

'We Belong to the Land': Survival and Restoration Under Northern Climate Change

Tero Mustonen

Snowchange Cooperative

*Prepared for delivery at the Workshop on the Ostrom Workshop (WOW6) conference, Indiana University
Bloomington, June 19-21, 2019. © Copyright 2019 by author*

‘We Belong to the Land’: Survival and Restoration Under Northern Climate Change

Tero Mustonen, Snowchange, 23rd May, 2019

Abstract:

The current planetary shifts and species redistribution require us to rethink nature conservation, both from the viewpoint of forming novel ecosystems and in relation to issues of historical equity. In particular, this reorientation needs to establish remedies for the historical errors of mainstream societies that promoted nature conservation for their own benefit, at the expense of Indigenous societies. The article explores Finnish and Sámi cases of community-led restoration as a vehicle of survival. In the end profound questions emerge – how to co-exist with these rewilded sites for a better future?

1. Introduction

Recent scholarship on ecosystem change (Pecl et al. 2017) and planetary atmospheric systems (IPCC) implies that the climate-driven redistribution of species and their impacts on human systems are already under way. They are also unprecedented in their scale and cross-system reach, as demonstrated by recent Antarctic ice melt events.

This paper builds on the need to assess the capacity of dominant global human systems to respond to the degradation of ecosystems, biological and cultural diversity and carbon sinks in a historical context, with a special focus on nature conservation. The focus is on traditional Finnish and Sámi Indigenous context from Finland – a nexus of climate and biodiversity changes in the boreal and Arctic with implications for the larger global system.

We need to discuss the implications of the current global crisis both for human well-being and natural systems. In the 21st Century, our understandings of what ‘nature’ is has been enhanced by both complex ecological discoveries and the interlinkages of nature and Indigenous traditional knowledge (Pecl et al. 2017).

Combined, these discoveries and the re-appreciation of indigenous knowledge have demonstrated the weaknesses of the binary ‘use’ vs ‘conservation’ approach. Echoing the early reactions to Chernobyl, we are waking up to system-wide shifts in nature that require a reformative approach, both to global land uses and conservation methods. At the same time, we are attaining greater awareness of the complexity of natural systems and the extent and scale of the damages humanity is causing.

Tracing the human experience, with the Chernobyl event of 1986 as a point of departure, we should pay particular attention to the words of Svetlana Alexievich (2006), who underlines the fact that humanity has not yet been able to comprehend, nor come to terms, with the implications of this disaster. Chernobyl was a shock to Europe and it led to critical rethinking about industrial progress and nature conservation.

Nature, which had been carefully ‘othered’ in the parks and wildernesses of Europe, returned in the form of radioactive rains, ecosystem degradation and new health risks. The contamination spread across borders. However, later, the totality of the disaster’s disordering shock was forgotten. To

Alexievich, the accident of 1986 is a civilizational watermark and a wake-up call to reflect on our understanding of nature inside the current downward spiral.

Building on Alexievich's realization, we outline some urgent, reformative steps that should be taken in the context of nature conservation and human land use. Bonebrake et al. (2017) demonstrate that species redistribution caused by climate change has system-wide consequences and implications for humanity. Old ecological baselines are often meaningless today, as new food webs emerge and novel ecosystems displace age-old systems of biodiversity.

Cultural diversity, especially in the context of Indigenous and traditional societies, is also transforming in relation to shifts in species, biodiversity and climate. These societies that express 'non-global thoughts' in their multiple, often endangered languages face existential threats, as land-grabbing, industrial land uses and the collapse of ecosystems erode their homelands. Global agreements on biodiversity and climate change are slow to tackle these problems and vulnerable to unexpected, sudden and violent shifts in policy.

We need a reformative approach to land use, conservation and the preservation of both biological and cultural diversity. An approach that fulfills multiple, simultaneous goals across scales. First, this approach needs to be dynamic. Conservation actions must respond to the potential emergence of novel ecosystems that evolve from shifts in weather conditions and species redistributions. These responses might take the form of resilience corridors and amorphic territorial shapes that challenge the old in-situ approach to delineating protected areas.

Dynamic conservation areas may also be seasonal. For example, if and when the migration patterns of birds change, certain habitats need to be preserved for the time when flocks of birds need them. At other times such a site could be managed for lesser conservation value as long as its key components are preserved.

Second, this new approach should respect, guarantee and honor the restitutive rights of Indigenous and local-traditional peoples, their endemic governance and land uses. The emergence and recognition of Indigenous- and community -conserved areas (ICCAs) embodies this approach. ICCAs have the potential to support and create large territories of protected areas that allow a given Indigenous people or a community the time, scale and space to survive in the midst of transformative changes to ecosystems, climate and human cultures.

Thirdly and lastly, we need to address the issue of degraded and 'lost' lands, especially in the context of land abandonment and urbanization. Even at their most ambitious, the emission cuts currently proposed by the world's governments will not be sufficient to meaningfully avert the climate crisis. The preservation of existing carbon sinks, especially in the Arctic, where large, relatively-intact territories can still be found, has global significance. But equally important are those large-scale areas where natural values have been lost. Some of these areas may be subject to land abandonment processes as urbanization speeds up globally.

These 'lost lands' contain tremendous potential for rewilding. If lands that have lost their natural richness due to human activity are rewilded and left as they are, or in the case of Indigenous and local-traditional communities, to be governed and nurtured by the traditional and original owners, they can emerge as new carbon sinks and 'safe havens' for a range of species, especially birds. In

the European North, the boreal forest can make a relatively-fast recovery if spared industrial logging and other land use pressures. Natural young forests in the boreal zone are also effective carbon sinks. Marshmires that have been drained can be rewetted to create prime habitats for wading birds and duck species, as natural ecosystem succession slowly converts them back to carbon sinks. Removal of hydro-power stations from salmon rivers can re-establish the nutrient flows between the coastal rainforest and the ocean, as seen in the case of the Elwha catchment area in the Pacific Northwest of the USA (Tonra et al. 2015).

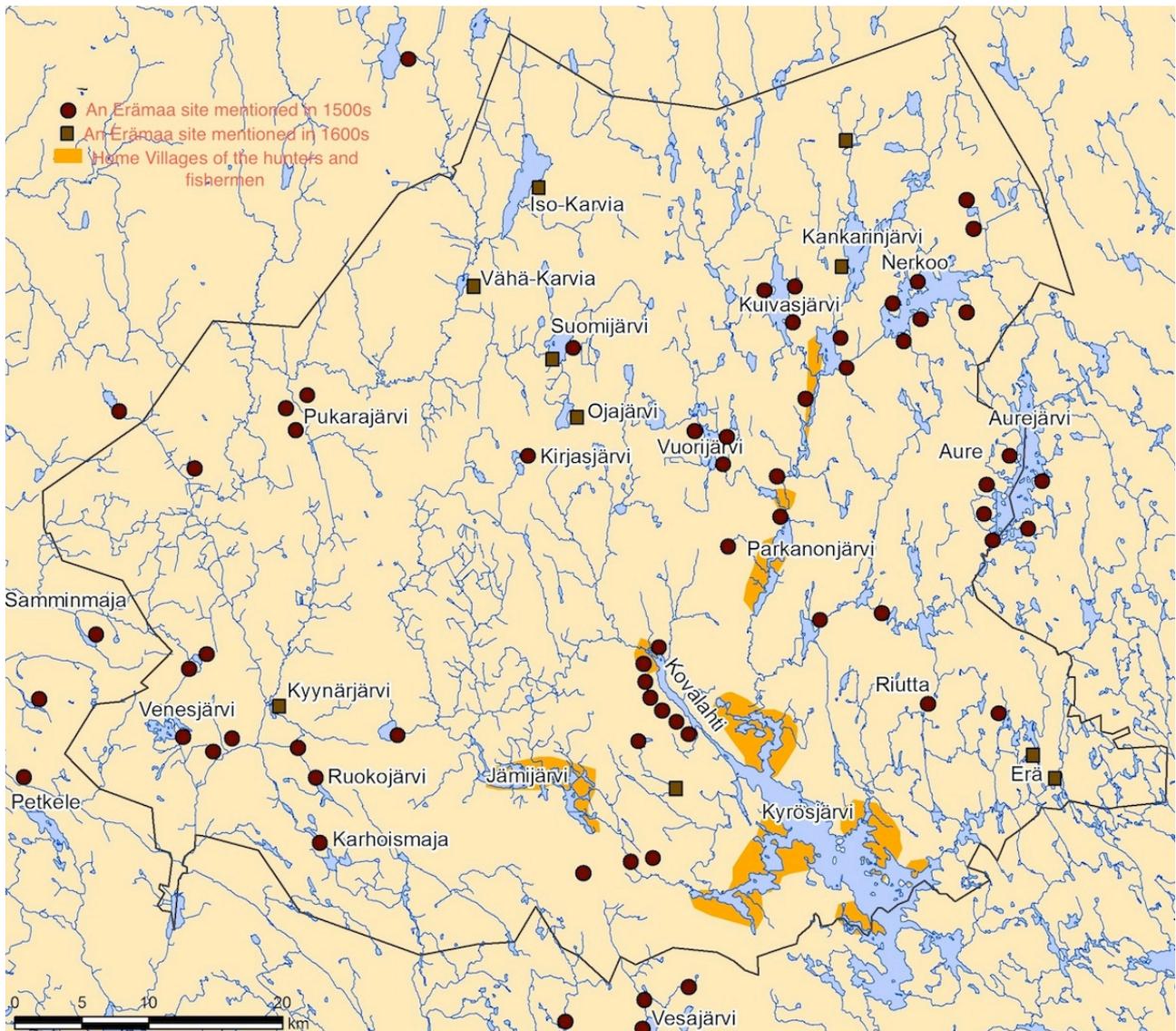
2. Geographical and Socio-Historical Positioning: Materials and Methods

As there is no denying that we are witnessing one of the most turbulent eras for humanity responses and actions need to be equally wise, “deep” and addressing multiple wrongs that have happened against peoples and nature herself.

In this paper I am reviewing two geographical context for the North in the context of survival and rebuilding. In Finland both the traditional Finnish villages and the Sámi Indigenous peoples have maintained to this day wilderness economies of the boreal and sub-Arctic, i.e. the trades of fisheries, hunting and reindeer herding along with gathering economies and other small-scale harvests.

The industrial and modern land use in the Finnish boreal is a fairly recent historical event – only a century ago a large portion of present-day Finland could be considered to be able to maintain the socio-ecological systems of the rural and Indigenous communities. Whilst there is no space here to go into detail of how the ecological and natural resources impacts evolved, they can be summarized into being extreme in their transformative capacities to a) convert boreal ecosystems into economic natural resource areas b) wreck capacity of local communities to maintain their endemic time-spaces building on the life in the boreal c) and being part of loss of rights and customary governance of these territories by outside and partly internal forces.

In this paper I am using historical and geographical analysis of the transformation of both traditional Finnish lands and Sámi indigenous *siida* territories into natural resource extraction or nature conservation zones. In the next chapter I will discuss the remedies and actions needed in the present context to offer survival potential and implications for both an internal view and outside benefits.



Examples of erämaa sites from lake Kuivasjärvi area

Finnish Erämaa Lands Annexed into the Crown

The traditional land use form of the “forest Finnish” life was the erämaa – a wilderness land used for hunting, fisheries and in part small-scale slash-and-burn economies in the boreal. Those Finnish villages areas and uses of lands and waters; such as the lake Kuivasjärvi area; where the pre-state wilderness hunting and fishing territories (in Finnish erämaa) constituted endemic social self-organisation (Mustonen 2014) of these economies and societies. The erämaa communities; in part; resisted the Swedish Crown and its governance in the Ikaalinen and Kuivasjärvi regions (Salo 1984).

According to Koivunen (1992) the traditional land uses of the boreal traditional communities is not easy to categorize in the Eurasian North. The Sámi siida (Nickul 1982) has been documented consist of a semi-nomadic fishing and herding rounds. However the Finnish iron age erämaa territories and community land use remains partly an enigma. Koivunen (1992) presents the analytical notion of a ‘core’ and the erämaa hunting territories. He points out that the erämaa system is only not a fixed

habitation. It contains elements of seasonal territoriality which is better known from the Indigenous land uses of Central and Northern Siberia.

Salo (1997) and Koivunen (1992) trace the historical development of the use territories in the erämaa communities. According to them at first; in pre-historic and early historic times; the erämaa territories of the Finnish houses were a mix of close proximity use areas and towards the Middle Ages (Valonen 1984) rather distant territories; sometimes beyond 120 kilometers from the core areas. The long-term use is connected with the role of the fur trade and other commodities and assets that some houses utilized from the inland Sámi and fishing areas.

In 1200s the erämaa areas (as the settlement and farming economies were more fixed) there was a 'middle' distance of 40 – 60 kilometers from the core houses to the erämaa territories in selected known places like in Satakunta. In the last stages of the known erämaa territories; in mid-1500s they were in close proximity of the core houses.

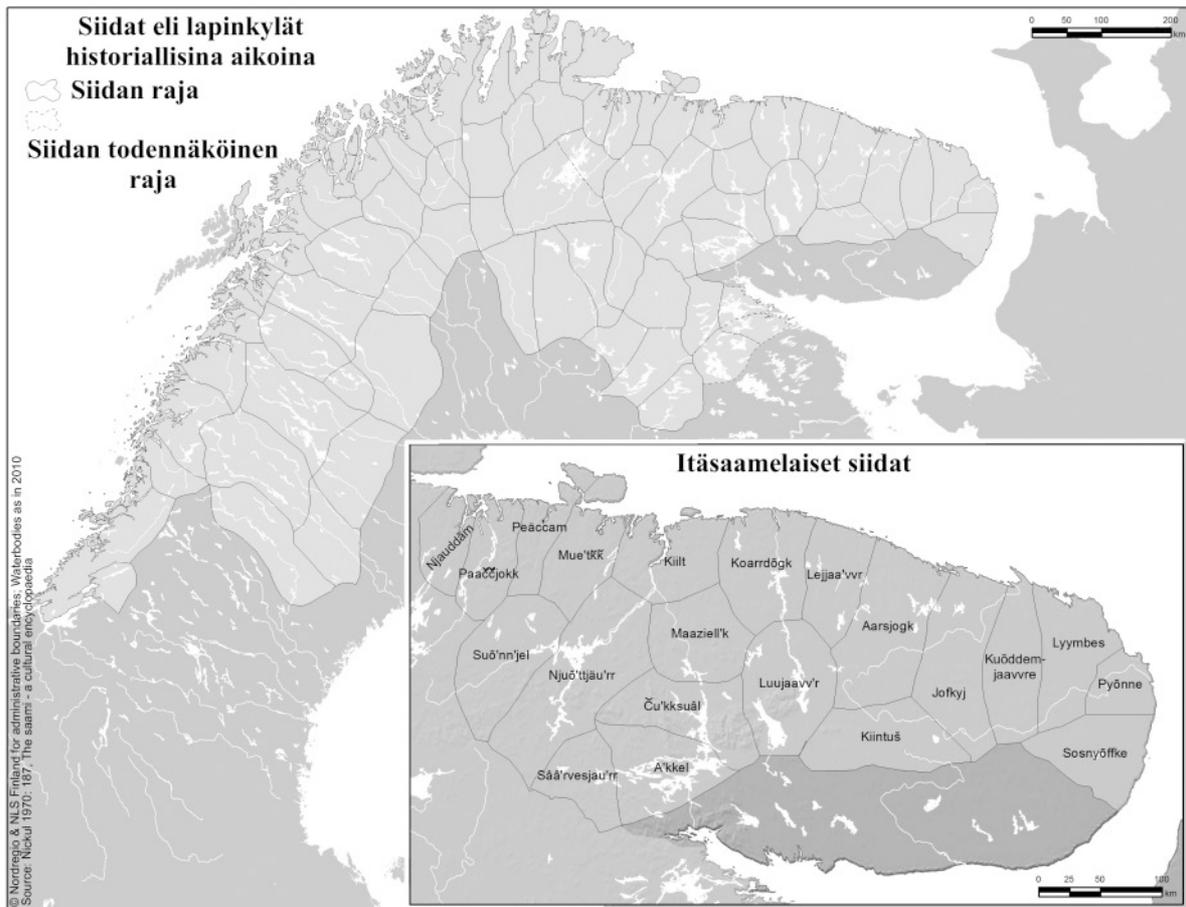
Traditional justice system of these communities revolved around the kärjälaitos; an endemic communal place and organisation (Salo 1997) which was often held on a circle of stones with the important community representatives present.

Valonen (1984) summarizes the land uses of the erämaa communities. The distance from the core family house to the fishing-hunting territories could develop to be 100-260 kilometers in length from South to North. He thinks it was mostly the men who participated in this seasonal migration; but we do not have written documentation to present a case of presence of women or lack of them either way.

Salo (1997) states that it is really not known how the endemic system of erämaa uses emerged; pre-historically. Jutikkala (1942) agrees. Sufficient to say for the purposes of this paper they constitute endemic time-spaces of the Finns. They could be also inherited; sold; re-distributed (a fact similar to a siida system) and switched. Salo (1997) points out that while the erämaa areas were assigned to houses and families; collective hunting of moose and deer required also the community to work together to succeed in the hunt of large ungulates of the boreal.

In the 1600s the last of the erämaa sites were annexed to the crown of Sweden by the decision of the Wasa kings. They decided that the "unoccupied" (unsettled by farmers) lands were outside legal ownership and could be included into the state assets. This marked the end of the capacity of the Forest Finns to maintain their full endemic and customary lifeways in the boreal.

Annexation into Swedish Crown, followed by a Russian rule and ultimately a modern independence since 1917 pointed to a path where nature and land was seen and defined using outside terms and values, resulting in the ultimate present-day nature resource / conservation land uses.



Sámi historical siida territories

Sámi Siidas

Sámi; indigenous peoples of Finland have used and owned most of the inland boreal areas discussed in this paper prior to the arrival of the Finnish society at some point in pre-history (Alanen 1931; Salo 1997). Those Sámi living in Satakunta and North Karelia faced a range of experiences at the ‘encounter’ – slavery (Itkonen 1948a; 1948b; Salo 1997); assimilation; withdrawal and migrations as the Finnish pre-historic society advanced inland.

In historical times; the state of Finland inherited the responsibilities and relationships that Crowns of Sweden and Russia had had with the Sámi at independence in 1917 (Vilkuna 1971; Mustonen and Mustonen 2011). There are three Sámi nations today in Finland; the Inari Sámi; Skolt Sámi and the North Sámi; which number the most.

The Sámi land use and occupancy today is a direct result of the pre- and early historical self-organisation through the Sámi siida territories (Vilkuna 1971) that partially still functioned as governing units for the communal land and water uses at 1917 (Vilkuna 1971; Aikio et al. 2010; Mustonen and Mustonen 2011). In fact; the Skolt Sámi had formed agreements with the Czar already in the 16th century on specific hunting; fishing and reindeer herding territories and their exclusive uses (Mustonen and Mustonen 2011).

Changes of the 20th and 21st centuries have fundamentally altered the Sámi capacity and uses of the lands and waters (Aikio et al. 2010; Mustonen 2012) on regional and local scales (see on scales

Harvey 1996: 203-204; Lehtinen 2009: 537). However; many of the contemporary families and social units; through their collective reindeer herding and other forms of land use; maintain a direct continuation of occupancy of the said territories. To name an example; one of the most brutal actions by the state was to construct the Lokka and Porttipahta reservoirs; largest in Europe; without proper consultations with the Sámi or other local people (Vilkuna 1974; Aikio 1977; Aikio et al. 2010; Kauhanen 2014).

Present day environmental justice (Rechtschaffen and Gauna 2003; Schlosberg 2007; EPA 2015) conflicts regarding the Sámi emerge from two direct natural resource uses that the state defines to be a monopoly of decisions; benefits and equity. Metsähallitus state enterprise 'owns' over 90 % of the lands in the so-called Sámi home area of Finland (consisting of Utsjoki; Inari; Enontekiö and Vuotso).

Another example of on-going breaches is the emerging state-facilitated land use in the 2010s; including licensing of international mining activities within the Sámi space. TUKES; the national body responsible for the permits (TUKES 2015) reserves the right to allocate industrial land uses into the Sámi territories. The Sámi have argued; for example the case of the diamond mining exploration in Utsjoki; on the basis of both collective and individual rights that have been in breach (Snowchange 2015).

3. Restoration for Survival

Despite the events above some Finnish and Sámi communities have both together and separately decided to formulate their and their non-human neighbours' survival to be possible if past damages are addressed and new spaces and territories maintained through traditional customary land uses and food security. In short they wish to "re-belong to the land" as a historical continuum from the erämaa and siida land uses to present day.

In this article I position these two short examples as vehicles of rebuilding traditional mind, memory, land and health in a complex interrelationship building on an argument that if the ecosystems are healing, so are the peoples on them.

Finnish lands

In 2018 *Landscape Rewilding Programme* was initiated for Finland. The aim of the programme is to restore degraded ecosystems back into health using restoration and rewilding. The sites are to become also safe havens for birds and other wildlife as well as CCAs – community-conserved areas for Finnish villages.

In short the pilot stage (2017-2020) for the Landscape Rewilding Programme on forests and wetlands include south boreal, middle boreal and high Arctic catchment areas and landscapes as benchmarks for

1. Carbon sequestration across a range of marshmire and wetland habitats
2. Biodiversity gains on wetlands and restored forests, including High Arctic
3. New engagement with Indigenous Sámi partners on both terrestrial and aquatic restoration
4. Prevention of loading downstream from catchment areas (organic matter, nutrients, humus)
5. Adjoined habitats for more cost-effective conservation across a mosaic landscape, i.e. key

indicator species on adjoining habitats, including wood sandpiper, northern pintail, southernmost populations of willow ptarmigan and iconic large mammals – moose, wolverine, otter and so on

6. Upscaling measures that provide a model for both in Russian and Canadian boreal, as well as Sweden and other parts of Finland
7. Development of local economic and recreational possibilities



Salojenneva peat site

One of these sites is *Salojenneva* peat production site in Karvia, Western Finland, that will be restored into a wetland for birds and carbon sequestration. Incidentally it is a former small part of a *erämaa* territory.

This transfer into the rewilding programme implies in addition to the ecological restoration a symbolic environmental justice act – after 400 years of outside ownership and governance, Salojenneva is emerging as one of the first *reborn* *erämaa* lands. Therefore the *Landscape Rewilding Programme* contains a strong element of social justice.

Sámi Streams, Back to Life

In the Arctic, the Skolt Sámi, who have maintained the *siida* governance despite loss of rights and lands are living through the most warm and extreme temperatures ever-known, with 30C and beyond lasting for weeks.

The Skolt Sámi have decided that those fish, such as trout, grayling and salmon, which are in the immediate danger of dying from the direct climate warming impacts, might have a better chance of survival if their past life ranges and habitats would be restored.

Therefore the Sámi installed a co-management river for their main catchment area of Näätamö river and chose those sites which had been altered and damaged by past human actions as vehicles of increasing human and natural resilience. Central site to start the work was the Vainosjoki sub-catchment area.

In summer 2017, the Vainosjoki river restoration project began¹. A team of around ten Skolt Sámi together with a restoration consultant and Snowchange manually restored the flow of the river by relocating rocks and boulders in the river.

Afterwards, spawning gravel was distributed at suitable locations. The restoration work covering all of the length of the Vainosjoki area will continue into 2019. The restoration project has already demonstrated indicators of success, when in early October 2017 an approximately three-kilogram lake trout² was observed potentially spawning and residing in the "new" area.

The restoration measures are something the local people have hoped for many years. In the 1960s, the Finnish Forestry Agency³ widened part of the river channels in the catchment area using explosives.

¹ <https://thebarentsobserver.com/en/life-and-public/2017/09/sami-traditional-knowledge-used-waterways-restoration-inari>

² Salmo trutta

³ Metsähallitus



Sámi restored trout spawning area

One of these areas was the Vainosjoki sub-catchment area. The alterations of the river flow had a drastic impact on an area which lost the suitable spawning grounds. This had effects on the culture of the Skolt Sámi, who through millennia have fished as part of their culture and subsistence.

In 2015–17 baseline information (in cooperation with scientists) from the co-management work led to the ecological restoration of those spawning areas and habitats that had been altered by the state in the post-war context. These sites can be seen as cultural indicators of resilience. They have also proven the first “real” physical changes for the better in the Näätämö basin by following the method and persistence of a co-management actions.

Unfortunately, while this has motivated the Skolts in doing restoration and produced concrete results, this has not translated, as of yet, to a reform or a serious transformation of those state agencies and officials who form the power levels of river governance (Apgar et al., 2016).

Ecological restoration of habitats and mitigation of past damages from the 1950-80 time period are difficult issues for these agencies, as they challenge the ‘pristine wilderness’ narrative of the basin and provide a socio-historical baseline of habitat alterations, including the hydropower development and diversion of the stream flow of the Kallojoki river on the Norwegian side (Feodoroff and Mustonen 2013).

4. Conclusions – Forming Relations with the Novel Ecosystems, “They”

As discussed above, current planetary shifts and species redistribution require us to rethink nature conservation, both from the viewpoint of forming novel ecosystems and in relation to issues of historical equity. In particular, this reorientation needs to establish remedies for the historical errors of mainstream societies that promoted nature conservation for their own benefit, at the expense of Indigenous societies.

The article has demonstrated that a reformative science-policy interface is possible. This builds on three components. Dynamic conservation, which may include innovative demarcation tools that are responsive to the changes under way, is much needed, especially as a response to the ongoing emergence of novel ecosystems. Indigenous and community conserved areas (ICCAs) should be utilized as a tool, enabling the emergence of endemic mechanisms to address past grievances and displacements caused by conservation.

Rewilding of abandoned and lost lands can create safe havens and new carbon sinks, at a time when emission cuts and economic shifts may prove inadequate for effectively combatting climate change.

Yet, these ‘Western’ words and concepts do not answer a central question internally – who are these “rewilded” and restored sites?

A restored wetland or a river is not the original as it developed in the post-Ice Age context of the boreal and the Arctic. It is a novel ecosystem following the path of

natural state → degradation by human actions → novel ecosystem as a restored site (Bonebrake et al. 2017)

For us living with these restored places, the new dialogues are to be had, of most profound kind, that will include questions posed to these entities including:

- *Who are you?*
- *How to be with you?*
- *How can we ever apologize for the past damages?*
- *How can we co-exist in this tumultuous time?*
- *Should we “manage” or stay away?*

References

- G. T. Pecl et al., Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being, *Science* 355, 6332 (2017).
- 2.A. W. Crosby, *Ecological imperialism. The Ecological Expansion of Europe, 900–1900* (Cambridge University Press, Cambridge, 1986).
- 6.Alexievich, Svetlana. *Voices from Chernobyl: The Oral History of a Nuclear Disaster* (Macmillan, London 2006)
- 7.T. Bonebrake et al., Managing consequences of climate-driven species redistribution requires integration of ecology, conservation and social science, *Biological Reviews*, <https://doi.org/10.1111/brv.12344> (2017)
8. Tonra, C. et al., The rapid return of marine-derived nutrients to a freshwater food web following dam removal, *Biological Conservation* 192 (2015) 130–134