

Mapping of ecosystems and their services – Latvian coastal ecosystems case study

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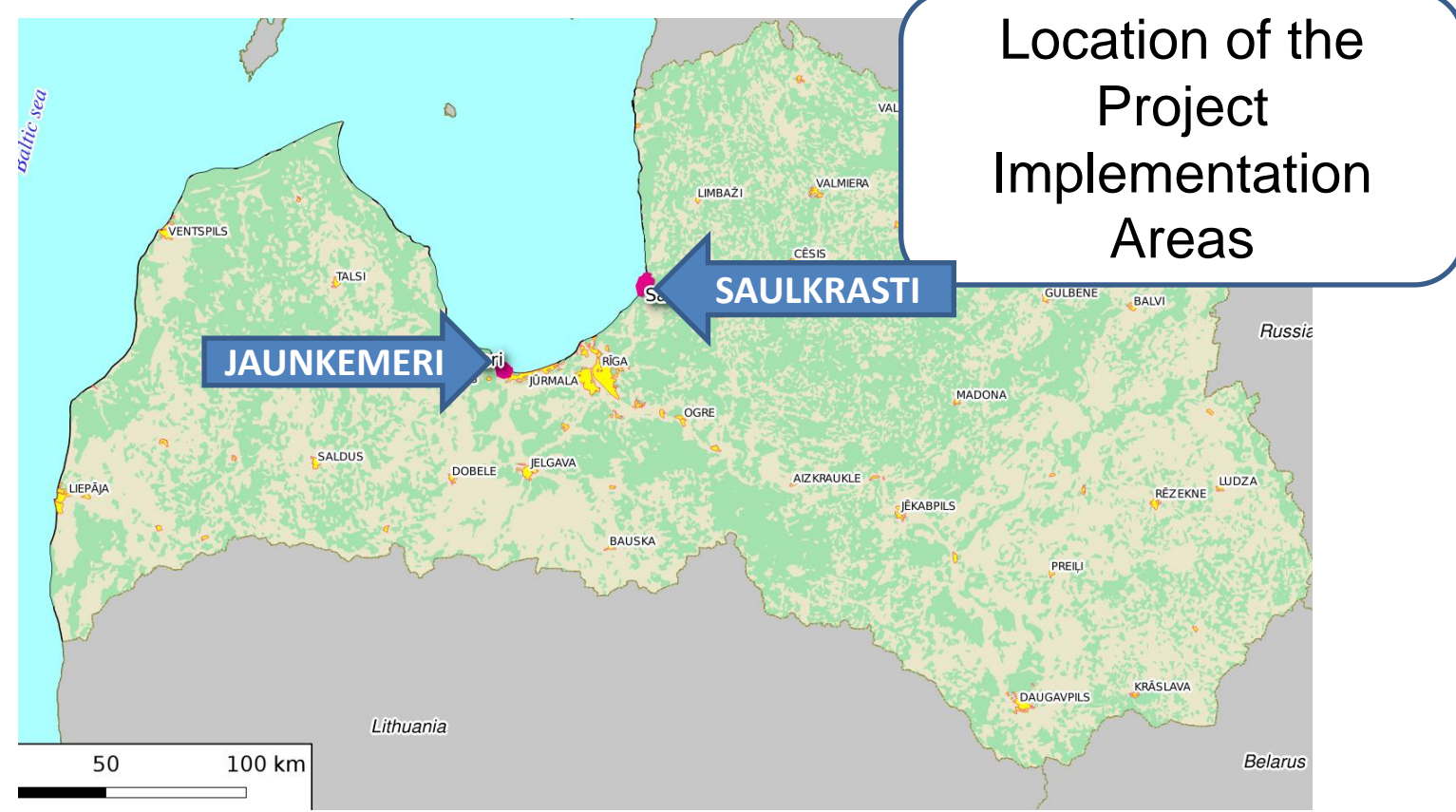
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Abstract

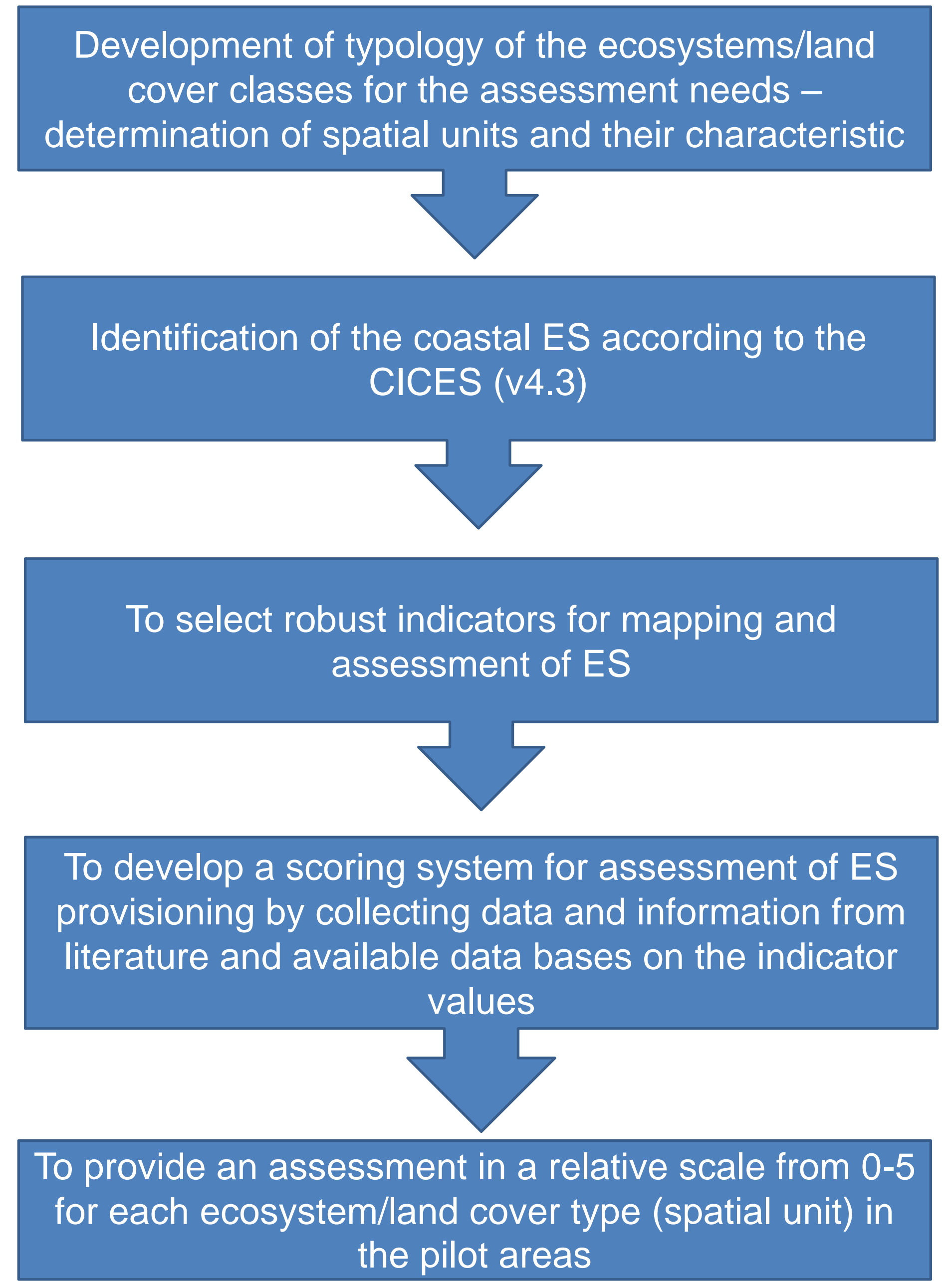
The aim of the paper is to present the approach applied to mapping ecosystems and their services in Latvia coastal areas – two pilot implementation areas. The paper focus on verified mapping methodology appropriate for specific Latvia condition and introducing with developed indicators for ecosystem services (ES) biophysical assessment.

In the context of Latvia the concept of ecosystems and their services and researches of ES are relatively new. Assessment of ES in Latvia was started within several projects and one of them is LIFE EcosystemServices within which Latvian coastal ecosystem and their services assessment methodology has been elaborated and verified in two pilot implementation areas – coastal areas Jaunķemeri (90.85 ha) and Saulkrasti (132.86 ha).



The ecosystem services identification and classification was based on the Common International Classification of Ecosystem Services (CICES). Expert method for identifying and biophysical assessment appropriate ES was used combine with available data. Experts of different fields were involved and worked on more than 20 indicators. One or more criteria were used describing each ecosystem service indicator. Finally overall matrix for multi-layered ES assessment and multi-layer map for each pilot implementation area were developed.

Methods



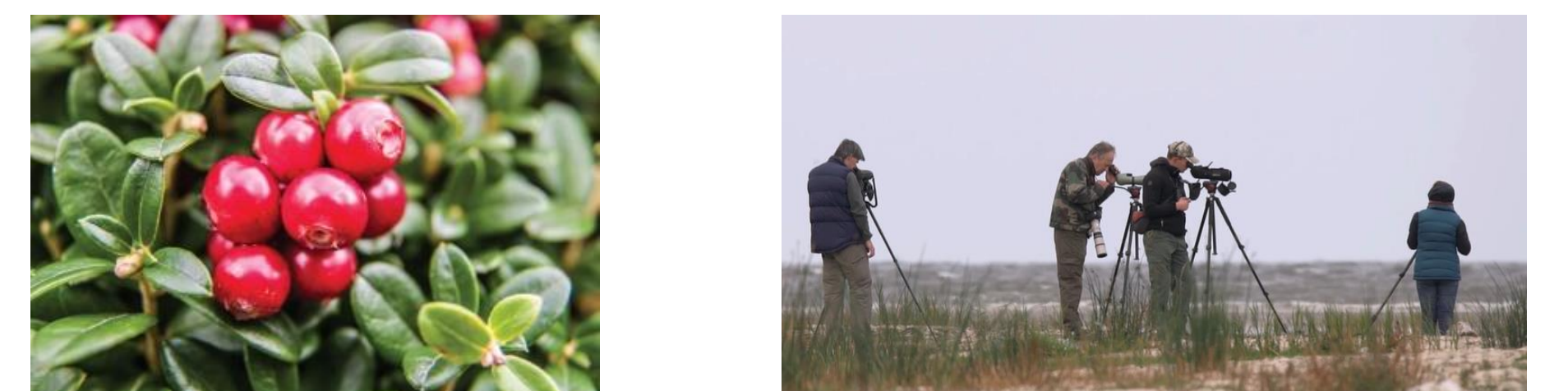
Results

The assessment values are used

To create a map for each ES

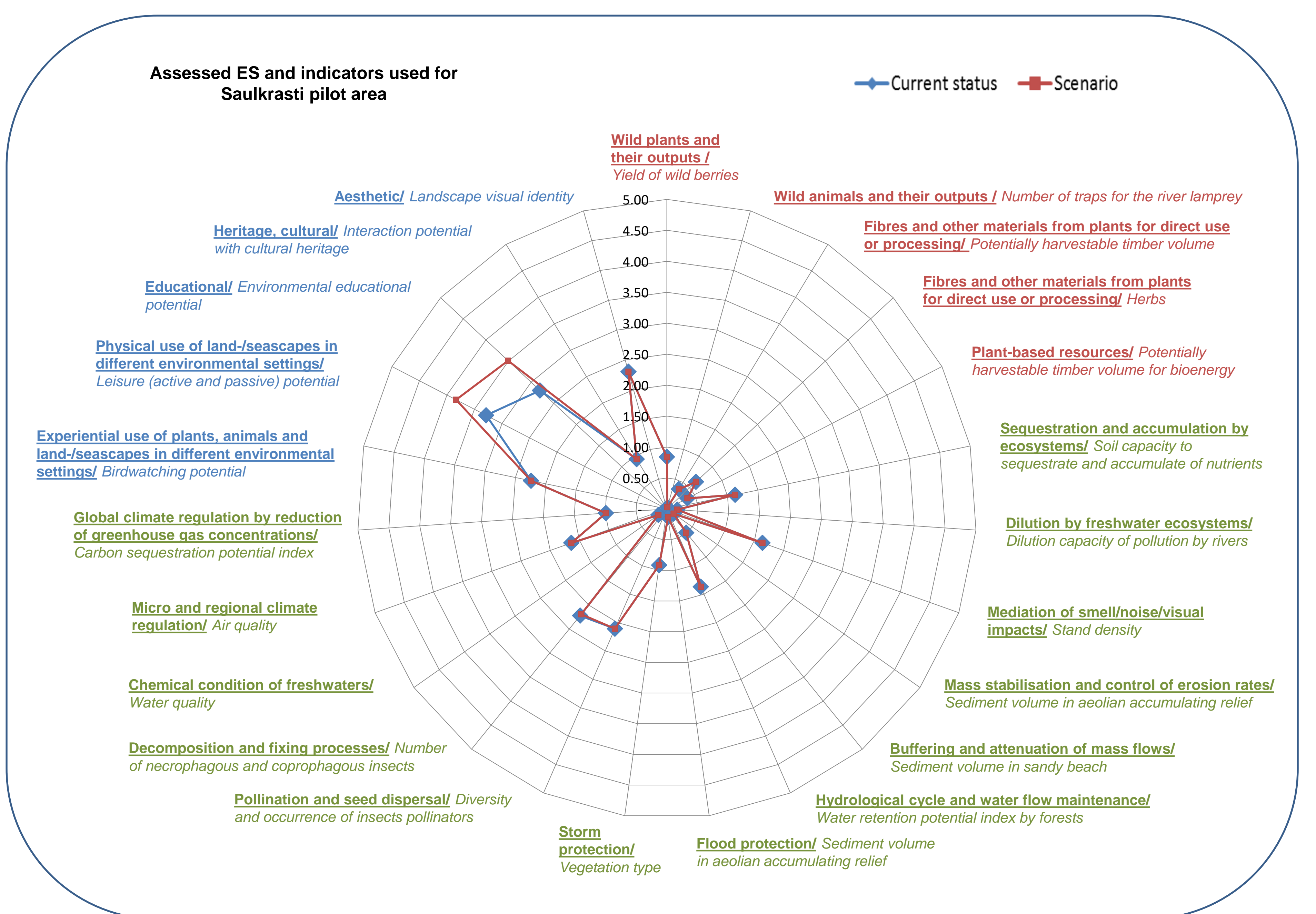
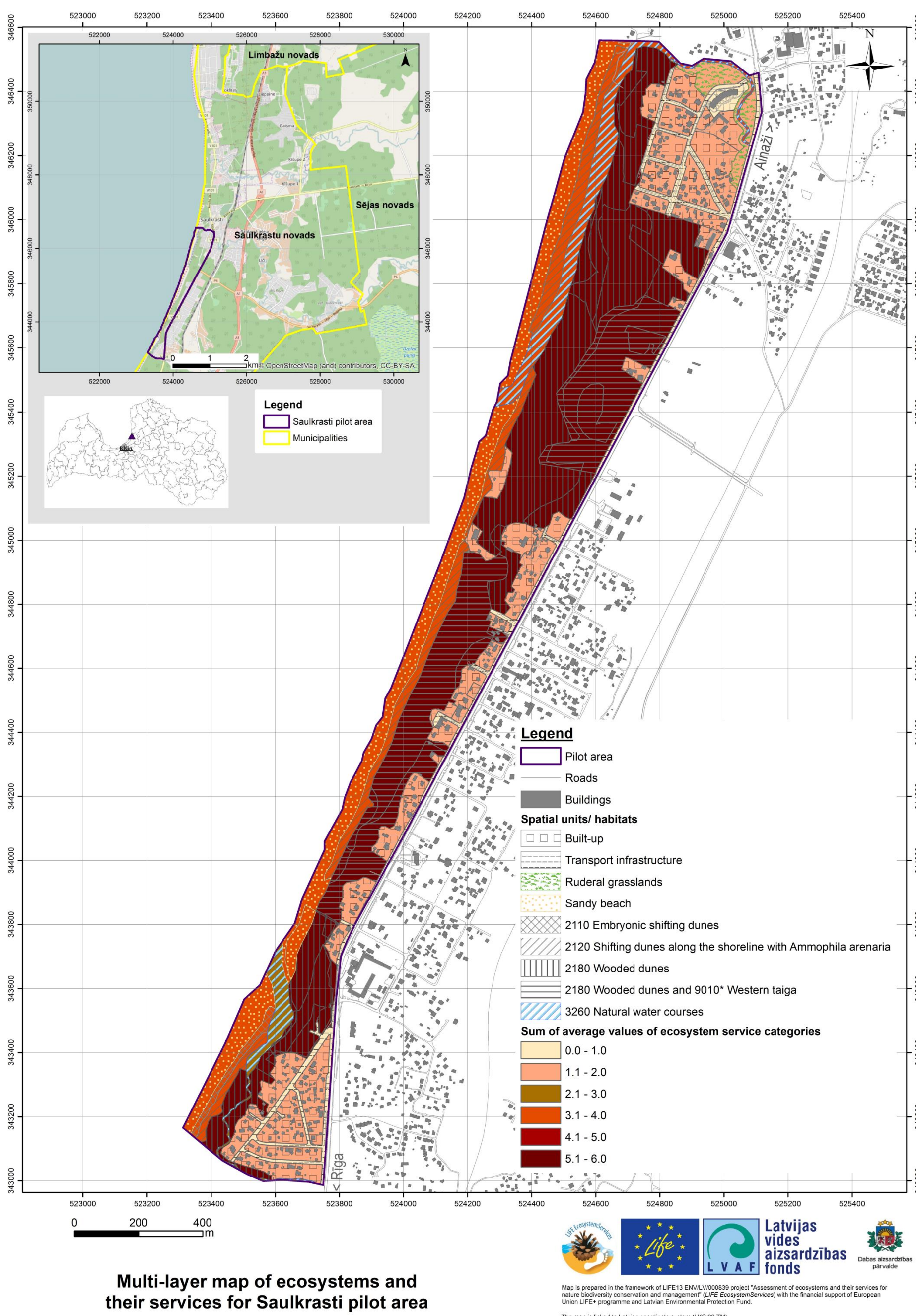
To incorporate in ES economic valuation

For the project impact on ES supply in pilot areas monitoring



To generate an aggregated assessment of ES – an index was calculated for each spatial unit as a sum of the average assessment values of each ES category (provision, regulation and cultural)

To assess the impact of the scenarios on current status of ES - on each ES class an average weighted assessment value was calculated by relating the ES value with an area covered by the respective land cover/ecosystem in the pilot area



The forest ecosystem has been assessed as most valuable, followed by sandy beach, dunes and river ecosystems in both pilot areas

Scenario – Nature Design Park establishment in Saulkrasti pilot area mainly could affect cultural ES and increase appeal of the site to the visitors and environmental education possibilities