

# Investigating Bombshells Contaminations of the Waters of the Lule River Catchment Area

## Some Conclusions from a Pilot Study made with Supradisciplinary Research Methodologies (Nausta, Udtja and Neat)

---

*Eva-Lotta Thunqvist*

Technical Dr. Eva-Lotta Thunqvist, (partner in the research project led by Dr May-Britt Öhman; DAMMED: Security, Risk and Resilience around the Dams of Sub-Arctica) is associate professor at the Centre for Health and Building, CHB, at the Royal Institute of Technology (KTH). specializes in land- and water resource management and has been project manager for several national and international projects concerning infrastructure and sustainable development. Established in 2008, the Centre for Health and Building, CHB, at the Royal Institute of Technology, Stockholm – undertakes research and development projects in cooperation with universities, industrial companies, municipalities and county councils. Competences at CHB include construction technology, planning, energy and water resource management, facility management, in-door climate, housing design, safety and work environment, ergonomics, patient safety and aged care. CHB is funded by real estate companies Fabege and Landic, Haninge Council and KTH and also receives project funding from SBUF, SLL, HI, AFA Insurance, Formas, SIDA and the EU.

### **Abstract**

This presentation was made at the RE-Mindings symposium with the aim to raise the understanding of the importance of the cumulative effects of industrial activities and military activities on water quality in Sápmi. The investigations which it is based upon were made in a supradisciplinary collaboration with local inhabitants in Udtja, Vidsel and Jokkmokk.

---

### NEAT: Just Another Brick in the War

North European Aerospace Testrange (NEAT) is 24 000 square kilometers, almost the size of Belgium. It is Europe's largest land base test area and located in Swedish Sápmi (Figure 1). Within the test range area (Figure 2), Sami people live and work.

The objective of the study was to analyze how local population is affected by the activities at the test range NEAT and how the waste from the testing is affecting land and water resources in the area.



Figure 1. Map of Sápmi Illustration by Anders Sunesson, Samiskt Informationscentrum<sup>1</sup> and Figure 2. NEAT area.<sup>2</sup>

Information was collected and interviews were made during field studies on site during the summer 2012. Information has also been obtained from FMV's home page and archives. Interviews have been made with people living and working in this area. Information has also been obtained from Ofog, an anti-military network organisation.

The NEAT test field is managed by FMV (Swedish Defence Materiel Administration) and SSC (Swedish Space Corporation), two Swedish civil authorities in cooperation. NEAT is used by Swedish and foreign defence organisations and weapon manufacturers. For more than 50 years different types of aircraft and air-, land- and seaborne missiles, alongside a wide scale of unmanned aerial vehicle, UAV, and weapon systems have been tested at NEAT (FMV, 2012). The area is open for testing 24 hours a day, 7 days a week, all year around.

During 2009 the Nato Response Force had its largest exercise that year, Loyal Arrow, at NEAT, and during 2010 US Air Forces in Europa (USAFE) exercised at NEAT, using 20 air fighters and 250 soldiers (US Airforce, 2010). War crafts such as Eurofighter; UAVs such as Neuron and IAI Eagle; and robot systems such as Meteor, AMRAAM, Storm shadow and Robot 70 have been tested at NEAT (FMV 2012, Ofog 2013).

On the home page of Vidsele test range, FMV is promoting the concept, claiming that the area is 100% unpopulated (FMV 2013).

Waste from the tests such as from fired missiles, bombs and parts from aircrafts are spread to land and water in the area. Annually expeditions for identifying and collecting waste are arranged, employing local people. However, not all waste is found and collected (Figure 3). FMV, which promotes NEAT and is responsible for the activities in the area, do not require any environmental declaration of the material used during the exercises from participating organizations. (Personal communication with representative of FMV, Aug.2012) Neither are they systematically supervising soil nor water quality. E.g. the use of hydrazine, which is a highly poisonous and carcinogenic aircraft fuel, is not monitored at all. There has been some testing of water quality but this is neither systematically performed, nor testing for hydrazine or other substances than heavy metals. (Cf Karlsson/Grontmij, 2011)

The Swedish authorities exploit lands they do not own in order to make it possible for defence organisations and weapon manufacturers to test weapons and aircrafts. FMV is promoting the area as: "...uninhabited forest and swamp land..." with "...great opportunities for advanced missile trials..." However the activities at the test range is posing a threat to the people living and working in the area and causing conditions of constant stress. The test area is part of Lule and Pite river basins and catchment areas (Figure 4) and the environmental effects on



*Sign warning for dangerous waste, instructing persons to not make fire as dangerous and explosive waste may be hidden beneath the surface soil. Private collection.*



*Metal objects on the ground at Vidsele. Private collection.*

soil and water qualities from the activities should be investigated. Lule river is drinking water supply for around 100 000 people living in the river basin. The Pite river is a Swedish National River, one of four unregulated rivers in Sweden protected from further hydro power production development. The Pite river is considered especially important for its major environmental interest including otter, fishes like salmon, trout, pike perch and charr and freshwater pearl mussel.

The land and water resources in the Arctic and subarctic area are highly sensitive and almost impossible to restore after exploitation. The lives of indigenous and other Arctic peoples are closely linked to local resources. This regards particular wildlife and water which are the basis for local and indigenous society,

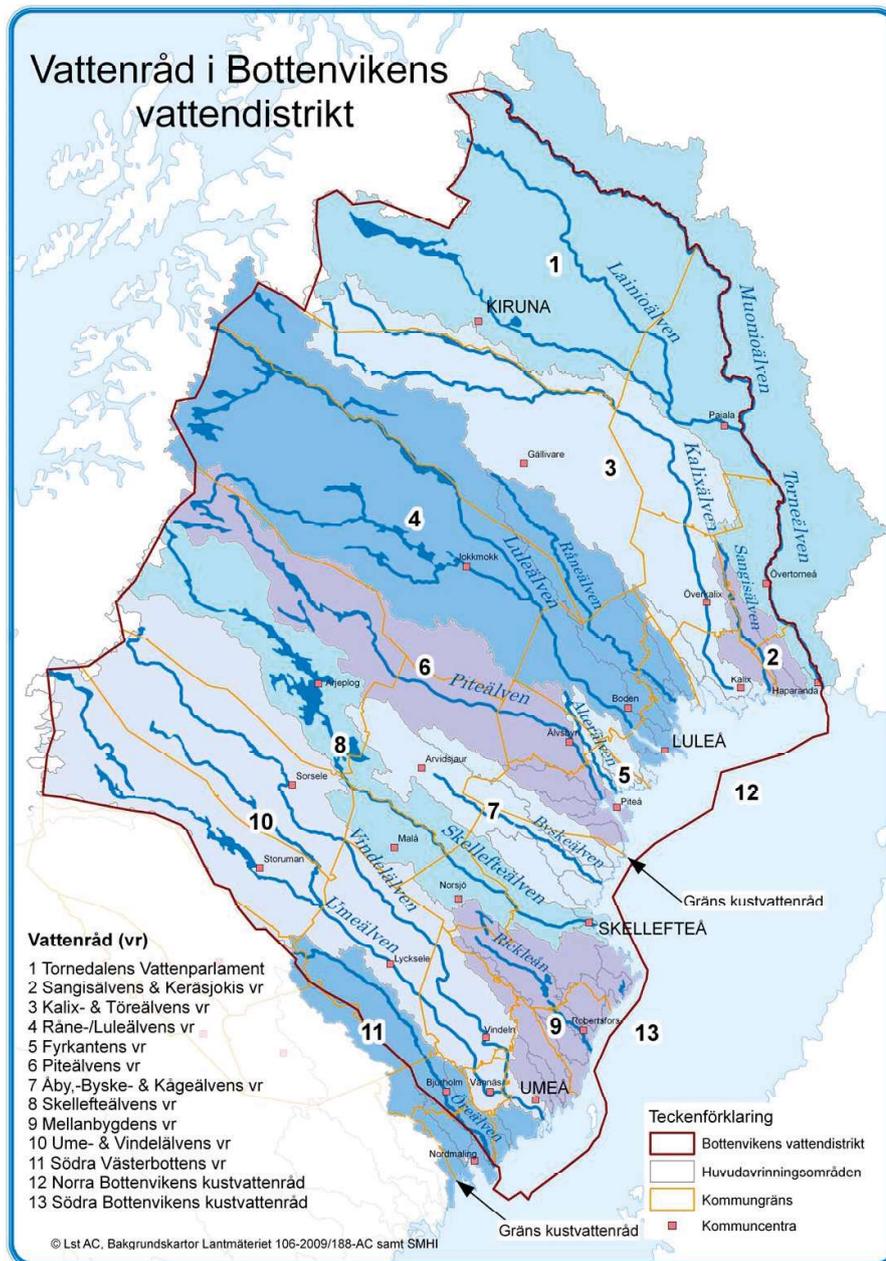


Figure 4. River basins in Northern Sweden – within the Gulf of Bothnia Water District – Bottenviken – Västerbotten and Norrbotten Counties, Sweden. Source: Vattenmyndigheterna [the Swedish River Basin District Authorities].

cultures and economies. Most of the large rivers and some of the small rivers (in Västerbotten and Norrbotten counties these are from south to north; Ångermanälven, Ume, Vindelån, Sävar, Rickle, Bure, Skellefte, Åby, Pite and Lule rivers) in Sápmi have been exploited for hydropower production during the 20<sup>th</sup> century. Deforestation by clear-cutting large areas has had a severe impact on land and water quality. Furthermore, the current increase of mining projects in the area consist another threat to water quality. The rivers discharge in the Baltic Sea affecting water quality for people living by the coast. Ultimately it contributes to the further pollution of the whole of the Baltic Sea, which is already severely affected by both earlier and current agricultural and industrial activities. The Baltic Sea is already one of the most polluted seas in the world. (cf SOU 2003:72) Activities taking place within the NEAT certainly does have further negative impact on land and water quality and aggravate people's health.

Sweden has long history of good access to clean and safe waters, however this situation is currently endangered. It seems of high importance for all – decision makers on all levels, within authorities and political decision making structures and companies as well as us all as individuals – to realize that we all live down stream. The pollution that we in all our activities cause to the waters, we ultimately do to ourselves. There are some initiatives made recently with the EU water directive (EU, 2013) and European Union's Baltic Sea Region Programme (European Commission, 2013) to protect our waters.

However, the issues related to water are not stressed enough in the current industrial and military paradigm. I find that further investigations needs to be made on the totality of water polluting activities and also to work for further inclusion of this understanding into all decision making structures. Military testing areas are indeed a polluting factor that needs to be further investigated from a water perspective.

## References

- European Union. *Baltic Sea Region Programme – Water Cluster*. 2013.
- European Commission. *Environment Water-Framework* [Accessed 2013-07-30].
- FMV Vidsele Test Range webpage, [Accessed 2013-07-20].
- Karlsson, Åsa/Grontmij. Rapport recipientprovtagning FMV provområde 2011\_111215, 2011. Ofog webpage. [Accessed 20 July, 2013].
- Personal communication with representative of FMV, August, 2012.
- SOU [Statens Offentliga Utredningar]. *Havet – tid för en ny strategi: Havsmiljökommissionens betänkande*, [Final Report by the Commission on the Marine Environment. The Sea – time for a new strategy], Miljödepartementet, Stockholm, 2003:72.

US Air Force. Webpage [Accessed 2013-07-20], 2010.  
Vattenmyndigheterna [the Swedish River Basin District Authorities] [Accessed 2013-07-20].  
[make sure these photos go together, 16\_1a may be taken out if it is too bad in comparison to the  
3 others here. One or two pages according to how it suits.]

### Notes

<sup>1</sup> Source: Sametinget informationscentrum [Accessed Sept. 16, 2013].

<sup>2</sup> Source: Vidjel Testrange – website [Accessed Sept. 16, 2013].



*Eva-Lotta Thunqvist presenting at RE-Mindings. "Water quality – we all live downstream."  
Photo by Tor Lundberg Tuorda.*