

## THE PEAT INVESTIGATIONS IN THE GEOLOGICAL SURVEY OF FINLAND

Valpola, Samu E.

Geological Survey of Finland, Western Finland Office, P.O. Box 97 (Vaasantie 6)  
FI-67101 Kokkola, Finland; Tel. +358-50-3486023; [samu.valpola@gtk.fi](mailto:samu.valpola@gtk.fi)

Harju, Asta, Geological Survey of Finland

Herranen, Teuvo, Geological Survey of Finland

Toivonen, Tapio, Geological Survey of Finland

Valo, Onerva, Geological Survey of Finland

Vähäkuopus, Tuija, Geological Survey of Finland

### SUMMARY

The Geological Survey of Finland (GTK) aims to research all the mires in Finland. Since 1975, GTK has studied over 1.9 million hectares of peatland. During one year, about 30 000 hectares become studied. Peat data is gathered and a description is written for each studied mire, also maps and profiles are drawn. Municipal-specific reports are introduced here with the case Alahärmä. There, the Kurjenneva fen is a representative example with total area of 162 hectares and mean depth of 2.2 m. In Finland, peat is used primarily for energy generation and horticultural purposes. From the total energy consumption, the amount of peat is 7.0%.

**KEY WORDS:** Peat, mire, peat investigation, peat use, Alahärmä

### THE PEAT INVESTIGATIONS IN FINLAND

The Geological Survey of Finland aims to research all mires over 20 hectares large in Finland. Their combined area is ca. 5 million hectares and they contain 70 billion m<sup>3</sup> peat. The peat resources are mapped to provide information on the reserves of energy peat and other peat based raw materials. The interest for other mire related information is also increasing. Since 1975, GTK has studied over 1.9 million hectares of peatland. During one year, about 30 000 hectares become studied.

A pair of geologist and assistant does the field research on the mire (Fig. 1). On each study point, geological data like mire type, peat components and degree of humification are determined. Peat data is gathered throughout the whole peat layer. The data is saved in the field computer.

A description is written for each studied mire, also maps and profiles are drawn. The usability of the mire is determined taking major peat production and mire conservation factors into account. The peat data is accumulating continuously in the national peat data base.



Fig. 1. A typical team for peat coring on site.

#### MUNICIPAL-SPECIFIC INVESTIGATIONS: CASE ALAHÄRMÄ

On the basis of the peat data collected on site, GTK produces ca. 12 municipal-specific peat investigation reports each year. These reports include geological and biological data, and an assessment about the potential usability of each mire. So far, GTK has studied over 16 600 mires and published 423 reports which include about 1.9 million hectares of peatland in Finland. This accumulating collection of reports (and the peat accounting project building on it) is by far the most extensive scientific peat and mire database in Finland.

In Alahärmä municipality (nowadays a part of Kauhava), western Finland, 4323 hectares of peatland has been studied. That comprises about 12% of the municipality's land area, and its total peat amount is 56.6 million m<sup>3</sup>. In Alahärmä, 74% of the mires are drained, and the mean depth of the peat layer is 1.3 m. The proportion of *Sphagnum* dominated peat is 81%, more than in Southern Ostrobothnia province in general (67%). The area suitable for peat production is 994 ha (Toivonen & Valo, 2007).

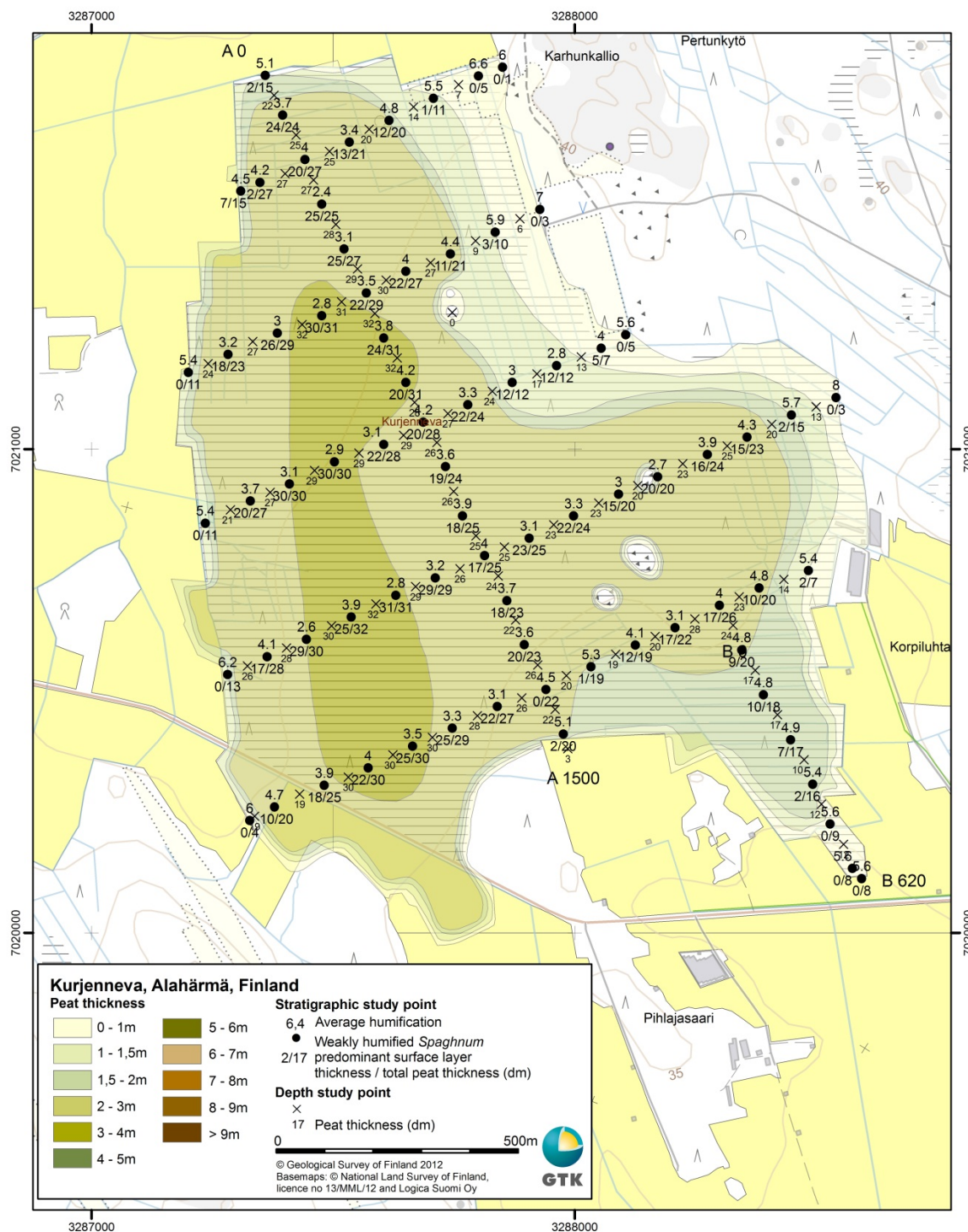


Fig. 2. The mire map of Kurjenneva fen, Alahärmä with the survey scheme.

The Kurjenneva fen represents well the mires in Alahärmä (Fig. 2). It is 162 ha large and is partly drained. The mean depth of the peat layer is 2.2 m, and the deepest point is 3.2 m. The proportion of *Sphagnum* dominated peat is 94%. There are 120 hectares on the mire suitable for peat production, and the estimated amount of usable peat is 2.64 million m<sup>3</sup>. The peat suits mainly for horticultural and environmental use.

## THE USE OF PEATLANDS IN FINLAND

The area of peatland in Finland is over 9 million hectares, almost 30% of the land area. Ca. 51%, 5.6 million hectares, is drained for forestry. The rest is mostly in pristine state, 12.2% protected by law and 32.4% otherwise pristine. Less than 1% of peatland is under peat production (Fig.3).

Today, peat is used primarily for energy generation and horticultural purposes. From the produced peat, the proportion of energy peat is over 90% and that of horticultural peat is 6-7%. From the total energy consumption in Finland, the amount of peat energy was 7.0 % in 2007. For example in Ostrobothnia, the proportion of district heat produced with peat was over 70%.

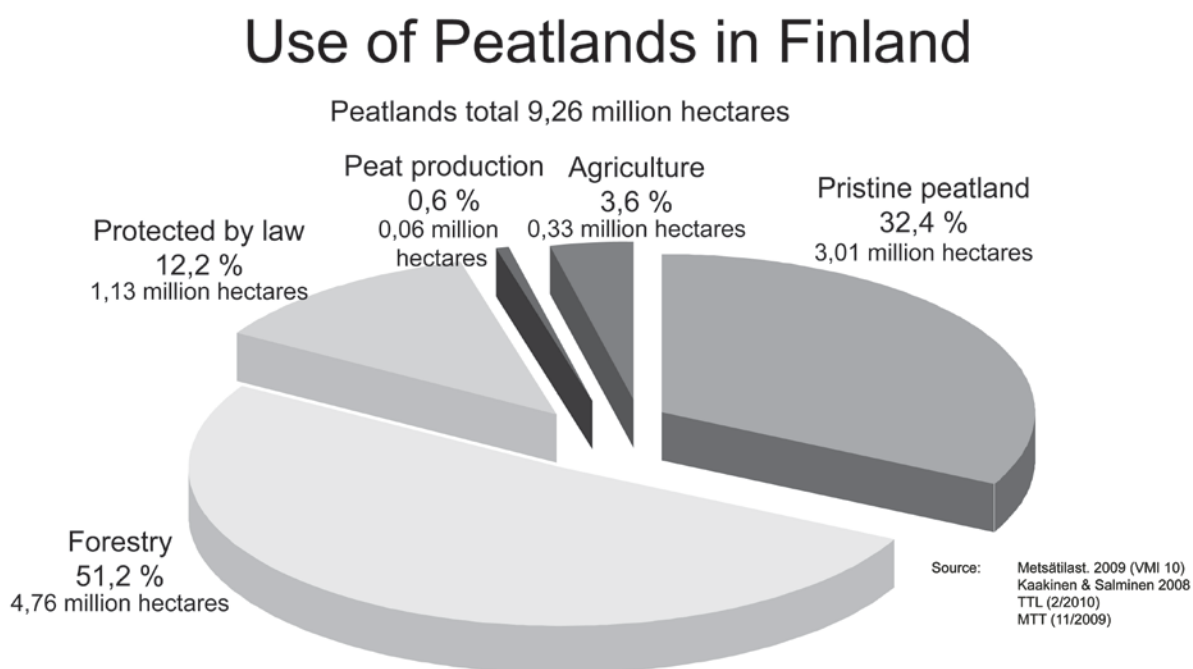


Fig. 3. The use of peatlands in Finland.

## REFERENCES

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