Possible use of national inventories for defining the most appropriate conservation areas (MAAs)

Negri V,

Department of Applied Biology, University of Perugia

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Outline

1- How to set priority conservation actions for LRs?

2- The agrobiodiversity approach. Criteria to be considered

3- Most Appropriate Areas

4 - A worked out example

1- How to set conservation areas for LRs?

Conservation activities are urgently needed for both LRs and CWRs!

LRs are rapidly disappearing because progressively replaced by modern varieties and socio economic factors, but

Money often lacking for all the needed conservation actions !

Consequently, need to identify priority actions

1- How to set conservation areas for LRs?

Two possible approaches to attribute priority:

1 – based on single LRs (see Torricelli's presentations of this morning on Lazio Region model)

2 – based on agrobiodiversity level of the area where LRs are present (tends to be holistic)

The EC funded 'AEGRO' project

An Integrated European *In Situ* Management Work Plan: Implementing Genetic Reserves and On Farm Concepts

- Worked out criteria to be taken into account in delimitating areas which are rich in agrobiodiversity (focus on LRs).

- Drafted a model strategy for setting conservation areas.

- Tested the efficiency of the developed strategy in capturing the maximum of LR diversity in Central Italy

Areas rich in agro-biodiversity: Criteria to be taken into account

C1. Number and diversity of LRs in an area

C2. Agro-ecosystem diversity of the area

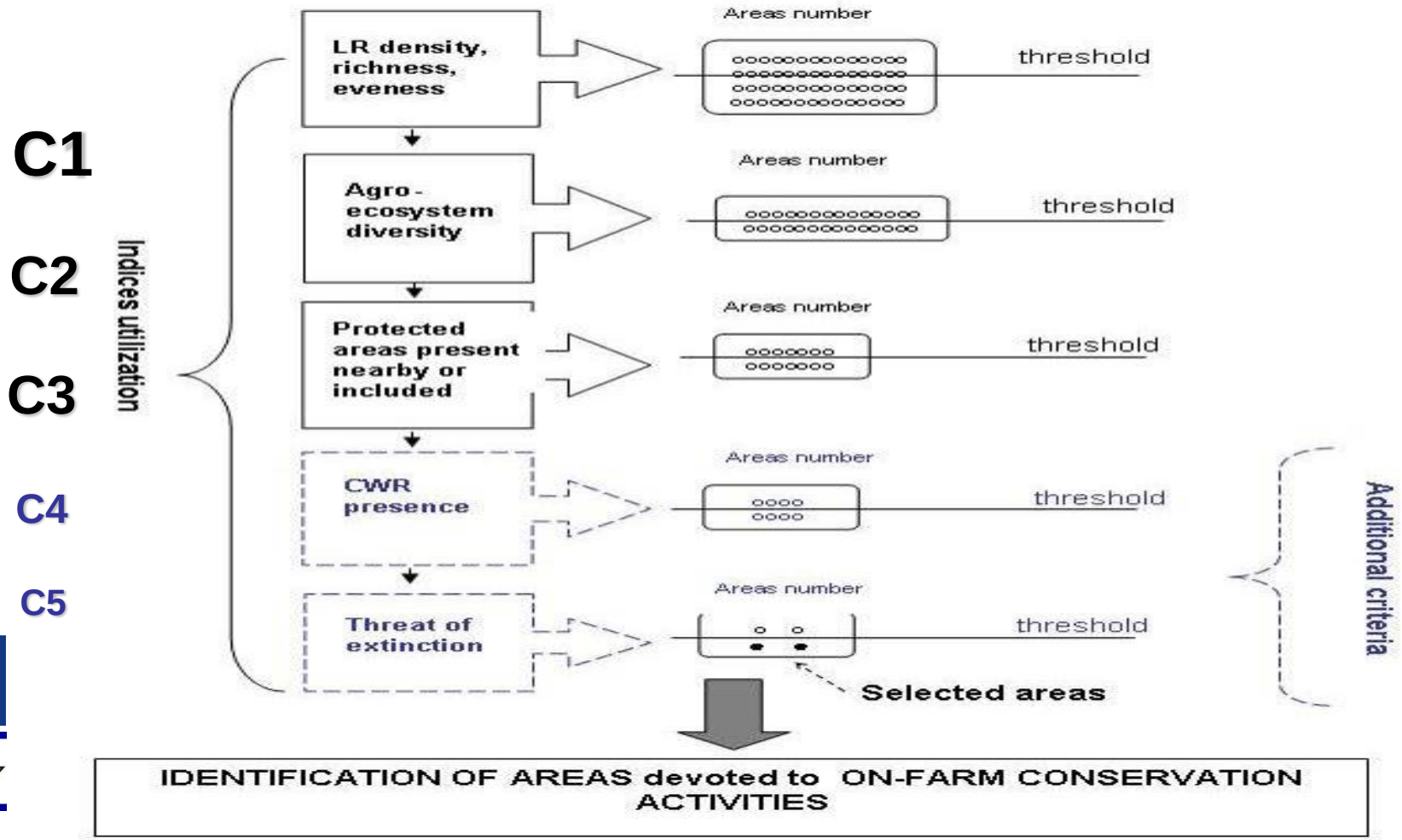
C3. Presence of nearby protected areas

C4. Presence of CWRs in the area (additional criterium)

C5. Threat of extinction of LRs (additional criterium)

Strategy for establishing on farm conservation area

Starting with a certain number of potentially suitable areas, reduce their number by appling criteria (C) in sequence



For each level a threshold has to be defined below which areas are not admitted to the following level (area discrimination)

These selected areas could be defined as the '*Most Appropriate Areas (MAA)*'

To be *proposed* to the National or Regional authorities as areas where

to set or enhance

political and economic actions in favour of LR and agrobiodiversity conservation

in order to apply this strategy

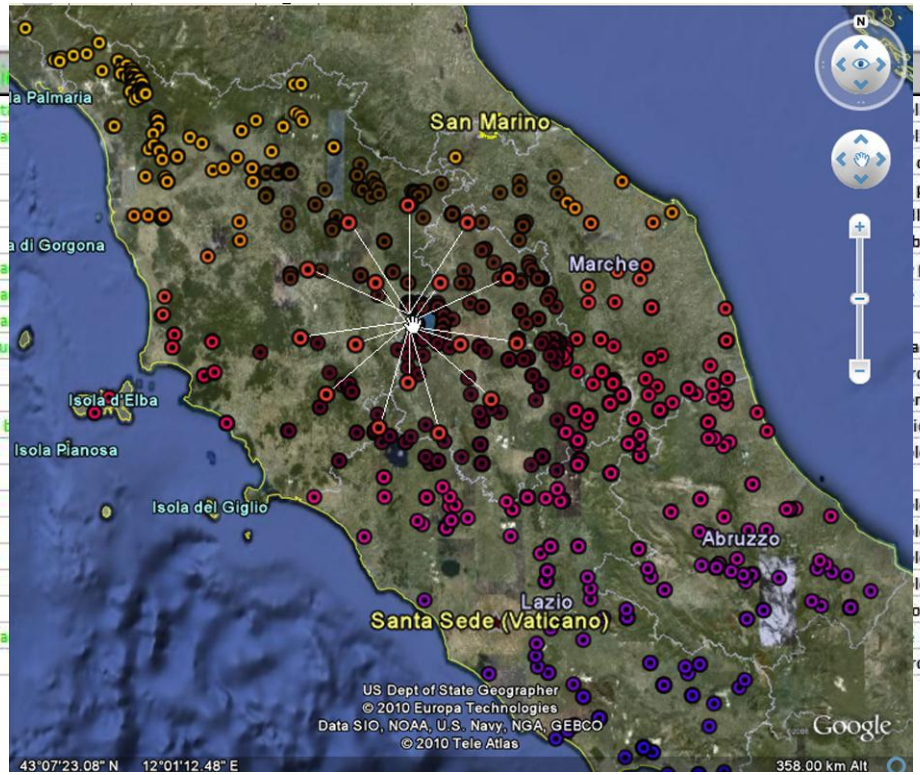
LR preliminary information is needed:

- **LR inventory,**
- **LR occurence in standard areas and**
- **LR mapping**

This information was worked out for the 'Central Italy' case study:

- **An inventory of LRs was created (over 1300 LRs)**
- **LRs were mapped in areas of standard dimension (20x20 km)**

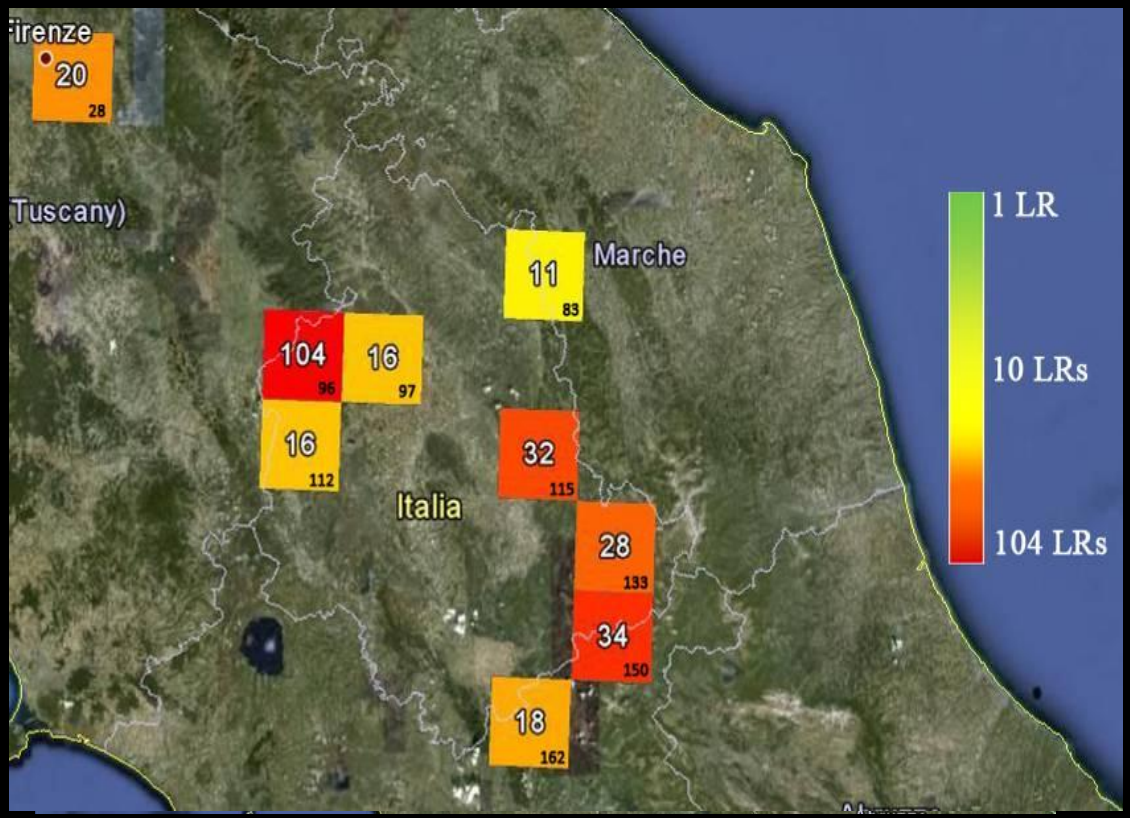
1	N° quadrante	Count	Genus	Specie	Nome comune	Long	Lat
384	96	104	Vigna	unguiculat	lina del lago	12,000000	43,116667
385	96	104	Vigna	unguicula	lina	12,046261	43,128130
386	96	104	Zea		dentone	12,000000	43,216667
387	96	104	Zea		piccolino	12,000000	43,216667
388	97	16	Allium		lla piatta	12,190916	43,104058
389	97	16	Brassica		bianchi	12,200000	43,133333
390	97	16	Cicer	a	piccolo	12,200000	43,166667
391	97	16	Cicer	a		12,416667	43,200000
392	97	16	Cicer	a		12,190916	43,104058
393	97	16	Cucurbita	maxima Du	a gialla grande	12,200000	43,133333
394	97	16	Lathyrus		rchia	12,199534	43,084729
395	97	16	Lathyrus		re	12,251199	43,149520
396	97	16	Ocimum	b	ico	12,200000	43,133333
397	97	16	Phaseolus		lo grigio	12,190916	43,104058
398	97	16	Phaseolus			12,200000	43,166667
399	97	16	Phaseolus		lo cannellino	12,200000	43,166667
400	97	16	Phaseolus		lo grigio	12,200000	43,166667
401	97	16	Phaseolus		lo bianco	12,350000	43,216667
402	97	16	Phaseolus		lo zolfino	12,190916	43,104058
403	97	16	Zea		oturco	12,416667	43,200000
404	98	5	Cicer	a		12,633333	43,183333
405	98	5	Lathyrus		rchia	12,633333	43,183333



FINDING OUT THE MOST AGRO_BIODIVERSE AREAS (MAAs) TO BE PROTECTED *IN CENTRAL ITALY*

CRITERIUM n.1 : n. LR Number & Diversity index (Shannon)

- LR Number in 20x20 km AREAS — **105**
- THRESHOLD: > 10 LRs' — **18**
- Shannon Weaver index
- THRESHOLD: Shannon index > 1.2 — **14**



CRITERIUM n. 2: AGROECOSYSTEM DIVERSITY

- Corine Land Cover classes 2+3+4 > 60% — **9**
- THRESHOLD: > 60%

CRITERIUM n. 3: presence nearby or within squares of protected areas

- **Regional and National parks**

THRESHOLD:
presence/absence

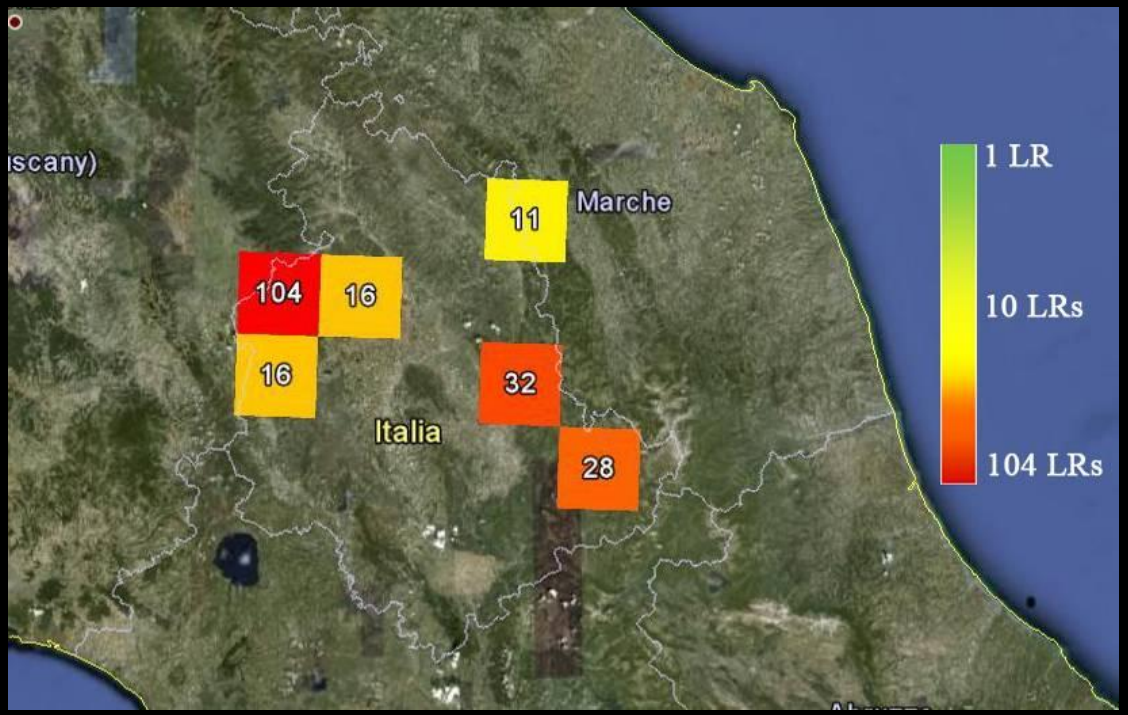
6

- **CRITERIUM n. 4: presence of CWRs**

CWR belonging to Genus *Avena, Beta, Brassica* and *Prunus* are present in all these quadrant

THRESHOLD:
presence/absence

6



All the 6 areas are of great agro-biodiversity value and can be reccommended as areas where to promote conservation activities (Most Appropriate Areas)

This basic strategy was then further developed and tested, but substantially yielded the same results

CONCLUSIONS

This strategy may be useful to set *in situ-on farm* priority conservation areas also in other European countries

LR inventorying and mapping is a mean for for defining the most appropriate conservation areas (MAAs)

Thank you for attention