

National crop wild relatives *in situ* conservation planning and application

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2nd International Workshop on Plant Genetic Resources

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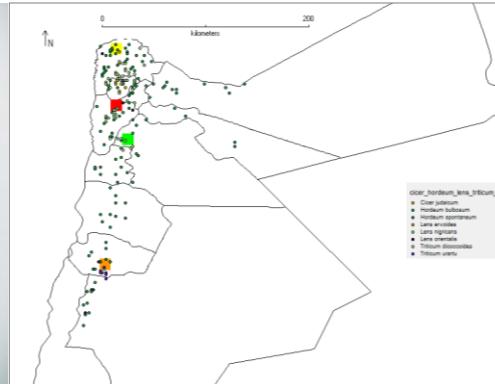
NATIONAL CONSERVATION PLANNING

Efficient conservation planning is critical to maintain PGR diversity for current and future use.

A network of *in situ* conservation areas that conserve priority PGR.

A collection of *ex situ* accessions of genetically representative population samples in genebanks.

A network of stakeholders, led by a CWR National Focal Point, that ensures CWR are effectively and efficiently conserved.



NATIONAL FOCAL POINTS FOR *IN SITU* CONSERVATION OF CWR



Coordinated and systematic conservation efforts

Organizes and aligns conservation activities for greater impact and efficiency.

Facilitating collaboration

Connects government, research institutions, local communities, and other stakeholders to promote teamwork and collective decision-making for CWR planning, implementation and management.

Supporting sustainable strategies

Helps promote and enhance data sharing and policy development, ensuring effective strategies for sustainable CWR conservation.

STRATEGIC FRAMEWORK FOR *IN SITU* CWR CONSERVATION PLANNING

1 IDENTIFY AND PRIORITIZE CWR

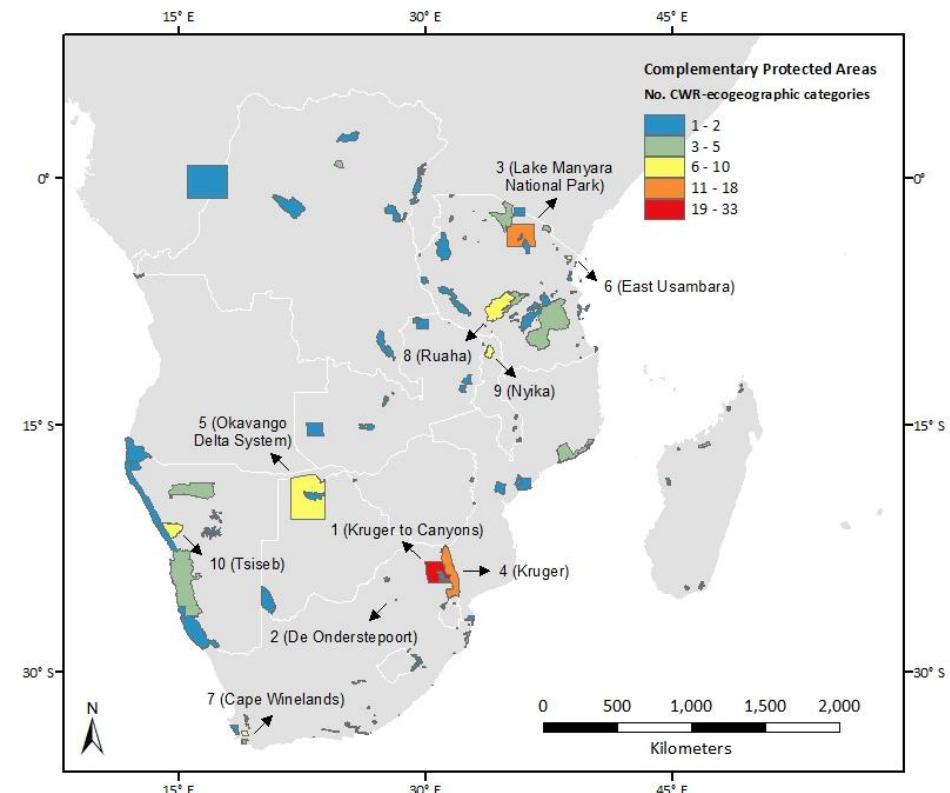
- Compile a comprehensive **checklist** of CWR.
- Select **priority** CWR: Use specific data and expert advice to identify CWR diversity of high agricultural and conservation value.

2 MAP AND ASSESS CONSERVATION NEEDS

- Determine the geographic **distribution** of priority CWR: Design and implement a national database of priority CWR populations (**National Inventory**).
- Identify conservation **gaps** in CWR diversity and areas lacking protection or management.

3 IDENTIFY POTENTIAL SITES FOR *IN SITU* CONSERVATION

- **Characterize** the populations of priority CWR **genomically** across their ecogeographic range.
- Locate **hotspot complementary sites** using genomic, ecogeographic and climate change data, both within and outside PA.



[Magos Brehm *et al.* 2022]

STRATEGIC FRAMEWORK FOR *IN SITU* CWR CONSERVATION PLANNING



SELECT FINAL SITES FOR ACTIVE CONSERVATION

- Verify **presence** of target populations *in situ* and select **manageable sites** (e.g., 1–10 Ha) suitable for conservation in terms **of land use and ownership**.
- Ensure **ecological viability** and long-term **sustainability** of selected populations and their genetic diversity.
- Assess **threats** including environmental, anthropogenic, and climate-related risks.
- Engage with local and regional **authorities** and **local communities**:
 - Involve them in site selection, establishment and future management.
 - Formalize agreements through written documents.
 - Help farmers and landowners engage with CAP incentives.



STRATEGIC FRAMEWORK FOR *IN SITU* CWR CONSERVATION PLANNING

BUILD A DATA PIPELINE FOR *IN SITU* CONSERVATION OF CWR

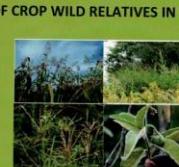
- Integrate occurrence and ecogeographic data, as well as data generated from the *in situ* conservation sites into the National Inventory.

PREPARE AND IMPLEMENT CONSERVATION PLANS

- Collaborate with local communities, researchers, and policymakers.
- Prepare action plans with monitoring and adaptive management to ensure long-term conservation success.

Republic of Zambia
Ministry of Agriculture

**NATIONAL STRATEGIC ACTION PLAN
FOR THE CONSERVATION AND SUSTAINABLE USE
OF CROP WILD RELATIVES IN ZAMBIA**



MTT REPORT 121



National Strategy for the Conservation of Crop Wild Relatives of Spain

Maria Luisa Rubio Teso, José M. Iriondo,
Mauricio Parra & Elena Torres



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ORIGINAL PAPER

Diversity and Distributions, (Diversity Diversit.) 17: 1–15

A systematic conservation strategy for coral wild-caught in the Czech Republic

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ABSTRACT

Aim To create a coral wild-caught (CW) conservation strategy for the Czech Republic, the first national CW conservation strategy for Central Europe.

Location

Czech Republic.

Methods We presented a 3D matrix for the Czech Republic, and then performed a spatial analysis of the data to identify areas requiring urgent attention. We used spatial analysis to identify areas of high coral density and to determine the most representative conservation methods and collecting strategies to increase representative populations. We also used a spatial analysis to identify areas of coral conservation, using geographic and ecological parameters.

Results Fauna in situ conservation of CW in the Czech Republic is compromised by the low density of coral in the wild-caught trade and the low quality of the processed areas. Action in situ CW conservation could be focused within 11 areas, which by 10 km grid cells containing 94% of primary species or their analogues. The highest density of CW in the wild-caught trade is in the coral conservation network, where CW conservation is measured with 11 replicates. The highest density of CW in the wild-caught trade is in areas not known conserving material in 12 of the 24 primary species. Furthermore, existing surveys are generally unrepresentative of species diversity.

Main conclusions The main conclusion is that the conservation of coral in the Czech Republic should be implemented in the 22 recommended grid cell areas or their 14 overlapping protected areas. For in situ conservation, strategy and target areas should be focused on the 11 areas with the highest density of wild-caught collections. Diversity of primary CW coral is concentrated in South Moravia, making this a particularly important CW area for the country and for Europe.

Keywords complementary analysis, distribution modelling, ecopatients, lead characters, phylogenetic analysis, population modelling, reproductive rate, spatial analysis, spatial genetics, spatial prioritization.

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INTRODUCTION

As the global population grows and the climate changes, concern over food security needs may force the location of food production to areas that are not currently suitable for agriculture, for example, a strong food security need will be to increase coral production (Gardner *et al.* 2003). This may be implemented in the face of climate change through the capture of

coral egg cultures, or by setting targets for reducing green house gas emissions, or by setting targets for reducing coral mortality (Gardner *et al.* 2003; Veron *et al.* 2003; Veron 2007). However, as demonstrated in associated with climate change, the coral wild-caught trade is not well collected. Diversity of primary CW coral is concentrated in South Moravia, making this a particularly important CW area for the country and for Europe.

KEY STAKEHOLDERS IN *IN SITU* CWR CONSERVATION PLANNING

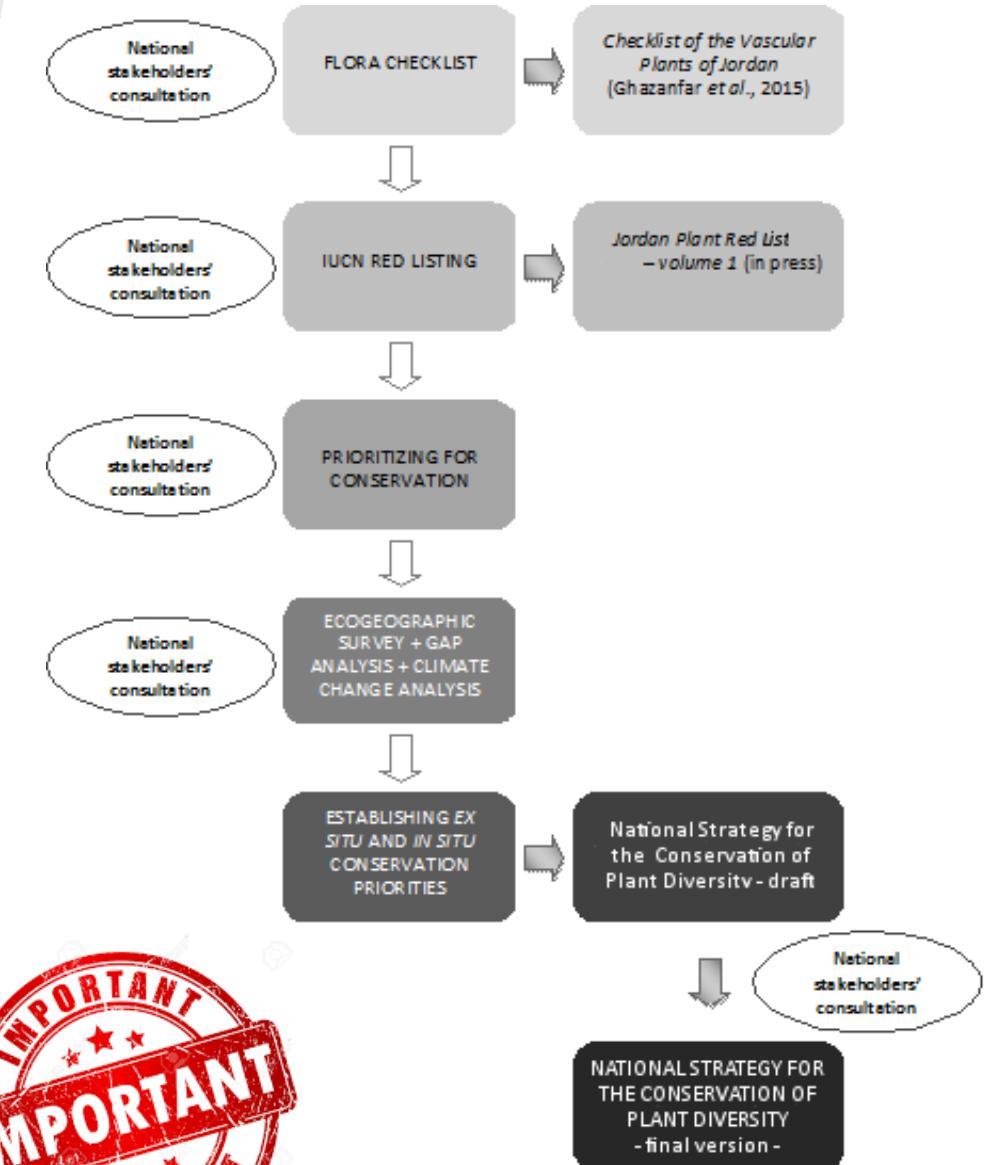
BUILDING THE TEAM

Assemble a multidisciplinary conservation planning team:

- Identify priority CWR and sites for active *in situ* conservation.
- Ensure cross-sector collaboration between agriculture, environment, and research institutions.

Establish a multi-stakeholder conservation committee to oversee the establishment of conservation sites:

- Include representatives from governmental agencies (environment, agriculture, biodiversity), research institutions and universities, NGOs and civil society organizations, local communities and landowners).
- Define a governance structure to guide decision-making.
- Secure long-term funding and institutional support for sustainability.
- Prioritize conservation actions, assign responsibilities, and establish a realistic timeline.
- Develop a monitoring and evaluation framework to track progress and adapt strategies as needed.



KEY STAKEHOLDERS IN *IN SITU* CWR CONSERVATION PLANNING

COMMUNITY INVOLVEMENT

🤝 Involve local communities:

- Build trust and ownership by involving communities early in the planning process.
- Help identify and validate conservation sites, both within and outside PA.
- Ensure that local knowledge and land use practices are integrated into site selection and management.

🌐 Facilitate collaboration

- Regular stakeholder meetings and workshops to share updates and gather feedback.
- Promote transparency and inclusivity in all decision-making processes.
- Encourage co-management models where local communities play an active role in conservation.



Oryza longistaminata (Graybill Munkombwe)

Thank you!

Joana Magos Brehm, José M. Iriondo and Nigel Maxted

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