7 ETS Examples inspection errors
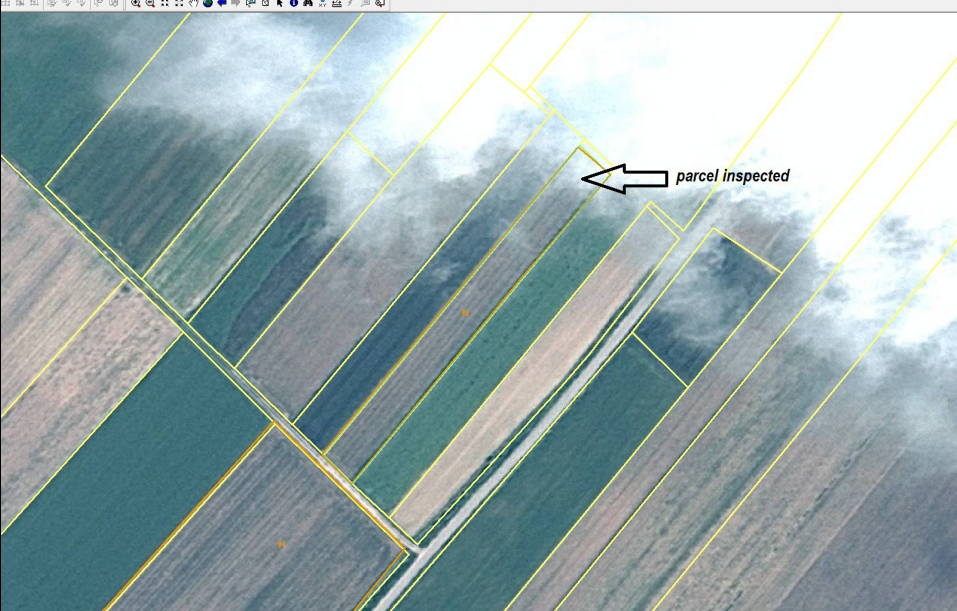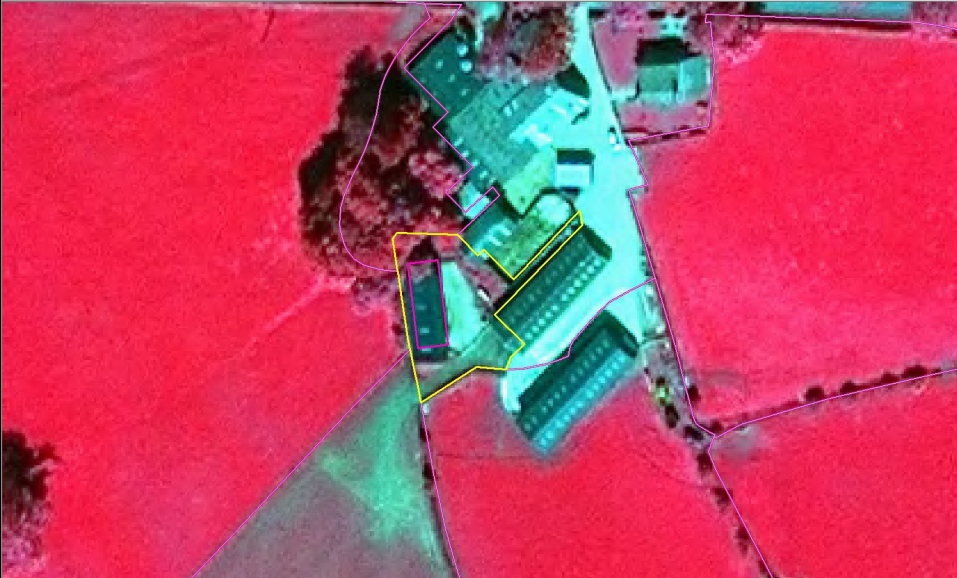
8 Frequent inspection errors observed during the screening

8.1 Issues in inspection feasibility

Issues in feasibility for inspection check	Example
Parcels with inspection failure: Inspected parcels that should not have been inspected but rather skipped. *The parcel indicated with an arrow has been inspected although its northern part of the delivered reference orthoimage is hidden under cloud cover. This parcel is expected to be skipped with the reason of skipping T4 (?Parcel partially or wholly covered by clouds?).*	 parcel inspected
Parcels with inspection failure: Parcels that have been skipped but should not have been skipped and therefore inspected. *The parcel marked with yellow boundary has been skipped from the inspection. No technical failure on the imagery can be detected. The parcel is expected to be inspected and flagged as one with total absence of eligible features.*	

8.2 Issues in individual land cover features delineation

| Issues in individual land cover features delineation (B)	Example
Agriculture land cover feature delineation/incomplete land cover identification *The parcel under inspection is marked with green line. The measured and mapped eligible area is marked with yellow line. The screening process of the parcel, suggested an inclusion of the omitted eligible land as belonging to the LUI of the RP (no additional evidence, such as RFV.gml has been provided).*	

incomplete land cover
identification

Land cover mapping:
Inaccurate mapping (e.g. border of a land cover not followed, 'copy-pasting', incorrect snapping)

The parcel under inspection is marked with blue line. Whitish polygons represent the mapped eligible land. The digitized polygons are snapped to the outer boundary of the reference parcel and disregard land cover borders identified on the imagery.
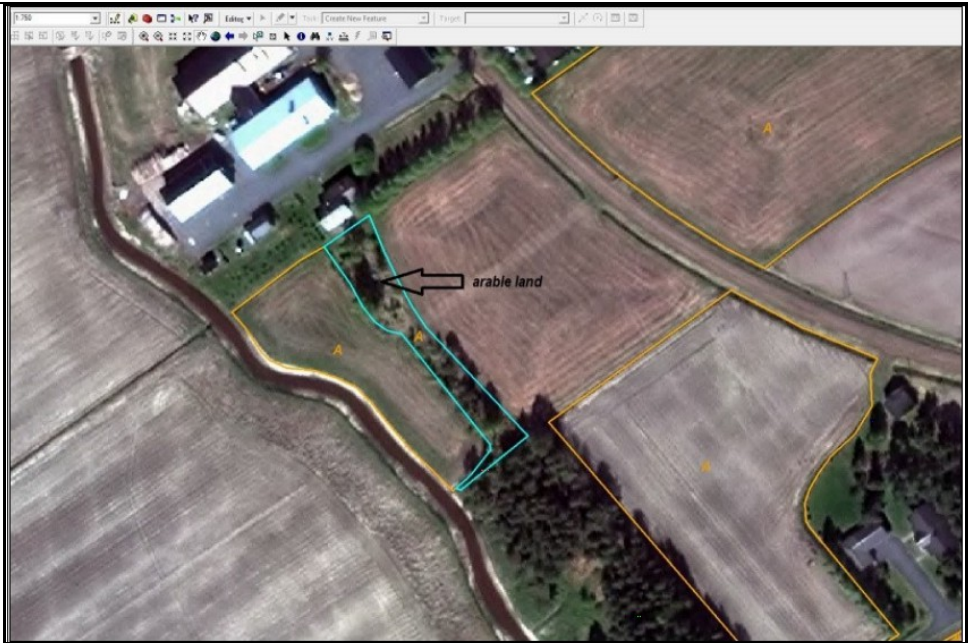

Land cover mapping:
Presence of unexpected land cover feature

The parcel under inspection (blue line) has been correctly flagged as one with ?inability to identify LUI boundaries occurrence = true?. As the parcel is bordering non-eligible features, no polygon with eligible area is expected (neither agriculture land cover class nor landscape element).

inabilityToIdentifyLuiBoundaries occurence="true"
--> land cover feature (yellow) not expected
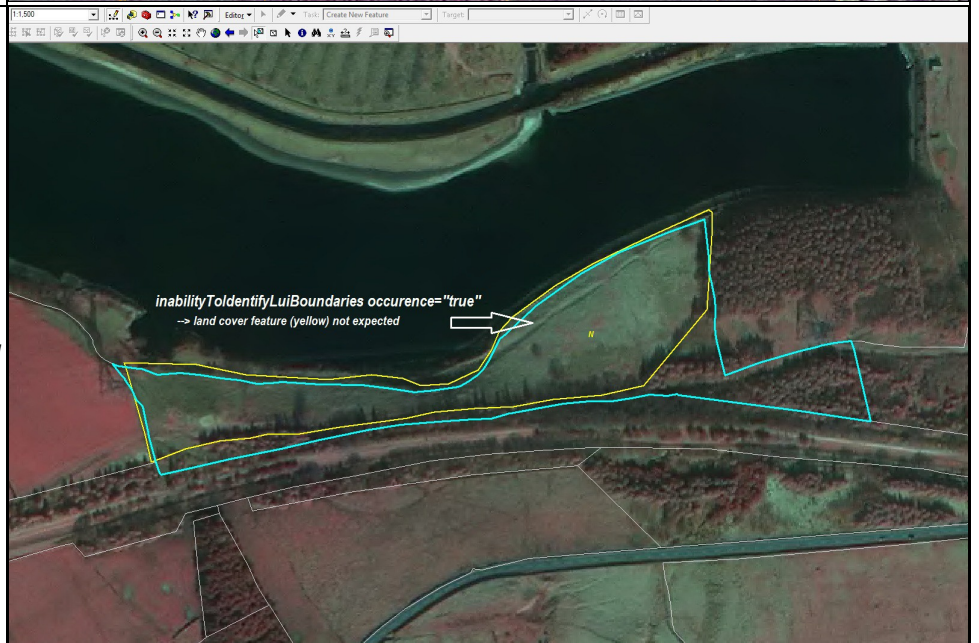
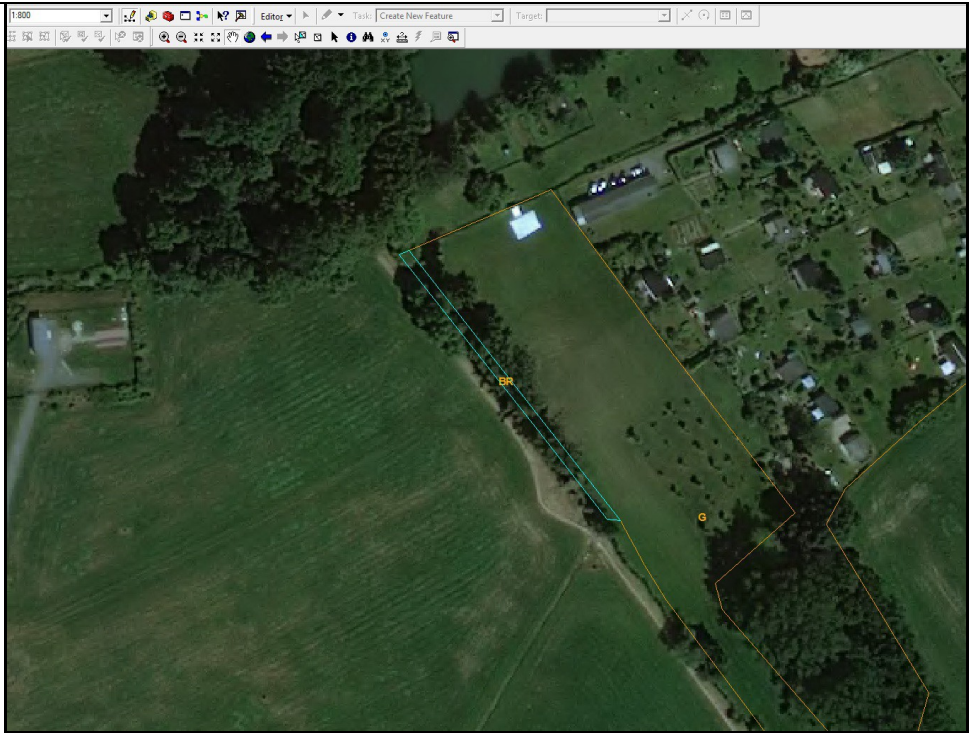|	
Land cover class assignment/incorrect land cover type (attribute) associated with the feature *On the imagery, the mapped land cover polygons incorrectly depict arable land. A different land cover type for the highlighted-blue polygon would be suggested.*	 arable land
Eligible area counting: For all inspected parcels RP_MEA has been incorrectly be rounded to 100m2. The specified resolution of polygon area should be 1m2.	
Occurrence of land cover classes appearance: Duplication of the presence of a specific land cover class for a unique Reference parcel is incorrect, not needed. *The parcel under inspection has 2 polygons with land cover type ?A? and two polygons land cover type ?B?. In the "RP_ELC" measure, only an occurrence of land cover type should be reported. In this particular example, type ?A? and type ?B? are both expected to be reported only once.*	

8.3 Issues in eligible landscape features mapping

Issues in eligible landscape features mapping (C)	Example

C2/Landscape features mapping *The highlighted blue polygon is representing a landscape feature border. After the screening process, more accurate mapping is suggested.*	
C4/Landscape features counting/_a. no features counted *The highlighted?blue landscape feature polygon clearly belongs to the inspected parcel (yellow boundary with diagonal hatch). The occurrence of this element is missing in the observations XML.*	 landscape feature
C5/Landscape feature area derivation/_a. landscape feature area not assigned *The polygon landscape element (purple line) has no area assigned (RP_ELF = 0). Moreover the polygon overlaps with the agriculture land polygon.*	
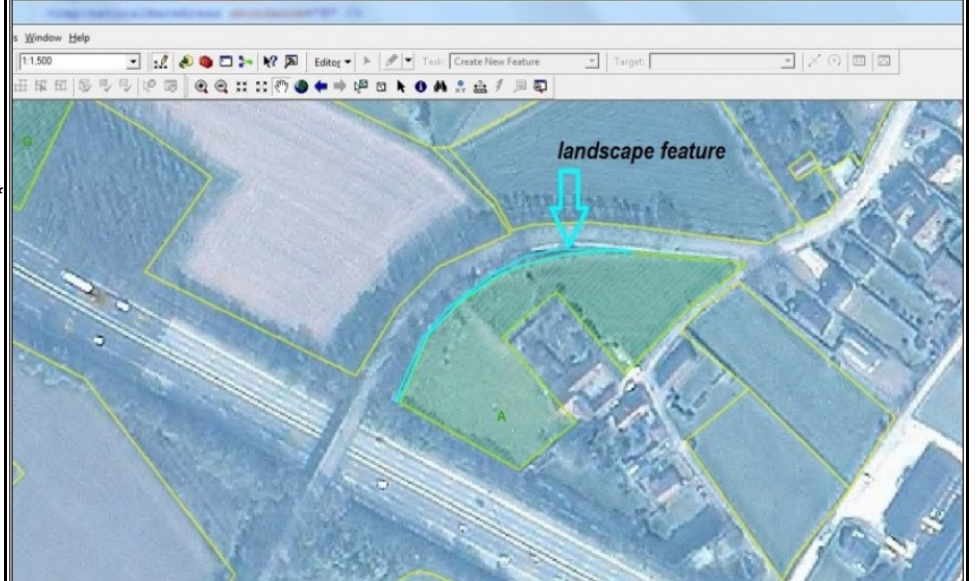
```
<cap:RP_MEA>2127</cap:RP_MEA>
<cap:RP_ELC>
    <cap:agricultureLandCoverClass name="AR" codeSpace="urn:ec:lp:
    <cap:agricultureLandCoverClass name="TC" codeSpace="urn:ec:lp:
    <cap:agricultureLandCoverClass name="FR" codeSpace="urn:ec:lp:
</cap:RP_ELC>
<cap:RP_ALF>
    <cap:landscapeFeature name="HD" codeSpace="urn:ec:lpisqa:2010:
    <cap:landscapeFeature name="SW" codeSpace="urn:ec:lpisqa:2010:
    <cap:landscapeFeature name="AF" codeSpace="urn:ec:lpisqa:2010:
</cap:RP_ALF>
<cap:RP_ELF>0</cap:RP_ELF>
<cap:RP_ANF>
    <cap:artificialSealedSurface abundance="0" />
    <cap:forestAndWoodland abundance="0" />
    <cap:naturalVegetation abundance="1" />
    <cap:waterBodies abundance="0" />
    <cap:naturalBareAreas abundance="0" />
    <cap:wetland abundance="0" />
</cap:RP_ANF>
<cap:RP_CRA>
    <cap:inabilityToIdentifyLuiBoundaries occurence="false" />
    <cap:discontinuity occurence="false" />
    <cap:totalAbsenceOfEligibleFeatures occurence="false" />
    <cap:multiParcel occurence="false" />
    <cap:multiPolygonReferenceParcel occurence="false" />
</cap:RP_CRA>
<cap:RP_CRF>
    <cap:inabilityToIdentifyLuiBoundaries waivered="false" />
    <cap:discontinuity waivered="false" />
    <cap:totalAbsenceOfEligibleFeatures waivered="false" />
    <cap:multiParcel waivered="false" />
    <cap:multiPolygonReferenceParcel waivered="false" />
</cap:RP_CRF>
<cap:RP_CNF>
    <cap:observedToRecordedAreaPercentage>13.12</cap:observedToRec
    <cap:observedRecordedAreaDifference>321</cap:observedRecordedA
</cap:RP_CNF>
<cap:RP_CNT>
    <cap:artificialSealedSurface contamination="false" rpWaivered=
    <cap:forestAndWoodland contamination="false" rpWaivered="false
    <cap:naturalVegetation contamination="true" rpWaivered="false"
    <cap:waterBodies contamination="false" rpWaivered="false" /
```

landscape feature ➡

8.4 Issues in non-agriculture land cover features and "potential" critical defects on the land represented by the RP identification

Issues in non-agriculture land cover features and "potential" critical defects on the land represented by the RP identification (D)	Example
D1/Non-agriculture land cover types determination/_b. incorrect determination *The yellow line shows reference parcel boundary. Artificial sealed surfaces (buildings) are not part of the Item of Inspection, therefore are not expected to be reported in Observations XML, as they are not part of the LUI.*	*artificial sealed surface is outside of the reference parcel*
D3/Non-agriculture land cover types counting (by type)/_a. incorrect lack of detection of critical defect *The reference parcel (blue line) is suggested to have a value of ?true? for total absence of eligible features.*	*Reference Parcel*

8.5 Issues in the conformance of the Reference Parcel check

Issues in the conformance of the Reference Parcel check (E)	Example
E2/Area-based conformance check/_a. incorrect values rounding *Observed area recorded is expected to have arithmetic precision of 1m2.*	
E2/Area-based conformance check/_b. incorrect values calculation *For the inspected parcel with reference area = 5300 and measured agriculture area = 5446, expected values in RP_CNF would be 103% (=5446/5300) and 146 (=5446-5300).*	
E2/Area-based conformance check/_c. values not expected *For the inspected parcel with ?inability to identify IUI boundaries = true?, the RP_MEA is correctly set to zero. The measured agriculture area = 0. Therefore the observed to recorded area ratio is expected to be = 0%.*	

```xml
        <cap:RP_MEA>0</cap:RP_MEA>
        <cap:RP_ELC/>
        <cap:RP_ALF />
        <cap:RP_ELF>0</cap:RP_ELF>
        <cap:RP_ANF>
            <cap:artificialSealedSurface abundance="0" />
            <cap:forestAndWoodland abundance="0" />
            <cap:naturalVegetation abundance="0" />
            <cap:waterBodies abundance="0" />
            <cap:naturalBareAreas abundance="0" />
            <cap:wetland abundance="0" />
        </cap:RP_ANF>
        <cap:RP_CRA>
            <cap:inabilityToIdentifyLuiBoundaries occurence="true" />
            <cap:discontinuity occurence="false" />
            <cap:totalAbsenceOfEligibleFeatures occurence="false" />
            <cap:multiParcel occurence="true" />
            <cap:multiPolygonReferenceParcel occurence="false" />
        </cap:RP_CRA>
        <cap:RP_CRF>
            <cap:inabilityToIdentifyLuiBoundaries waivered="false" />
            <cap:multiParcel waivered="true" />
        </cap:RP_CRF>
        <cap:RP_CNF>
            <cap:observedToRecordedAreaPercentage>126.19</cap:observedToRecordedAreaPercentage>
            <cap:observedRecordedAreaDifference>681</cap:observedRecordedAreaDifference>
        </cap:RP_CNF>
```

E3/Contamination based conformance/_a. not recorded *The blue line represents the inspected parcel, yellow line - eligible land. Parcel contamination with artificial sealed surface is expected to be reported.*	

```xml
<cap:RP_MEA>12655</cap:RP_MEA>
<cap:RP_ELC>
    <cap:agricultureLandCoverClass name="A" codeSpace="urn:ec:lpisqa:2
</cap:RP_ELC>
<cap:RP_ALF/>
<cap:RP_ELF>0</cap:RP_ELF>
<cap:RP_ANF>
    <cap:artificialSealedSurface abundance="0"/>
    <cap:forestAndWoodland abundance="0"/>
    <cap:naturalVegetation abundance="0"/>
    <cap:waterBodies abundance="0"/>
    <cap:naturalBareAreas abundance="0"/>
    <cap:wetland abundance="0"/>
</cap:RP_ANF>
<cap:RP_CRA>
    <cap:inabilityToIdentifyLuiBoundaries occurence="false"/>
    <cap:discontinuity occurence="false"/>
    <cap:totalAbsenceOfEligibleFeatures occurence="false"/>
    <cap:multiParcel occurence="false"/>
    <cap:multiPolygonReferenceParcel occurence="false"/>
</cap:RP_CRA>
<cap:RP_CRF/>
<cap:RP_CNF>
    <cap:observedToRecordedAreaPercentage>102.32</cap:observedToRecord
    <cap:observedRecordedAreaDifference>287</cap:observedRecordedAreaD
</cap:RP_CNF>
<cap:RP_CNT/>
<cap:RP_CEA>
    <cap:changesOfTheUnderlyingLandWereNotApplied occurence="false"/>
    <cap:revisionsOfTheRegulationsWereNotApplied occurence="false"/>
    <cap:incompleteProcessing occurence="false"/>
    <cap:erroneousProcessing occurence="false"/>
    <cap:incompatibleLpisDesign occurence="false"/>
    <cap:observedEligibleAreaIsNotInGacOn20030630 occurence="false"/>
```

E3/Contamination based conformance/_b. incorrect values recorded *The parcel under inspection is highlighted with a blue line. No contamination is observed and therefore no contamination is expected to be found as ?true? in RP_CNT.*	

```xml
<cap:RP_MEA>13300</cap:RP_MEA>
<cap:RP_ELC>
    <cap:agricultureLandCoverClass name="A" codeSpace="urn:ec:lpisqa:2010
</cap:RP_ELC>
<cap:RP_ALF />
<cap:RP_ELF>0</cap:RP_ELF>
<cap:RP_ANF>
    <cap:artificialSealedSurface abundance="0" />
    <cap:forestAndWoodland abundance="0" />
    <cap:naturalVegetation abundance="0" />
    <cap:waterBodies abundance="0" />
    <cap:naturalBareAreas abundance="0" />
    <cap:wetland abundance="0" />
</cap:RP_ANF>
<cap:RP_CRA>
    <cap:inabilityToIdentifyLuiBoundaries occurence="false" />
    <cap:discontinuity occurence="false" />
    <cap:totalAbsenceOfEligibleFeatures occurence="false" />
    <cap:multiParcel occurence="false" />
    <cap:multiPolygonReferenceParcel occurence="false" />
</cap:RP_CRA>
<cap:RP_CRF />
<cap:RP_CNF>
    <cap:observedToRecordedAreaPercentage>99.25373</cap:observedToRecorde
    <cap:observedRecordedAreaDifference>-100</cap:observedRecordedAreaDif
</cap:RP_CNF>
<cap:RP_CNT>
    <cap:artificialSealedSurface contamination="true" rpWaivered="false"
    <cap:forestAndWoodland contamination="true" rpWaivered="false"
    <cap:naturalVegetation contamination="true" rpWaivered="false"
    <cap:waterBodies contamination="true" rpWaivered="false" />
    <cap:naturalBareAreas contamination="true" rpWaivered="false" />
    <cap:wetland contamination="true" rpWaivered="false" />
</cap:RP_CNT>
<cap:RP_CEA>
    <cap:changesOfTheUnderlyingLandWereNotApplied occurence="false" />
    <cap:revisionsOfTheRegulationsWereNotApplied occurence="false" />
    <cap:incompleteProcessing occurence="false" />
    <cap:erroneousProcessing occurence="false" />
    <cap:incompatibleLpisDesign occurence="false" />
    <cap:observedEligibleAreaIsNotInGacOn20030630 occurence="false" />
</cap:RP_CEA>
```

8.6 Issues with the application of the RP aggregation method

Issues with the application of the RP aggregation (F)	Example

Understanding the subject of aggregation. This grassland area covers more reference parcels. One of the RPs was selected for QA inspection. Coverage of that crop (grassland) within the selected RP goes beyond the RP boundaries but it doesn't stop EXACTLY on the next RP boundary lines. Note that the green polygon indicates the limit of the crop, but it does not coincides with the RP lines. In this case RP aggregation should not be applied since it might lead to an area non-conforming result	
Understanding the subject of aggregation. This arable land area covers more reference parcels. * RP was selected for QA inspection. Coverage of arable land that belong to selected RP goes beyond the RP boundaries. Left RP perimeter include different crop (PC type). Hence, RP aggregation should not be applied. Green measurement indicates the MS's decision of RP aggregation that was not according to methodology.	
Understanding the subject of aggregation. This case is more complex since selected *RP covers three blocks of crops (AL and PG) for QA inspection. Coverage of that crops (grassland) within the selected RP go beyond the RP boundaries but it doesn't stop EXACTLY on the next RP boundary lines. Note that green	
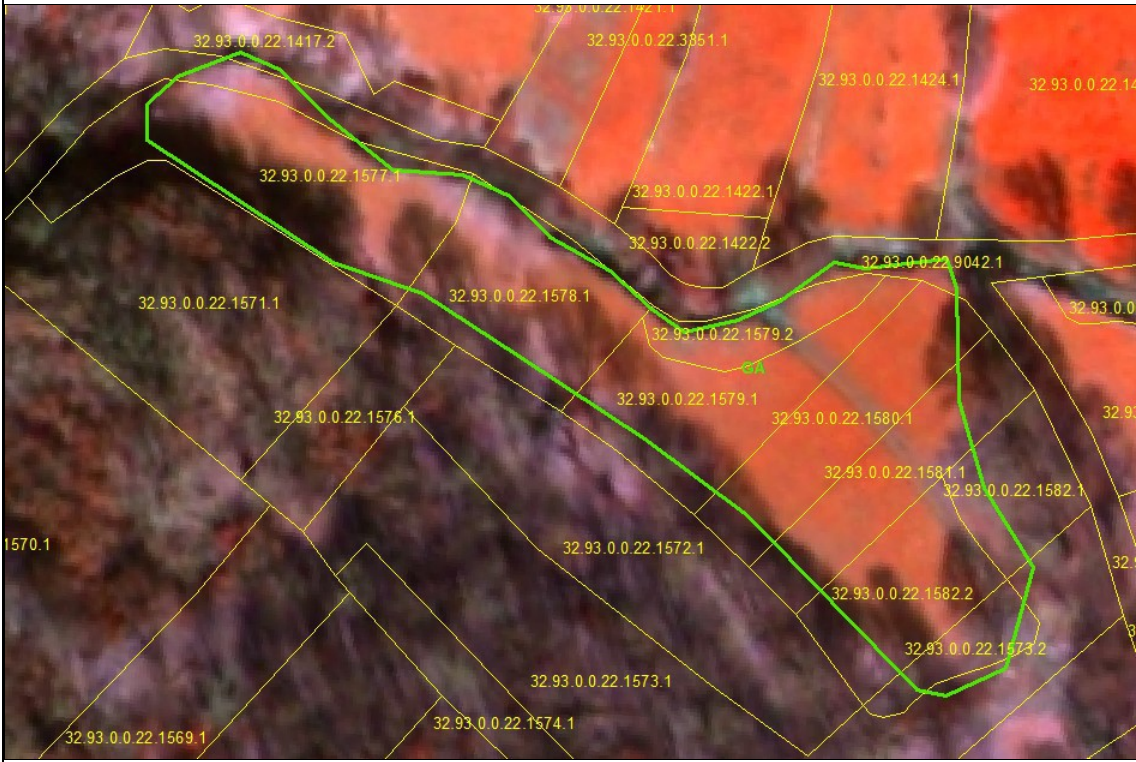
ETS measurement lines don't correspond with the yellow RP lines of the outer extent (NE corner and middle southern part).

Go back to the main ETS page

9 ETS Lessons learnt

-page left intentionally blank-

Go up to the main ETS page

10 Tools

10.1 Disclaimer

Many tools listed on this page may not have been upgraded to ETS v6.4.0. Use them carefully!

10.2 JRC Tools

10.2.1 Web-application for data exchange

A secure web-application is available at: LPIS QA Web-application to facilitate and assist Member States in the LPIS QA implementation. This platform is used for:

- upload of LPIS XML/GML data (MS-to-JRC),
- download of Sample Pre-selection XML data (JRC-to-MS).

To correctly use it, please refer to the sampling pre-selection procedure at: Instructions on data exchange.

10.2.2 JRC custom built tools

JRC offers these tools as demonstration tools only. They help to understand the GML creation process and helps to create a valid GML file from the original Member State data. The tools are in a draft version, therefore some minor problems can occure (if so, please contact the JRC team with a problem description and a bug report as a print-screen).

When an updated version of a tool is available, the corresponding link will be updated. Please, verify if you are using the latest version.

JRC Tool	Description	Requirements	Link	D
LPIS Point Zero State	A customized script that creates a valid LpisPointZeroState.gml file from a point-type shapefile. **Compatible with ETS v6.4**	ArcGIS v10.x	LpisPointZeroStateTool_640_(ArcGIS_10.0).zip LpisPointZeroStateTool_640_(ArcGIS_10.1/10.2).zip LpisPointZeroStateTool_640_(ArcGIS_10.3).zip LpisPointZeroStateTool_640_(ArcGIS_10.5).zip	2020
LPIS Polygon Zero State	A customized script that creates a valid LPIS Polygon Zero State GML file from a polygon-type shapefile. **Compatible with ETS v6.4**	ArcGIS v10.x	LpisPolygonZeroStateTool_640_(ArcGIS_10.0).zip LpisPolygonZeroStateTool_640_(ArcGIS_10.1/10.2).zip LpisPolygonZeroStateTool_640_(ArcGIS_10.3).zip LpisPolygonZeroStateTool_640_(ArcGIS_10.5).zip	2020
ETS Inspection Measurements	A customized script that creates a valid ETS Inspection Measurement GML file from a set of corresponding layers/shapefiles. **BETA version, compatible with the gml schema v5.1**	ArcMap v9.3: Tested on ArcMap version 9.3 service pack 1 (also ArcGis v10; SP2)	Tools_v51 - Installation	2012
XML/GML Validator	An application that validates XML and GML files against their schemas. **DISCONTINUED** **NOTE:** the application can still be used with a local copy of the registry by following the instructions below: 1) Download all the xsd schema files from the registry to the folder where you have the JrcXmlValidator.exe installed 2) Edit the header of the file you want to validate, i.e. LpisPointZeroState.gml, by changing the xsi:schemaLocation attribute value: - from "http://lpis.jrc.ec.europa.eu/registry/6.4.0 http://lpis.jrc.ec.europa.eu/registry/6.4.0/LpisPointZeroState.xsd" - to "http://lpis.jrc.ec.europa.eu/registry/6.4.0 LpisPointZeroState.xsd" 3) Validate your file 4) Revert the xsi:schemaLocation attribute to its original value	Microsoft.NET Framework 3.5 or later link	JrcXmlValidator	2010

10.3 Third party commercial tools

These tools are on the commercial market and may help Member States during the implementation of the LPIS QA inspection or further analyses thereafter.

These are commercial products and the entries are provided for information only. JRC does not "certify" or "guarantee" any of these third party tools.

Tool	Description	Requirements	More...
GDV **ETS-reporter**	Java-based stand-alone software application that covers the process of the LPIS data quality measures (Executable Test Suite).	Standalone, needs Java 1.6 installed	link
Sinergise **TopoCheck**	tool for spatial and meta-data validation of various datasets. It analyses the data and finds inconsistent records, problematic topologies and it also estimates an area uncertainty of each polygon.	Standalone, needs Java 1.6 installed.	link

Abaco **QA ETS Exchange**	web application providing the import/export of the Commission selected sample according to ETS guidelines	Any J2EE web container, Oracle Spatial 10g or 11g	link
Abaco **QA ETS Inspection**	web application managing the Quality Control workload distribution among inspectors. Provides also a tailored ETS GIS editor and the ETS scoreboard in PDF format	Any J2EE web container, Oracle Spatial 10g or 11g.	link
Wageningen UR - Alterra **ETS Manager**	The ETS Manager is build as an addin for ArcGIS 9.3.1. The current version it taylored to the Dutch and Northern-Irish workflow, but can easily be adjusted according to your specific situation. Multi-user tool for the entire process of LPIS Quality Assessment. Based on file-geodatabase usage. For more detailed information please contact Inez.Woltjer@wur.nl	ArcGIS 9.3.1.	link
MedSoftOrg **ETS toolset**	Multi user, stand-alone GIS SW application for managing ETS CAPI process and ETS data pereparation, reporting.	open source platform, independent free SW components	medsoftorg@invitel.hu

10.4 Third party free tools

10.4.1 Ogr2ogr

IMPORTANT: The following conversion does NOT give 100% valid GML file, some small changes are still required to tune the file: "ogr" namespace to "cap" namespace, together with "targetNamespace".

Now we are able to convert the newly created shapefile to a GML file. A tool that could be used for this purpose is ogr2ogr, from Geospatial Data Abstraction Library. Basically, one provides ogr2ogr with the input shapefile, specifies the additional fields (other than spatial ones) that are contained in the GML file, and provides the name of the GML output file:

ogr2ogr -f "GML" -a_srs "EPSG:31300" ?nln ?ReferenceParcel? CountryRefParcelPoints.gml CountryShapefilePoints.shp ?sql ?SELECT CAST(ReferenceParcelID AS character)AS rpID, CAST(ReferenceParcelArea AS float) AS referenceArea FROM CountryShapefilePoints?

The GML file shall be then zipped and shiped through the LPIS QA web-application to JRC.

10.4.2 FAO LCCS

Software installation setup

The software is freely distributed by FAO and comes with a self-extracting executable file, which produces the entire set of files necessary to run the setup.

The latest stable release of the LCCS (version 2), currently used in the LPIS QA, can be found here

Classification concepts and user manual

The LCCS software manual provides information on the classification concepts and the practical software use. The first part of the manual fully describes the LCCS used definitions and the conceptual basis. The second part of the manual deals with the LCCS operative use, from installation to extensive explanation of the functioning mode of each one of the program modules.

It is available on the FAO Web site: LCCS Manual.

10.4.3 XML Marker 1.1

XML Marker is a freeware XML Editor that uses a synchronized table-tree-and-text display to show you both the hierarchical and the tabular nature of your XML data.

It automatically produces a tabular display of any selected tag by collecting repeating attribute and tag names and then arranging them into columns. The result is a clutter-free and informative tabular display.

The tool is here available for downloading.

10.4.4 LPIS-QA-Reporter

In Belgium-Flanders we created a little tool to help creating some xml files for the ETS. Two of the necessary ?ETS Reporting package? xml files are supported at the moment, because they are the most difficult to create manually:

- EtsObservations.xml
- LpisSamplePreselectionStatus.xml

The tool needs a shape file with certain mandatory columns as input (a template shape file and a description of the needed fields is included in the download). Based on this file xml files are generated... Mind: the tool doesn't do an xsd validation, so you still need to use eg. the JrcXmlValidator to validate the xmls!

BTW: This tool is provided free of charge, as is without any guarantees or warranty. The author is not responsible for any damage or losses of any kind caused by the use or misuse of the programs. The author is under no obligation to provide support, service, corrections, or upgrades to the software ;-)...

If you would like to use the tool and want to be notified of new versions or have any remarks, you can contact me here: pieter.roggemans@lv.vlaanderen.be ...

You can download the newest version of the tool on this page: LPIS-QA-Reporter

10.4.5 HUMBOLDT Alignment Editor (HALE)

The HUMBOLDT Alignment Editor (HALE) is a spatial data transformation application. HALE can be used to interactively and visually define and evaluate conceptual schema mappings and data harmonisation processes.

HALE is licensed under the Free an Open Source License LGPL 3.0. It is available for all major operating systems.

The software itself, together with all supporting documentation, is available here.

10.5 Tips and tricks

10.5.1 How to install a JRC ArcGIS script

LPIS Point Zero State and LPIS Polygon Zero State tools consist of several files under a ZIP archive. They run within the ArcMap environment (built for the ArcMap version 9.3). It is a prototype that has not been largely tested yet.

To install the tools in your ArcMap component, you need to:

1. Download the ZIP files from WikiCAP - see above links.
2. Open ArcMap.
3. Go to Tools>Macros>Visual Basic Editor.
4. Delete all the files installed for the previous version of the JRC tools.
5. Import all the files from the new installation (.cls, .bas and .frm) within Normal Project - Normal.mxt - to make it always available to ArcMap.
6. Make sure the the following reference called "Microsoft Scripting Runtime" is checked: Visual Basic>Tools>References>Microsoft Scripting Runtime
7. Save the project.
8. Go to ArcMap, Tools>Customize>[Macros]>...find our Tool (indicated as Normal.ToolName.Run).
9. Drag&drop it on your ArcMap toolbar.
10. Click on the button you have just dropped into the toolbar or alternatively, run the tool from Tools>Macros>Macros>[Macro name]>Run.
11. The tool's window should be opened and ready to be used.

10.5.2 How to run a JRC ArcGIS script (Point/Polygon Zero State)

1. Install a tool correctly.
2. Click on it to open its interface.
3. Select the shapefile/layer you want to convert.
4. Map your corresponding attribute fields.
5. Convert the file by clicking on the Create GML File button.

The **input files** should be:

◊ for Point Zero State and Polygon Zero State a simple-point-type or simple-polygon-type shapefile with a defined geographic coordinate system or a projected coordinate system.

The **output file** is a GML-file, compliant with one of the following schemas:

◊ LpisPointZeroState.xsd
◊ LpisPolygonZeroState.xsd

10.5.3 How to run the ETS Inspection Measurements JRC ArcGIS script

1. Install the tool as described above.
2. Prepare your ArcGIS project with layers/shapefiles where each layer/shapefile contains only Agriculture Land Cover Features or only Landscape Features of one geometry type (Figure 1).
3. Prepare the required attributes in all your layers/shapefiles as indicated in Table 1.
4. Click on the installed EtsInspectionMeasurement tool to open its interface.
5. Click on the "Build the mapping" button.
6. (Required) Select the layer/shapefile containing Agriculture Land Cover Features (polygons)
7. (Required) Map the attributes from your layer/shapefile to the GML corresponding attributes
8. Select the layer/shapefile containing Landscape Features (polygons). If you do not have landscape features mapped as polygons, leave it empty.
9. Map required attributes
10. Select the layer/shapefile containing Landscape Features (lines). If you do not have landscape features mapped as lines, leave it empty.
11. Map required attributes
12. Select the layer/shapefile containing Landscape Features (points). If you do not have landscape features mapped as points, leave it empty.
13. Map required attributes
14. Select the layer/shapefile containing Landscape Features (multipoints). If you do not have landscape features mapped as multipoints, leave it empty.
15. Map required attributes
16. Convert your data by clicking on the Create GML File button.
17. Validate your GML file with JRC XML Validator
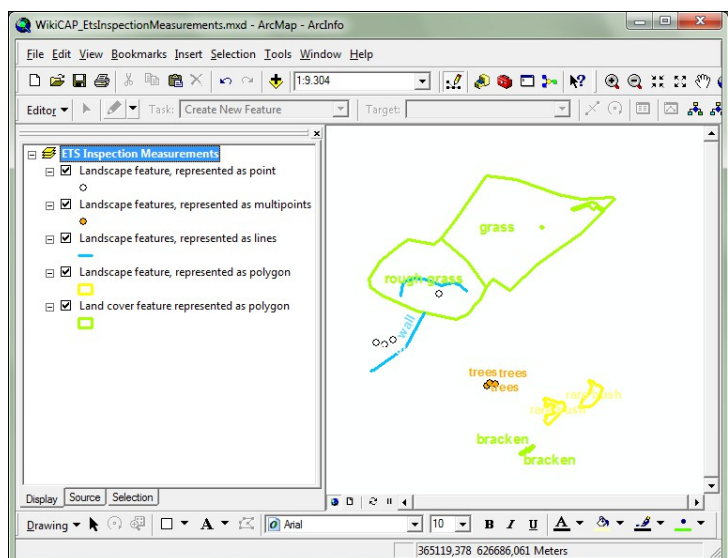
Figure 1. Prepared ArcGIS project for ETS Inspection Measurements conversion. Each layer/shapefile contains only one feature type of one geometry.

Table 1. Mandatory GML attributes

Required GML attribute	Description
rpID	Reference Parcel Unique Identifier
landCoverFeatureID	an internal unique identifier of mapped land cover types (i.e. OBJECTID)
agricultureLandCoverClassCode	Land Cover Class Code from your eligibility profile
codeSpace	urn:ec:lpisqa:**REPORTING_YEAR**:**YOUR_LPIS_CODE**:**LOT_NUMBER**:EligibilityProfile where you need to replace the bold elements with your actual data, i.e. urn:ec:lpisqa:2010:TEST-LPIS:1:EligibilityProfile

The **input files** should be:

◊ separate ArcGIS layers or shapefiles containing only Agriculture Land Cover Features or only Landscape Features. Please note that each of the layers/shapefile may only contain features of the same geometry type (polygon/multipoligon, line/polyline, point/multipoint) and should have a defined geographic coordinate system or a projected coordinate system.

The **output file** is a GML-file, compliant with one of the following schema:

◊ EtsInspectionMeasurements.xsd

10.5.4 How to create the point representations of the parcels in ArcGIS

In order to determine the points, a command line function from ArcGIS (under the ArcInfo license) could be used: FeatureToPoint d:\workspace.mdb\parcels d:\workspace.mdb\parcels_pt INSIDE The syntax for the command is as follows: *FeatureToPoint <in_features> <out_feature_class> {CENTROID | INSIDE}*

Using the function (choosing INSIDE option), a new shapefile will be created. The only difference is that it will contain some point representation of the parcels instead of polygons, for each of the parcels in the original shapefile.

10.5.5 How to open a XML Sample pre-selection in ArcGIS

If you want to relate an XML sample pre-selection file to your ArcGIS project, you need to first open the XML file in the Excell, and then save it in the DBF format. Then, you will be able to relate it to your ArcGIS layers.

10.5.6 How does a correct GML look like?

Download an example: LpisPointZeroState.gml. The GML file content is illustrated below:

```
<?xml version="1.0" encoding="UTF-8"?>
<cap:FeatureCollection
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://lpis.jrc.ec.europa.eu/registry/6.4.0 http://lpis.jrc.ec.europa.eu/registry/6.4.0/LpisPointZeroState.xsd"
 xmlns:cap="http://lpis.jrc.ec.europa.eu/registry/6.4.0"
 xmlns:gml="http://www.opengis.net/gml"
 lpis_code="TEST-LPIS"
 reporting_year="2020"
 lpis_lot="1">
        <gml:boundedBy>
                <gml:Box srsName="EPSG:4326">
                        <gml:coord>
                                <gml:X>10.131254635</gml:X>
                                <gml:Y>34.055141255</gml:Y>
                        </gml:coord>
                        <gml:coord>
                                <gml:X>14.144205386</gml:X>
                                <gml:Y>44.831708765</gml:Y>
                        </gml:coord>
                </gml:Box>
        </gml:boundedBy>
        <gml:featureMember>
                <cap:ReferenceParcel fid="F0">
                        <cap:geometryProperty>
                                <gml:Point srsName="EPSG:4326">
                                        <gml:coordinates>12.970463244,44.292817075000002</gml:coordinates>
                                </gml:Point>
                        </cap:geometryProperty>
                        <cap:rpID>FM_A.4805.14/1</cap:rpID>
                        <cap:etsReferenceArea>0.0000</cap:etsReferenceArea>
                        <cap:arableLandArea>0.0000</cap:arableLandArea>
                        <cap:permanentCropArea>0.0000</cap:permanentCropArea>
                        <cap:permanentGrasslandArea>0.0000</cap:permanentGrasslandArea>
                        <cap:nonAgriEligibleArea>32.5678</cap:nonAgriEligibleArea>
                        <cap:etsReferenceAreaAvailability>false</cap:etsReferenceAreaAvailability>
                </cap:ReferenceParcel>
        </gml:featureMember>
        <gml:featureMember>
                <cap:ReferenceParcel fid="F1">
                        <cap:geometryProperty>
                                <gml:Point srsName="EPSG:4326">
                                        <gml:coordinates>13.016643059,44.277870450000002</gml:coordinates>
                                </gml:Point>
                        </cap:geometryProperty>
                        <cap:rpID>KU432_A.0074.10/7</cap:rpID>
                        <cap:etsReferenceArea>100.0003</cap:etsReferenceArea>
                        <cap:arableLandArea>10.0001</cap:arableLandArea>
                        <cap:permanentCropArea>20.0001</cap:permanentCropArea>
                        <cap:permanentGrasslandArea>70.0001</cap:permanentGrasslandArea>
                        <cap:nonAgriEligibleArea>32.5678</cap:nonAgriEligibleArea>
                        <cap:etsReferenceAreaAvailability>true</cap:etsReferenceAreaAvailability>
                </cap:ReferenceParcel>
        </gml:featureMember>
</cap:FeatureCollection>
```

Figure 2. Example of an LPIS point zero state file.

10.5.7 What are the correct GML attributes?

The INSPIRE Directive, imposes the GML format for the exchange of geospatial data. The following GML Application Schema is defined for LPIS point data LpisPointZeroState.xsd. It must be referenced inside the GML:

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" targetNamespace="http://lpis.jrc.ec.europa.eu/registry/6.4.0" xmlns:gml="http://www.op
```

The GML file created by each LPIS custodian should contain, sequentially the following elements:

```
<cap:ReferenceParcel fid="F0">
 <cap:geometryProperty>
  <gml:Point srsName="EPSG:4326">
   <gml:coordinates>12.970463244,44.292817075000002</gml:coordinates>
  </gml:Point>
 </cap:geometryProperty>
 <cap:rpID>FM_A.4805.14/1</cap:rpID>
 <cap:etsReferenceArea>54.2310</cap:etsReferenceArea>
 <cap:arableLandArea>32.1510</cap:arableLandArea>
 <cap:permanentCropArea>22.0800</cap:permanentCropArea>
 <cap:permanentGrasslandArea>0</cap:permanentGrasslandArea>
 <cap:nonAgriEligibleArea>0</cap:nonAgriEligibleArea>
 <cap:etsReferenceAreaAvailability>false</cap:etsReferenceAreaAvailability>
</cap:ReferenceParcel>
```

Where:

- **fid**: required by good GML practice. If it is provided, it must be a string that starts with either a letter or the underscore (_) character, followed by printable characters or numbers. fid attribute values must also be unique among all elements in the document.
- **geometryProperty**: a point representation of the reference parcel, giving X and Y coordinates (points shall be INSIDE or ON the RP polygon shape itself, not in a doughnut or cavity)
- **srsName**: information on the coordinate reference system, given such as an EPSG code, i.e. EPSG 4326
- **rpID**: the unique identification of the reference parcel
- **etsReferenceArea**: Officially known area taken up by arable land, permanent grassland and permanent pasture or permanent crop
- **arableLandArea**: Officially known area taken up by arable land
- **permanentCropArea**: Officially known area taken up by permanent grassland and permanent pasture
- **permanentGrasslandArea**: Officially known area taken up by permanent crop
- **nonAgriEligibleArea**: Officially known area taken up by non agricultural features eligible for payement according to Art.32 (i.e. afforestation or waterlogged area)
- **etsReferenceAreaAvailability**: If etsReferenceArea = MEA, True else False

For more information (especially with respect to the handling of the eligible landscape features registered in LPIS), please consult LPIS TG Population

Member States shall provide their point-representations of the reference parcels (within ETS scope) with the above information in the GML format, after they have performed a standard XML validation process (well-formedness and validity).

10.5.8 Clarifications and explanations of the XML elements in the OrthoimagerySet.xml and OrthoimageryUrl.xml

10.5.8.1 OrthoimagerySet.xsd

- **zoneID**

This field provides the Name of the LPIS control zone (either part of the dedicated JRC acquisition or proprietary), as

◊ defined by JRC in the ApplicableCidZones.xml or by MS Administration in the ApplicableProprietaryZones.gml (relevant for the year of assessment) and
◊ listed in the G4CAP image acquisition system of CAPLand, JRC (for image acquired and provided in the scope of the dedicated JRC acquisition)

NOTE 1: The naming convention of the zones imposes a 4 or 5 character abbreviation.

NOTE 2: For orthomagery provided through WMS by the MS Administration, each LPIS control zone ID should have its correspondent individual entry (layerName) in the OrthoimageryUrl.xml.

- **imageAcquisitionDate**

This entry holds the acquisition date of the source imagery. In case of a LPIS QA control zone covered with multiple acquisitions, the following rules apply:

◊ VHR spaceborne data: each acquisition is reported separately; a zone name can occur more than once in the XML, if it is associated with several acquisition dates.
◊ airborne data: each acquisition is reported separately if the acquisition covering the zone is not spread over more than 5 calendar days. This means that a zone name (providing it is associated with several acquisition dates) can occur up to 5 times in the XML. When there are more than 5 acquisition dates for the zone, the ?median? date of the temporal acquisition range is reported for a single XML entry. Information on the multiple acquisition dates can be further provided in non-structured evidence upload.

NOTE 1: The format of the ?Acquisition date? field is YYYY-MM-DD. **Only orthoimagery acquired in the year of LPIS QA assessment should be given in the OrthoimagerySet.xml.**

- **platform**

This entry provides the Type (name) of the platform on which the sensor is mounted. For all analogue and digital cameras mounted on an aerial vehicle, the platform is ?AERIAL?. No distinction between the camera type is made. For all sensors mounted on a satellite, the name of the sensor should be provided, as follows:

◊ "GEOEYE1": image acquired by GeoEye-1
◊ "WORLDVIEW2": image acquired by Worldview-2
◊ "WORLDVIEW3": image acquired by Worldview-3

- **pixelsizeM**

This entry provides the Size of the orthoimage pixel given in meters (rounded to one cm).

NOTE: For all digital sensors, the ratio of the orthoimage pixel size to the ground sampling distance (GSD) should be 1:1, for film cameras it should be at least 1.2:1. For further information see Orthoguidelines_v3

- **imageTypeETS**

This is a complex XML entry providing information of the specific type of orthoimage product used **explicitly** for the ETS inspection. It contains (<u>is restricted to</u>) the following values:

◊ "PSH-FCC": for VHR satellite orthoimage; pan-sharpened; 3 channels only; False Colour Composite
◊ "PSH-RGB": for VHR satellite orthoimage; pan-sharpened; 3 channels only; Natural Colour Composite

◊ "PSH-FCC-RGB": for VHR satellite orthoimage; pan-sharpened; full spectral range
◊ "PAN-MUL-FCC": for VHR satellite orthoimage; bundle (pan+ms); 3 channels only; False Colour Composite
◊ "PAN-MUL-RGB": for VHR satellite orthoimage; bundle (pan+ms); 3 channels only; Natural Colour Composite
◊ "PAN-MUL-FCC-RGB": for VHR satellite orthoimage; bundle (pan+ms); full spectral range
◊ "AERIAL": aerial orthoimagery

10.5.8.2 OrthoimageryUrl.xsd

- **imageryUploadedToCid**

A "TRUE" entry acknowledges that the orthoimagery has been delivered to JRC according to the instructions of the VHR image acquisition specifications (see chapter 11.2).

For proprietary aerial and other imagery that was independently acquired by the Member State for use in the LPIS QA, the field for imageryUploadedToCid should be set to ?FALSE?, indicating that orthoimagery was provided by either WMS (preferred), or by ftp Upload (see instructions in National image delivery)

- **wmsAccessInformation**

This complex XML element provides information on the WMS access details, as follows:

◊ url: holds the URI of the WMS. Please leave this field blank, if no WMS is provided.
◊ accessCredentials: username and password for accessing the WMS. Please leave these fields blank if there are no credentials required to access the WMS (no username or password required).
◊ layerName: Name of the layer in the WMS containing the orthoimage set. Each LPIS QA zone should correspond to a separate layer. This means that there can be more than one layer name entry associated with the ?wmsAccessInformation? field. The layer name should match the entry from the ?zoneID? field of the OrthoimagerySet.xml.
◊ ogcFilter: optional field, leave blank if not appliccable. For further information please refer to
http://www.opengeospatial.org/standards/filter

NOTE: If WMS is used during the ETS, we encourage MS provide the EC with access to this WMS for the screening operator, guaranteeing equal environments for inspection and screening.

Go back to the main ETS page

11 LPIS QA portal

The LPIS QA Web Application (https://lpis.jrc.ec.europa.eu/lq/index.php) has been developped to support MS with exchange of non-spatial and spatial data with the EC. Its main functionalities are:

- creation and download of sample pre-selection (JRC-to-MS),
- upload of LPIS QA XML and GML data (MS-to-JRC),
- approval of MTS/ETS reporting packages (MS).

11.1 Use case: Registering of a new user account

1. Send an account opening request e-mail to Paolo.ISOARDI@ext.ec.europa.eu specifying your <u>First name</u>, <u>Surname</u>, <u>Business e-mail address</u>, <u>Organisation name</u> and <u>Business phone number</u>. The e-mail address you submit must be registered on the EU Login website
2. You will receive by e-mail confirmation that your account has been activated, usually within 48 working hours

11.1.1 Use case: Logging into the LPIS QA Web Application

1. Login to the application using your EU Login credentials (you will be redirect to the EU Login website)
2. Verify the LPIS Authority set in the left-hand side context menu, under the name of your Member State

11.1.2 Use case: Establishing LPIS Settings

1. Register a lot (lots) of reference parcels for the corresponding reporting year

- Choose a reporting year
- Add a new lot
- Assign a lot ordinal number
- Provide an exact number of reference parcels for this lot
- Provide a short name
- Save all the settings
- Add new lot if there are several lot defined for the LPIS and repeat the procedure
- Approve a complete list of lots that are defined for the LPIS. This process with automatically disable a possibility of further changes and send information to the JRC.

2. Register an LPIS Implementation Version (already registered versions will be indicated in a table)

- Provide a unique name
- Provide a starting validity date (dd.mm.YYYY)
- Save all the settings

3. Link registered implementation versions with the pre-defined lots and save your choices

- Link an appropriate lot to the implementation version from a drop-down menu
- Save all the settings

11.1.3 Use case: Uploading MTS Reporting Package

1. Select your implementation version for which you want to upload a MTS package
2. Select items to be uploaded from a drop-down menu and upload a selected file. All mandatory items will be listed with asterisk
3. Wait for the confirmation message for each item. You can navigate to the same page in order to edit or deactivate the file
4. Approve the MTS reporting package by clicking ?approve button?. If there are missing elements they will be indicated in the appropriate table.

11.1.4 Use case: Creating a sample pre-selection

1. Select a reporting year from a drop-down menu
2. Select an LPIS lot from a drop-down menu
3. Select items to be uploaded from a drop-down menu. All mandatory items will be listed with asterisk.
4. Upload a selected file (GML***). All the files will be validated against the appropriate schemas and an e-mail notification will be sent with the validation results.
5. Approve the reporting package by clicking ?approve button?. If there are missing elements, they will be indicated in the appropriate table. Please note that the package could be reopened, if one of the file turns to be invalid. If so, correct the file and re-upload it.
6. The web application will generate a downloadable sample pre-selection list (MS will be notified by an e-mail). Preparation of the sample pre-selection list is under the JRC control.

11.1.5 Use case: Downloading a sample pre-selection

1. Download the sample pre-selection file after you have received an e-mail notification.

- Read an e-mail notification
- Login to the Web Application
- Select a reporting year from a drop-down menu
- Select an LPIS lot from a drop-down menu
- Download the xml file(s) with sample pre-selection available for you

11.1.6 Use case: Uploading an ETS reporting package

1. Select a reporting year from a drop-down menu.
2. Select an LPIS lot from a drop-down menu.
3. Select ETS reporting package items to be uploaded from a drop-down menu.
4. Upload a selected file (GML***). All the files will be validated against the appropriate schemas and an e-mail notification will be sent with the validation results.
5. Approve the reporting package by clicking ?approve button?. If there are missing elements, they will be indicated in the appropriate table. Please note that the package could be reopened, if one of the file turns to be invalid. If so, correct the file and reupload it.

11.1.7 Use case: Verifying a dashboard

Verify the status of the uploaded files for your packages: pending and approved files will be indicated in yellow or green respectively.

For GML files:

>If you are using a standard EPSG code, click on the appropriate choice button.
>The only valid EPSG definitions should be, those available on: http://www.epsg-registry.org/

If you don?t use a standard EPSG code, first upload a projection file through a projection menu. Then connect an uploaded projection file with your GML file by clicking on a drop-down menu.

IMPORTANT NOTE:

1. When a GML file with specific SRS is uploaded (using .PRJ file), the ESRI-style description of the PRJ (assumed correct by default) might be incompatible with the syntax required by the conversion engine (OGR2OGR) of the web application.
2. OGR2OGR works with SRS having well known definition (ie. EPSG:4326) or described in a file with a WKT (Well-Know Text) definition. Furthermore the SRS in question should be supported by PROJ.4 (http://trac.osgeo.org/proj/)

Go up to the main LPIS ETS page

12 JRC XML validator

12.1 Operation of the XML validator of the LPISQA Portal

12.1.1 Automatic screening procedure

After the successful xml/gml format validation carried out in the portal, packages data go through two other types of validation tests.

The first step, "File Consistency Tests" (former A test), consists in the validation of the xml/gml file **header**, the validation of some **attributes** and of the gml files **geometries**. Data is then extracted from gml/xml files and loaded inside JRC database.

In the second step, "Package Consistency Tests" (former B test), data is screened for the correctness of the attributes content at the package level, i.e. cross-checking data among all files.

12.1.2 File Consistency Tests

In the **header validation tests**, files are checked against:

- invalid file format, i.e.: ?.doc? or ?.xls? instead of ?.xml?/?.gml?; ?.xml? instead of ?.gml?

- invalid lpis_code, i.e.: lpis_code=?LPIS_TEST?

- invalid reporting_year, i.e.: reporting_year=?2020?

- invalid lpis_lot, i.e.: lpis_lot=?0?

- invalid xmlns:cap, i.e.: xmlns:ns1=?http://ec.europa.eu/dgagri/cap?

- invalid xsi:schemaLocation, i.e.: xsi:schemaLocation=?http://ec.europa.eu/dgagri/cap
  ftp://anonymous@mars.jrc.ec.europa.eu/lpis/Schemas/4_3_LpisSamplePreselectionStatus_20101221.xsd?

- invalid xmlns:xsi

- invalid xmlns:gml

- invalid xmlns

In the **attribute validation tests**, some numeric attributes are checked for decimal places precision.

Specifically, all records expressed in hectares must have 4 decimal places, records expressed in square meters must have 0 decimal places, and records expressed in % must have 2 decimal places.

The only exception to this rule is in LpisPolygonzeroState.gml file, where the declaredArea field must have 2 decimal point precision.

Trailing zeros (those to the right of the last non-zero digit) are significant digits and must always be included, therefore:

<cap:nonAgriEligibleArea>0.123</cap:nonAgriEligibleArea> **-->** Not valid

<cap:nonAgriEligibleArea>0.1230</cap:nonAgriEligibleArea> **-->** Valid

<cap:observedToRecordedAreaPercentage>75</cap:observedToRecordedAreaPercentage> **-->** Not valid

<cap:observedToRecordedAreaPercentage>75.00</cap:observedToRecordedAreaPercentage> **-->** Valid

In the **geometry validation tests**, spatial features are evaluated according to OGC Simple Feature Access standard (http://www.opengeospatial.org/standards/sfa). Specifically, geometry validation is carried out on JRC server by FME GeometryValidator transformer:
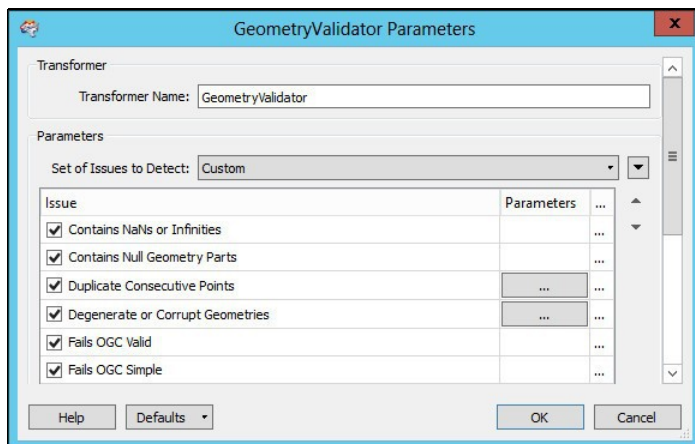
There can be several reasons why a feature may fail this geometry check, as described on FME website. Some examples are provided below:

- Hole Outside Shell
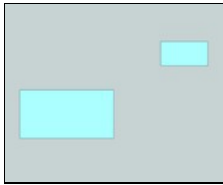
WKT Example: POLYGON((0 0, 10 0, 10 10, 0 10, 0 0), (15 15, 15 20, 20 20, 20 15, 15 15))

- Nested Hole
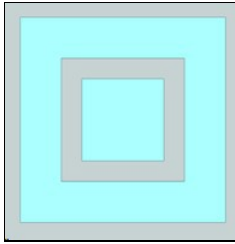
WKT Example: POLYGON((0 0, 10 0, 10 10, 0 10, 0 0), (2 2, 2 8, 8 8, 8 2, 2 2), (3 3, 3 7, 7 7, 7 3, 3 3))

- Disconnected Interior
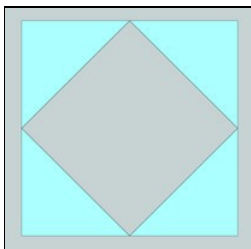
WKT Example: POLYGON((0 0, 10 0, 10 10, 0 10, 0 0), (5 0, 10 5, 5 10, 0 5, 5 0))

- Self Intersection
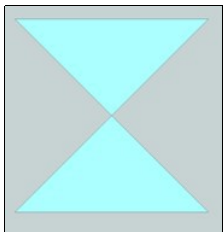
WKT Example: POLYGON((0 0, 10 10, 0 10, 10 0, 0 0))

- Ring Self Intersection
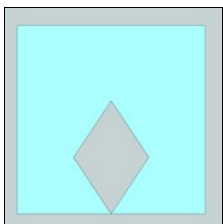
WKT Example: POLYGON((5 0, 10 0, 10 10, 0 10, 0 0, 5 0, 3 3, 5 6, 7 3, 5 0))

- Nested Shells
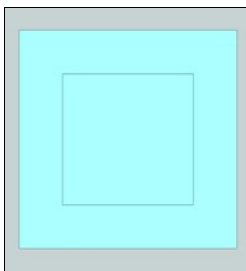
WKT Example: MULTIPOLYGON(((0 0, 10 0, 10 10, 0 10, 0 0)),((2 2, 8 2, 8 8, 2 8, 2 2)))

- Duplicated Rings

WKT Example: MULTIPOLYGON(((0 0, 10 0, 10 10, 0 10, 0 0)),((0 0, 10 0, 10 10, 0 10, 0 0)))

- Too Few Points

  WKT Example: POLYGON((2 2, 8 2))

- Invalid Coordinate

  WKT Example: POLYGON((NaN 3, 3 4, 4 4, 4 3, 3 3))

- Ring Not Closed

  WKT Example: POLYGON((0 0, 0 10, 10 10, 10 0))

Open source GIS software **QGIS** and **OpenJUMP** both have tools for geometry validation:
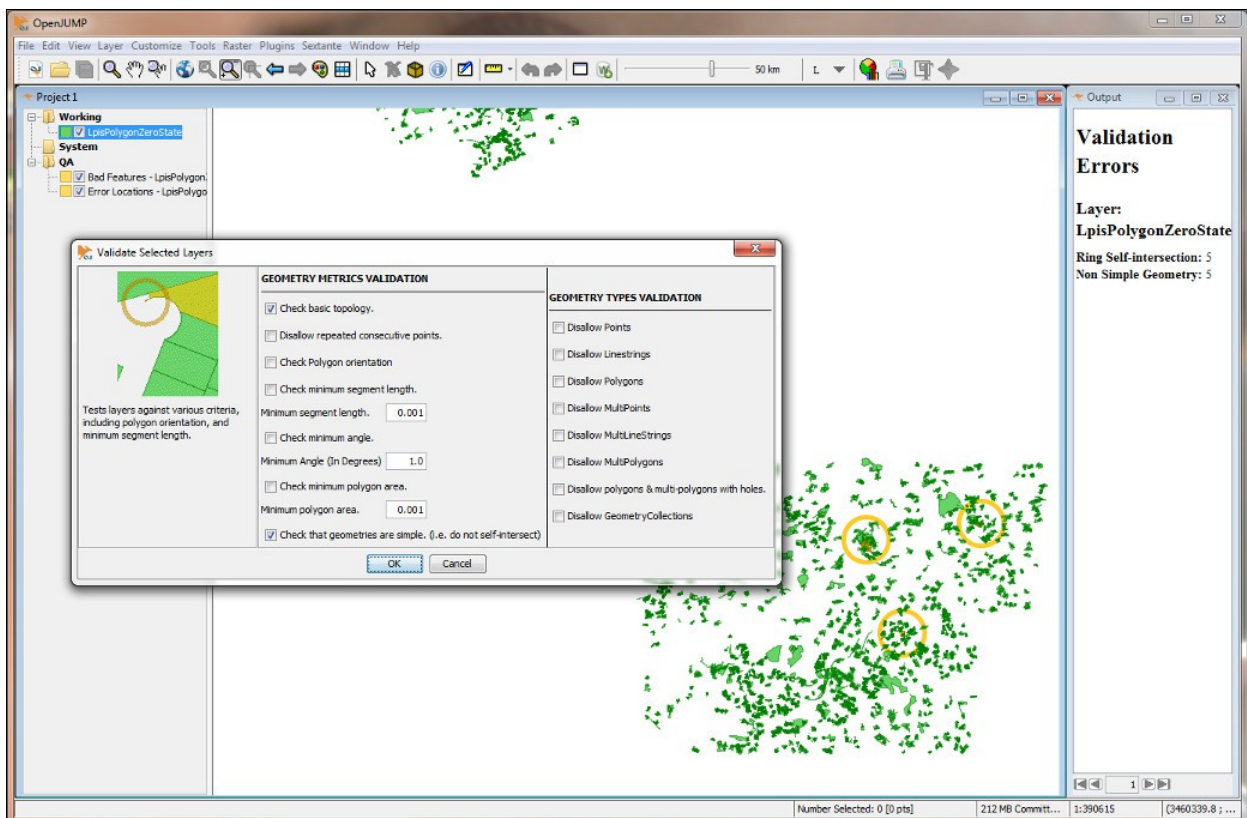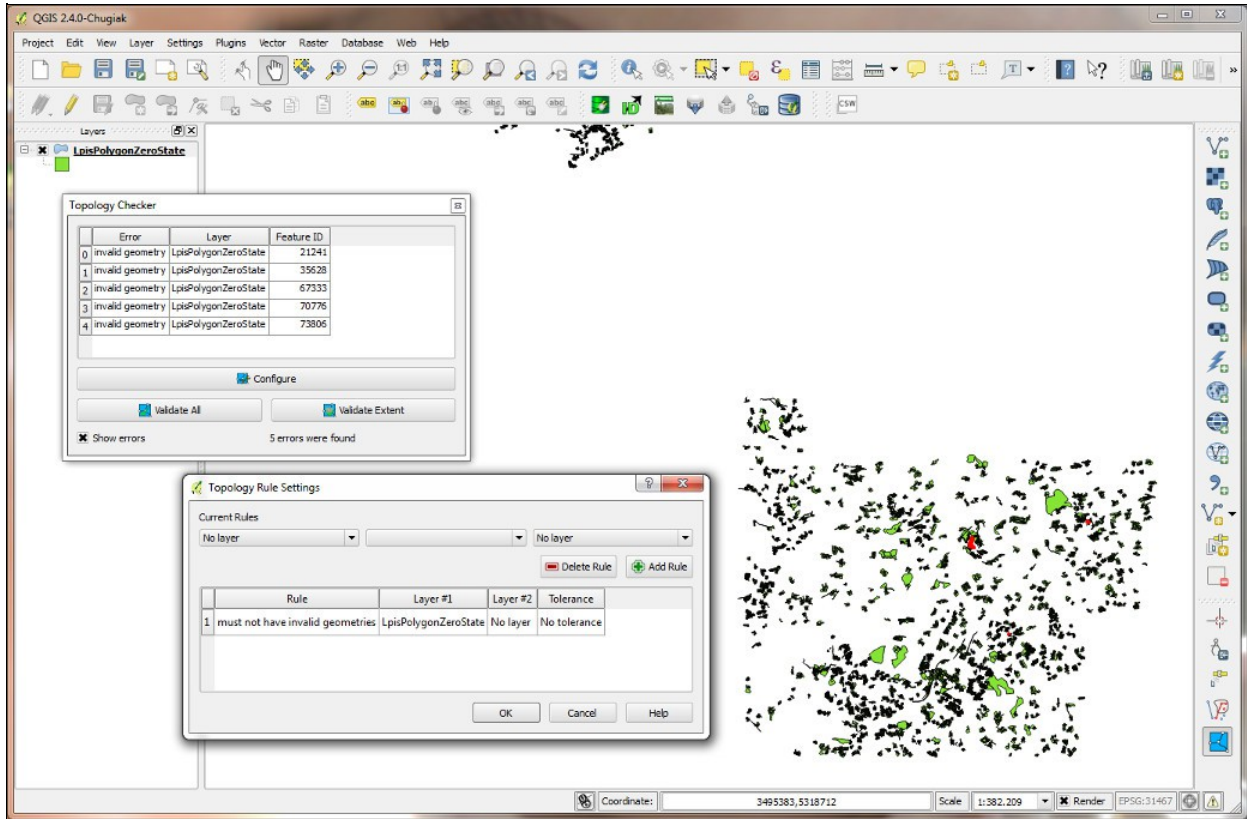
12.1.3 Package Consistency Tests

In the following phase, data inside database is automatically screened for consistency of package attributes. So far, 34 tests have been developed.

They evaluate the following:

- Test b00: check if area values in LpisPointZeroState.gml are expressed in hectares.

- Test b01: check if the number of imported parcels in LpisSamplePreselectionStatus.xml equals the optimal pre-selection size.

- Test b02: check if there are differences in rpid between the original sample pre-selection provided by JRC and the LpisSamplePreselectionStatus.xml file delivered in the ETS report package.

- Test b03: check if inspected and skipped parcels in the LpisSamplePreselectionSatus.xml are correctly reported.

- Test b04: check if the reference area declared by the MS in the sample pre-selection (LpisPointZeroState.gml) equals area in the ETS package (LpisPolygonZeroState.gml).

- Test b05: check if the rpid is unique (if there are no multipolygons).

- Test b06: check if all inspected parcels belonging to the QC sample are present in the PolygonZeroState.gml.

- Test b07: check if reference area in the ETS package (LpisPolygonZeroState.gml file) is in hectares.

- Test b08: check if RP_FSI (rp_fsi_skipped_occ) attribute in LpisSamplePreselectionStatus.xml is correct.

- Test b09: check if all parcels flagged as feasible for inspection in LpisSamplePreselectionStatus.xml file have only one corresponding record in EtsObservations.xml file.

- Test b10: check if all parcels flagged as feasible for inspection in LpisSamplePreselectionStatus.xml file have only one corresponding polygon in LpisPolygonZeroState.gml file.

- Test b11: check if reference area in the ETS package (LpisPolygonZeroState.gml file) has 4 decimal precision.

- Test b12: check if all parcels flagged as ?feasible for measurement? in EtsObservations.xml have reference polygon in EtsInspectionMeasurements.gml, and ?not feasible for measurement? have no polygon entry.

- Test b13: check if RP_CNF_observedToRecordedAreaPercentage in Observations.xml file is correctly calculated.

- Test b14: check if RP_CNF_observedRecordedAreaDifference in Observations.xml file is correctly calculated.

- Test b15: check if all ?userDefinedLegendCode? used in EtsObservation.xml match the ones defined in EligibilityProfile.xml.

- Test b16: check if all ?userDefinedLegendCode? used in InspectionMeasurement.gml match the ones defined in EligibilityProfile.xml.

- Test b17: check if the zoneid names defined in OrthoimagerySet.xml file are unique.

- Test b18: check if all reference parcels reported as skipped in LpisSamplePreselectionStatus.xml file are consistent.

- Test b19: check if all reference parcels in EtsObservations.xml file are conformant to 3% area purity test.

- Test b20: check if all reference parcels in EtsObservations.xml file are conformant to 5% area purity test.

- Test b21: check if all reference parcels in EtsObservations.xml file are conformant to 7% area purity test.

- Test b22: check if all reference parcels in EtsObservations.xml file have consistent contamination reporting.

- ~~Test b23: check if all inspected parcels that are not feasible for measurement have assigned cause of non-conformities.~~ DEPRECATED

- Test b24: check if all inspected parcels that are contaminated have a category of non-conformity assigned.

- Test b25: check if the value of QE1a declared in ETS Assessment Report is consistent with data in ETS records (percentage of the eligible hectares observed with respect to all eligible hectares recorded).

- Test b26: check if the value of QE3 declared in ETS Assessment Report is consistent with data in ETS records (abundances of RPs with critical defects).

- Test b27: check if the value of QE4 declared in ETS Assessment Report is consistent with data in ETS records (abundances of non-conforming RPs).

- Test b28: check if the value of QE2a declared in ETS Assessment Report is consistent with data in ETS records (abundances of non-conforming RPs).

- Test b29: check if the value LIB of QE1b declared in ETS Assessment Report is consistent with data in ETS records (abundances of non-conforming RPs).

- Test b30: check if the value UIB of QE1b declared in ETS Assessment Report is consistent with data in ETS records (abundances of non-conforming RPs).

- Test b31: check if Acceptance Conformance (AC) values and the minimum requirement for sample measurement are correctly calculated.

- Test b32: check if the value of QE2c is consistent.

- Test b33: check if the relative difference of number of parcels between current year and previous year population is acceptable.

- Test b34: check if parcel identifier system is consistent between current year and previous year.

- Test b35: check if LpisPolygonZeroState polygons contain the corresponding LpisPointZeroState points within their boundaries.

Detailed documentation of the above tests is available in the B Tests ZIP file. (updated on 23/01/2020)

13 Question and Answers v.6.3

13.1 Questions raised after release of the TG ETS v.6.3

Go back to the main ETS page

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	UK_NI	LPIS QA scope	Does the following field fall within the scope of the LPIS quality Assessment: a field which has a positive MEA but is not declared for 2 years and where we put in place an additional admin check so that if the field is declared in the future, we review it against the most recent ortho image and update it, if required, before payment?	A correct selection of the LPIS reference parcels for the assessment year N would be following this chart: _see table below_
2	MS	LPIS QA scope	Why do we have to select only declared parcels for the LPIS quality assessment? Shouldn't we assess all parcels from the LPIS system?	According to the Technical Guidance on LPIS Population for LPISQA inspection the subset of the reference parcels from the whole system is: - RPs that were declared during the previous direct payment application year for the BPS, and - RPs that present "eligible area" available for payment; i.e. can appear in the pre-printed form (of the GSAA) without triggering an additional verification procedure. Why do we ask only for declared parcels? We assume that parcels that were not declared by farmers were not declared for a reason. We further assume that those parcels would not be properly managed, maybe not farmed, hence, maybe agricultural activity was absent for some time. Some Member States have the rule, if a parcel was not declared for two consecutive years, it would became an ?inactive parcel?. Such not declared agricultural land might change and appear ineligible or abandoned (in an observation from the recent imagery and/or in the field). Therefore, the ETS inspection within the LPISQA would most probably end with non-conforming results. Technically, our concern on those not declared parcels is rather low, since those have neither been payed nor asked for support. Once a RP becomes inactive, some Member States introduced the procedure how to re-enter it to the ?active LPIS?. If re-activated by the farmer, an additional verification on area and eligibility is launched. We believe this approach is positive for the LPISQA and for the Member States. Many LPIS update procedures lie in the fact weather parcel have been declared or not. A big administrative burden could be reduced in focusing on only declared parcels. Here, we do not say to completely delete no-declared ones. A simple flag in system could be given.
3	CY	LPIS QA scope	What to do if a reference parcel is in the LPIS QA pre-selection sample and in the same time triggered for LPIS update?	If a RP has been updated in the regular LPIS update procedure: • **after** creation of the LPIS population for the LPIS QA (i.e. LpisPointZeroState holds an old etsReferenceArea value and RP boundary geometry or eligible area inside the RP was edited), **and** • **before** the ETS inspection of that particular reference parcel, than, LPIS QA procedure require evidencing of anomaly information triggered by an ?in tempore non suspectu? character of that update. This means providing structured information of the discrepancy between LpisPointZeroState reference area value (before the update) and the LpisPolygonZeroState reference area value (after the update). The duly filled record should be provided in the Lpis Update Evidencefile and delivered within the ETS reporting package. For further details please consult ETS Data maintenance in the TG ETS. Furthermore, you might also consider the date of the imagery that will be or was used for the LPIS update procedure of that particular RP. If the LPIS update was done on an older imagery than the LPISQA image, and the land cover change is evident, than we consider the LPIS update action as not sufficient for justification of a possible discrepancy between the reference area values recorded and found. Hence, only imagery of a current year, field measurements or similar evidences obtained in current year, can be used for the change justification.
4	ES	ETS	According to JRC better coincidence between the LUI and the cluster of RPs is needed to apply aggregation methodology. The ETS methodology does not provide a	There must be a visual verification to ascertain that all boundaries of the RP aggregate as derived from the LPIS match or follow the distinctive and identifiable limits of the expanded LUI as observed on the imagery. This assessment should result also in a decision if the nature and the "footprint" of land cover is still identical to what the RP aggregate represents or it has changed in time. Depending on the observed change, the RP aggregation will be either (a) possible, thus the measurement will reveal area non-conformity, or (b) impossible, thus the individual inspected RP will be skipped for measurement. Secondly, if a RP aggregation boundary has a slight shift with respect to imagery (hence with LUI), a congruency testing might help to come to a decision weather this shift is not a real change. Please consult the detailed instruction for congruency testing here: https://marswiki.jrc.ec.europa.eu/wikicap/index.php/Congruency_testing If the testing shows that the shape of the RP aggregate is equal to the correspondent LUI, then the RP aggregate and its correspondent LUI are considered as matched. There is no need to set up and define any technical tolerance. Therefore, a decision for the RP aggregation, in our view cannot be automated by applying the buffer around the measured polygon, but rather on case by case situation, involving expert judgement.

Table (Q1 JRC Reply):

A correct selection of the LPIS reference parcels for the assessment year N would be following this chart:

Year	RP declaration for aid with respect to year							
N-2	Y	Y	Y	Y	N	N	N	N
N-1	Y	Y	N	N	Y	Y	N	N
N	Y	N	Y	N	Y	N	Y	N
In scope for N	**Y**	**Y**	**N/Y**	**N**	**Y**	**Y**	**N/Y**	**N**

Note: N/Y means NO in case additional verification is needed, while YES in case additional verification is NOT needed

		range of tolerance, or any type of indication to determine when one line matches another, in Instruction 2.3 in annex II: ?Reference parcel aggregation expands the original LUI toward the first visible crop, land cover or land use limits matching the smallest contiguous cluster of reference parcels.? We think exact coincidence is impossible and a tolerance is needed. So we suggest an intermediate solution might be to use a buffer of the potential expanded LUI to decide whether or not to expand. Aggregation methodology would be applied if the external boundary lines of the cluster of potential aggregated RP are inside a 10 meter buffer.	

13.1.1 Questions raised after LPIS QA Workshop in Varese

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	MS	Classification correctness of distinguishing PG from AL	Small and narrow grass areas inside and/or along the AL are challenging to delineate since all distinct LC features bigger than 300 m2 has to be classified	Quantification of the maximum amount of each agricultural land cover type per RP, relies on the accurate interpretation and delineation (through GNSS/CAPI) of all individual LC features larger than 300 m2 for the given land under inspection (LUI). It is recommended to use feature characteristics and any other context-related information to determine the agricultural land cover features, based on the pre-defined land cover classes and relevant photo interpretation keys, listed in the eligibility profile (see Annex II, point VI.3.i). In relation to small narrow strips of grass, the spatial context - relationship of these features with surrounding objects - is particularly important. Also the size of these features and their historic temporal evolution might provide evidence on the "role" they play in agricultural context. For these reasons, we recommend to carefully determine whether grass areas along and inside arable land, are true grasslands. They might be either: (1) landscape features traditionally part of the agricultural parcel (e.g. field margins), or (2) elements associated with non-agricultural features (e.g. servitude areas of roads, backyards...). Obviously, such areas should not be classified as PG. The 300 m2 MMU should not be single and only qualifying criteria on the decision where to delineate agricultural land cover feature. We remind you also that in the framework of the ETS, 100 m2 MMU is valid only for excluding *non-agricultural* features.

14.1 Questions raised after release of the TG ETS v.6.4

Go back to the main ETS page

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	FI	ETS inspection/critical defects	We have delineated one arable land parcel but inside the RP there are two agricultural parcels with the same LC class (AL) separated by a ditch up to 3 meters wide. Is that a multi-polygon critical defect?	Finland notified EC that ditches up to 3 meters wide are part of traditional local farming practice according to Art.22 of EC No 2419/2001, hence they hold eligible area that should be attributed in half to adjacent reference parcel MEA. Please note that all such specific notifications that differ from the LPIS guidelines should be delivered as additional explanations in "OptionalSupportiveDocument" folder in LPISQA Portal, in line with point 16. here. Since Finland has Farmers' Block type of reference parcel, the two distinct agricultural parcels with same arable land land cover should be divided following the ditch only if they belong to different farmer. However, in ETS inspection, it is not necessary to divide that arable land by delineating two separate polygons. The resulting measurement of observed arable land will be compared to the area recorded for that RP. No critical defects should be observed. Multi-polygon refers to the RP polygon ID as recorded in the LPIS, and it means there are two or more RP polygons with the same ID number. It is more connected to the spatial database and its geometries, and not with the agricultural parcels situation in the field. If you find more than 10 agricultural parcel in the field (by observing the orthophoto) and they are represented by a single RP polygon, this would be a multi-parcel critical defect. But this is not the case here.
2	Generic	ETS Annex III, 6.1.7 (eligibility profile)	Could you please provide some clarrification on how to define the user-defined legend entries, in order to not conflict with the pre-defined legend codes defined in point 6.1.6? Can national abbreviations be used?	EU MS should "map" the national abbreviations to the prescribed user defined legend codes (minimum mapping legend) in point 6.1.6 of Annex III, where appropriate. It it assumed that generic classes defined in the minimum mapping legend completely cover the range of "pure" agricultural land cover types (classes A to K), subject of CAP direct aids. As a consequence, most of the specific nation-specific land cover types could be considered as a sub-type of one of these classes. They could be expressed by two symbol abbreviation - the first being the letter of the main class (A to K), and the second being consecutive number (1 to 9). In case of mixed land cover types, as pro-rata, intercropping, or specific type not covered by minimum mapping legend, any two capital letter abbreviation is allowed (second letter could be a number too), as far it is unique within the EU MS's eligibility profile.
3	CZ	Critical defect - incomplete block	According to the Annex I ? Detailed instruction 1: Definitions and conditions for occurrence of critical defect - Local ground conditions for Critical defect are: • The Land use / land cover counter-indicates the presence of a true stable physical boundary of the block • AND the LPIS does not hold a neighbouring non-zero MEA parcel (adjacent to that ?missing? boundary) where the farmer can declare that land clearly in his use. • AND this unaccounted land use indicates that more than 10 percent or 2000m2 (whichever is LARGER) of the agricultural land found is missing from the LPIS. • AND the LPIS QA inspection cannot produce external evidence that the land tenure of this unaccounted part of the agricultural land found is held by a farmer who is not receiving any aid for the assessment year. Does the ?AND? mean that all conditions has to be fulfilled in order to flag the Reference parcel as the critical defect? For example if I can produce external evidence that the land tenure of the unaccounted part of the agricultural land is held by a farmer who is not receiving any aid for the assessment year, i.e. I?ve only fulfilled 3 conditions out of 4, does it mean it?s not the critical defect?	All conditions from the referred document have to be met in order to flag the inspected parcel to have 'Incomplete Block'. If you can produce the evidence that unaccounted land is not in the LPIS system and the user/owner is not receiving aid, you should upload the evidences in the ETS reporting package (LPISQA Portal) under ?Optional Supportive Document?. Please refer to the instructions given here.
4	CZ	Manures	According to the ANNEX I, contaminations are (among other things) features that cannot be taken up by any agricultural activity. So if there is a manure on the parcel, it won?t be flagged as contamination because manures can be (and they are) taken up by agricultural activity. Is that correct?	In the ETS, as well as in the LPIS, for area payments one collects spatial data records of permanent features. Permanent features are the ones that are on the same location for at least three years in a row. Manure is irrelevant for

				any delineation in the ETS, but it can be a hint to the operator about the land cover type that is present on a particular field, and it can be a strong evidence of agricultural activities.
5	CZ	Long and narrow parcels under the trees	In this year?s ETS we came across RPs that are fully or partially covered by trees so we cannot delineate them only by CAPI. Can we apply some sort of skipping for these parcels or in these cases RFVs are suggested?	In the ETS Every item of inspection is assessed based on ?RP feasibility for measurement? (Measure 10101). If you don?t see the limits of the LUI and therefore you cannot quantify agricultural area by CAPI, flag the parcel as RP_FSM = false, and proceed with further inspection. Should you decide to have more precise information, you may execute the field observation and use such information for the ETS. Skipping is a result of the feasibility for inspection evaluation (measure 10100) and is applied only in case of technical inability to inspect the parcel caused by data artifacts.
6	CZ	Contaminations	During the assessment we?ve encountered cases when we weren?t sure whether to report contamination at the border of the RP or if it?s just a wrongly delineated border.	In the course of the ETS, contaminations are analyzed after delineation of agricultural land of the LUI (within the RP perimeter). Contaminations found can be either: • outside from the delineated polygon of agricultural land (but inside the RP polygon) ? if they are larger than or equal to 300 m2 (or 100 m2 if the combination of the spatial resolution of the reference orthoimage and the nature of the feature allow it); or • inside the delineated polygon of agricultural land since they are smaller than 300/100 m2 and cannot be properly excluded by CAPI mapping from the eligible area. In both cases, the abundance of contaminations are recorded in the ?EtsObservations.xml? file under RP_ANF attribute (ref: measure 10105). Observed contaminations should be accounted under RP_CNT attribute only for parcels found to be area conforming, if not waivered, and thus accounted for QE2a score (ref: measure 10102_2). The reason not to count ?contaminated? parcels if they are found to be area non-conforming is not to count them twice for the QE2a score. Only small intrusions of non-agricultural land cover at the RP boundary caused by imprecise matching with the reference orthoimage and delineation artefacts are advised not to be accounted. In other words, we advise you to analyze what is the reason that the contamination was not excluded from the MEA in the first place. The source of the error will give you the answer what to do. We produced additional instructions as a short summary from the ETS guidelines here
7	DE	RP aggregation	Is it correct that in case of parcel aggregation • quantitative checks are performed on the Land under Inspection (the aggregate) and • area classification test is considered part of these quantitative checks ? (see also Annex II, point 2.2)	If RP aggregation is applicable, than the area quantification is reported for the aggregated RP form, as well as the classification correctness test. For further questions on RP aggregation please refer to page 2.
8	DE	Eligibility of the airport sites	Below picture (see link: https://marswiki.jrc.ec.europa.eu/wikicap/index.php/ETS_Examples_design) shows an airport runway which serves as an example for ?artificial sealed surface and associated areas?. We were wondering whether according to JRC the red-framed area is meant to be ?associated?, or is it only the ?grass surface in between the paved area of the run-way itself? Which of the areas are precisely the (non-eligible) ?associated areas??	The airport area in the picture from the example consists of the run-way and associated grass areas around the run-way. The area of the safety zone around the run-way is generally fenced and serves as a safety buffer zone for landing and taking off. We believe that such grass area is not convenient for any agricultural activities. Therefore, both the area bounded with the red polygon and the area inside the run-way are considered as non-agricultural facility that falls onto the category of ?artificial sealed surface and associated areas?. We advise to consult with the official airport site to define the boundaries of the airport similar to this one.

14.1.1 Questions raised after 31st January 2020 and automatic screening of the delivered reporting packages

Go back to the main ETS page

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	SI	TEST B16	The userDefinedLegendCodes KZ (overgrown area) and NU (uncultivated agricultural land) represent the internal land cover codes of agricultural land in our land cover layer and are not eligible for payment. We report them as AgricultureLandCoverFeature and then of course the screening reveals two userDefinedLegendCodes that are not found in the SI EligibilityProfile.xml.	Two codes that were found mapped in the reporting package KZ and NU are not eligible, as you explained, and therefore are not necessary to be delineated and processed in the course of the ETS. Thus, also not necessary to report them if any of the package files. The same is valid for all codes your system might internally hold. Please use only those codes you define and report in the ETS reporting package (Eligibility Profile). Only those codes from the Eligibility Profile should be used for observed RP MEA determination.
2	SI	TEST B29 & B30	Could you please provide a formula how you calculated LIB and UIB? There is a difference between our reported score and calculated on the Portal.	For having an exact match between reported QE1b and the one calculated automatically on the LPISQA Portal, it is essential that you provide a consistent formats and units in the reporting package as explained in the guidance. The formula used in the automatic test can be seen in the specification of the B-TESTs (zip file) on the WikiCap page

Go back to the main ETS page

15 Questions and answers

15.1 Questions and answers on ETS v.6.0

Go back to the main ETS page

15.1.1 Questions raised after the presentation on the Management Meeting

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	DE, BE-WA, IT	reference imagery	Can we use higher resolution proprietary national aerial imagery?	Yes, in combination with the dedicated VHR satellite imagery: • the **VHR imagery acts as the temporal reference** for 2015, so: 1. the skipping conditions should be considered for both images (e.g. a smoke or flooding on either image should cause skipping) 2. mismatches in feature representation/presence may require a field observation. • the use must be implemented **consistently** wherever an aerial image is available: e.g. if one delineates on the aerial image, one cannot choose on a parcel basis that image which provides the ?best? measurements.
2	DK,BE-FL, DE, RO, NL et al	UML documentation	The UML based guideline has the risk of being misunderstood, modifications are not clear. Please switch back to the ETS v5.3 type document structure.	The UML-model (chapter 2) provides the system model view; to address the request for a business model view, four "old style" ETS v6.0 annexes were produced: • Annex I holds the different inspection steps / activities in the ISO19157 template. Tables are modified where the new tests and processing steps require. • Annex II describes the revised business flow linking the steps of Annex I together • Annex III explains the eligibility profile, modified to suit the classification accuracy test • Annex IV deals with the four eye control (extracted from the ETS v5.3 annex II)
3	AT	scope: assessment by sampling	Second sentence: As from 2015 EC services are responsible of either ? - should be both	corrected
4	AT	scope: subset and item substitution: in case of systematic crop measurement of aggregated item for inspection	Are technical conditions to be given?	The conditions are not techical but result driven: • there is an a priori obligation if the previous? year measurablity rate was below 50% • we added a (however unlikely) a posteriori obligation is the curent measurablilyt rate is below 40%. Rationale: 40% of 500 is 200, the LQ12.5 required sample size needed for QE2.
5	AT	scope: consideration on a given LPIS implementation	Purpose? Where does the question relate to? Last sentence: "it is strongly recommended to merge, where" ? What is meant by that? Sub units brought to 1 block?	The reference parcel represents a measurable, stable unit of agricultural land. There might be features in or adjacent to that land that, for BPS purposes are not a standalone element (sub-parcels, crops, cross-compliance features) but to all intents and purpose merely a part of the larger parcel (block, isola, real property unit)
6	AT	reference parcel sampling	Please confirm the date sample to be provided by JRC, no later 30/9/2015 (+of the date to upload of population data to JRC when asking for derogation ? till 30/6/2015?)	1. The population upload is linked to the closure of the application process (so most of the updates provided by farmers should be available). 2. From that population a sample will be created as soon as all planned imagery for that system becomes available. 3. The JRC verifies that pre-selection?s size, if sufficient, all data will be provided to the MS without delay 4. if not ca 1.5 times the required sample size, a bonus image will be ordered. 1. Upon its arrival, a new pre-selection will be produced and checked. 2. It's impossible to predict if bonus imagery will be needed and if so, when they are available. 3. If no bonus image is captured by September, JRC will look for contingencies to ensure a pre-selection is available by the end of that month.
7	AT	reference parcels aggregation	Please confirm that if the estimated # of parcels non feasible for measurement in 2014 / 2015, is above 50% then crop aggregation applies.	See question 4 above, reference parcel aggregation becomes compulsory if less than 50% of 2014 inspected RP was independently measured (i.e. excluding the ETSv5.3 ?copy/paste? provision) and if less than 40% of the reference parcels (2015) will be measured.

15.1.2 Questions raised after the publication of the old style documents

Q	MS	Issue/Reference	MS question/remark	JRC reply
1	DK	General	We hope that in the future the annexes will be the primary documentation instead of the UML.	This is the case for 2015.
2	DE	General	We found some inconsistencies between the new and the old style of the documentation (e.g. with regard to the anomalies, geometry for critical defects). For purposes of the software programming, it would be important to know ? in doubtful cases ? which style of the documentation must be applied.	For 2015, old style is authoritative or ?faisant foi?.
3				Done. See http://lpis.jrc.ec.europa.eu/registry/6.0.0/

	DK, DE	Schema definitions and reporting	We need complete and final versions of the schema definitions for the reporting package, the specifications for the scoreboard.xml, and the word template for the report. Preferably before the end of July at the latest - to make sure the software for the ETS2015 can be developed in due time for us to be able to report on the 31 January 2016.	
4	DK, BE-FL	Reintroduction of waiver A	Compared with the previous ETS 2014 (v5.3), the ETS 2015 (v6.0) drops the possibility to use ?waiver A? (Annex I, pg.47). We do not agree with this because there can still be RP?s where the same eligible area is recorded in the ETS compared to the original reference area (or within a tolerance of 100m²). For these RP?s we should still be able to use waiver A. We would therefore like JRC to reconsider the introduction of ?waiver A? in ETS (v6.0).	See contamination discussion.
5	DK, HU	Reintroduction of 3% rules	In Annex I you have removed the 3 % rule for non-agricultural areas below 0.10 hectares in Table 6. Now all non-agricultural areas > 0.03 ha are reported at contaminations unless waiver C can be used. This means that much more RP?s will be non-conforming even if the difference in area is below the 3 % threshold.	See contamination discussion.
6	DK	Reintroduction of 3% rules	Removing waiver A and the 3 % rule and adding the classification means that we do not expect it to be possible to ever pass all quality elements for the ETS. The test is simply becoming too strict.	This should not be the case if correctly applied.
7	DK	Use of imagery	Also we would like the text in Annex II to reflect that it is acceptable to only use own aerial imagery if used consistently and supplied to the JRC to use for quality control of the ETS.	Done.
8	DK	Use of imagery	It does not make sense that we have to use the VHR if you have yearly national aerial imagery which of better quality than the VHR satellite imagery. But if we want to use national aerial imagery we would have to use both this and the VHR. What is the reason that Member States using the VHR imagery should only use one photo, while Member States that wants to use better quality imagery is punished for wanting this, by having to check two photos?	Two consecutive images allow better CAPI than one and the combination should reduce field work. This is no punishment rather an advantage. The temporal reference use is because the Commission Services are sure that the VHR data are current for the assessment year. If a LPIS custodian wishes to use only aerial for LPIS QA, please indicate so before JRC orders the VHR images. This is the "exit clause" of slide 10.
9	DK	Use of imagery	Member States that choose to use the yearly orthophoto will be forced to go on a number of RFV in case of inconsistency between the two sets of images. Other Member States using only one set shall not do this. This is a clearly unequal treatment between Member States.	The assumption is not true. With two images (in close temporal proximity) field observation is required only where the field realities on the two images clearly disagree. In principle, RFV are required due to lack of sufficient evidence from the orthophoto about the land present on the item under inspection. Experience from the CwRS clearly shows that additional imagery reduces the need of RFV. This is the reason that numerous MS administrations order 2 VHR images during the CwRS campaign.
10	HU	Contamination	?A contamination is a functional issue that remained hidden by the area conformance? ? This statement leads to further clarification: do you mean, that the contaminated area (like 1500 m2 of trees) does not have to be deducted from the measured area? According to our understanding in the past all non-eligible unit over 1000 m2 must be delineated and subtracted from the measured area, if the small contamination is not delineated (as a polygon) it should be subtracted anyway, to see if the RP passes the area limits or not.	See contamination discussion; a contamination is not area value based. The area observation (by delineation of eligible land) is independent from the contamination observation (by detection of non-agricultural features).
11	HU	Deduction of small ineligible features	The DSCG/2014/33-REV2-FINAL states that: ? Areas not taken up by agricultural activities with a size below 100m² could as a general principle not be deducted from the RP unless their summed-up size is above 100 m² and where appropriate, exceeds the technical tolerance of the RP. If this is the case, those areas should be deducted alphanumerically in the LPIS.?	The deduction approach is no longer explicitly taken into the inspection procedure. However, alphanumeric deductions from the RP area (other than by CAPI and GNSS), if duly documented, trigger the parcel to be "not comparable".
12	HU	Deduction of small ineligible features	Should the 100 m2 and the technical tolerance of the RP be implemented as ?small contaminations? ? ? or this rule does not have to be applied in 2015 ETS at all?	No, contamination is not necessarily linked to the mapping exclusion for non-agricultural land.
13	DE	Model Test Suite (MTS)	Is the MTS ? besides eligibility profile ? still part of LPIS QA? If yes, will there be made available any files for reporting and documentation (e.g. MTS-Scoreboard, MTS-log report)?	Yes, but in the transitional year 2015, the LCM derived attributes are only applied for the new xsd schema?s. Hence a performance of the revised MTS (v2.0) is no longer scheduled for the 2015 assessment.
14	DE	ETS Methodology: QE calculation	Technical guidance chapter 3.1.2 ? ETS Methodology Topics: example of QE 6 calculation seems to be not in line with QE 6 methodology of the last 3 years.	Corrected (published example related to ETSv 4.3).
15	DE	ETS, Annex I, mapping	Annex I Table 2 No 3.11 ? Example: ?deducted area of small (less than 0,1 ha ?? should be ?deducted area (less than 0.03 ha??	This line removed as only the equivalent to variant 1 applies (area deduction through estimation is no longer applicable).
16	DE	ETS, Annex I, mapping	Annex II page 3 No 2.7: ??with less than 2 meters of width?? should be ??with up to 2 meters of width?! (Art. 9 (1) of Reg. 640/2014). See also annex I table 2 Description No 5.	Corrected everywhere.
17	DE	ETS, Annex I, contamination	Annex I table 6 Evaluation method description No 2: is the list of potential triggers for contamination with this 2 features conclusive?	The procedure for the contamination check is now incorporated in Table 8.2. The list of the 2 triggers (one of them with two subtypes) for contamination is moved from Table 2 to Table 8.2. List is considered exhaustive and conclusive.
18	DE			

		ETS, Annex I, scope	Item for inspection: in tables 2, 3, 4, 5, 6, 8.3 the reference parcel is assigned to the field ?data quality scope?. It seems to be more appropriate to assign the item for inspection instead of the reference parcel to this field.	The measurement of eligible land (area conformance + classification correctness) applies to the expanded LUI. The qualitative tests (critical defects/contamination) and causes of non-conformity relate to the original LUI (RP). Data quality scope is revised in the relevant tables in Annex I.
19	DE	EAP - Detailed instructions	Margins, given in second chapter of the ETS guidance, point 2.1.4 ?ETS item measurement?, do not consider areas that are precisely 2000 m2 or precisely 5000 m2 of size. Moreover, this is inconsistent to the corresponding margins outlined under point 4.7 (Conformance level) of the Tables 8 and 8.3 (Area Classification) in Annex I (?old style?). Same applies to point 2.1.5 ?ETS Conformity assessment? step 3 of the ETS guidance.	The two threshold values are both included in the middle interval. Wiki EAP_DM updated.
20	DE	EAP - Detailed instructions	Parcel aggregation - see 2.1.2 Definition of ETS item under inspection ? diagram. If it is decided to generally use parcel aggregation: after taking next RP from pre-selected list, there are 2 possibilities: 1)First possibility: RP is feasible for measurement, so there would be no parcel aggregation; 2)Second possibility: RP is not feasible for measurement, so there will be parcel aggregation. The first possibility is not taken into account in the diagram. Would it be possible to add this in the diagram?	This possibility has been included in the diagram. Unfortunately the question whether to apply the aggregation to the given parcel was not intuitive. We have updated this step and the related documentation to clearly show that the LUI of the individual sampled reference parcel is inspected when no aggregation is necessary. On the contrary, when aggregation is needed the aggregate becomes the LUI and all observations and measurements are performed for this item.
21	DE	EAP - Application Schemas	Description of the critical defect (20.1.5 CriticalDefectTypeValue): Under the column ?invalidCommonRpBoundary? it is noted: ?Stand-alone eligible landscape feature (without agricultural land) within the item of inspection does not vindicate critical defect.? Here, we have a wording issue, as to the meaning of ?vindicate? in this context.	There are no waivers for critical defects. Wiki EAP_CM updated. Rephrased as: ?Stand-alone eligible landscape features, without agricultural area adjacent to the item of inspection are considered a critical defect?.
22	DE	ETS Methodology: Parcel Agreggation	What is to do, if an aggregation was done (continuous aggregation of reference parcels matches the smallest LUI expansion), but the aggregate is not feasible for inspection, e.g. because of code T2 or F1: 1) Skipping the aggregate? Which skipping code? 2) failed aggregation and continue with RP?	The application of the parcel aggregation method is an a priori decision (made before the ETS loop starts) and it must be performed every time when the aggregation is indicated (i.e. parcel boundaries are not invisible). If it happens that the aggregate cannot be inspected (for example, in the middle of the aggregate there is a cloud or flooding that obscure potential crop boundaries), the aggregate (as well as the original parcel) has to be skipped for measurement. The reason for skipping can be recorded internally and stored in the ETS archive package. In any case the RP should be inspected for critical defect.
23	DE	EAP - Detailed instructions; ETS Methodology: QE calculation	2.1.6.1.2 Calculation of system precision - Main step 3b: ?For this step retrieve relative area correctness values for each measured item under inspection and select those where this value is smaller or equals to +3%. ? Should it read ?greater or equal??	Typo corrected. Wiki EAP_DM updated
24	DE	EAP - Detailed instructions; ETS Methodology: QE calculation	Main step 4b: ?For this purpose retrieve the corresponding areaDifferenceCorrectness values and sum them up to get the total overestimate error. Record the overestimate error in the information system.? Should it read underestimate instead of overestimate?	Typo corrected. Wiki EAP_DM updated
25	DE	ETS Methodology: Annex IV ?four-eye control?	In the past, the four-eye control was reported with the help of an unstructured upload. It was not necessary to fill in a documentation file for every ETS item for inspection with all the components described in annex IV. We assume that the procedure is still the same.	The 4 eye control report is not a part of the ETS report package (unstructured upload), but a part of the ETS archive package. There is no change to the procedure.

15.1.3 Questions raised after the first revision of the old style documents @20150812

Q	MS	Issue/Reference	MS question/remark	JRC reply
1	SI	EAP - Detailed instructions; Skipping of RP	In Annex II, V. 4) it is stated that in both cases, when the RP is skipped and when it is not, it belongs to the QC sample. Does this mean that we do not replace the skipped RP with the next one until we reach our sample size? If we do replace it and it also belongs to QC sample, we will have more than 1250 RPs in a sample.	Only RPs feasible for inspection belong to the QC sample. RPs skipped for inspection due to technical reasons do not belong to the QC sample. Skipped RPs should be replaced with new ones from the sample pre-selection list until the minimum required size of RPs inspected is reached. The statement in V.4.5 of annex II was introduced to clarify that skipped RPs, although not being inspected, are still considered as ?processed? under ETS and should be reported in the ETS reporting package. However, the formulation was not clear enough and it has been corrected.
2	SI	ETS Methodology: Classification correctness test	We have a problem/question regarding classification correctness in cases where there is only one agriculture land cover class inside our RP: if such RP is area non-conforming, it means that the land cover class calculation is also non-conforming, because it is the same calculation formula. We believe that in cases, where there is only 1 LC class inside the RP, we should only report 1 non-conformity due to area difference, because it is still all the same LC class (even if there is less found than recorded). Do we understand it correctly?	Correct. Additional clarification in this respect is introduced in the procedure for calculation of QE2 (Table 11.2 of Annex I). The procedure for the classification correctness test (TABLE 8.3 of Annex I) was also extended to ensure that double counting of single land cover type area non-conforming parcels is prevented.
3	SI	ETS Screening	In chapter 3.5. JRC XML validator in Package consistency test, there is in our opinion a mistake at Test b23: 'if all inspected parcels that are not feasible for measurement have assigned cause of non-conformities'. We do not assign causes of non-conformity to all RPs that cannot be measured, because they are not all non-conforming. They are non-conforming only if they have a critical defect present.	Agreed. Test b23 has been revised to reflect that a critical defect should be present in order to assign a non-measurable RP as non-conformant. The SQL procedure has been updated as well.
4	SI	Examples: ETS Examples design	According to chapter Contamination discussion 2015, not only artificial surfaces and divisive features can trigger contamination. If that is correct, you should update	Example has been revised in order to be in line with the current definition of contamination. A note has been added in the contamination discussion to make it consistent with the

			instructions in chapter ?ETS Examples design? under category 'Examples of contaminated reference parcels', where it is stated that in the second image (the forest patch) it would not be contamination 'because the patch is neither artificial surface nor divisive'. According to current information it should probably be contamination.	current text in the Annexes.
5	UK_SC	Contamination Discussion 2015	Within the table which forms part of the ?Contamination Discussion 2015?, there is a row headed Scrubland. Can we include two of our common ineligible vegetation types, Gorse and Bracken, as subcategories within this same row?	Gorse (Ulex europaeus) by definition is considered an evergreen shrubs. Bracken belongs to the genus of ferns, thus it cannot be associated to the shrub from the strict, botanical, point view. However, it share some physiognomic-structural characteristics common also to the woody life forms. Following the guidelines of the FAO Land cover Classification system (page 27), plants essentially herbaceous, but with a woody appearance and height less than 5 meters, can be classified as Shrubs. Thus, both Gorse and Bracken can be included within the Scrubland category with respect to the contamination.
6	UK_SC	Contamination Discussion 2015	Can scattered rock be included as a possible non-contaminating occurrence in the (Natural) Bare Areas row in the same way as scattered ineligible features are included for the Scrubland row?	Bare Rock is sub-category (specialization) of the Natural Bare Areas, since it is constitutes of abiotic consolidated material (see Table 4 of ETS Annex III). Thus it should be included there. However, such small and scattered non-agriculture features would not be subject to separate mapping, but rather will be treated through pro-rata (systematic or sporadic).
7	UK_SC	ETS Methodology, Annex 1, Table 6	Reference Annex 1, Table 6, 4.5. ?Provide point location for each of the individual non-agriculture features found on the area presented by the item of inspection?. In previous ETS we have included contamination features as polygon geometries in the ETS Inspection Measurements file using NonAgricultureLandCoverFeatureType. Is it mandatory to report a point location for all contamination features (i.e. even where polygon geometries can be supplied)?	The paragraph for the provision of the point location was introduced to ensure a minimum indication of the position of the individual non-agriculture land cover feature excluded, since by default it was not compulsory to provide the polygons of the delineated non-agriculture features. Indeed, the schema for the ETS_Measurements was designed to accommodate and record also the non-agriculture features (as polygons, lines or points) and EU Member States use this option. However, please note that that the non-agriculture land cover features mapped in quality measure 10102 of Annex I are only those found within the inner area of the mapped agriculture land cover features. As you can see from the example given in 3.1.2. ETS methodology topics, there might be other non-agriculture land cover features within the LUI that are outer to the agriculture land cover, and needs to be further accounted in quality measure 10105 (please see step 2 of point 4.5). The easiest way will be through their point location. Certainly, for those features already mapped as polygons, additional point location in the ETS_Measurement.gml is not needed. However the requirement to provide separately the point file with all non-conformities remains (NonConformity.gml).
8	UK_SC	ETS methodology, Annex II, Important Notes	Deduction of small ineligible features. Q11 in the Q&A document refers. There are instances where we hold technically assessed (pro rata) areas, determined using our OTSC inspection process, which are difficult to compare objectively within the ETS process. For the 2014 ETS, for these cases we performed a rapid field visit to verify the technical assessment. The answer to Q11 suggests that we should return these parcels as ?non comparable? for the area based quality measures ? can you confirm if this interpretation is correct?	As specified in the point 2.13 of the current version of Annex II, reference parcels with a reference area value that was calculated on the base of a different method/tool (for example, scorecards or sporadic pro-rata a reference parcel level) should be flagged before ETS inspection in order to allow a separate analysis. Their area observed and area recorded are not directly comparable.
9	LT	ETS methodology, Annex II, Feasibility for measurement	Our ETS procedure does not apply parcel aggregation, and we found out a RP that is not feasible for measurement, as it does not match distinctive land features. Thus, we set all recorded and observed areas and RP_CNF to zero. Do we need to do the same also for the neighboring RPs that don't have distinctive boundaries)?	As your reference parcel (RP) under inspection is not feasible for measurement and since your ETS procedure do not foresee ? based on the previous year results - RP aggregation, then the RP should be skipped for measurements and the relevant areas and values should be set to zero. Same decision can be applied also for RPs 2068 and 791, if later they are selected for inspection from the ordinal list of the sample pre-selection.
10	LT	ETS methodology, Annex II, Feasibility for measurement	What will be the scenario given in question 9, if we apply parcel aggregation method? Would we need to append the neighboring parcels to the LUI of the parcel inspected? How would we inspect, observe and report neighboring parcels, if parcel aggregation was applied?	In case your ETS procedure do foresee RP aggregation, then you need to follow the procedure given in point 4.4 of TABLE 1: RP Feasibility for measurement (10101) in Annex I (also explained in point VI.2 of Annex II). Use the expanded LUI to derive the quantitative values necessary to complete the inspection; however, please keep in mind that the item of inspection still remains the individual reference parcel itself. For what concern the neighbouring RPs that form part of the RP aggregation used for the RP inspected, in case they were selected for inspection from the ordinal list of the sample pre-selection, they need to be skipped from inspection. The reasons for this decision are as follows: • Since the core ETS principle is to derive the quality measures for each inspected RP on the basis of individual measurements (on the original or expanded LUI), using existing inventory made for a neighbouring RP prior being selected for inspection is not methodologically correct. It will result in double counting of area for certain quality elements in the scoreboard (for example QE1) and also can result in undesirable statistical correlation between the inspection results • Since the sample is purely random, skipping those neighbouring reference parcels will not undermine the sample representativeness. NOTE: For LPIS QA 2015, code S1 (scoping issue) will be used as a skipping reason for reference parcels, which area was already taken into account due to the application of the

				RP aggregation on a neighbouring reference parcel.
11	NL	ETS Methodology: Classification correctness test	For arable land we do not have a differentiation in our LCCS-based national legend. Thus, we might report the same information for the occurrence of particular land cover type both in quality measures 10103 (Table 3 of Annex I) and 10102_4 (Table 8.3 of annex I). Is it correct?	Certainly, if you have only one generic land cover type for arable land in the eligibility profile (no sub-types related to fallow land or specific crops are defined), it might happen that the same information will be reported in both measures. Such overlapping is perfectly acceptable, as it is indeed the same information, but reported for two different purposes and in two different contexts.
12	Generic	ETS Methodology: Classification correctness test	How to deal with complex agriculture types than are mixtures between different agriculture land cover (for example intercropping)? To which of the 3 agriculture categories to assign them?	As said above, for each RP inspected you need to group the mapped agriculture land cover types in the 3 main categories, according to the rules given in 6.1.8 of Annex III, which provides the correspondent category for each of the codes of the minimum mapping legend. The correspondent minimum mapping legend codes for each land cover class from the eligibility profile are given in Table 2 of Annex III. For some nation-specific class mixtures such as arable land with trees or intercropping, the corresponding minimum mapping legend codes have to be defined by the EU MS itself. The following guidance can be given in case you have such class present in your eligibility profile: 1. For classes defining arable land with natural trees (up the allowed threshold), the correspondent minimum mapping legend code will be A (arable land) 2. For classes defining arable land or grassland with permanent crops (shrubs or trees), the correspondent minimum mapping legend code will be either S (shrub crop) or T (tree crop) respectively 3. For any other specific class that doesn?t fall in the above-mentioned two cases, please ask JRC for assistance (if needed) on the interpretation of the LCCS description.
13	Generic	ETS Methodology: Annex III: user defined codes	Since the introduction of P1 and P2 for the types of short rotation coppice added in Table 2, numbers 1 and 2 are also allowed to be used for the user-defined entries for the minimum mapping legend codes of the eligibility profile. What about the pro-rata grassland types? Will larger numbers be allowed for the user-defined legend codes, similarly to the examples given in the pro-rata guidance?	The current JRC validator and LpisCommonTypes schema accommodates abbreviations with number 1 and 2 for the codes P1 and P2. Indeed, in the examples in the pro-rata guidance, codes with bigger numbers were already used for in the LCCS attribute LCCOwnLabel (ex. G1 ? G3). An update of the LpisCommonTypes to allow the use of larger numbers is foreseen for ETS 6.1, since it can be a convenient way to code grasslands with similar land cover characteristics, but different reduction coefficient.
14	MT	ETS Reporting	Can you please clarify how the point data for contamination is reported?	ETS 6.0 explicitly instructs MS to report all occurrences of non-agriculture features as points, indicating their location (see point 4.5 of Table 6 of Annex I). This change didn?t require any update of the ETS schemas or the ETS reporting package as this option was already available in the ETS_Measurements.xsd. The quality measure for contamination (Table 8.2 from Annex I), uses the information from the point data to filter those features that can be triggers for contamination according to the current (updated) rules. There is however an additional schema (Non conformity) introduced to complement the ETS_measurement with information on the location of the non-conformity found and the correspondent cause. This new schema for geolocated parcel issues (Non conformity) is listed in the table Additional and migrated ETS Schemas, in the ETS_downloads page, together with the schemas for reference parcel update data (Update Evidence). The other two schemas listed ? Eligibility profile and Waivers ? are still to be reported in the Implementation Conformance Statement (ICS), due to unforeseen delay in the TG MTS (see Errata page)
15	EE	ETS Capturing and reporting of landscape features	In our case all eligible landscape features that have area, are delineated as polygons. Can we report them in EtsInspectionMeasurements.gml just like polygons of agricultural land covers and put the user defined legend code of landscape feature into ?agricultureLandCoverClass userDefinedLegendCode=??? ?	The landscape features that have to be separately mapped and reported in ETS are those eligible landscape features that are subject to retention (GAEC 7 of Annex II in Reg 1306/2013). All landscape features that are traditionally part of the good agriculture cropping or utilisation practices on agricultural area (according to Art. 9 of Reg 640/2014) are not mapped separately but incorporated into the correspondent agriculture land cover polygon. The mapped landscape features are reported in EtsInspectionMeasurements.gml with the correspondent graphical representation (polygons in your case) and the user defined legend code (in <agricultureLandCoverClass>) , as defined in the eligibility profile (<userDefinedLegendCode>)
16	EE	ETS Methodology: Annex I: Causes of non-conformity	The note in point 3.7 of Table 9 of Annex I states ?Each individual contamination reported in quality measure 10102_3 for the item of inspection is counted as one non-conformity (weakness).? Does it mean that if we have two houses (artificialSealedSurfaceAndAssociatedAreas) in LUI, we have two non-conformities in that reference parcel? How should it be reported in EtsObservations.xml ? Each type of contamination in RP_CNT can be marked ?true? only once and also each cause in RP_CEA can be marked ?true? only once?	The results from the ?contamination? check (10102_3) depends on the inputs from the data capturing process and the reporting of non-agriculture land cover features (10105). Each **individual** feature is reported (and marked as point) separately. In this respect, it is important to understand what ?individual? means. If two buildings are part of one contiguous (in space or time) occurrence of artificial land and associate areas (e.g. a farmhouse and neighbouring shed constructed at the same moment and/or found to be functionally dependent), then they can be counted as one single feature. Contrary, if these occurrences are distinct/disjoint (a house on one and shed on the other side of the RP with no aparent association between them with respect of use, or being independently built) they will be counted as two individual features.

				Then, if during the contamination check these two individual occurences are considered triggers for contamination, and not subsequently waivered, they will be reported as two separate non-conformities. All these non-conformities are then reported in the newly introduced Non conformity.gml, which stores the information on the location, the type and the cause for each individual non-conformity (critical defect, area-non-conformity, contamination, and classification correctness). The compiled information from this gml is directly used for the calculation of QE4 (causes for non-conformities). In this respect, even if kept in the ETS EtsObservations schema, the entries for element <RP_CEA_Type> should not be marked in the correspondent EtsObservations.xml. The element <RP_CNT> however should be marked (occurence of contamination per land cover type), since it is used to flag the reference parcel as non-conforming for the calculation of QE2, which currently represents a sum of the area-based, contamination and classification corrrectness non-coformities.
17	Generic	ETS Methodology: Classification correctness test	Point 4.4 of TABLE 8.3 of Annex I, states that all areas of the agriculture land cover features mapped within the LUI, belonging to each of the 3 categories, should be summed up separately, together with area of the corresponding landscape features found within or adjacent to the agriculture land. How we decide to which agriculture land cover category to attribute a particular landscape features? What if the landscape feature is located at the border between two different land cover polygons?	The attribution is done following the technical modalities given on point 2.1.2 of the LPIS guidance (DSCG/2014/33)
18	MT	ETS Methodology: Classification correctness test	A reference parcel is entirely recorded with arable land having in addition one declared fruit tree, recorded as permanent crop (PC) and mapped as polygon in LPIS. During the ETS this declared fruit tree is not observed on the LPISQA image, probably since it has been removed by farmer or due to poor plant health. Will this RP fail the classification correctness test and became non-conforming due to presence of PC recorded in the LPIS, which is not found during the ETS (omission)?	The classification correctness test checks both the presence and area of the agriculture land cover category as recorded in the LPIS. Point 3.7 of Table 2 of Annex I specifies the minimum size of the single object that can be delineated with reliable degree of certainty on standard orthophoto of 50 cm resolution. As evident also from the ETS 6.0, a delineation of features up to 0.01 ha (the target for the LPIS post ? 2015) is required, if the combination of the spatial resolution of the reference orthoimage and the nature of the feature allow it. Individual agricultural features below this threshold of 0.01 ha (and not qualified as landscape features for retention) should not be delineated in ETS and cannot play a role in the area conformity check. Since the area footprint of a single fruit tree (most probably an olive tree according to your 2014 eligibility profile) is expected to be in the range of 15-20 m2, such feature will be below the minimum mapping unit (MMU) for the ETS, thus it will not be delineated even if present on the field. Thus, for the classification correctness test, observing the presence of the land cover category is sufficient in these cases; no area comparison needs to be performed. If, the recorded feature(s) is/are removed by farmer or illness, then the reported land cover category is no longer present or observed and the parcel would fail the classification correctness test (according to point 3 of the conformance level in Table 8.3, annex I). Another issue is that you have a type of (land cover) feature mapped and recorded in the LPIS but the type is so small it will never be reliably detected and/or measured on the LPIS QA VHR imagery. Here, we should be aware that the classification correctness test assesses the reliability of the information stored in the LPIS about the AL, PC and PG as required by the LPIS guidance (DSCG/2014/33). The level of detail of this thematic information should in line with the local LPIS specifications. If a MS has decided to store the spatial data related to agriculture land cover at scale larger than 1:5 000, in order to verify the area conformity, the LPIS stakeholder should consider procuring LPIS QA imagery with a suitable resolution. e.g. aerial imagery
19	Generic	ETS Reporting: Categorization of non-conformities (QE4)	Could you please clarify how the causes of non-conformities are reported in the assessment report (point 4)?	For QE4, the denominator (items) is still the sample as now driven by QE3. It is either 1250, 800, 500. • The nominator is the arithmetic sum per individual cause of nonconformity found during the inspections; i.e. for each cause the combined sum of ◊ Number of Parcels with critical defect ◊ Number of parcels that are area non-conforming ◊ Number of parcels that have incorrect classification ◊ Number of individual contaminations (only on area conforming RP) • The acceptance number @ LQ12.5 is 18/200 for all samples. • But as all samples exceed 200 and the sample size/denominator for QE4 is known by definition. The proportional Ac is calculated as ◊ For a sample of 500, 500*18/200 = 45 ◊ For a sample of 800, 800*18/200 = 72 ◊ For a sample of 1250, 1250*18/200 = 112 For the calculation and reporting in the Assessment report:

			There is no need to report an overall (i.e. over all causes) total
			There is no need to calculate or report the actual proportion per 100 items, although this is an option in the annex.
			The number of the non-conformities per cause can be reported for the complete ETS sample (size).

15.1.4 Questions raised during and after the upload of the ETS-reporting package

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	DE	consistency tests	If all files passed the ?File consistency tests? but in the ?Package consistency tests? some issues are detected, should it be corrected?	Yes, the purpose of the packages is that EC services can verify the LPIS QA activities and results. A package inconsistency indicates inappropriate processing/reporting at some point and will cause difficulties during verification. Note that an assessment/analysis error is more critical than a mere reporting/format error, as it could affect the scores. As a result, there is every interest in finding out the cause of the reported error.
2	DE	consistency test	Do we have to formally request re-opening a package?	By default, DGJRC will consider the corrected uploads a technical issue, automatically re-open the package and send an information email and expect the issue to be addressed by re-uploads within a reasonable time. However, if the correction will impact on the LPIS QA results delivered on the 31st of January or the issue cannot be addressed within a reasonable time, you should formally contact the EC services.
3	HU	registry	Does the ETS-reporting package require a file based on ETSAssRep.xsd of the registry?	No, this file, an xml version of the word template, is informative only.
4	MT	consistency test	Tests b13 and b26 wrongly calculate ratios expressed in one decimal place. According to Table 8 Annex I it should be in two decimal places.	Tests b13 and b16 are rounding the ratio values to one decimal place to avoid discrepancies coming from different SW solutions only for testing purposes. MS should report the values in two decimals.
5	MT	consistency test	Series of questions on the tests b	Tests have been corrected and aligned with MTS v6.0. For details please consult release notes

15.1.5 Earlier ETS version

The ETS versions (as pdf) can be found in the download section.

Please look at the legacy pages: https://marswiki.jrc.ec.europa.eu/wikicap/index.php/LPISQA_Legacy

Go back to the main ETS page

16 Question and Answers v.6.2

16.1 Questions raised after release of the TG ETS v.6.2

Go back to the main ETS page

Q	MS	Issue / reference	MS question / remark	JRC Reply
1	SI	RPs with total absence of agriculture land cover/eligible land	There are few differences in terminology in Annex I and II, regarding this subject. Expressions, such as 'total absence of eligible land' and 'no agricultural area found', are used interchangeably. Please (a) unify the terminology, (b) clarify the concepts of "non-eligible" and "non-agricultural", and (3) explain how to deal with one or the other when it comes to reporting.	(a) Thanks for pointing out. We have provided further clarrifications in the Errata page on how to read the above-mentioned terms. (b) ETS checks the physical presence of agricultural area on the given RP, through the agriculture land cover features detected. The fact whether this agricultural area equals the maximum eligible area available for payment, depends on the value reported for the boolean element <cap:etsReferenceAreaAvailabilty> related to availability for payment (TG IXIT feature G). A reference parcel has a critical defect when there is total physical absence of agriculture land cover, while at the same time the etsReferenceArea for that parcel is more than zero. (c) The DQ_scope of each Quality Element defines the subset of inspected RPs subject to it. We plan to refine more thouroughly the ETS documentation with respect to the applied terminology in the next revision of the technical guidance. However, some of the conceptual issues would be better resolved once we move towards the use of Land Cover Meta Laguage (see the presentation from Ghent WS Eligibility Profile v.3.0)
2	SI	Point geo-location of non-conformities	In Annex II, point VI.6.v. we are instructed to geo-locate each non-conformity with a point location. As far as I know so far we've reported geo-located points only for contamination based non-conformities. In many cases area non-conformance will be hard to identify with one exact location, because the discrepancies between the recorded RP and LUI appear on the whole boundary and then summed up exceed the threshold. Similar problem could appear with some critical defects. Based on this I have a question and a remark: a) Will we have to report geo-located points for each non-conformity or just for contamination? b) If the answer to a) is 'each non-conformity', then you will have to update some of the .xml files in reporting package in order to include the option to report a geolocated point for all 4 types of non-conformity: area, contamination, LCclass, CD	As described in flow of events: point VI.6.v. of Annex II, each non-conformity detected should be reported as one single point. Please note that the NonConformity.xsd schema file is already structured to assign one of the possible 4 types of non-conformity.
3	BE WA	Annex I	Proper use of waivers	In Annex I, 3.Detailed instruction (page 55), we provided instructions of waiver application. Waivers are used for indicating that the contamination inside the inspected RP was known and dealt with appropriately. If applied, ETS package delivery should contain the formal notification on applicable waivers, and if waiver C is reported, a separate layer should be also delivered within the ETS reporting package (Ref.point 12) as a non-structured evidence
4	BE WA	Annex II	The use of the terminology of "comparable areas"	In Annex II. Important notes: point 2.13 you can find the explanation of the incomparable areas (that are excluded from the scope of QE2a, QE2b, QE2c, and QE5 calculations). Incomparable area is the one of the reference parcel which area value (Arec) was determined and recorded in the system based on scorecard method or sporadic pro-rata assessment and not CAPI like in the ETS procedure. Incomparable areas for each individual RP is reported in LpisPolygonZeroState.gml as "referenceAreaEtsIncomparable" = "true"/"false". Since ETS methodology forsees the pro-rata concept of the landcover eligibility, any scorecard or sporadic pro-rata area assessment, should in principle be feasible to repeat after the last recorded area assessment. Hence, this kind of area incomparability flagging is not expected any more, and will be removed from the ETS methodology in the future.
5	EL	Annex I	Which declared area to account for QE5 in case of double declaration of an area within a RP?	Member States shall report the ratio of declared area versus maximum eligible areas of the RPs in the sample and the global ratio of all applications (QE5 scores). This ratios are indication of the ability of the RP to facilitate correct area declarations by bona fide farmers and to prevent aid applications by male fide parties. A good Administration should ensure that farmers are able to declare all the used land while preventing other farmers of declaring the same but also other not utilized land. It often means that a specific procedures should be activated when the declared to eligible ratio changes. In case of obsolete procedures, a ratio might trigger to consider a change. Hence, if double declared areas of any RP is triggering an additional verification, than such RPs are not in the scope for QE5 calculation. On the other side, if double declared areas of a RP is NOT triggering an additional verification, than all declared areas are in the scope for QE5 calculation.
6	BE_WA	Annex I	In our system during the application process, the declared areas are not reduced by the pro-rata reduction coefficients. They are reduced in the end of application processing. Which area should we use for QE5	QE5 is a legacy from the old 75%/90% rule: 75% of the RP should be eligible for 90% of their area. But this was a "lawyer" adaptation of the original proposal " 75% percent of the parcels should be declared for 90% of their area". The scope of that proposal was to assure that the LPIS is correctly informing the applicants about the available area (in a time

| | | | calculation:

1 / the areas actually declared by the applicants, or

2 / the areas declared reduced by the reduction coefficients imposed by the pro-rata covers | before pro-rata was allowed).

With pro rata, if 10ha @50% is available, the farmer can only activate entitlements (BPS) for or "utilize" (SAPS) a total of 5 ha. This should be the value of his area declaration on the corresponding agricultural parcel.

Note that all ETS-parameters for QE1, QE2 refer to the scheme area values (MEA), rather than the physical area (=GSAA-polygon) values. To be consistent and to preserve the meaning of QE5, the reduced area values for declared area should count.

Obviously, for CC, the full (10ha) extend remains relevant, but this is not value based.

How a MS deal with the gross/net values to catch the advantages and avoid the disadvantages during the application and cross-check should not be affected by this reply, as long as the MS correctly informs the farmer on availability of eligible area. |
|---|---|---|---|---|
| 7 | HU | Annex II, Annex III | How should we map out agricultural land inside a reference parcel in case of similar land cover with the same mapping code (for example A), with one or two polygons touching each other? | Any polygon delineated during the inspection can only be coded with the legend codes complemented with a user-defined legend entry from a Eligibility Profile, which cannot conflict with any of the generic pre-defined legend codes. The Member State shall report its user-defined legend entries (for their specific land cover types and their landscape features) of the subcategories in its eligibility profile in the MTS package. They should be expressed with a **unique** maximum 2 capital letter abbreviation (Ref: Anex III. Ch 6.1.7.).

If you define and create eligibility profile like described, you should be able to measure each LCC (polygon) separately even if it belongs to the same LC group (AL/PG/PC). |
| 8 | IE | Contamination reporting | We have a separate GIS layer where we map all ineligible features inside a reference parcel. If we find that an existing ineligible feature expanded in a current ETS year, should we account it as a new contamination? | The contamination(s) inside the RP makes it non-compliant and accounted for QE2a score only if the RP is found conforming with respect to the eligible area, and if this ineligible feature(s) (contamination) is not waivered. Such features should in principle be small in area size, hence, if you find an ineligible feature expanding, this increase should be accounted in the area purity measure where 3/5/7 threshold is applied at RP level. Secondly, contamination is feature based (i.e. count items regardless size), and if already correctly spatially located in the separate GIS layer, can and should be waivered. On the other hand, if you find an error in the type of land cover recorded (i.e. scrubland instead of build-up) than such contamination should be considered as not waivered. |
| 9 | UK_SC | ETS inspection - Field Observation | A LUI of parcel is identified and the land covers were mapped from the ETS reference orthoimage, acquired in summer. ETS inspection on the image suggests there may be an ineligible feature (track) present on the LUI. The ETS Team performed a Field Observation to verify the eligibility of the track later in autumn. On arrival, the team found that there was no agricultural use on the parcel, as it is now a construction site. A change notification has not been received by the paying agency, although the parcel is no longer claimed for BPS.

How should this parcel be recorded in the ETS?

At the time of image capture (May 2017) it showed eligible land cover but at the time of field observation (Nov 2017) it is confirmed as non-agricultural, as a new housing scheme is being developed. Which date applies in determining the result of the ETS inspection? | Results from Field Observation (FO) are integral part of the ETS inspection. The purpose of the field evidence is to confirm or reject particular land-cover or man-made objects observed during CAPI. Since the objective of the field observation is to determine the nature of a particular land cover phenomenon assumed of being consistently present on the ground, there are no particular constraints with respect to the period suitable for the visit.

Therefore, any conclusive findings during the field inspection can supersede the CAPI observation, and should be considered as a final ETS observation. Since Paying Agency did not receive a change notification before the ETS 2017 or "in tempore non suspecto", the ETS findings from the Field Observation will result in RP non-conformity, which cannot be "waivered" for the ETS 2017. Hence, the new land-cover information from FO should be reported as a total absence of agricultural land in LUI, and should further trigger the LPIS update for this particular RP. |
| 10 | BE_WA | ETS inspection - Categorisation of non-conformity | Should we classify as an update default the case where an old change of the affectation of the territory was not considered and included in the LPIS ?

Ex : Even if we have new orthos each year, the change was visible since several years, and we didn?t detect it before the ETS 2017. Should we consider this error as an update default or as an erroneous processing? | If the operator didn't process an obvious land change because the process of RP boundary revision against new imagery didn't start yet, than the reason of non-conformity is omission. If the operator did some changes/modifications during the last LPIS update processing but they were inappropriate, (and/or the modifications were missed) then the ETS reason of non-conformity found in the current ETS is error in processing. |

Go back to the main ETS page

17 ETS Downloads

Go up to the main ETS page

17.1 "old style" business model documents for ETS v6.4

- ANNEX I: LPIS data quality measures
- ANNEX II: ETS inspection procedure
- ANNEX II: ETS inspection procedure - workflow diagram
- ANNEX III: The concept of land cover and ?eligible hectares"
- ANNEX IV: Four-eye control

17.2 Dynamic technical guidance documents for ETS v6.4

- ANNEX IX: TG Population
- ANNEX X: TG IXIT

17.3 Schemas and examples for LPIS population upload v6.4

Name	Reporting package	Description	Schemas/Templates for v6.4	Example	Date*
LPIS common types	All packages	A common schema referred to by other schemas	LpisCommonTypes.xsd	N/A	2019-06-17
LPIS point zero state	Reference Parcel Sampling	A schema for a point representation of reference parcels (point being inside a parcel)	LpisPointZeroState.xsd	LpisPointZeroState.gml	2019-06-17

JRC generates and publish the SamplePreselection.xml file after riceiving LPIS population from the Member States.

Name	Reporting package	Description	Schemas/Templates for v6.4	Example	Date*
LPIS sample preselection	N/A	A schema for the sample preselection	LpisSamplePreselection.xsd	LpisSamplePreselection.xml	2019-06-17

17.4 Schemas and examples for the ETS reporting package v6.4>

From ETS v6.0 onward, all schemas and example files are storen in the LPIS registry. As a consequence, filenames were stripped of their ETS version number and publication date. Versioning is henceforth handled through the registry subdirectory (currently 6.4.).

Name	Reporting package	Description	Schemas/Templates for v6.4	Example	Date*
Boundary inspection	ETS reporting package	A file storing data about boundary inspections	BoundaryInspection.xsd	BoundaryInspection.gml	2019-06-17
Eligiblity profile	ETS reporting package	Catalogue of agricultural land	EligibilityProfile.xsd	EligibilityProfile.xml	2019-06-17
ETS aggregation table	ETS reporting package	A schema for storing RP's used for the crop measurement	EtsAggregationTable.xsd	EtsAggregationTable.xml	2019-06-17
ETS assessment report	ETS reporting package	A schema holding all elements required in the annual report	EtsAssessmentReport.xsd	EtsAssessmentReport.xml	2019-06-17
ETS remedial action plan	ETS reporting package	A template for producing ETS remedial action plan in addition to the Ets assessment report	EtsRemedialActionPlan.docx	tbd	2019-01-14
ETS inspection measurements	ETS reporting package	A schema for storing ETS inspection measurements as geographical features	EtsInspectionMeasurements.xsd	EtsInspectionMeasurements.gml	2019-06-17
ETS observations	ETS reporting package	A schema for storing ETS observations as simple or complex values	EtsObservations.xsd	EtsObservations.xml	2019-06-17
Field observation	ETS reporting package	A file storing data about field observations	FieldObservation.xsd	FieldObservation.gml	2019-06-17
LPIS cardinal points	ETS reporting package	Schema for coordinate input of the congruency test	LpisCardinalPoints.xsd	LpisCardinalPoints.gml	2019-06-17
LPIS common types	All packages	A common schema referred to by other schemas	LpisCommonTypes.xsd	N/A	2019-06-17
LPIS out-of-scope parcels	ETS reporting package	As LPIS point zero state, but holding the parcels out of scope in the original LPISpointZeroState.gml	LpisPointZeroStateOutOfScope.xsd	LpisPointZeroStateOutOfScope.gml	2019-06-17
LPIS polygon zero state	ETS reporting package	A schema for storing polygons representing reference parcels of a MS	LpisPolygonZeroState.xsd	LpisPolygonZeroState.gml	2019-06-17
LPIS sample pre-selection status	ETS reporting package	A schema for storing the final status of parcels in the sample pre-selection	LpisSamplePreselectionStatus.xsd	LpisSamplePreselectionStatus.xml	2019-06-17
LPIS update evidence	ETS reporting package	Structured feature metadata describing a RP update	LpisUpdateEvidence.xsd	LpisUpdateEvidence.xml	2019-06-17
Non conformity	ETS reporting package	A schema for geolocated parcel issues	NonConformity.xsd	NonConformity.gml	2019-06-17

Name	Reporting package	Description	Schemas/Templates for v6.4	Example	Date*
Orthoimagery set	ETS reporting package	A schema for storing metadata about orthoimagery set	OrthoimagerySet.xsd	OrthoimagerySet.xml	2019-06-17
Orthoimagery Url	ETS reporting package	A schema for storing access information to orthoimagery	OrthoimageryUrl.xsd	OrthoimageryUrl.xml	2019-06-17
Quality report metadata	ETS reporting package	A schema for describing the inspection process	QualityReportMetadata.xsd	QualityReportMetadata.xml	2019-06-17
Waivers	ETS reporting package	Formal notification on waivers	Waivers.xsd	Waivers.xml	2019-06-17

17.5 Legacy documents

The following documents are provided for archiving reasons only **-DO NOT USE FOR ETS V6.4!-**

- Discussion document from October 2011: printable version
- The report on the peer review of the LPIS QA framework
- The pdf of the 2010 technical documentation describes ETS v4.3
- The pdf of the 2011 technical documentation describes ETS v5.1
- The pdf of the 2012 technical documentation describes ETS v5.2
- The pdf of the 2013 technical documentation describes ETS v5.3
- The pdf of the 2014 technical documentation describes ETS v5.3
- The pdf of the 2015 technical documentation describes ETS v6.0 1st chapter
- The pdf of the 2015 technical documentation describes ETS v6.0 2nd chapter
- The pdf of the 2015 technical documentation describes ETS v6.0 3rd chapter
- The pdf of the 2016 technical documentation describes ETS v6.1 1st part
- The pdf of the 2016 technical documentation describes ETS v6.1 2nd part
- The pdf of the 2017 technical documentation describes ETS v6.2 1st part
- The pdf of the 2017 technical documentation describes ETS v6.2 2nd part
- The pdf of the 2018 technical documentation describes ETS v6.3 1st part
- The pdf of the 2018 technical documentation describes ETS v6.3 2nd part
- ANNEX I: LPIS data quality measures - Annex I v.5.3 - 2014-06-16
- ANNEX I: LPIS data quality measures - Annex I v.6.0 - 2015-08-31
- ANNEX I: LPIS data quality measures - Annex I v.6.1 - 2016-07-01
- ANNEX I: LPIS data quality measures - Annex I v.6.2 - 2017-07-07
- ANNEX I: LPIS data quality measures - Annex I v.6.3 - 2018-07-13
- ANNEX II: ETS inspection procedure ? Description of the workflow - Annex II v.5.3 - 2014-05-07
- ANNEX II: ETS inspection procedure ? Description of the workflow - Annex II v.6.0 - 2015-08-31
- ANNEX II: ETS inspection procedure ? Description of the workflow - Annex II v.6.1 - 2016-07-01
- ANNEX II: ETS inspection procedure ? Description of the workflow - Annex II v.6.2 - 2017-07-07
- ANNEX II: ETS inspection procedure ? Description of the workflow - Annex II v.6.3 - 2018-07-12
- ANNEX II: UML Activity Diagram visualizing the sequence of the process - Annex IIb v.5.3 - 2013-05-08
- ANNEX II: UML Activity Diagram visualizing the sequence of the process - Annex IIb v.6.0 - 2015-08-11
- ANNEX II: UML Activity Diagram visualizing the sequence of the process - Annex IIb v.6.3 - 2018-07-12
- ANNEX III: The concept of land cover and ?eligible hectares" - Annex III v.5.3 - 2014-05-07
- ANNEX III: The concept of land cover and ?eligible hectares" - Annex III v.6.0 - 2015-08-11
- ANNEX III: The concept of land cover and ?eligible hectares" - Annex III v.6.1 - 2016-07-01
- ANNEX III: The concept of land cover and ?eligible hectares" - Annex III v.6.2 - 2017-07-07
- ANNEX III: The concept of land cover and ?eligible hectares" - Annex III v.6.3 - 2018-07-12
- ANNEX IV: Four eyes control - Annex IV v.6.3 - 2017-07-11
- ANNEX IX: Technical guidance on LPIS population for LPIS QA inspection - Annex IX v.6.1 - 2016-06-08
- ANNEX IX: Technical guidance on LPIS population for LPIS QA inspection - Annex IX v.6.2 - 2017-07-06
- Presentations from the ETS-training, held in Tallinn on 22 November 2011
  - ♦ ATS essentials
  - ♦ ETS part 1
  - ♦ ETS part 2

- Presentations from the Inspector training, held in Baveno on 16 October 2013 Inspector training

Go up to the main ETS page

18 ETS Errata