



19th
Annual
MARS
Conference

*"CAP 2014+: let's make it
administrable and controllable"*

Framework for Quantifying Ecological Focus Areas

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*Serving society
Stimulating innovation
Supporting legislation*

Objectives of this presentation

Having identified the requirements related to environmental aspects in the drafts of Direct payment and Horizontal Regulation to present

- initial thoughts on their impact on information models
- and the initiatives that might provide input

Environmental information gap



Information gap in IACS

- According to the new regulations eligibility has to be checked from point of view of **environmental requirements**, which demands
 - Understanding their semantics and presenting them in technical terms
 - measurable indicators for controls
 - new data supplies
- The new **eligibility conditions** have to be described
 - in terms of **formal information models** backing the implementation of CAP
 - In sufficient details (data to be combined/aggregated according to different assessment/reporting levels)
- **Controls** can be supported by
 - Operations on the information models (IACS, LPIS, LPISQA)
 - Spatial analysis

From legal requirements to information models

Conceptual information models (application schemas) define

- how the targeted subject (universe of discourse) should be formally described in order to
 - fulfil the requirements of the targeted application(s) and
 - give a firm starting point for implementation models
- Before their development it is necessary to decide what requirements can be supported by existing data offers with
 - ad-hoc (spatial) analysis (simple database operations, conflation, overlaying, buffering, intersecting, etc.), or
 - importing/transforming data from other applications schemas (information infrastructures comprising spatial data infrastructures – SDIs)
 - which requirements need spatial representation (in GIS) and how different components of IACS can work together (information should be collected and stored once)

Logical framework of the spatial component

High level requirements in the Direct Payment
and Horizontal Regulations

Details defined by the Commission
consistent, measurable, implementation that can
be compared and controlled at EU level

Details defined by the MS (taking into account
local conditions)

**LPIS Core
Model**

**National
extensions**

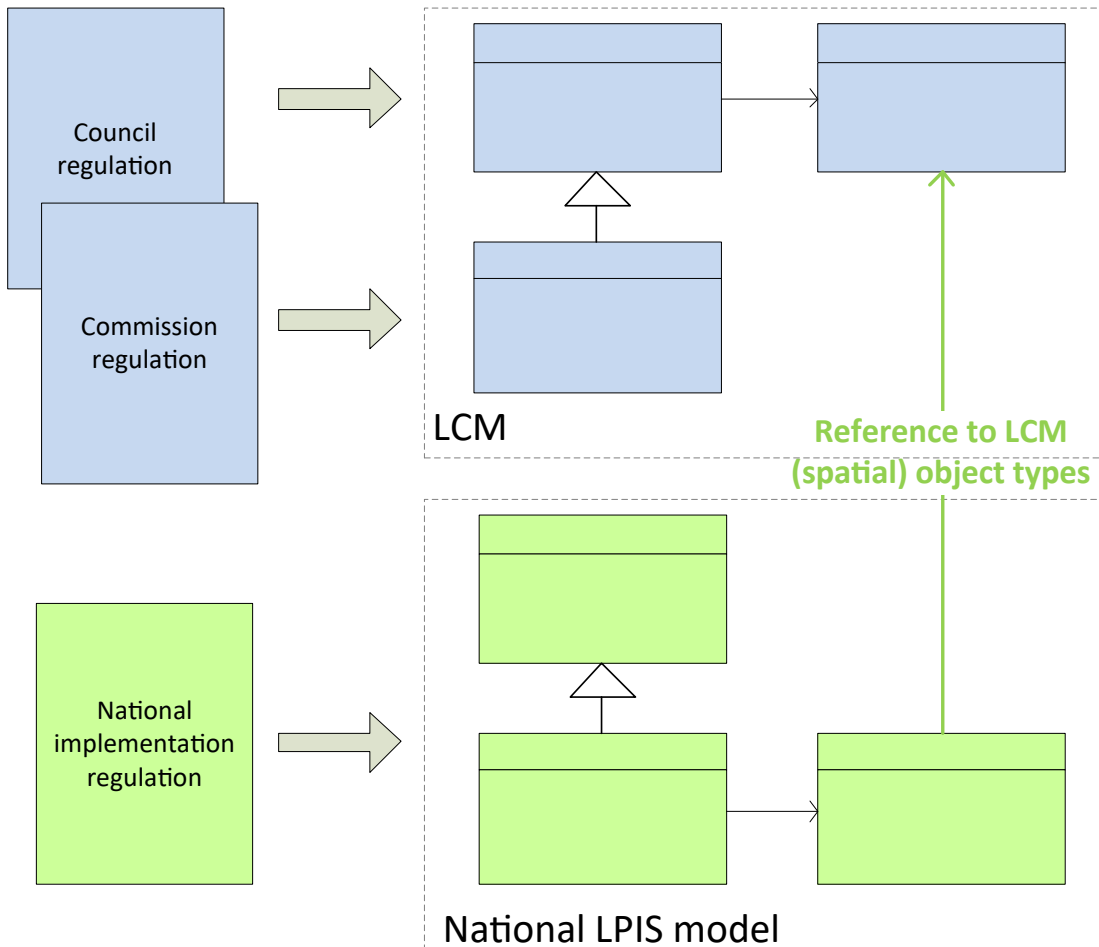
The “modular” structure of legislation should be reflected in the information models too!

LCM as container of European requirements

Updating the LPIS Core Model (LCM)

- The new requirements have to be translated in **elements of the conceptual model** and preferably should be published in registries
 - Spatial objects (features) describing environmental concepts (EFA, landscape features) have to be defined according to the regulation
 - Special attention should be paid to consistency with other European legal acts (i.e. avoiding semantic / spatial representation clashes with data models used for environmental Directive such as WFD, INSPIRE, Habitats, etc.)
- The model should allow **extensions to** define conforming **national profiles**
- It should better respond to **unambiguous localisation** of agricultural land
- It should underpin **unique identification** of all (spatial) objects (parcels and landscape features) to achieve that one object is accounted only once
- It should support the **temporal dimension** (life-cycle information and legal validity included) to facilitate upkeep and monitoring the change of eligible agricultural land

Governance of extensions



Comforming profiles

- **National extensions can**
 - Discard unnecessary types
 - Add new types
 - Specialise types in the LCM (by adding new attributes, constraints, code list elements, etc.)
 - Importing (spatial) object types (identifiers, feature types, code lists, etc.) from other application schemas

National / regional extension to LCM

- **Generic requirement: Conformity**
 - No semantic clashes
 - Type and multiplicity of attributes (comprising geometry) to be respected
- **Conformance testing (MTS)**
 - Each formalised requirement of LCM shall be assessed in a devoted test
 - For each extension a test for exclusiveness should be included
 - For facilitating testing exclusiveness Feature Concept Dictionaries, code list registers and and feature catalogues (published as registries) would help
- **Conformity with other initiatives**
 - When appropriate, LCM should use elements of other standards and and regulations (ISO, OGC, INPSIRE)
 - On voluntary basis MS may decide to be conformant with further normes, comprising national ones

Data Supply channels



Collect new

Get exactly what is needed

- according to own specifications
- no trouble with deployment of data

Might be expensive:

- technology demanding
- (others) data/service dependent
- time consuming

Updates might be complicated

no expertise in following the life cycle and the related legal/business processes

Might be not compliant with regulation (best practices)

Ban for collecting data what is available in public administration

Reuse existing

Current data from competent authorities

Might be challengig

- to find what is neded
- to face information fragmentation
- understand usability of data

Getting data might be complicated

- restrictions in access and use
- royalties
- liabilities

Data does not fit together

- semantic inconsistency
- inconsistent spatial representation
- incompatible encodings (formats)

Instead of conclusions...discuss!



The following slides and the earlier distributed questions do not represent an official position; they are provided to foster discussion and

Examples for information capture

Requirement	LCM	N/R Profiles	Spatial analysis
<ul style="list-style-type: none"> Unique and unambiguous localisation of parcels LF should be accounted once 	<ul style="list-style-type: none"> Topology Generic UID type Parcels associated with EFA 	<ul style="list-style-type: none"> UID type at national level 	
<p>Mandatory greening</p> <ul style="list-style-type: none"> Crop diversification Maintaining permanent pasture EFA Equivalent practices 	<ul style="list-style-type: none"> New spatial object types (crops, land cover, landscape features) New attributes Centrally managed code lists Clear life-cycle rules for tracing changes in the objects Constraints for generic limitations (size , abundance) Collective implementation – associated EFA with shares 	<ul style="list-style-type: none"> New types/attributes for the locally valid solutions New values for extensible code lists Code lists for local values National constraints (new or restricting general ones) Types/code lists for equivalent practices 	<ul style="list-style-type: none"> Restrictions in location and crop type Proximity analysis for collective implementation DEM integration for slopes and exposure Monitoring of RS time series

Please, give your input, have your say!

