

FL to SL (D), soil carbon estimation

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Detection of land-use change

- Annual land-use change areas derived from the NFI plot data (type of change and timing)
- Additional checking for uncertain observations with aerial photos
- More detailed classification also done with a sub-set of aerial photos

Table 11.1-3 Elected values for forest parameters

Parameter	Selected value
Minimum area	0.5 ha
Minimum width	20 m
Minimum tree crown cover	10%
Minimum tree height	5 m

An example

Conversion from forest to settlements



FL to SL, type of conversions

Table 1. Mean annual area of forest land converted to settlements in Finland 1990 – 2011

Mineral land, build up	6345
Mineral land, roads	1195
Mineral land, power lines	683
Mineral land, gravel	844
TOTAL	9067

Table 2. The distribution of build-up land (FL to SL) to different kind of soil types according to a sub-sample of NFI plots (n=261 plots).

Sealed soils, gravel	21.46%
Turfgrass, grassland type	27.59%
Areas with forest cover	49.81%
Open cliff	1.15%
TOTAL	100.00%

Efs for soils on FL to SL land

The forest land converted to build up land will be divided into vegetated (woody and non-woody) and non-vegetated areas based on the NFI data and digital maps.

1. Vegetated, but treeless areas (golf courses, gardens, yards, etc.); soil emissions will be treated as forest land converted to grassland. Estimation will be done similarly as MTT agrifood Finland does it for FL to GL sites.
2. Vegetated settlements with woody vegetation (surroundings of summer cottages, parks, power lines and gas lines, etc.); we apply IPCC (2006) Tier 1 method for wooded settlement area, where soil are assumed to be on steady state (i.e. no change).
3. Non-vegetated settlements (buildings, parking places, roads, railways, other cealed areas, etc.); soil emissions will be estimated with IPCC (2006) Tier 1 methods where 20% of the original carbon stock of litter and soil organic matter is lost during the 20 years time, while dead wood pool is lost immediately.