



# Establishment of the EFA layer in Poland

LPIS (linked with GAEC-greening) workshop  
Brussels, 24-26 September 2014

Reference Databases Department



## Agenda

- Agency for Restructuring and Modernisation of Agriculture (ARMA)
- The EFA's implementation goals
- Possibility of the goals' achieving...
- Project plan (general)
- EFA's selected
- Holdings with the arable land >15ha
- Tenders for EFAs and permanent grassland
- EFA – problematic issues
- EFA's initial by ARMA – technical issues
- EFA's initial by ARMA – procedure
- Guidelines for farmers
- Summarizing



## ARMA

The Agency for Restructuring and Modernisation of Agriculture, an accredited paying agency, was established in 1994 with the aim of supporting the agriculture and rural development | structure: Headquarters (25 departments), 16 Regional Offices (1/voivodship) and 314 Local Offices (/380 Poviats).

Reference Databases Department manages the National Register of Producers (Farm Register) and the Land Parcel Identification System.

### 2014 Polish LPIS/IACS characteristics

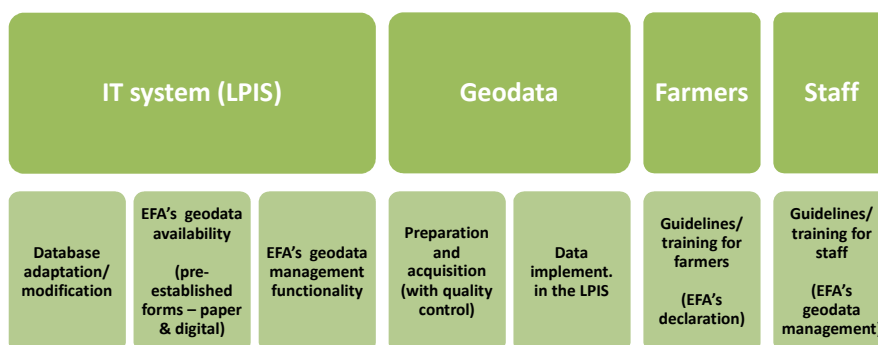
Area of Poland	–	312 000 km <sup>2</sup>
Declared area (DP)	–	145 000 km <sup>2</sup> (≈45%)
Reference parcels (≈ cadastral)	–	34 600 000
Declared parcels	–	10 600 000 (≈30%)
Applications (SAPS)	–	1 353 000
OTSC	–	70 000 (≈5,2%; CWS+OTC)

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## The EFA's implementation goal(s)

Establishment of the EFA layer since 2015  
(for holdings with the arable land >15ha)



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## Is it possible to achieve the goal...?

### LPIS

- Many layers, many objects' types (a few more will not make much difference...;)
- Highly efficient, online, GIS data modification system, with full IACS integration (1.3M update requests in 2013 – 98% handled by the end of 2013).
- Data updated daily, with full data review/update every 3 years (1/3 area of the country per year).

### Stuff

- ≈420 employees involved in everyday geodata updates, all over the country,
- ... with 4 years of online updates experience (since 2011 – new IT update system introduced).
- Highly qualified and very experienced management team (headquarters).
- Full IT/LPIS support from the contractor's staff (in case something happened).

### Other

- Many examples of good cooperation with contractors responsible for software and data delivery (optimism about the future).
- Scope of work limited to holdings with the arable land covering more than 15ha.
- Technical ability of updating geodata „on-the-fly” for the purposes of the AC.

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## EFA's project plan (general)

### Stage 1 [EFA's choice]

- LPIS-based statistical analysis (EFA's related).
- EFA's selection (Ministry of Agriculture and Rural Development – on the basis on delivered statistics).

### Stage 2 [Data]

- Work schedule development and data acquisition sources choice – ARMA and contractors.
- Tenders' procedures initiation (for data to be delivered by contractors)

### Stage 3 [IT/LPIS]

- Database adaptation/ modification.
- EFA's geodata management functionality introduction.

### Stage 4 [EFA's introduction]

- Preparation of detailed guidelines for farmers (EFA's declaration).
- Implementation of the EFA geodata in the LPIS (inc. pre-established forms).
- Preparation of guidelines/ trainings for staff (EFA's geodata management).

### Stage 5 [Post – introduction]

- Updating EFA's geodata „on-the-fly”, for the purposes of the AC (during and after application period)...
- ... with particular emphasis on newly obliged farmers (!)

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## EFAs' selected

EFA	MARD	LPIS	Comments
Land lying fallow	X	-	-
Terraces	-	-	-
Landscape features			
Hedges or wooded strips	X	X(C)	-
Isolated trees	X	X(C)	+ env. monuments
Trees in line	X	X(C)	-
Trees in group/ field copses	X	X (C/A)	based on LPIS
Field margins	X	X	based on appl. 2015
Ponds	X	X	based on LPIS
Ditches	X	X	based on LPIS + ext.
Traditional stone walls	-	-	-
Buffer strips	X	X	based on LPIS
Hectares of agro-forestry	-	-	-
Strips of eligible hectares along forest edges	X	X	based on LPIS
Short rotation coppice	X	X	based on LPIS
Afforested areas	X	X	based on LPIS
Areas with catch crops or green cover	X	-	-
Areas with nitrogen-fixing crops	X	-	-

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## Holdings with the arable land >15ha

### 2014 Polish LPIS/IACS characteristics

Area of Poland	312 000 km <sup>2</sup>	
Declared area (DP)	145 000 km <sup>2</sup> (≈45%)	70 000 (≈48%)
Reference parcels (≈ cadastral)	34 600 000	
Declared parcels	10 600 000 (≈30%)	2 870 000 (≈27%)
Applications (SAPS)	1 353 000	137 000 (≈10%)
OTSC	70 000 (≈5,2%)	

### [15ha+]

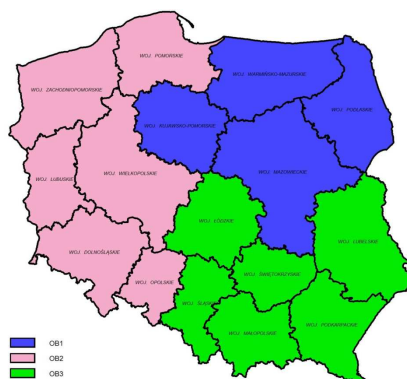
RP with permanent grassland	2 000 000 out of 2 870 000 (≈70%)
Permanent grassland area	7 000 out of 70 000 (=10%)

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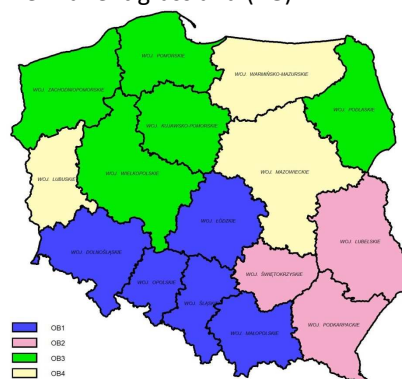


## Tenders for EFA and permanent grassland

### EFA



### Permanent grassland (PG)



7 separate areas, 7 separate contracts, 7 separate contractors

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## EFA – problematic issues

- Huge scope:
  - About 2,9M of declared parcels (≈27%; 48% of declared area) with applications with over 15ha of arable land:
    - large amount of data to process,
    - large amount of resulting data to verify,
- Variety of data:
  - Trees in group, ponds, buffer strips and strips of eligible hectares along forest edges will be created by ARMA basing on the existing LPIS layer (LC/LU):
    - millions of objects need to be examined – everything has to be expected...
    - natural continuous objects (ex. forests) are cut on the geospatial layer – merge needed.
- Arable land
  - EFA's considered only if on (adjacent to) the arable land:
    - no such layer(s) till now,
    - advanced, complex geospatial analysis needed – EFA/ not EFA?

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## EFA's initial by ARMA – technical issues

[trees in group, ponds, buffer strips and strips of eligible hectares along forest edges]

- using current copy of land cover LPIS layer,
- working on free PostgreSQL/PostGIS database (and QGIS for results' viewing), just SQL scripts, no manual edition of geospatial objects(!),
- trees in group – will be created from data types forest/ woodland, up to 3000m<sup>2</sup> after merging adjacent objects,
- ponds – will be created from data type waterbody, up to 1000m<sup>2</sup> after merging adjacent objects; additional challenge – shape examining – ditch is not a pond – distinguish need to be performed...
- existing small ponds layer (<100m<sup>2</sup>) was not synchronised with land cover layer – ponds overlap waterbodies – (pre) cleaning needed,
- existing ditches (up to 2m, lines) layer was not synchronised with land cover layer – waterbodies overlap ditches – (pre) cleaning needed as well.

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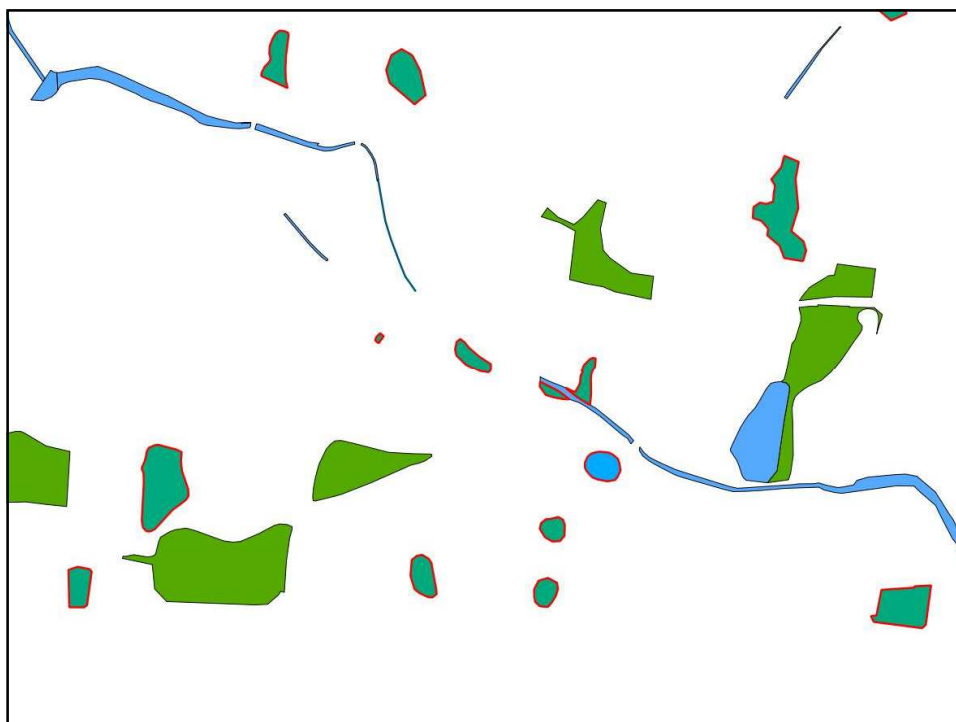
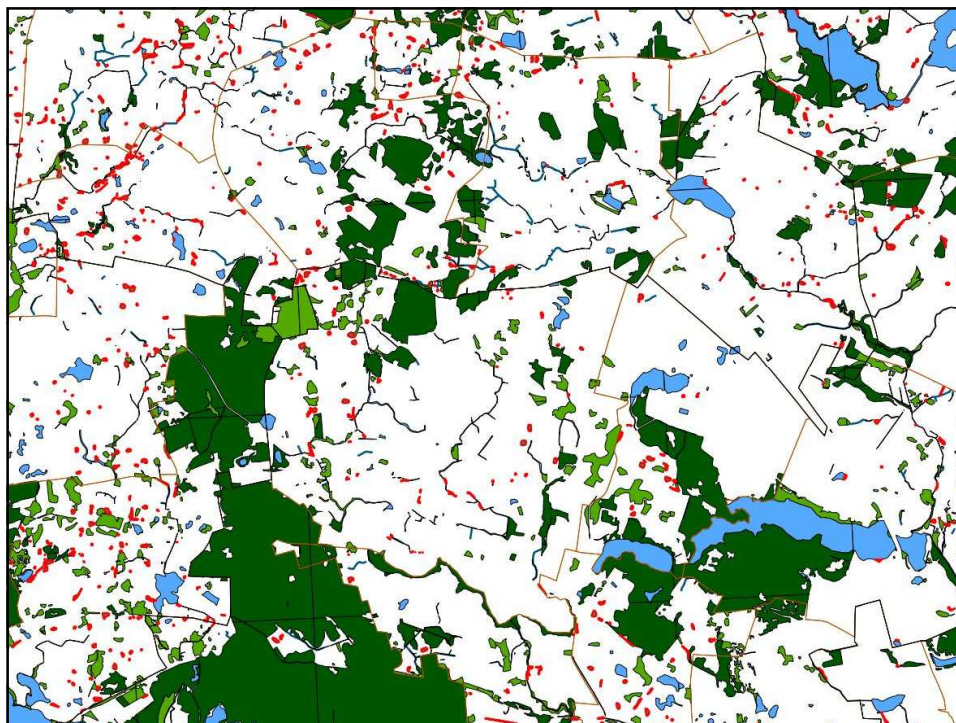


## EFA's initial by ARMA – procedure

[trees in group from forest/ woodland and ponds from waterbodies]

- mark all RPs from applications with 15ha+ of arable land,
- mark all forest/ woodland and waterbodies land cover (LC) objects intersecting with above mentioned RPs,
- mark all objects from above mentioned (LC), having more than 3000m<sup>2</sup> for forest/ woodland and 1000m<sup>2</sup> for waterbodies,
- merge touching/ adjacent (1cm) objects of the same type, beginning from LC objects intersecting with indicated RPs and of area less than 3000/1000m<sup>2</sup>,
- newly created objects will be EFAs if:
  - forest/ woodland is up to 3000m<sup>2</sup> → trees in group,
  - waterbody is up to 1000m<sup>2</sup> (taking into account the shape) → pond,
- deactivate all LC objects converted into EFA, import EFA objects to the DB,
- strips of eligible hectares along forest edges will be created for all remaining objects of type forest/ woodland (automatic production by DB's triggers)

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**EFA – Guidelines for farmers**

Arable land

Trees in line – EFA (on arable land)

Ditch – EFA (on arable land)

Trees in group - EFA (<3000m<sup>2</sup>; on arable land)

Permanent grassland

Trees in line – not EFA (not on arable land)

Isolated tree – not EFA (not on arable land; but landscape feature – GAEC7)

Permanent grassland

Ditch – not EFA (not on arable land)

Isolated trees – not EFA (not on arable land)

Trees in group – not EFA (not on declared parcels)

Arable land

Isolated trees – EFA (on arable land)

Trees in line – not EFA (on the road lane zone)

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**EFA – summarizing...**

- Establishment of the EFA layer since 2015 (for holdings with the arable land >15ha), with procedures of EFA's geodata updating – especially digitising, for newly obliged farmers.
- ARMA responsible for EFA layer creation, no other institution involved.
- Farmers/ land owners not involved in 2014, will be obliged to correct EFA's information (as well as other LPIS' data) provided by ARMA on graphical materials since 2015.
- IT/LPIS is being prepared for the EFA reception and management.
- 7 contracts for EFA/PG geospatial objects collection have been signed.
- Guidelines for farmers practically finished.
- Maintaining such a large types and number of EFAs geospatial objects will require a lot of effort...
- EFA/not EFA? – problem of defining mathematical (geospatial) relationships between objects existing in the field (reality)...

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**Thank you...**

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