

Budget revision and request for extension with additional funds of the project “Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries’ data sets” GenR 2021-1 (February 2024)

Prepared by ECPGR Secretariat

This project, aiming to extend EURISCO to CWR *in situ* data and to receive a first series of pilot countries’ data sets, was scheduled to terminate 31 December 2023. Here it is requested to extend the project for another year, until 31 December 2024, with additional funds (€69,997).

The project was built on recommendations made by the ECPGR Working Group on Documentation and Information (2014), the ‘ECPGR Concept for *in situ* conservation of crop wild relatives in Europe’ (2015), the EURISCO Advisory Committee (2021) and the Plant Genetic Resources Strategy for Europe (2021). It was also responding to the recommendations of the Convention on Biological Diversity (CBD), the Second Global Plan of Action (GPA) for Plant Genetic Resources for Food and Agriculture and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), among others. All these important instruments and plans reflect the importance for countries to document their *in situ* genetic resources and make these data, and the related material, available under fair and equitable conditions.

At this stage of the project, most of its objectives have been reached and significant progress was made. The definition of the scope of the type of *in situ* CWR data that should be included in EURISCO, as well as the data exchange standard to be adopted at ECPGR level, were completed early on, with the publication of the document ‘Principles for the Inclusion of CWR Data in EURISCO’¹. The document was endorsed by the project partners and the EURISCO Advisory Committee, also in consultation with the Secretariat of the ITPGRFA. It also established a mechanism for data flow from national inventories to EURISCO, through CWR National Inventory Focal Points.

The EURISCO catalogue has been prepared to host and make the *in situ* CWR data provided by the European countries publicly available. While a mechanism for the countries to directly upload their data is not yet in operation, newly nominated CWR National Focal Points have started to dispatch their data to EURISCO via the provided excel template. In fact, a group of pilot countries, which has increased from the initial number of seven up to eleven, have organized their internal data flow and data gathering mechanisms, as well as prepared their *in situ* CWR data according to the standard and requirements defined in this project. A few countries have provided initial sets of data, which have been processed and uploaded by the EURISCO coordination.

This project has been very successful, enabling the extension of EURISCO to *in situ* CWR population data. It has therefore endowed the European region with a previously missing mechanism to provide and display this type of data for the benefit of the PGR community, which now has an entry point to browse through the data of potentially available *in situ* CWRs.

The major effort and most significant success were the creation of a European data flow mechanism based on agreed principles. National data harvesting and data flow mechanisms have started to be tested, with the organization of national networks of data providers, so far at different levels of implementation, which impact the amount and quality of data that they

¹ <https://www.ecpgr.cgiar.org/resources/ecpgr-publications/publication/principles-for-the-inclusion-of-cwr-data-in-eurisco-2022>

can make available. In most countries, the initial data set that has been provided to EURISCO is limited to a fraction of the total number of population data that could be the target for each country. Also, the pilot countries are a small fraction of all the European countries that could make use of this new mechanism. Therefore, various additional activities could be profitably carried out in 2024 with additional funds, aimed at further strengthening data gathering and data processing at the national level within the pilot countries, as well as extending the activities to other countries. Therefore, a continuation of the project would further sustain the effort of some of the pilot countries and other countries to provide new population data to EURISCO. The European documentation of *in situ* CWR population data will thus become wider and deeper. An update on progress and a description of proposed activities and their justification for an extension of the project until 31 December 2024 are provided in the next paragraphs.

Update on progress since May 2023

Following from the publication of the document 'Principles for the Inclusion of CWR Data in EURISCO', the adaptation of EURISCO for *in situ* CWR data made progress by adding extensions to the existing table structure of the database schema, and the creation of seven additional tables. Furthermore, a total of 3 PL/SQL packages containing 71 background programmes and 24 front-end application pages were created to achieve the objectives of uploading, validating and updating EURISCO with *in situ* CWR data. In addition, various extensions to the public EURISCO web interface were implemented to enable the new data to be searched and displayed.

Initially, an excel template has been provided to the partners to provide their national data 'manually', and these have been used to test the functionality of the EURISCO extension. In parallel, a mechanism to support the upload process was implemented and tested.

Further search and visualisation options for *in situ* CWR populations will be implemented as part of the regular further development of EURISCO. In addition, the intranet environment will be adapted and further developed as required.

In situ CWR National Inventory Focal Points for all 11 pilot countries have been officially nominated by the respective National Coordinators and are in charge of providing the CWR *in situ* data to EURISCO. Initial training has started during the EURISCO training workshop held in Bulgaria in September 2023. The EURISCO Coordinator is maintaining bilateral contacts to guide the focal points during the process of dispatching the data to EURISCO via the excel template. Further training will be provided and permanently guaranteed.

In parallel, the project countries have made progress with the preparation of their national inventory, prioritization of *in situ* populations, strengthening of their network of data providers and preparation for data upload to EURISCO, as follows:

Albania: a network of public and private data providers was organized with a workplan. A National list of CWR was created and 472 taxa were prioritized. A dataset with more than 631 priority CWR populations was transferred to EURISCO, including 198 populations from the Buna River-Velipoje protected area and 412 from the Shebenik-Jabllanicë protected area.

Bulgaria: the CWR national inventory includes 81 priority CWR populations from 26 plant genera. A national *in situ* CWR database structure was prepared. Data for twenty populations have been initially included into EURISCO. A network of data providers has been identified and contacts with the responsible authorities from the Ministry of Environment for providing information about CWR taxa with protected status have been established.

Cyprus: one hundred and seventy-seven crop wild relatives (CWR) were prioritized. In total, 5206 populations were identified representing the 177 taxa. Finally, 391 populations (48% of those within protected areas) were selected for inclusion into EURISCO, representing 130 of the 177 taxa. Data have been uploaded to EURISCO.

Czech Republic: selection of CWR species and populations preferably in the category of endangered species for in situ conservation was done. Botanical monitoring of selected populations was undertaken with selection of in situ populations that are candidates for inclusion into EURISCO. The system GRIN Czech was revised for minimum descriptors required to upload in situ data to EURISCO. Currently the system is able to accommodate in situ data. Finetuning of the Czech strategy and methodology for in situ conservation has made progress, increasing the collaboration with responsible authorities in the Ministry of Environment. There is the intention of extending the list of priority species to include several populations located outside of protected areas. This will facilitate availability and inclusion into EURISCO. The interaction and collaboration with the Ministry of Environment requires time and effort and will need to be continued in the next years.

Germany: data from the wild celery network of genetic reserves were sent to the EURISCO coordination. So far, there are 66 wild celery populations in 24 genetic reserves.

Italy: activities were focused on CWR of the genera *Avena*, *Brassica*, *Cynara*, *Hordeum*, *Malus*, *Triticum* and *Vicia*, that are considered priority at European and global level. Additionally, the species *Secale montanum* and *Lactuca alpina* are in focus, due to the presence of known populations in protected areas and good contacts with the protected area managers, which could serve as a useful test. Overall, existing information for 17 priority taxa was analyzed, referring to 224 populations, of which 129 are included in protected areas. Site surveys were carried out in Apulia and Basilicata and *Lactuca alpina* was surveyed in the Trento province to verify the status of the populations. Initial contacts and collaborations were established with managers of a few exemplary protected areas interested by the presence of the prioritized taxa and located in the North, Center and South of Italy. Further discussion to clarify aspects of conservation and availability of the material is planned. Twelve population data related to eight taxa were provided to EURISCO.

Lithuania: a list of 144 CWR priority taxa was established representing 53 genera of 15 families. The structure of the CWR National Inventory database was created containing both information at the taxon and population levels. A network of data providers has been set up, with pending involvement of additional elements. In total, 45 sites were selected as potential CWR genetic reserves with multispecies populations representing 83 CWR priority taxa. Hotspots of priority CWR occurrences were identified and mapped. In total, 293,615 recent records of occurrences of 140 CWR priority species are available. Provision of data to EURISCO is pending in progress.

Netherlands: The Dutch CWR-NI contains data about 1,912 populations, of which 298 are well-defined populations. Other 1,614 are diffused populations that are common in the Netherlands. Each record is a combination of the species and the flora district in which it is present. All these data have been provided to EURISCO.

Portugal: the *in situ* CWR national inventory was prepared. Initially, a national Task Force was formed to contribute to and supervise the preparation of the national inventory. A second iteration of the national CWR checklist was prepared for the three Portuguese geographic units (Azores archipelago, Madeira archipelago, and mainland Portugal). This list was analyzed with priority criteria and priority CWR lists were obtained for each geographic unit. Sources of occurrence data were identified, cleaned, and collated. Currently, identification of

priority CWR populations for active *in situ* conservation is ongoing using the CAPFITOGEN tools (<http://www.capfitogen.net/en/>). The information regarding these populations will then be sent to EURISCO. 167 CWR taxa were identified as priorities for mainland Portugal, 97 for the Azores archipelago, and 56 for the Madeira archipelago. The target is to include in EURISCO at least one population for each priority taxon in each geographic unit, totaling 320 populations. However, various considerations and discussions are ongoing to define the actual number of populations data that will be sent.

Spain: the National database holds information on 611,612 populations involving all 521 species of the priority list. Key public and private institutions for the organization of a national network of data providers have been identified and recently the number of contacts concerning public authorities from the autonomous communities of Spain has been increased from 172 to 203 contacts. These will be kept informed about all the achievements made through the ECPGR project. A database structure containing 69 descriptors has been prepared. Additional components have been added recently, with a “biological traits” component with 11 descriptors, an “ecological traits” component with 12 descriptors, and a “plant breeding” component with 13 descriptors. Following a revision of the categorization of the Spanish territory into 13 ecogeographical units, compared to the previous 27, a new proposal was prepared for the establishment of 50 genetic reserves. Additional information about populations that are currently actively *in situ* conserved was gathered because they belong to legally protected species due to the threat status. Data corresponding to 27 populations conserved in genetic reserves have been sent to EURISCO. It is still under decision whether other data can be added, corresponding to populations actively conserved of legally protected species and to populations indirectly conserved because they are characteristic species of habitats protected by the Habitats Directive. Finally, it will be possible to send records corresponding to the 50 sites tentatively selected for the creation of a national network of genetic reserves following Most Appropriate Wild Populations criteria (that is maximizing the concentration of target conservation units in the least number of sites in protected areas). The latter could be a selection out of ca 3,000 populations.

UK: after a thorough revision and cleaning of the UK CWR National Inventory, records within the top 13 National Nature Reserves will initially be used for upload to EURISCO. These amount to 5,492 records for 117 species. Natural England is managing all the sites and this will make liaison and potential use much easier than disparate sites managed by many landowners.

Apart from the preparation of the project’s web site² and presentation of the project at various events, as reported in the May 2023 progress report, no further specific public awareness products have been prepared. The new EURISCO interface was made online available at the very end of the year 2023 with the first data sets, enabling search of CWR *in situ* populations. Public awareness products can now start to be prepared and for this reason it is requested to transfer the remaining funds from this budget line to the year 2024.

Justification for budget revision and request for additional funds

By the time of this report, most planned objectives have been reached, including agreement on the principles and requirements for inclusion of *in situ* data into EURISCO, wide endorsement of *in situ* CWR data policy and technical documents, a data flow mechanism established in Europe with responsibilities assigned at country level. Extension of EURISCO

² <https://www.ecpgr.cgiar.org/working-groups/crop-wild-relatives/cwr-in-eurisco>

to receive *in situ* data has been completed, and initial tests of the functionality have been made with the first data provided by a few pilot countries. The new interface with the *in situ* data search functionality was made publicly available and initial *in situ* data from six countries have been included in EURISCO. Focal Points of the pilot countries providing the first data have been trained, when needed, on using the new EURISCO *in situ* extension.

Part of the available funds have not been used due to lower costs in Bulgaria, the declination of Greece and Turkey to become partners, and lower costs than expected for the preparation of the EURISCO extension. It seems useful to re-allocate this unspent budget for the organization of an in-person project meeting, with the purpose of sharing experience especially in terms of prioritization of populations, types of data collected and transferred to EURISCO, interaction between research institutions and protected area managers, and mechanisms to organize a network of data providers, as well as to coordinate the future activities.

At the same time, an extension of the project with additional funds for 2024 would be beneficial to sustain the momentum created and increase the impact of the EURISCO *in situ* extension. In fact, although the mechanism to provide data to EURISCO is well established, it is apparent that:

- i) Pilot countries have reached very different levels of completion of their internal organization in terms of national inventory construction, data compilation, definition of priority sites, strengthening of network of data providers and definition of responsible institutions to guarantee access of material. It would be beneficial if some of the countries could continue to receive support to consolidate internal activities and mechanisms, enabling them to provide more than just an exemplary set of data to EURISCO.
- ii) All member countries of ECPGR, as well as the PGR community in general, have been informed about the new possibility to provide *in situ* CWR data to EURISCO (and to access them and the related populations). Expectations about further growth of the CWR *in situ* catalogue have been raised. It would be beneficial to identify other countries, beyond the current pilots, that could be ready to undertake similar engagements and become data providers to EURISCO.

Therefore, the extension of this project is expected to ensure the processes initiated in the pilot countries do not remain ephemeral, but rather consolidate and stabilize. They should also offer an exemplary and mentoring effect on additional countries. Ultimately, the EURISCO catalogue should pass from the repository of only a few pilot data sets, to a more solid, widely used and attractive database. The number of available population data is expected to steeply increase.

Regarding the current pilot countries, the Netherlands have completed their data provision, Cyprus, Germany and the UK are planning to continue working with own resources on data provision and conservation of priority populations. Other countries have expressed the need to receive more support to continue and consolidate the advancement of their activities, in particular:

Albania is planning to continue the preparation of additional population data for upload to EURISCO.

Bulgaria is planning to monitor new sites and thus add more data about *in situ* populations to EURISCO.

In the Czech Republic, the critical activity is to reinforce the interaction and collaboration with the Ministry of Environment, which requires time and efforts to enlarge the number of populations that can be made available in principle.

In Italy, continuation of the activities will enable new populations data of the taxa already assessed to be added and research to be expanded to other species. In addition, the extension of the project duration can be used to strengthen the network of data providers and prepare a protocol to ensure access to *in situ* material in collaboration with the genetic resources managers.

In Lithuania what is least achieved is the creation of the network of data providers and more work is needed to officially involve the protected area managers belonging to the State Service of Protected Areas under the Ministry of Environment. More efforts are also needed in creating a network of CWR data providers by inviting other stakeholders, like NGOs, farmers, etc. The Lithuanian partner intends to work towards the approval of an amendment of the Law on National PGR, including an official definition of the term “crop wild relatives” as an object of conservation and use. A public awareness effort including scientific and other publications will also be beneficial to the above achievements.

In Portugal, one of the main challenges has been the difficulty in obtaining the occurrence data from the main database of Portuguese plant populations, Flora-On (<https://flora-on.pt/>). It was not possible during the project timeframe to obtain these important data, including accurate geographic information. It is planned to obtain Flora-on data and re-run the conservation planning analyses with these. As a result, additional CWR priority populations can be identified and incorporated into EURISCO. Following a climate change analysis, it is also planned to identify those priority CWR populations that are not predicted to be affected by climate change, which are more likely to be available for utilization in a climate change scenario and therefore be included in EURISCO.

In Spain, additional funding would be directed towards the establishment of new genetic reserves, since this would be the best way to contribute to long-term *in situ* conservation of targeted CWR and additional data to EURISCO (“real” actively conserved *in situ* accessions, not just populations in protected areas that are of conservation interest, but without a conservation compromise by their managers). The tasks would involve a) establishing contacts with protected area managers that may be receptive to active *in situ* conservation of CWR populations and making initial agreements, b) prospecting the sites, identifying and characterizing the populations, delimiting the genetic reserve, and c) preparing a management plan for the genetic reserves.

To implement the above-described additional activities within this project in 2024, a budget increase of €69,997 is requested and will be used, together with unspent funds (€14,687, see below), to achieve the following objectives:

- i) Consolidation of the effort of the pilot countries Albania, Bulgaria, Czech Republic, Italy, Lithuania, Portugal and Spain towards the improvement of their CWR *in situ* national inventory, the network of data providers and the collaboration with protected area managers and ministry of environment authorities to enable access to *in situ* material. These activities will ultimately lead to the provision of new *in situ* population data to EURISCO.
- ii) Involvement of additional countries in the project to promote the same sequence of activities carried out by the pilot countries, that is: organization of CWR *in situ* national inventory, prioritization of populations for conservation and definition of datasets suitable for dispatching to EURISCO, organization of network of data providers and agreement with protected area managers and/or appropriate authorities about terms of access to *in*

situ material. The new countries, tentatively two or three, will be selected based on their availability to engage in the effort of providing population data to EURISCO, with priority for diversity rich countries (target areas could be the Balkan and the Caucasus area). These activities will ultimately lead to the provision of new *in situ* population data to EURISCO.

- iii) Organization of an in-person project meeting in the first half of 2024, with the purpose of sharing experience about activities carried out and difficulties encountered during the first phase of the project, as well as to coordinate the future activities.

It is to be noted that the services of the EURISCO coordination, including maintenance of the catalogue and help desk service for the data providers will continue to be carried out as part of the regular ECPGR-funded activities and thus no specific budget is requested through this project.

A budget revision is requested for both years 2022 and 2023 regarding the items “preparation of data at country level” and “technical coordination/staff costs at ECPGR”, since expenditures were made with a different split during these two years, compared to what previously planned. This revision reflects the financial reporting that has been provided to the donor earlier on.

Additionally, 2023 funds were underspent in three budget lines, resulting in a carry-over of €14,687 (plus related overheads) to 2024. It is suggested to re-allocate this carry-over as follows:

Contribution to data preparation at country level: Considering that Greece and Turkey decided not to participate in the project, a part of the allocated funds was used by other countries, while another part was used to contribute to the organization of a project meeting in Thessaloniki, December 2022. Also, the costs for the Bulgarian partner were lower than expected. In total, €8,350 from this budget line were not utilized. It is requested to transfer these unused funds to a new budget line (Project coordination meeting) in 2024.

Bioinformatician at IPK: Lower costs than expected in this budget line, amounting to €5,763, depended on the choice of a simplified list of descriptors to be used for *in situ* data, harmonized with the existing *ex situ* descriptors. This decision reduced the complexity of the adaptation of the EURISCO database for the incorporation of new *in situ* data. It is requested to transfer these unused funds to the new budget line (Project coordination meeting) in 2024.

Communication – Public awareness products: part of the public awareness funds were used, mainly to set up and maintain the project web site. Remaining funds were not yet used, since the main results of this project (upload of data from pilot countries) only became publicly visible early 2024. Public awareness efforts will be more strategic after this step has been completed. The unspent funds (€574), complemented with additional funds requested as per Table 2 (€426) will be used to produce the text, design and layout for a fact sheet highlighting the importance of the project and describing its main results, to be made available on the ECPGR website and social media, and distributed to National Coordinators. Thus, it is requested to transfer the remaining funds (€574) on the same budget line for the year 2024.

The revised chronogram of activities is given in Table 1. Additional funds requested for the year 2024 are specified in Table 2. The overall new budget, combining the budget revision and the new funds requested for 2024, is given in Table 3.

