers visited the basin in April, May, June and autumn 2016 to discuss the observations.

Some of the key findings from traditional knowledge included:

- *observation that whitefish roe is of excellent quality on the lake Kieropetäjäjärvi*<sup>3</sup>
- *Velvet<sup>4</sup> and common<sup>5</sup> scoters, duck bird species were thriving on the lake Opukasjärvi in the spring 2016. However, the amount of velvet scoter seems to be down compared to 1980s.*<sup>6</sup>
- *Water levels on the main Näätämö river were approximately one month 'early' in late May, rather high, the levels should be the same on mid-Summer<sup>7</sup>. Then, later in the summer the flood was so high (70 cms) that it prevented the salmon fishery with nets<sup>8</sup>. This prevented also ATV access across river Silisjoki<sup>9</sup>. One occasion the Näätämö main course rose over 50 centimeters in 24 hours due to heavy rains in mid-August<sup>10</sup>.*
- *In early season a big salmon in the range of 16 kilograms was caught in mid-Näätämö, and then in July-August more 'ordinary' fish of 5-6 kilos<sup>11</sup>*
- *Cloudberry was in bloom very early, as in 2013 spring with extreme warmth<sup>12</sup>. Birch leaves started to drop already in July and were almost all gone by September.*<sup>13</sup>
- *Ice conditions on the lakes and rivers were very difficult, as there was only 20 cm of so-called proper 'steel ice'<sup>14</sup> and the rest was 'slush ice'<sup>15</sup>*
- *The first muskrats<sup>16</sup> were observed on the river in the summers 2001 and 2002<sup>17</sup>. Forest grouse<sup>18</sup> expanded range into the main river valley in 2016.*

'Iconic' northern duck species such as velvet and common scoters were present in the summer along the main river. However, their numbers have been reported diminished since 1980s. This is line with earlier Sámi traditional knowledge research from early 2000s<sup>19</sup> from the Utsjoki region.

---

<sup>3</sup> Snowchange Näätämö Oral History 29052016

<sup>4</sup> *Melanitta fusca*

<sup>5</sup> *Melanitta nigra*

<sup>6</sup> Snowchange Näätämö Oral History 30052016

<sup>7</sup> Snowchange Näätämö Oral History 30052016

<sup>8</sup> Snowchange Näätämö Oral History 18092016

<sup>9</sup> Snowchange Näätämö Oral History 19092016

<sup>10</sup> Snowchange Näätämö Oral History 19092016

<sup>11</sup> Snowchange Näätämö Oral History 18092016

<sup>12</sup> Snowchange Näätämö Oral History 30052016

<sup>13</sup> Snowchange Näätämö Oral History 18092016

<sup>14</sup> teräsjää in Finnish

<sup>15</sup> Snowchange Näätämö Oral History 30052016

<sup>16</sup> *Ondatra zibethicus*, an introduced species to Finland

<sup>17</sup> Snowchange Näätämö Oral History 30052016

<sup>18</sup> *Lyrurus tetrix*

<sup>19</sup> Arctic Council 2005

Low pressures and warm spells during the winter had created unusual ice cover, with only 20 centimeters of proper 'steel ice'. As with the weather observations from the village of Sevettijärvi, the water levels were very high through the spring with very high temperatures, much as in 2013. The flooding conditions continued throughout the summer, affecting the cultural harvest of salmon in July.

### 2.3. Case Study of Nilijoki: Photos 2009-2016

In this chapter, a range of photographs<sup>20</sup> from August 2009 to 2016 documents water levels mostly along the Nilijoki stream, lake Sevettijärvi and adjacent areas. The low, repeated water levels are clearly visible through the years, transforming then in August 2016 to very high flood conditions. This method of tracking environmental change in the Näätamö basin has been defined as *visual history*<sup>21</sup>, a peer-reviewed mechanism to offer Indigenous and local traditional knowledge holders mechanisms to monitor and detect change using visual materials.



*Water levels, August 2009*

---

<sup>20</sup> Nilijoki Visual History Archive 2009-2016

<sup>21</sup> Mustonen 2015





*Seining on the school cape, August 2010*



*Seining on the school cape, August 2010*





*Seining, August 2013 – water fluctuation evident*



*Shoreline along Nilijoki river, August 2013, with low water levels*





*Low water on the school cape, lake Sevettijärvi, August 2013*



*August 2013*





*Low waters at River Nilijoki, August 2013*



*Low waters at River Nilijoki, August 2013*





*River Nilijoki, August 2016*

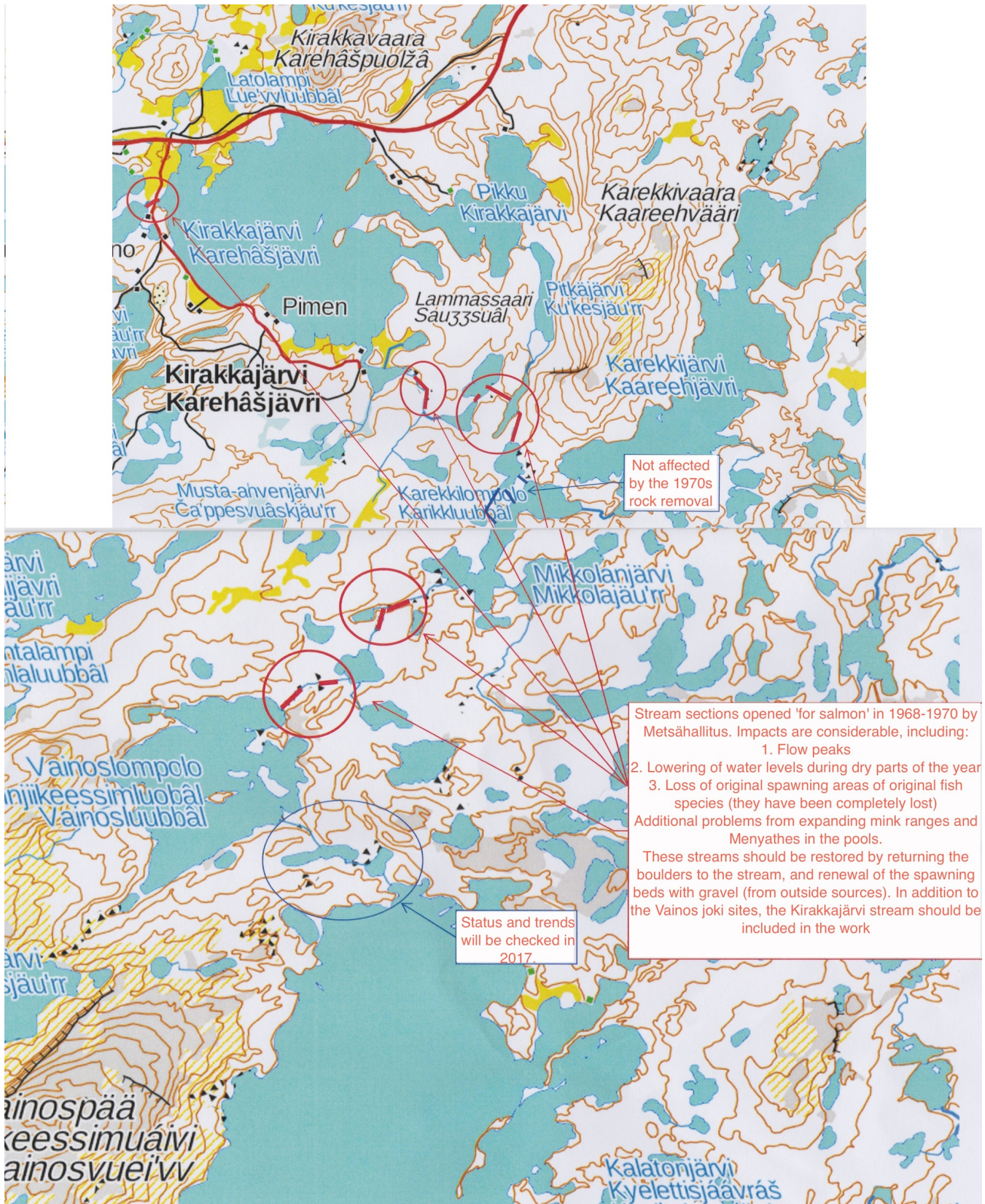


## **2.4. Ecological Restoration Plans: Summer 2016**

In June and July Snowchange Cooperative financed mr. Janne Raassina, a nationally-recognized expert of river restoration to conduct fieldwork in the Vainosjoki sub-catchment area.

These field visits were guided by Skolt Sámi experts. As a result, the most urgent restoration sites were marked on maps for future reference.



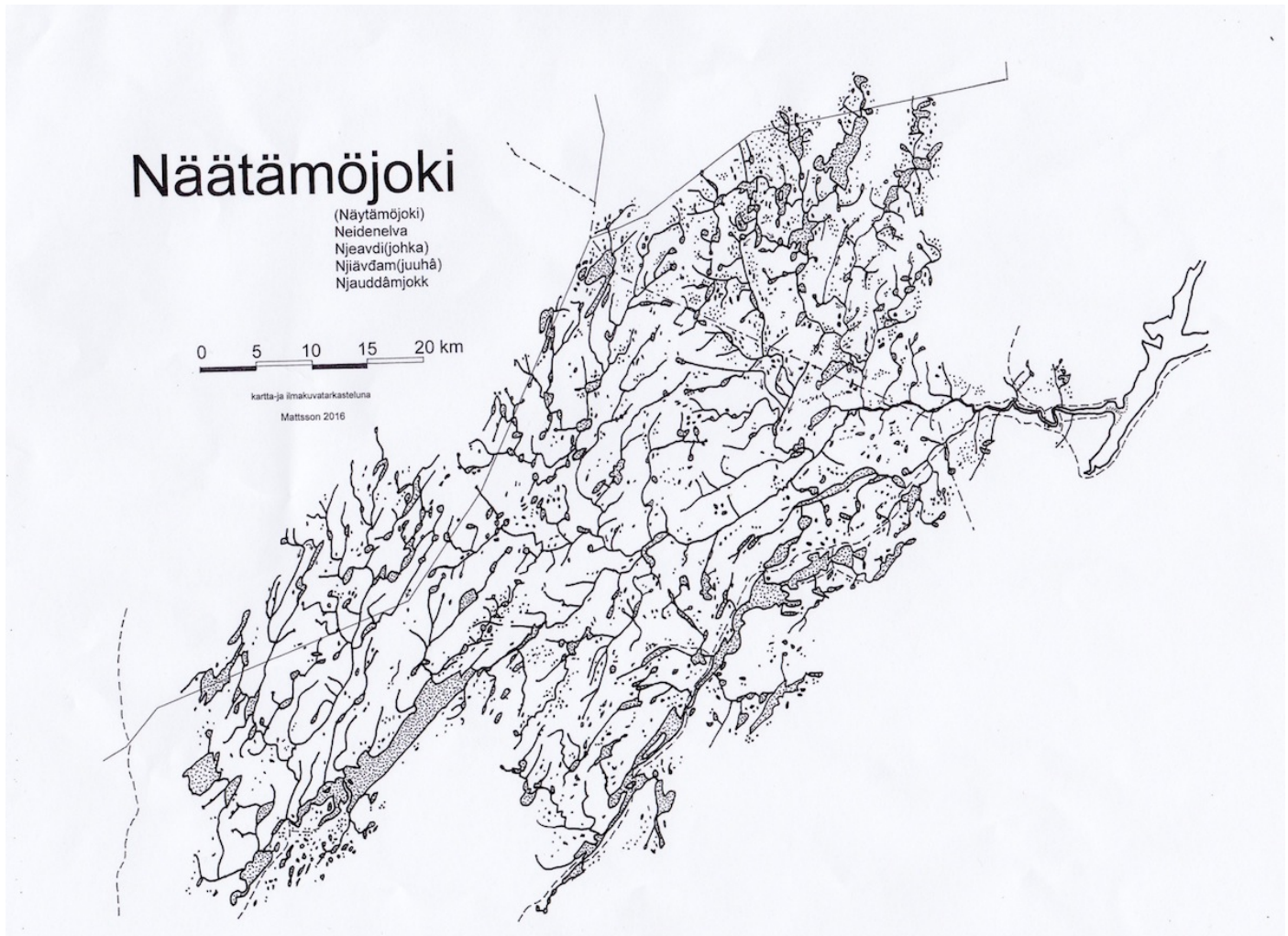




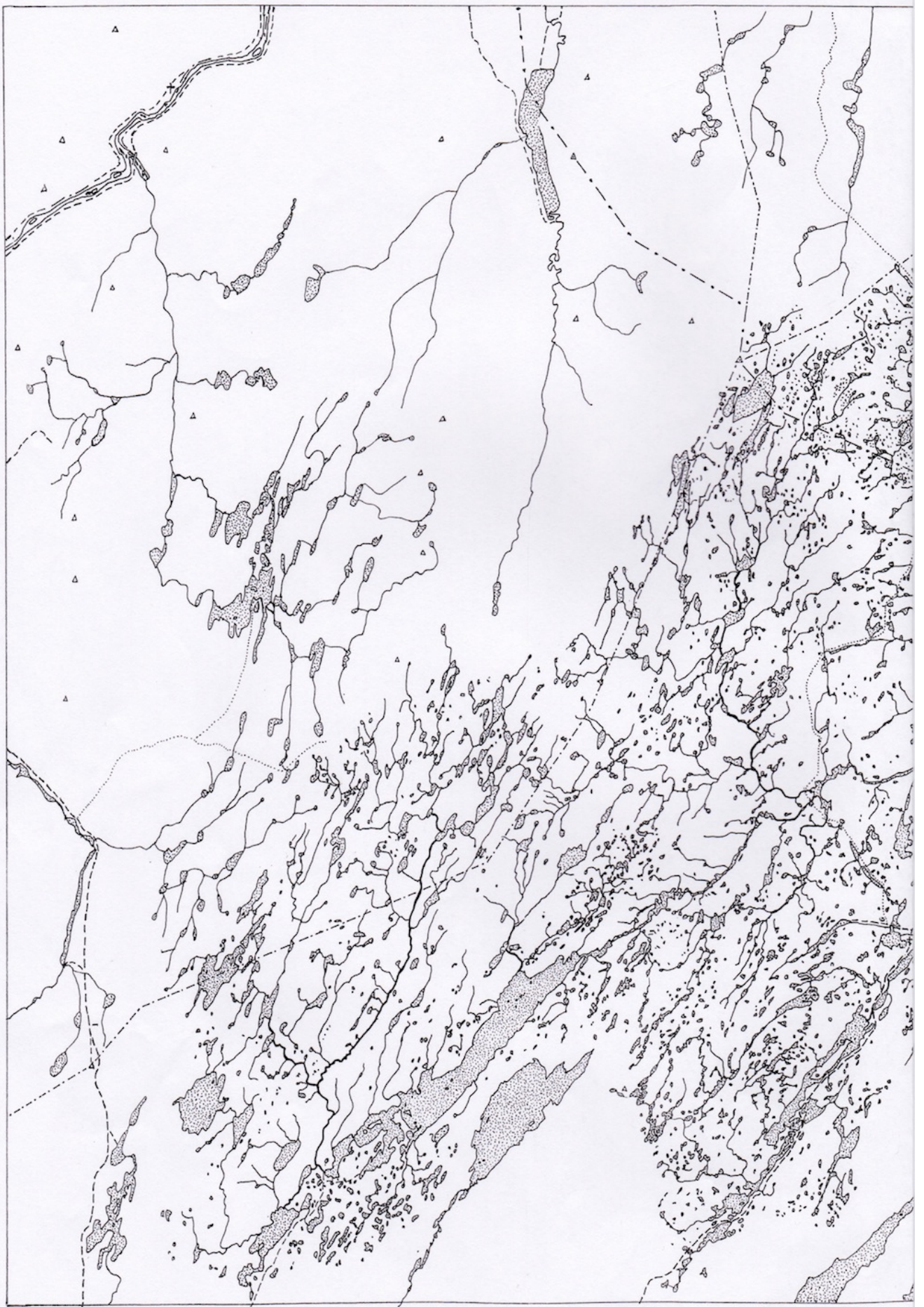
## 2.5. Baseline Maps of the Whole Catchment Area

Another mapping exercise in the summer 2016 was to develop up to date baseline maps of the whole Näätamö river basin. They were developed by geographer Jorma Mattsson, a long-time associate and partner in the Näätamö project.

Some of the baseline maps are included here:











### 3. International Partnerships

Between Autumn 2015 and 2016 the following international partnerships and outreach took place:

- Ph D Gleb Raygorodetsky, an internationally known specialist on the questions of biocultural landscapes, resilience, Indigenous climate change work and one of the initiators of the Näättämö co-management project visited the basin in October 2015. He is currently finishing a book 'Archipelago of Hope', on the Indigenous voices on climate change, that will feature a chapter from the Skolt Sámi project (see more at <http://www.gleb-raygorodetsky.com/archipelago-of-hope-book/>)
- Take Part journal out of New York, USA visited the river project in October and produced a major news article about the steps so far and the future prospects of the river, the article is available here: <http://www.takepart.com/feature/2015/11/30/arctic-people-fight-back-against-climate-change>
- Vyacheslav Shadrin, a Yukaghir leader from Sakha-Yakutia, represented Snowchange in the COP Climate Change Conference in Paris, France in December 2015. He brought the model of ecological restoration and climate change work from Näättämö to several round tables and workshops in the COP.
- Exchanges of knowledge and models between the Finnish Swedish River Commission and Näättämö Project continued through out 2015-2016.
- Partnership with ELOKA from the National Snow and Ice Data Center, Colorado, USA continued through the year.
- *Nordic Resource Management* is a new project across the Fennoscandian and Greenlandic areas to investigate, develop and strengthen the role of local knowledge and 'citizen knowledge' in decision making about the use of nature and natural resources. It is coordinated by Ph D Finn Danielsen at NORDECO, Denmark. They have financed a sub-project within the Näättämö work, where in 2015-2016 the Skolt Sámi fishermen have utilized forms (as a part of the project) to record their catches, weather observations, and other issues of relevance to test the applicability of this method for Sámi aquatic ecosystems. The project will contribute to a book chapter and will have a final report out early 2017, financed by the Nordic Council of Ministers.
- Lead scientist Tero Mustonen presented the Näättämö project as a benchmark monitoring method at the U.S. – Finnish Local Knowledge Workshop, in Inari, June 2016. Discussions continue with the parties from the Workshop to see if the model can be implemented in other Sámi areas.
- Several scientific articles are in press or in review based on the 2015-2016 work. Mustonen (2015) has resulted in a vigorous methodological discussion of uses of visual histories in monitoring of environmental change. For 2016, most notably, the project results are included in a Global Change Biology and Science manuscripts that will be hopefully published in late 2016.



### 3.1. Second Festival of Northern Fishing Traditions, Zhigansk, Republic of Sakha-Yakutia, Russia, September 2016

Näätämö Project partners Rospuutto Group and Snowchange financed together with local partners and the Northern Forum the Second Festival of Northern Fishing Traditions that was held in Zhigansk, Republic of Sakha-Yakutia, Russia in September 2016. The first Festival was held on the Näätämö river and in Sevettijärvi. These photos capture the moments from the second festival, where the Näätämö work was presented to Siberian fishing communities:



*Opening of the First Day*



*Boats launch to compete in seining and drift nets*





*Nets are loaded into the boats*



*Drift netting for omul white fish on the Lena river*





*Local treats*

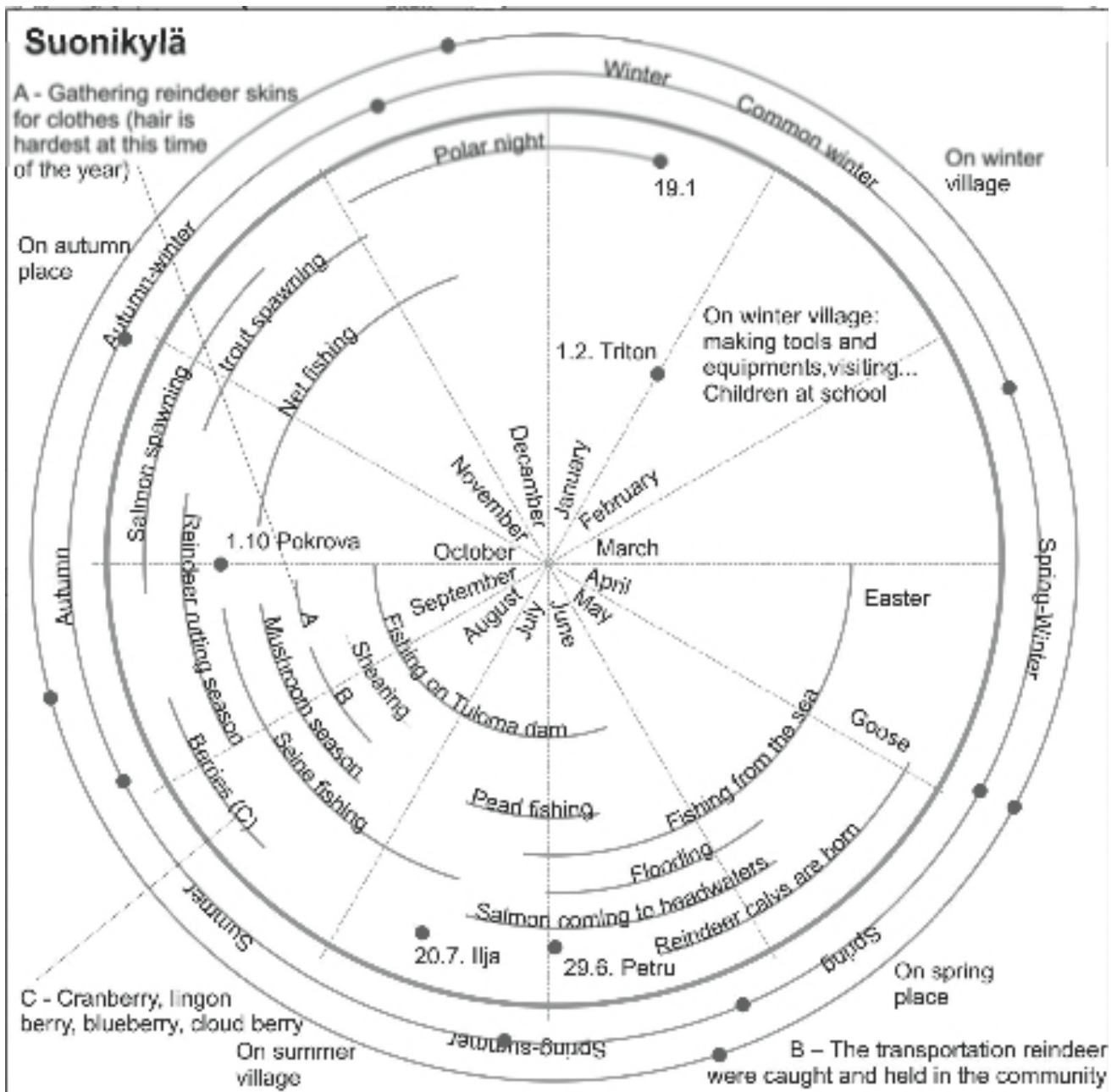


*Lena river is the lifeline of the Evenks in Zhigansk*

### 3.2. Documenting Traditions in the Solomon Islands: Comparative View

Since the publication of the award-winning *Eastern Sámi Atlas*, Näätamö Project has exchanged views and methods to document traditional seasonal activities and land use, community-guided, with Dr David Lawrence from the Resources Environment and Development Group at Crawford School of Public Policy, Australian National University, in Canberra, Australia. Dr. Lawrence is a established scholar of the Indigenous community work in the Solomon Islands.

One of the common methods for the seasonal traditional activity documentation, past and present, has been the use of yearly scale. For example in the Skolt Sámi community of Suonikylä in early 1900s the cycle looked like this:





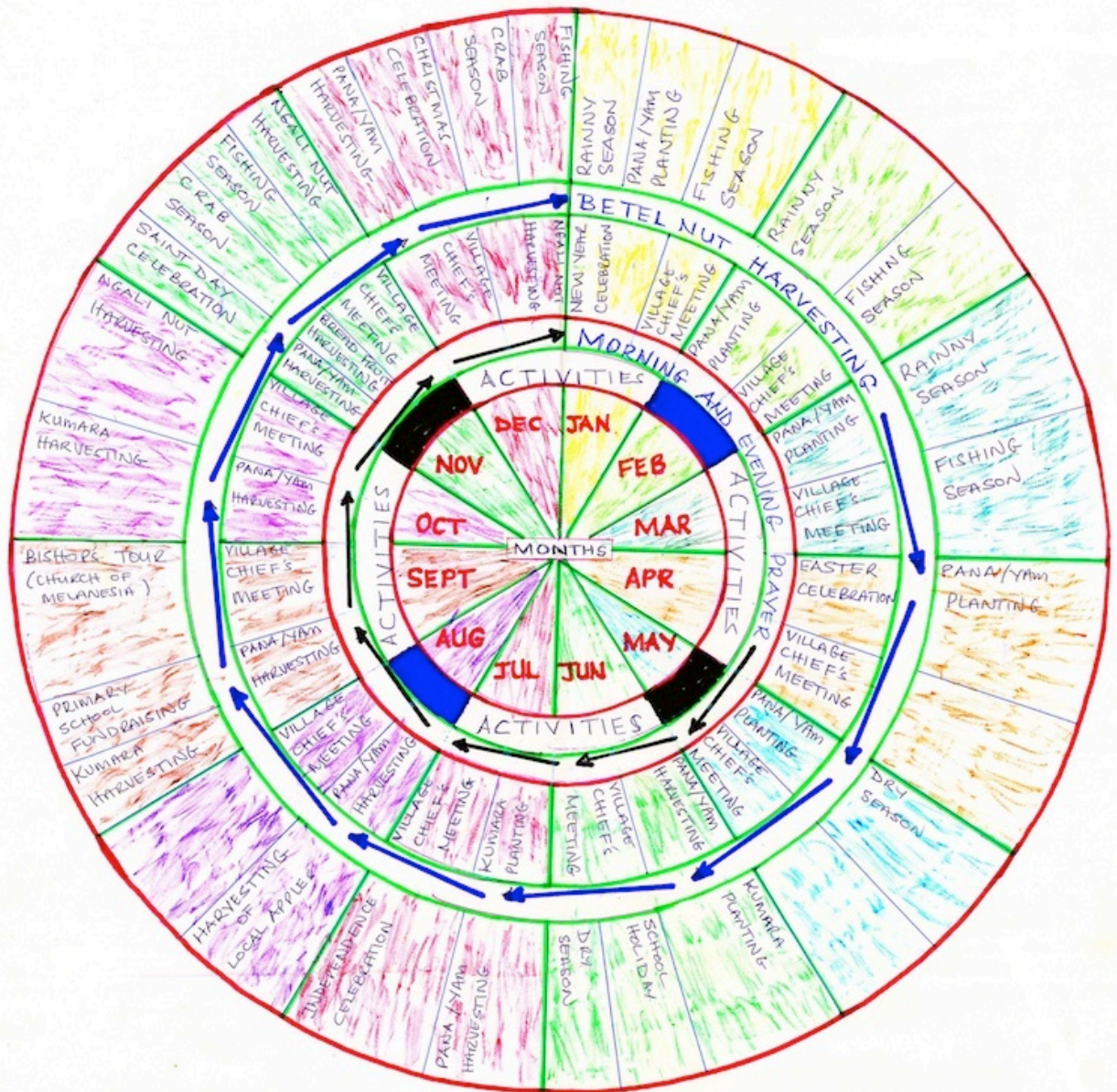
Dr. Lawrence has shared maps and examples of his partnerships with the communities of Salisapa and Bokolonga to display the Solomon Islands traditional cycles of Indigenous life and offer a comparative view from across the world on the traditional knowledge documentation:



















# SEASONAL CALENDER

## SALESAPA VILLAGE (4M)

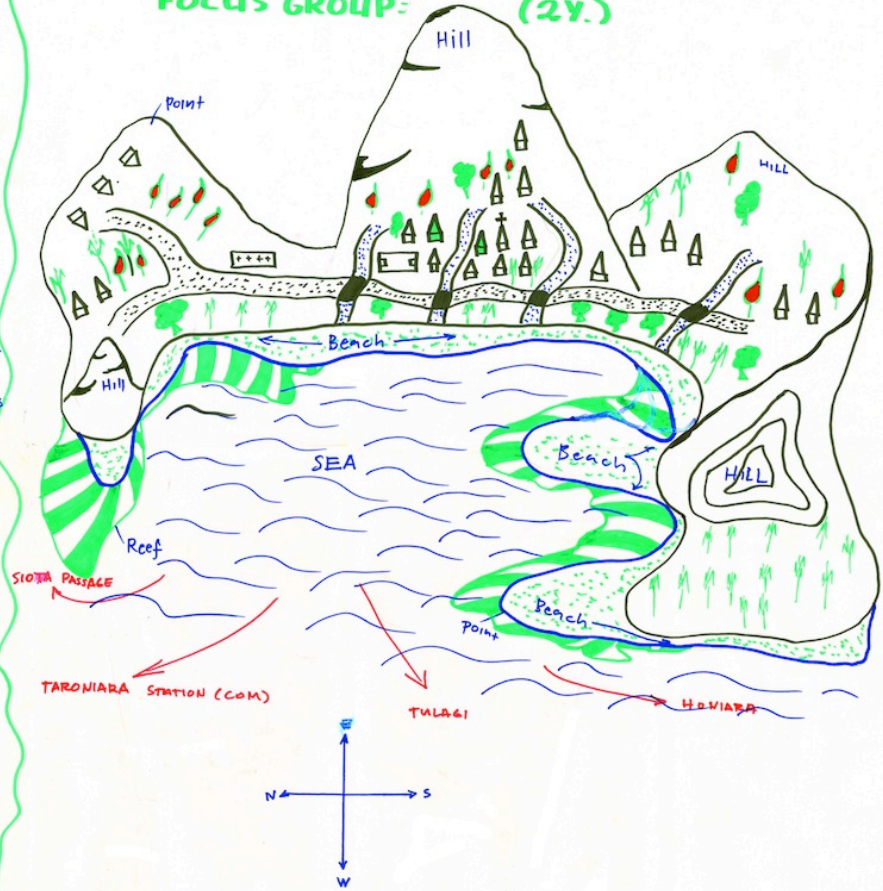




**KEY:**

-  - FRUIT TREES
-  - COCONUT
-  - TREES
-  - FOOT BALL PITCH
-  - HILL
-  - SEMI-PERMANENT
-  - LOCAL DWELLINGS
-  - STREAM
-  - BRIDGE
-  - SEMETRY
-  - CHURCH
-  - BEACH
-  - REEF
-  - ROAD

**BOKOLONGA VILLAGE MAP:**  
**FOCUS GROUP: (2Y.)**



# SEASONAL CALENDER, BAR GRAPH.

NAME OF VILLAGE:

BOKOLONGA

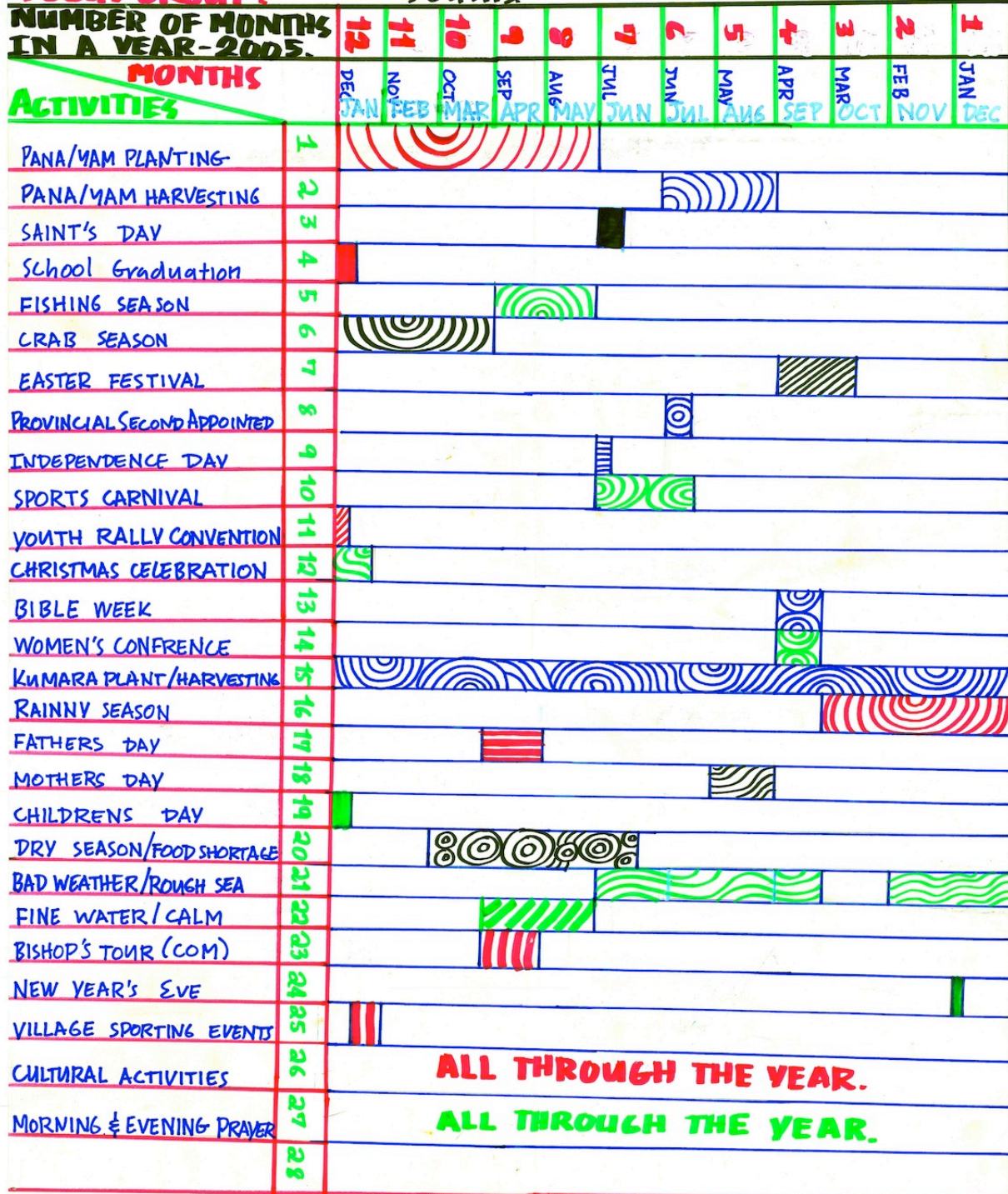
FOCUS GROUP:

YOUTHS

(2Y)

NUMBER OF MONTHS  
IN A YEAR-2005.

MONTHS  
ACTIVITIES





## References

### *Unpublished materials*

Weather diaries 1: Village of Sevettijärvi  
Nilijoki Visual History Archive 2009-2016  
Snowchange Näätämö Oral History 30052016  
Snowchange Näätämö Oral History 18092016  
Snowchange Näätämö Oral History 19092016

### *Published materials*

Arctic Council. Arctic Climate Impact Assessment, 2005. Available at [www.acia.uaf.edu](http://www.acia.uaf.edu)  
Mustonen, Tero. Communal visual histories to detect environmental change in northern areas: Examples of emerging North American and Eurasian practices, AMBIO. DOI 10.1007/s13280-015-0671-7, 2015.

