Creation of data aggregation

"Viva Grass Tool" by default is designed to assess ecosystem services and interactions among them at site level based on exact agro-ecological conditions of the farmland field, nevertheless, to give certain easy-to-understand overall situation in spatial distribution of ecosystem services in "Viva Grass Viewer" (one of the modules of "Viva Grass Tool") we have chosen to display aggregation of land-use distribution in agro-ecosystems in more coarse-grained spatial resolution.

This is achieved through displaying percentage of permanent grasslands (low-input agro-ecosystems) from all farmland, thus disclosing intensity of agricultural practices at regional scale.

In short, the data aggregation was implemented in the following way:

- We constructed a grid of 5x5 km.
- We calculated area of farmland in the grid cell.
- We calculated area of permanent and semi-natural grasslands in the grid.
- We calculated percentage of permanent and semi-natural grasslands out of farmland.

We categorized the grasslands in 5 categories according to percentage (0-5, 5-35, 35-50, 50-80, 80-100)

We have chosen to use aggregation for 5x5km grid cells, that gives possibility to display overall situation both at landscape level and regional or country levels. Default thresholds of legend marks certain vital criterions as the consulting background for

agricultural and nature conservation planners. 5% designates situation where urgent action is needed as the intensity of agricultural practices is threatening supply potential of all regulating services and is connected with high-input industrial agriculture. 35% is the overall average of distribution of permanent grasslands in Europe and is connected with "optimum" situation to be reached in landscapes of intensive agriculture. Above 50% (and especially above 80%) areas are target areas for High Nature Value (HNV) farmland, farmland that supplies high values for regulating ecosystem services, and should be addressed with specific agricultural and nature conservation policy aimed at supporting low-input practices.

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