

Conservazione di CWR nell'ambito del Network Europeo ECPGR

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Convegno RIBES
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Cos'è ECPGR

ECPGR è un programma collaborativo fra paesi europei, con l'obiettivo di assicurare la conservazione a lungo termine e di facilitare l'utilizzo delle risorse genetiche vegetali per l'alimentazione e l'agricoltura in Europa.

www.ecpgr.cgiar.org

Struttura di ECPGR



Definizione di CWR:

Un taxon la cui utilità deriva dalla sua relativa vicinanza genetica ad una pianta coltivata (Maxted et al. 2006)

Utilizzo di CWR nel miglioramento genetico

Brassica incana: resistenza
alla mosca bianca
(Vosman et al. 2016)

B. incana (24) x *B. oleracea* (111)



Brassica villosa: elevata
glucorafanina
(Mithen 2014)



Riferimenti normativi internazionali

- Convenzione Biodiversita (1992) → CWR prioritaria globale
- Piano di Azione Globale FAO (1996/2012) → conservazione *in situ* di CWR
- Trattato Internazionale FAO (2001) → art. 5(d) conservazione *in situ* di CWR
- Strategia Europea per la conservazione delle piante (2008)
Target 7.2 -> database di riserve genetiche di CWR
Target 9.1 -> stabilire 25 riserve genetiche europee di CWR
- hotspots di diversita' genetica
- Strategia globale per la conservazione delle piante (CBD 2010) -> conservare diversita' genetica di CWR

Commissione FAO RGVAA

documento informativo 2015

December 2014

CGRFA-15/15/Inf.24



联合国
粮食及
农业组织

Food and Agriculture
Organization of the
United Nations

Organisation des Nations
Unies pour l'alimentation
et l'agriculture

Продовольственная и
сельскохозяйственная организация
Объединённых Наций

Organización de las
Naciones Unidas para la
Alimentación y la Agricultura

منظمة
الغذية والزراعة
للأمم المتحدة

E

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Item 5.2 of the Provisional Agenda

Fifteenth Regular Session

Rome, 19 – 23 January 2015

**NATIONAL LEVEL CONSERVATION OF CROP
WILD RELATIVES – DRAFT TECHNICAL GUIDELINES**

Commissione FAO RGVA documento informativo 2015

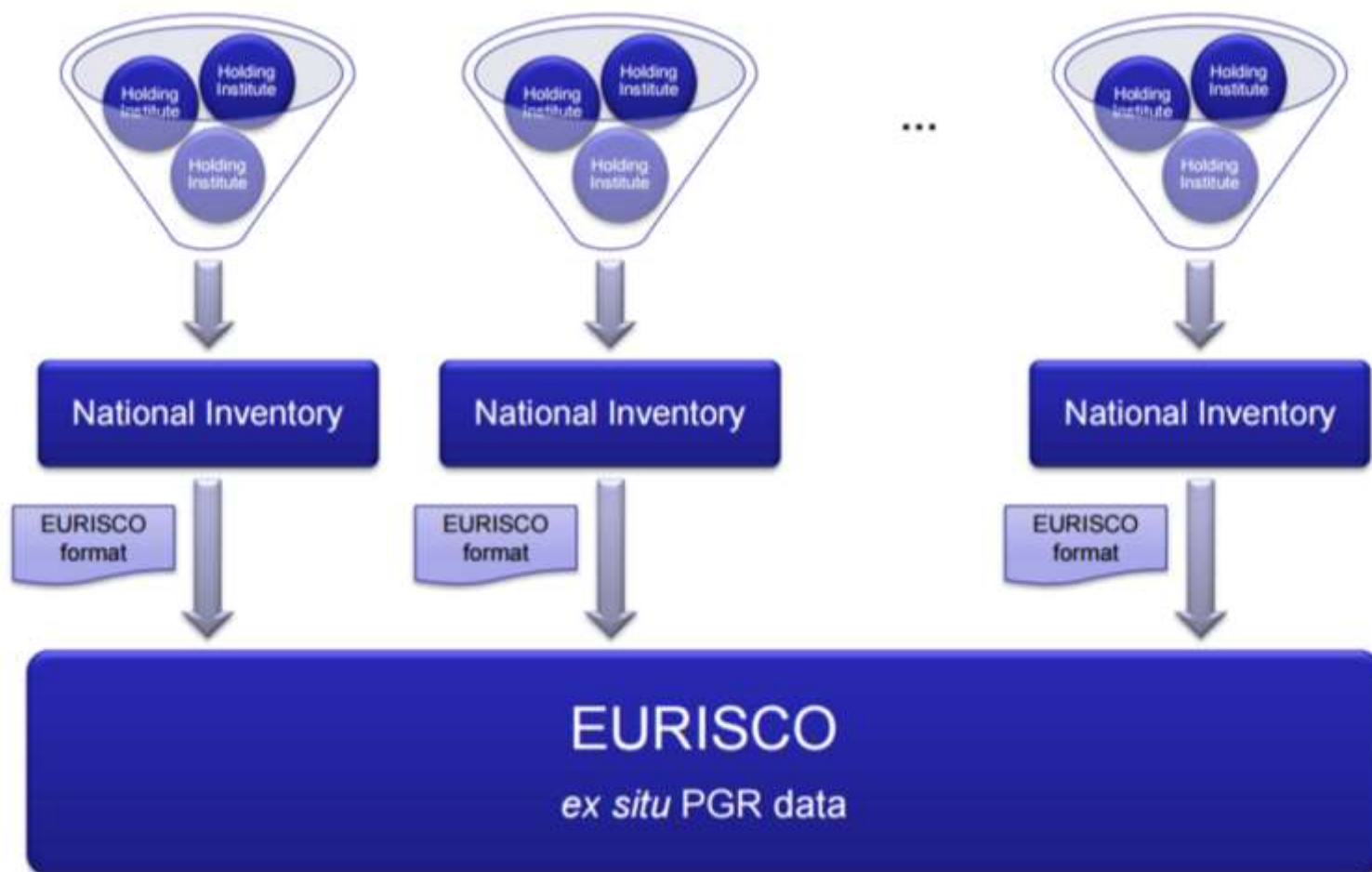
I. LEADERSHIP AND STAKEHOLDERS

A. Leadership

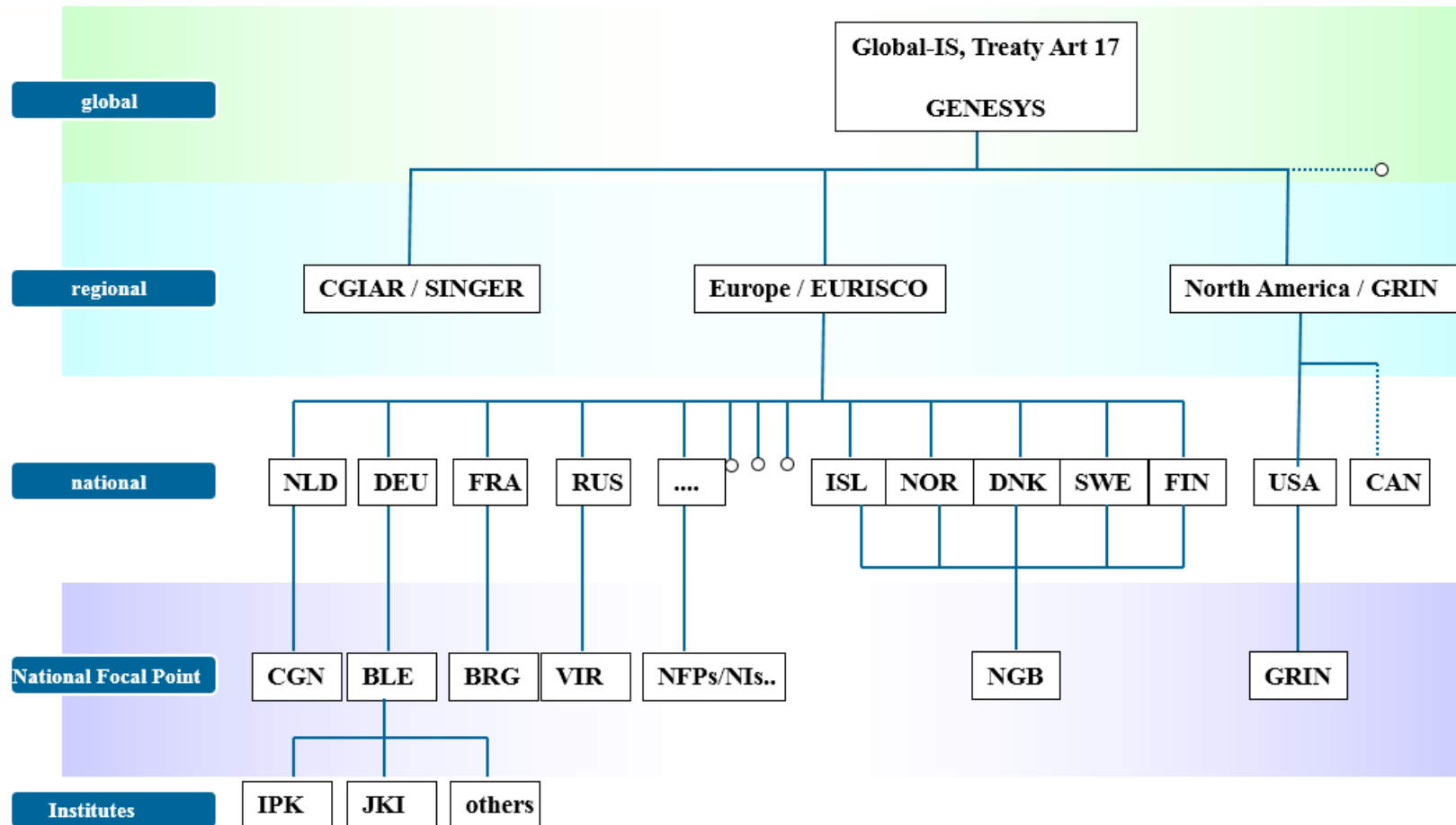
22. The usefulness of a National CWR Plan depends on the preparatory steps that lead to its formulation, provisions made for its implementation, and the commitment from stakeholders. To develop an effective consultation process, the provision of leadership by the government – through its relevant Ministries, authorities or National PGRFA Programme – is necessary.
23. Once it is agreed at a high level that the development and implementation of a *National Plan for Conservation and Sustainable Use of CWR* is a national priority, it is necessary to appoint a leader or leaders for the process [National Focal Point(s)]. In most countries two or more Ministries are relevant to the conservation of CWR, such as the Ministry of the Environment, Ministry of Agriculture and Ministry of Forestry. Therefore it is essential that inter-ministry coordination is agreed at a high level, and that leadership for developing the National CWR Plan is included in all relevant branches of government. This is particularly important, because, as discussed later, an effective National CWR Plan may require the government or local authority to enact legislation to ensure that *in situ* conservation of habitats is effective. It may be useful to establish an inter-ministry advisory board to provide guidance to those chosen to lead the process of developing the National CWR Plan.
24. Once the National Focal Point(s) has been appointed, a support team will need to be established to assist in providing logistic and technical support, such as arranging meetings and developing databases. Developing a stakeholder list will be one of the first activities.

Data flow

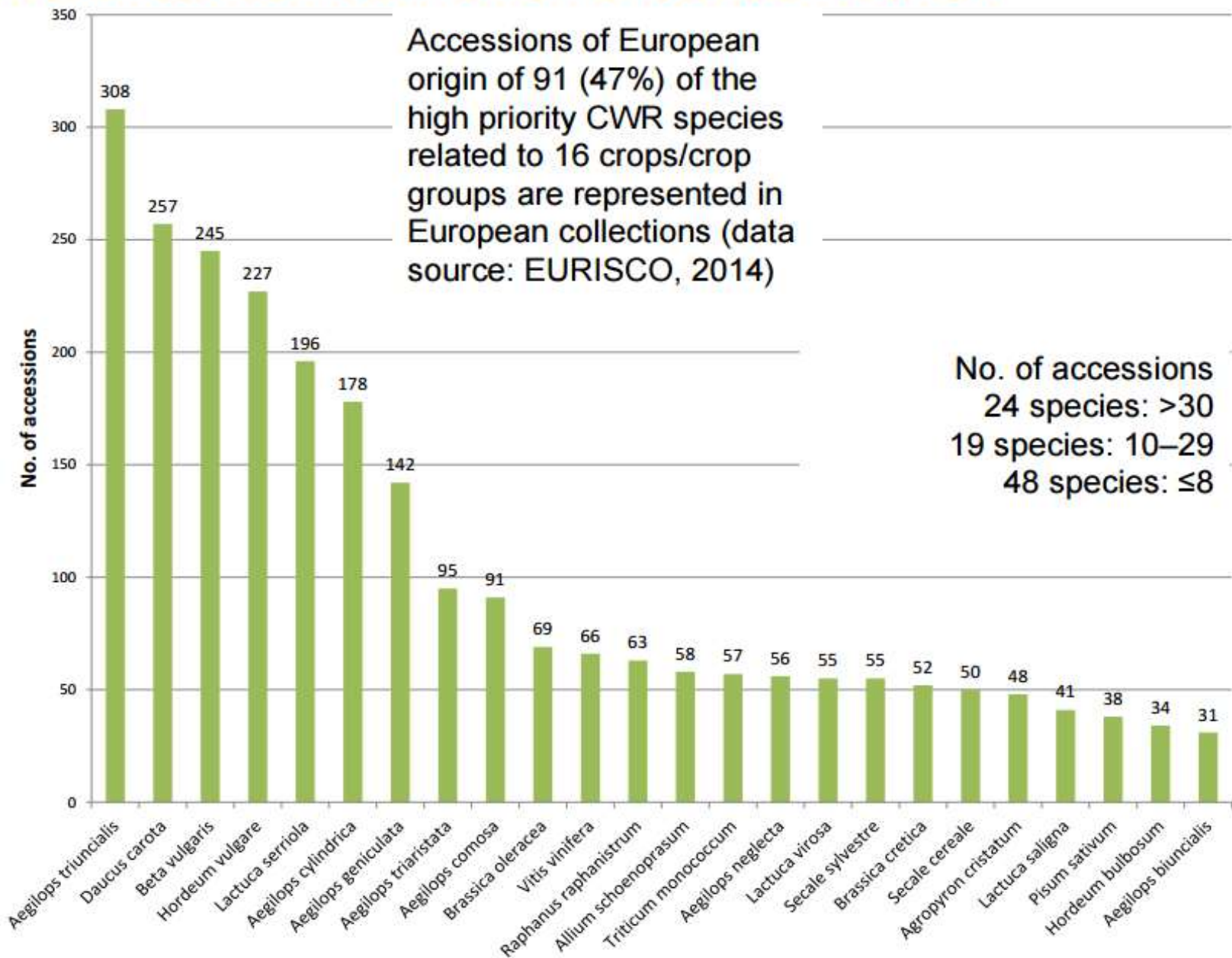
<http://eurisco.ecpgr.org>



Ex situ Global Information Infrastructure



COMPLEMENTARY *EX SITU* CONSERVATION



Conservazione ex situ

A European Genebank Integrated System
for PGRFA



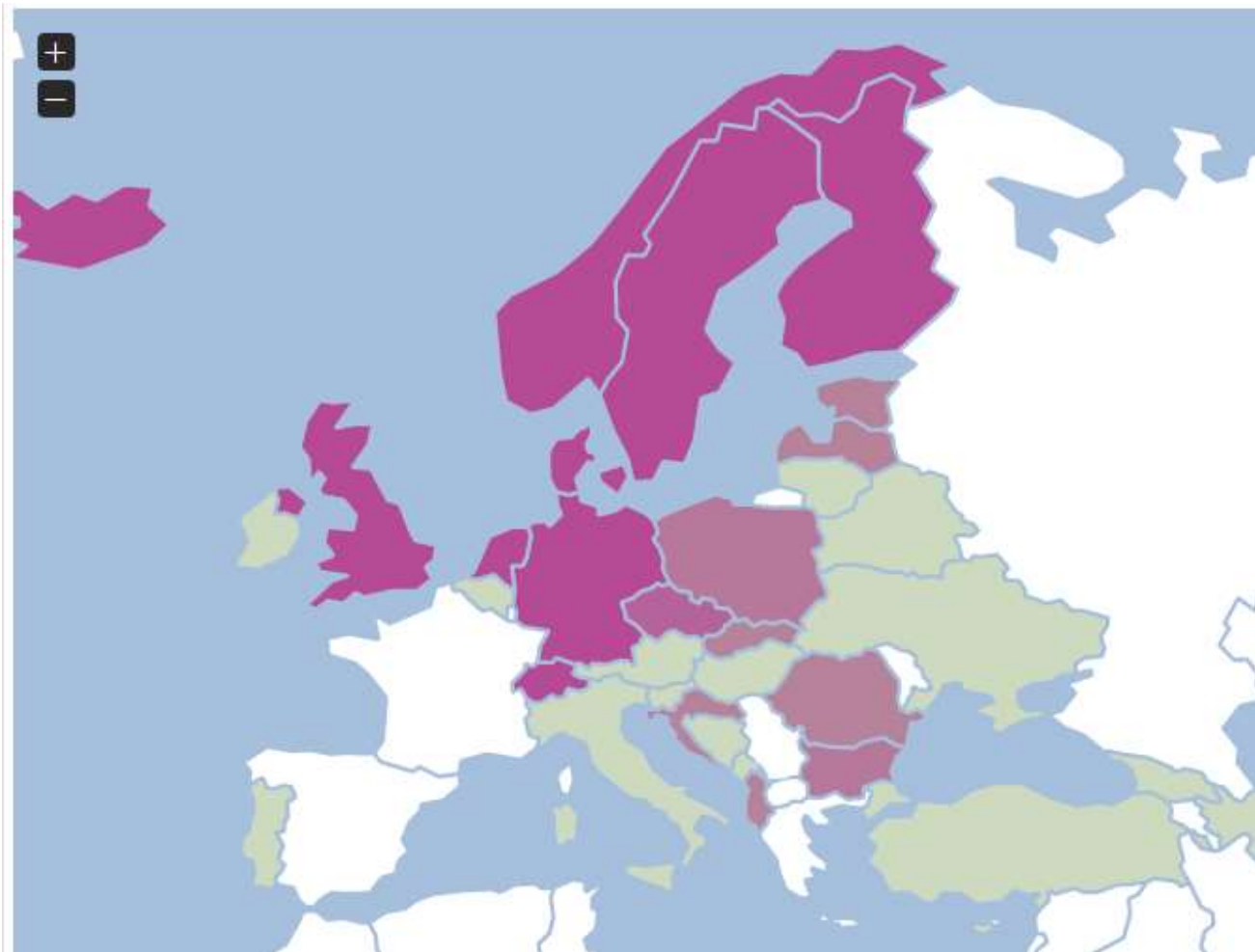
- Conservare accessioni geneticamente uniche in Europa = Collezione Europea
- Rendere il germoplasma disponibile
- Assicurare conservazione di qualità nel lungo periodo

www.ecpgr.cgiar.org/aegis

La Collezione Europea



28 847 accessioni designate (September 2016)



20%
selvatiche:
5881

Foraggi: 56%
Ortaggi: 27%
Med/Arom: 16%
Cereali: 1%
Legumi: 0%

Concetto per la conservazione *in situ* di CWR

ECPGR Concept for *in situ* conservation of crop wild relatives in Europe

Nigel Maxted, Alvina Avagyan, Lothar Frese, José Iriondo,
Joana Magos Brehm, Alon Singer and Shelagh Kell

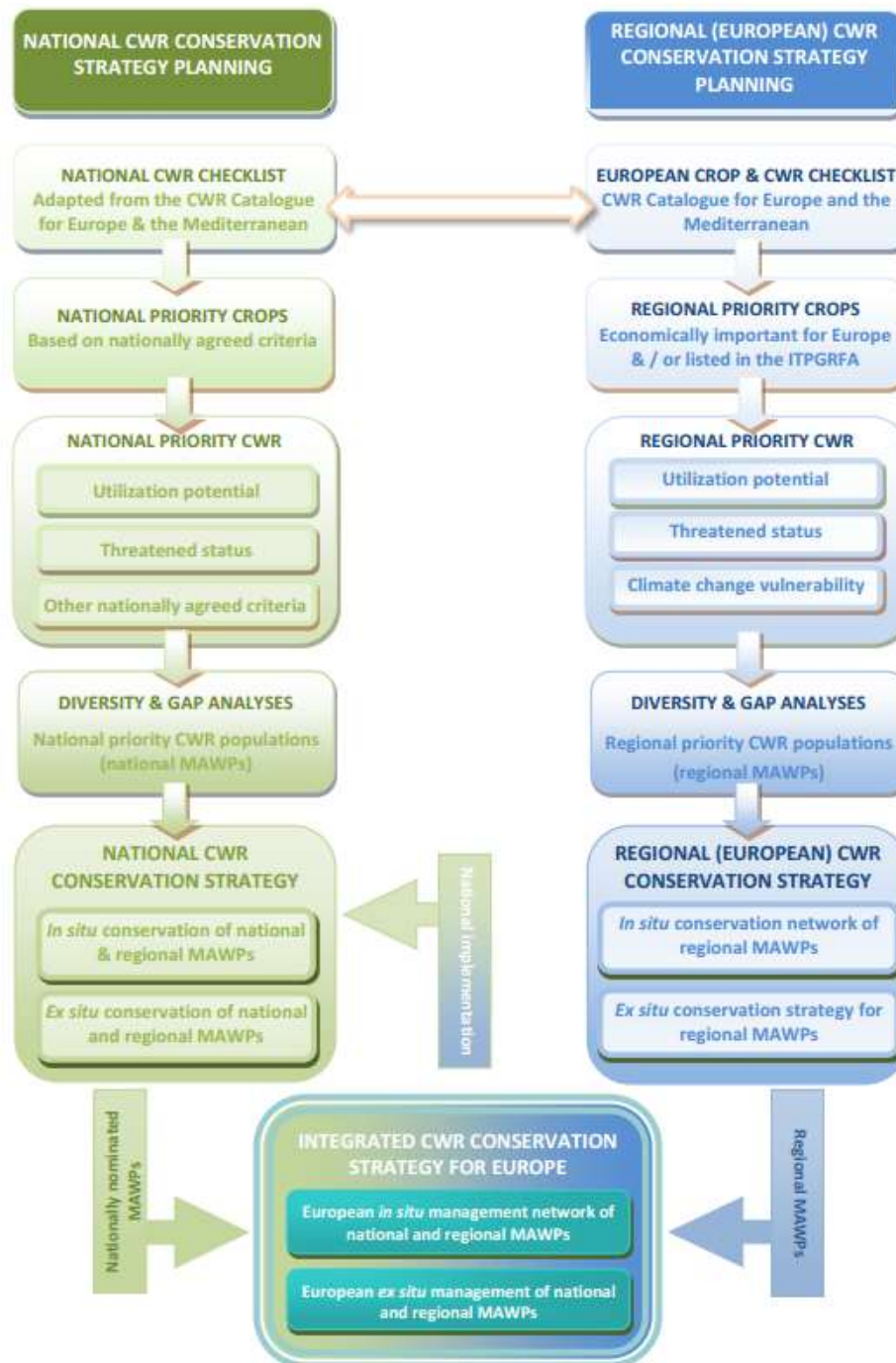
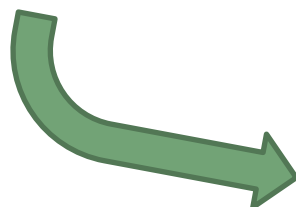
Endorsed by the ECPGR Steering Committee in March 2015



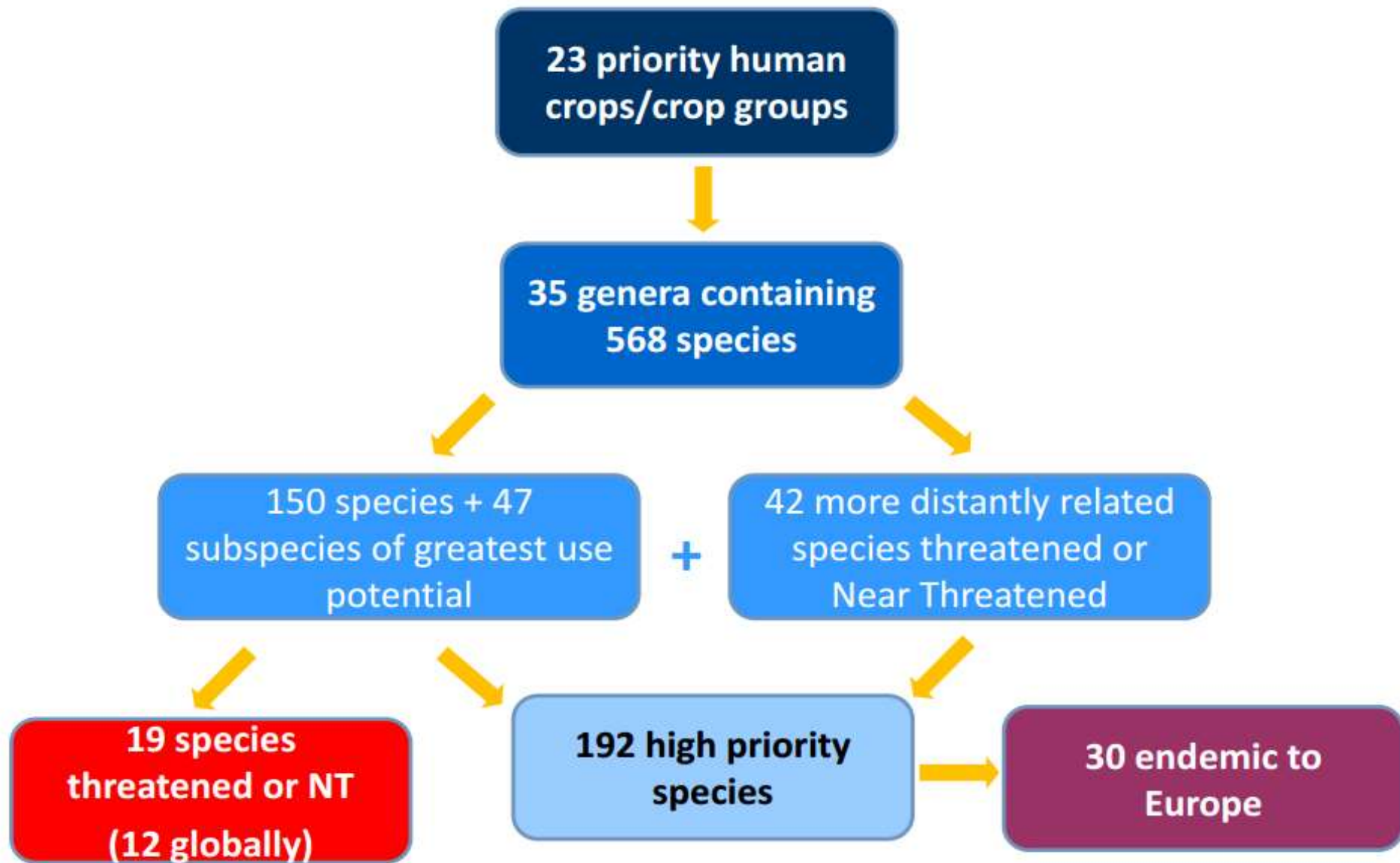
ECPGR Concept for *in situ* conservation of crop wild relatives in Europe

Nigel Marten, Alvaro Rueden, Lofar Fress, José Vando, Joana Magos Brum, Rein Singer and Sherragh Kell

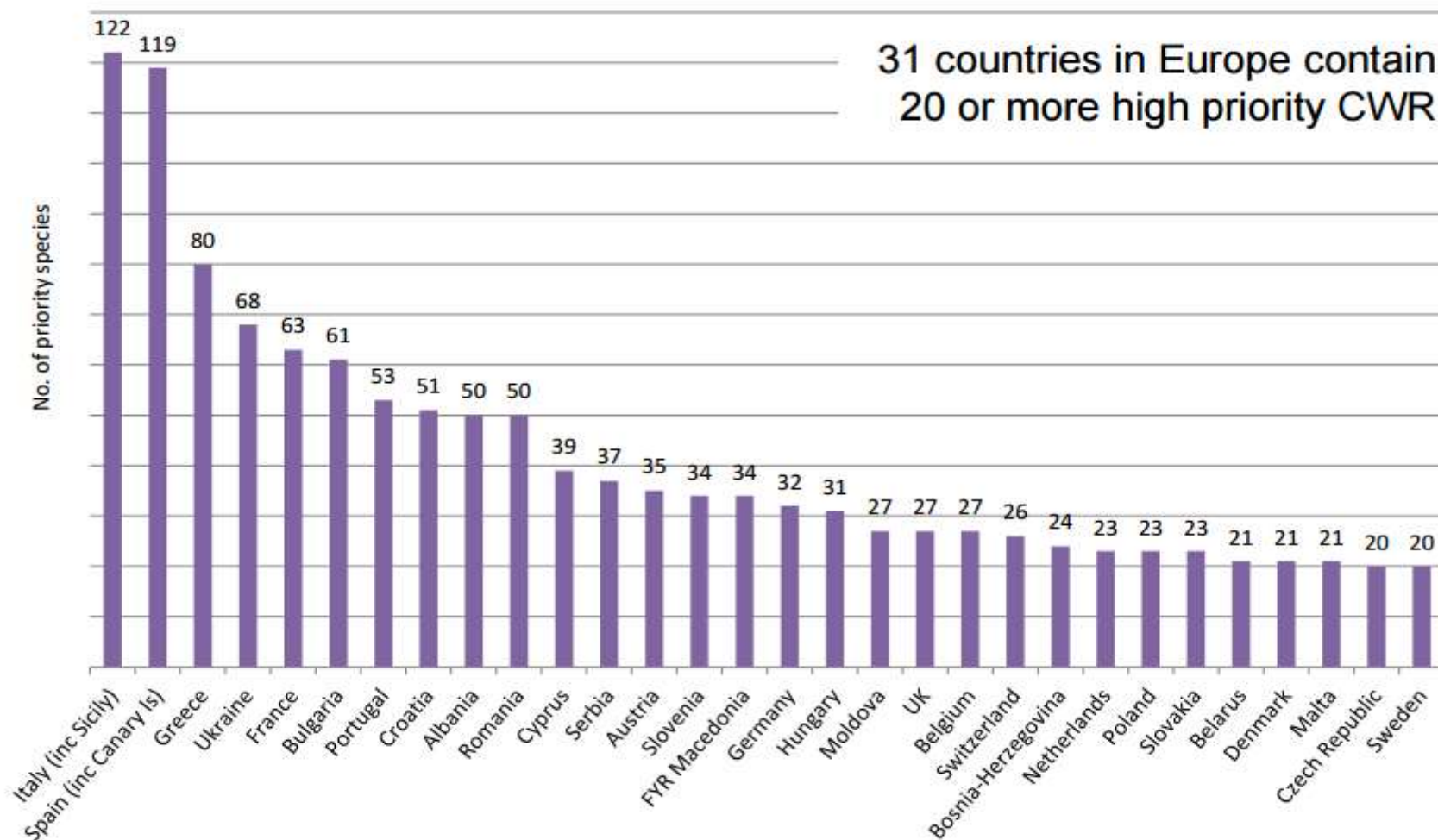
Endorsed by the ECPGR Steering Committee in March 2015



PRIORITIZING EUROPE'S CWR DIVERSITY



REGIONAL DISTRIBUTION OF HIGH PRIORITY CWR



Strategie nazionali di conservazione CWR completate in Europa

Paese	N. CWR nella checklist	N. CWR prioritari
Azerbaijan	1227	120
Danimarca	449	101
Finlandia	1905	209
Regno Unito	2109	223

Towards the first UK genetic reserve for CWR on the Lizard, Cornwall

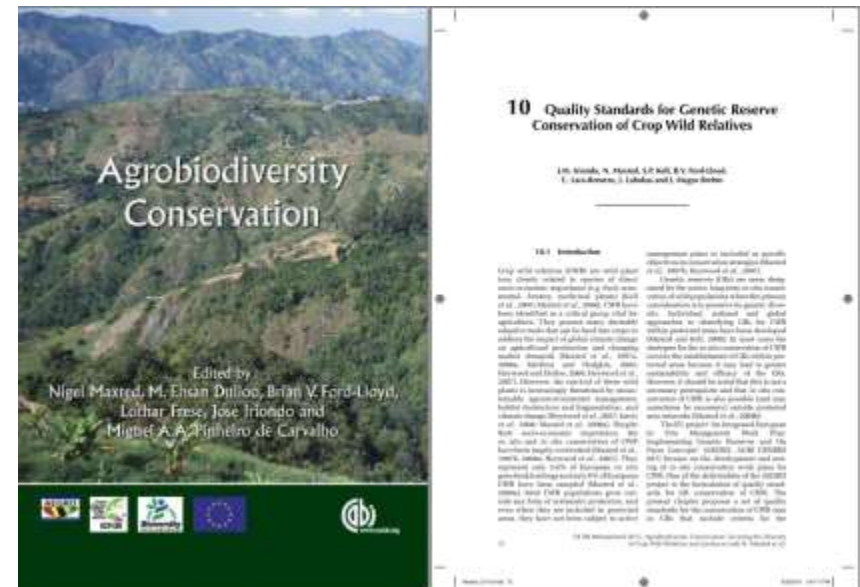
The Lizard NNR in Cornwall SW England: survey of CWRs Spring 2010, 2011, 2012, 2013 and 2016

- *Allium schoenoprasum*
- *Allium ursinum*
- *Asparagus officinalis* subsp. *prostratus*
- *Beta vulgaris* subsp. *maritima*
- *Daucus carota* subsp. *gummifer*
- *Raphanus raphanistrum* subsp. *maritimus*
- *Trifolium occidentale*
- *Trifolium repens*



Standard qualitativi delle riserve genetiche di CWR

- Scelta del sito
- Dimensione del sito
- Caratterizzazione demografica e genetica dei taxa
- Caratteristiche delle popolazioni (dimensione, relazioni nell'ecosistema)
- Gestione
 - Riconoscimento formale
 - Piano di gestione
 - Monitoraggio
 - Risorse
 - Coinvolgimento comunità locali
 - Chiara procedura di accesso ai materiali



Iriondo et al. 2012

Accesso ai CWR

- Trattato Internazionale FAO → Sistema Multilaterale = Standard Material Transfer Agreement (SMTA)
 - Annex I: *Asparagus*, *Avena*, *Beta*, *Brassica* et al., *Malus*, *Solanum* (sezione melongena), *Triticum* et al., foraggiere, ecc.
 - Non Annex I: *Allium*, *Cynara*, *Foeniculum*, *Lactuca*, *Prunus*, *Pyrus*, *Vitis*, ecc.
 - Sistema Multilaterale → SMTA
 - Protocollo Nagoya → PIC e MAT
- } ?? Decisione politica

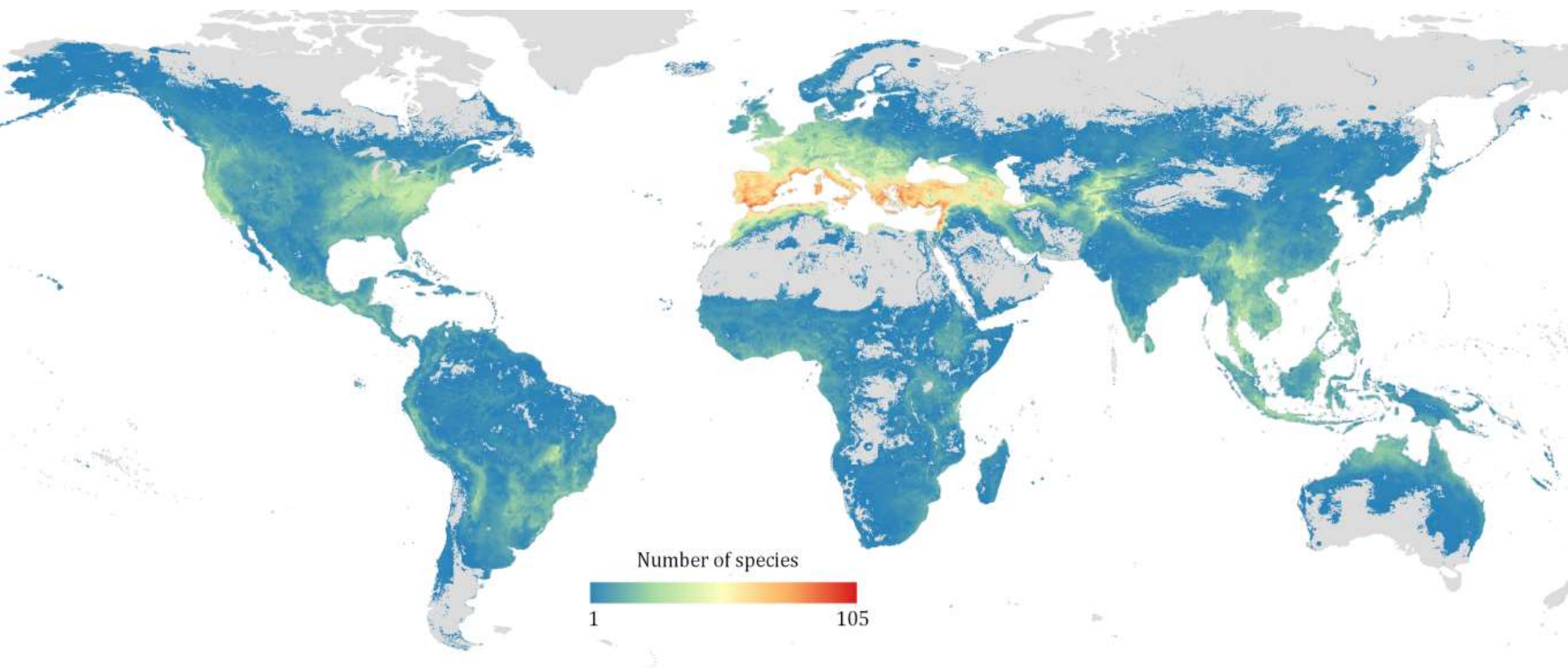


Figure 1. Species richness map for the priority CWR related to 194 crops at five arc minutes resolution (Vincent *et al.*, 2017).

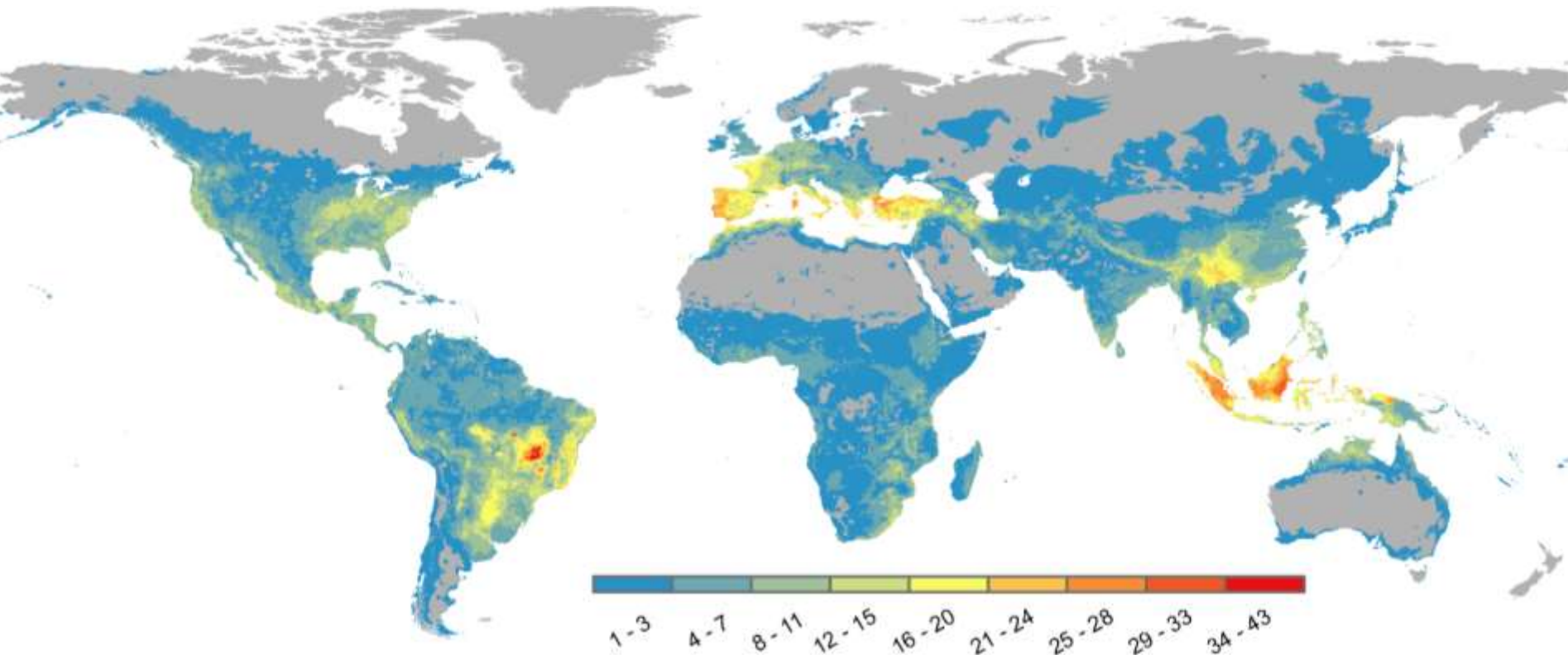


Figure 3. Global collecting hotspots for High Priority CWR for 76 crop gene pools (Castañeda-Álvarez *et al.*, 2016).

Conclusioni

- CWR risorse di particolare importanza
- Auspicabile un piano nazionale di monitoraggio, conservazione e gestione *in situ* ed *ex situ* (scelte prioritarie)
- Auspicabile collaborazione e trasparenza fra ministeri, amministrazioni, istituti di ricerca, banche e orti botanici
- Facilitare accesso ai materiali secondo i principi del Trattato Internazionale FAO

Grazie per l'attenzione!

Lathyrus latifolius, Abruzzo



Allium longispathum, Toscana