



European Environment Agency



Annex 1: HRL Enhancement report

I. Administrative part

High Resolution Layer	Imperviousness
Country (and region, if regions are analyzed separately)	Finland
Institution carrying out the work	SYKE
Expert carrying out the work (name, position and e-mail)	Pekka Härmä, project manager, Finnish Environment Institute, Pekka.harma@ymparisto.fi Jaakko Suikkanen, GIS expert, Finnish Environment Institute, Jaakko.suikkanen@ymparisto.fi Eero Ahokas, senior researcher, Finnish Geodetic Institute, eero.ahokas@fgi.fi ,
Internal quality control by (name, position and e-mail)	Markus Törmä, RS expert, Finnish Environment Institute, markus.torma@ymparisto.fi
Date and place of writing the report	11. December 2014

II. Technical part

Which methods of the verification were used to guide the enhancement? (write (X) in the appropriate box)	(x) General overview of data quality (x) Look-and-feel analysis (x) Statistical verification
In situ data used. Replace <i>Data-1</i> with the proper type. How can you estimate the usability / quality of in-situ data (excellent, good, average, bad, very bad – keep one answer only)	<i>Topographic database: buildings, roads, railroads (excellent). Database includes delineation of individual buildings (vector data) in Finland. Coverages of buildings and roads were processed into degree of imperviousness with ground resolution of 20 meters (raster).</i> <i>Finnish High Resolution (20m raster) Corine Land Cover 2012 (excellent)</i> <i>Delineation of urban areas.</i>
Methodology of enhancement (write (X) in the appropriate box)	(x) Fully automatic () Semi-automatic with lots of manual editing () Semi-automatic with few manual editing () Fully manual
Removal of commission errors: Which kind of improvement has been achieved?	<i>Commission errors were corrected (value 102) in -bare rocks (332)</i> <i>-railroads not associated with artificial surfaces.</i>

<p>Removal of omission errors: Which kind of improvement has been achieved?</p>	<p>Missing build-up areas (buildings) and paved roads were included with no MMU in the very neighborhood of build-up areas (where original imperviousness > 30%) and with MMU of 0.5 ha elsewhere.</p> <p>Applied density threshold in the removal of omission errors was 10% according to national data.</p>
<p>Provide an overall evaluation of the improvements achieved: (excellent, good, average, modest, weak– keep one answer only)</p>	<p><u>good</u> means that at least 75% of errors were eliminated</p> <p>The total area of surfaces, where imperviousness is 1-100 %, was increased by 46 %.</p>