PLANT HERITAGE

Conservation Strategy

September 2015

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Executive Summary

This Conservation Strategy aims to guide the future work of Plant Heritage bringing together developments within the international policy framework in which we operate, and the practice of conservation that has developed following the Growing Heritage Action Plan (2007) and revision of the Collection Criteria agreed in 2012.

The original need that led to the founding of the organisation 'to conserve the unique gene pool of cultivated plants' not only remains but has been strengthened through the Aichi Biodiversity Target 13 (2011).This target for the first time recognises, in an international treaty, the value of domesticated plants and animals, acknowledging species with socio-economic and cultural value. The developing challenges posed by climate change, and the growing role of horticulture in the health and well-being agenda in the context of an increasingly urbanised society also emphasises the essential value of cultivated plant diversity to all our futures.

The three objectives summarised below form the key elements of the strategy supported by a narrative that provides the context, need and outcomes. These objectives and actions will be furthered through a business plan that will need to balance ambition with available resource.

Objective 1: Increase the number of cultivated plants held and actively conserved by Plant Heritage through targeted assessment.

We need to increase the number of taxa actively conserved by the Plant Heritage network through National Plant Collections® and Partner Organisations. In addition to receiving new collections we also need a targeted approach identify those plants most in need of conservation (through the Threatened Plants Project) and ensure we have sufficient coverage of the most important elements of the UK cultivated flora.

Objective 2: Develop curation standards to ensure quality and create a framework for achievement.

The value of plants for conservation and scientific purposes requires living plants to have associated data and information. This needs to meet a minimum standard but the value of each plant within a collection increases through research and additional data which we seek to recognise.

Objective 3: Influence and guide future work in the field of conservation of cultivated plants.

As the first organisation specifically founded to conserve cultivated garden plants it has been consistently innovative and represented its work and constituency in relevant national and international discussions. It is seen as a lead organisation in its field, both sharing with and learning from the increasing number of similar organisation internationally.

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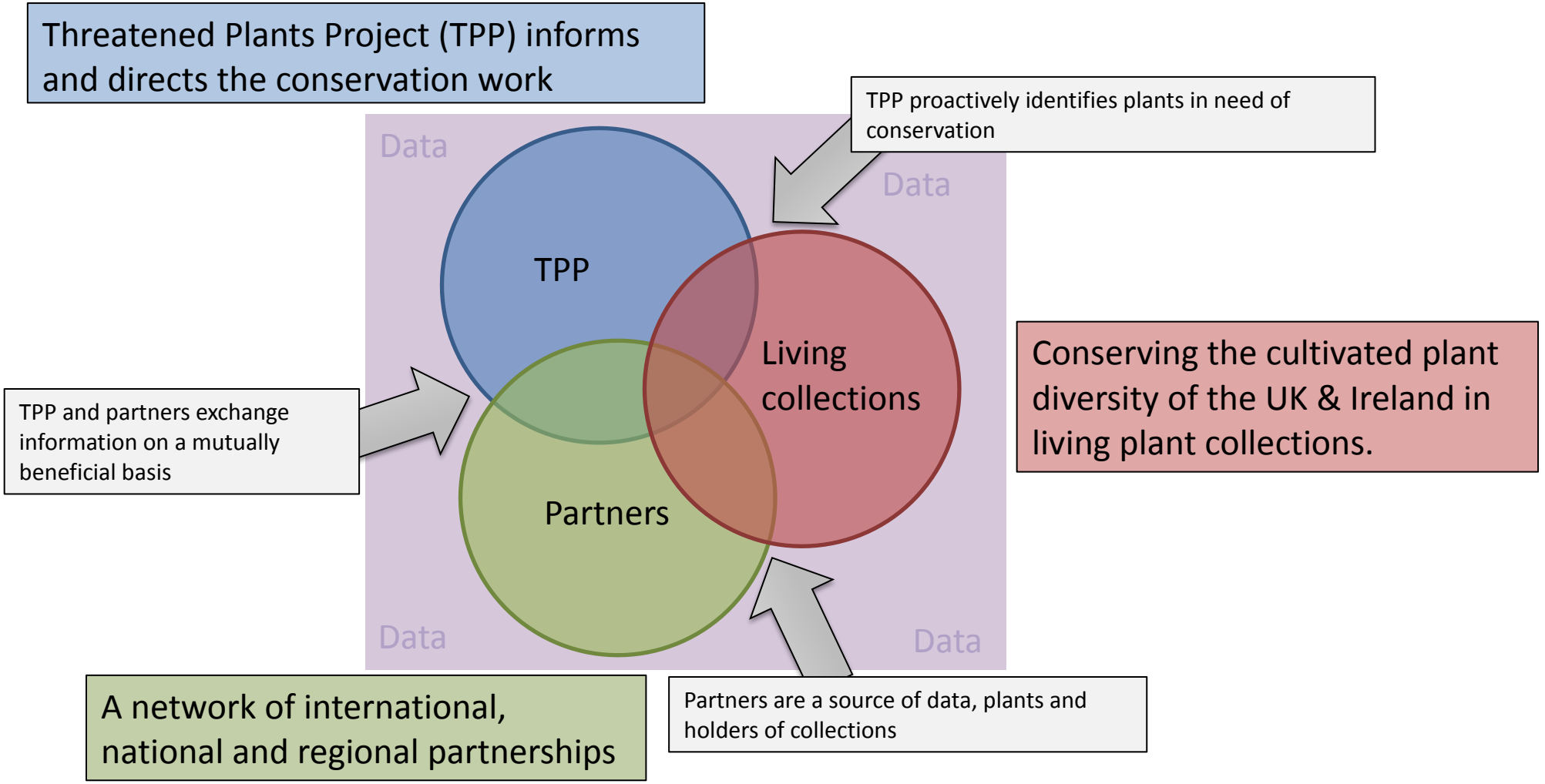
Conservation Strategy – Narrative

Figure 1 – summary representation of the key strategic areas of work and their inter relationships



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History and background

The strategic purpose of Plant Heritage (PH) to conserve cultivated plants has not fundamentally changed since its inception in the 1970's, although the environmental and policy context has changed and evolved. The reason and need to conserve cultivated plants, our raison d'etre, is still best summarised by Brickell (1977) '…to conserve the unique gene pool of accumulated variation from centuries of selection and breeding, a resource of great economic potential and heritage value'.

It is this unique gene pool found in cultivation consisting of both wild and cultivated plants in origin that needs to guide our conservation work and gives us a distinct role to play. This gene pool whilst originating from wild plants, represents centuries of selection, hybridisation and directed breeding giving a resource which will enable society to adapt to and address future environmental and societal issues. While Plant Heritage's role encompasses the cultivation of living plants of both wild and domestic origin we need to ensure the focus of our conservation work has a strong and clear scientific underpinning that drives our priorities. From the perspective of cultivation we may select plants for their individual set of genes, in the case of cultivars, that are seen to have superior characteristics. We deliberately or accidently create new and unique gene combinations through hybridisation in cultivation which simply do not occur in the wild and from which we may select those with the best characteristics, as mankind has done for centuries. We may grow species and other taxa of wild origin for our own interest and pleasure and to ensure they are retained in cultivation in the UK. This is important but distinct from growing them for conservation purposes. We need to ensure our conservation work with wild taxa does capture unique genetic material in cultivation. This includes material derived from historic collections, often made by plant hunters such as Wilson and Forrest or represented in succulent plant collections, from populations that are now extinct in the wild representing lost genetic variation. This can also apply to some critically endangered species where the remaining genetic diversity is represented within just a few individual plants, precious genes that could prove vital to conserve and in the reintroduction of that species. To be of conservation value these taxa need to be of known and documented origin – without this plants in collections are of limited value to the conservation of that species.

Today we are all concerned by the challenges of climate change. Gardeners are perhaps all too aware of this by the way plants react to unusual seasonal change and extreme weather events including prolonged droughts, high temperatures and flooding. This can also bring new pests and diseases capable of removing some key species from our urban and natural landscapes; the threat from horse chestnut leaf miner and ash dieback being topical at present. However, the richness and diversity of our cultivated flora in the UK provides a unique resource that can help us adapt to this challenge. This flora includes those unique gene combinations, a tool box of variation that will give some resilience and allow us to adapt to these challenges. Our cultivated flora will give us one of the best chances to respond to the challenge of climate and societal change

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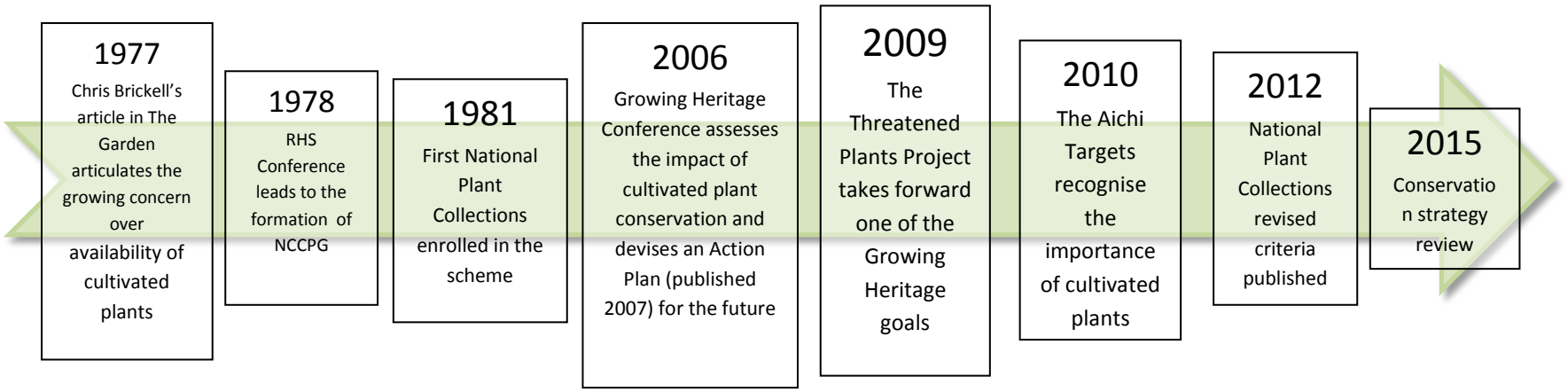
The modern policy framework in which we now operate has changed following the Earth Summit in 1992 and the resultant Convention on Biological Diversity (CBD), which represented a fundamental change in our approach to genetic resources. This recognised a nation's rights to its biological diversity and its value as a genetic resource. With this came a framework of access to a country's biodiversity and the sharing of benefits from its use. The legal collection and exchange of new plant material from the wild is now inevitably restricted within this new policy and legal framework. The Nagoya protocol is also likely to restrict the utilisation of new genetic material brought in cultivation, assuming it will not be retrospective in its implementation. This developing policy framework places the cultivated plant diversity historically collected within the UK and Ireland in a new context, one in which its value is greatly appreciated in value given the current and future restrictions on the flow of wild plant material and its utilisation.

Whilst some aspects of the current policy framework bring challenges to those holding plant collections, the Aichi Biodiversity Target 13 (2011) recognises the value of domesticated plants and animals. The target is … 'by 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimising genetic erosion and safeguarding their genetic diversity'. Essentially, within an international convention it recognises for the first time the value of the unique gene combinations within domesticated plants and animals and emphasises the prescience of Brickell's quote and the work of those who first set-up Plant Heritage as the then, National Council for the Conservation of Plants and Gardens (NCCPG). It also places the work of Plant Heritage in an international context, the first organisation to champion the conservation of cultivated plants and as world leading in this arena. In summary it not only recognises the need for cultivated plant conservation but provides a formal framework within which Plant Heritage operates with the potential to increase the profile of its work and opportunities for future access to resources should they become available.



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The Strategy Review

The original purpose as stated by Brickell (1977) has not fundamentally changed, the work of Plant Heritage has and this is reflected in this review of the conservation strategy. The Growing Heritage Action Plan (2007) reviewed cultivated plant conservation and led directly to initiatives including the Threatened Plants Project. The three main strategic activities within Plant Heritage's conservation work and their interrelationship is represented by the three interlocking circles in figure 1. These represent the main areas of work, all of which is underlain and informed by data, the listings of cultivated plants, those who hold collections and identifying priorities.

Living collections

At the heart of Plant Heritage's conservation work are still the living collections that form the first and key circle in figure 1, representing the National Plant Collections (NPC) and the Plant Guardians scheme. Underlying the NPC scheme and the origins of the Plant Guardians scheme are the new criteria developed and agreed in 2011/12. These criteria were developed at the request of the Plant Heritage Board of Trustees to remove barriers to those wishing to hold collections and encourage wider participation. This from a strategic perspective now offers the opportunity of greater flexibility in the concept of a collection, with the emphasis on historic collections which aim to conserve cultivated plant groups most at threat and with greatest socio-cultural value. The Plant Guardians scheme offers the opportunity for an individual to conserve a threatened plant even if they have only a small space available to them.

The Threatened Plants Project (TPP)

Historically, new living collections have most commonly been offered to the scheme. We still welcome applications from all, but need to target our work to ensure we conserve those plants most in need. An ongoing strategic aim is to ensure that the scope of future collections are informed and driven by the Threatened Plants Project (TPP) so we conserve the plant groups most in need of conservation. The TPP procedure can proactively identify those plants and groups most in need of conservation, creating priorities for conservation within a living collection and the wider network of National Plant Collections®. We also need to ensure that our living collections are as comprehensive as possible in their coverage of significant UK cultivated plant genera and groups and a gap analysis approach can help to ensure this and again prioritise recruitment of collections into the scheme. This approach is intended to ensure we don't miss large and diverse genera, which otherwise are difficult to tackle, or smaller more historically crucial groups. Edible apples are a good example due to their wide cultural significance, plethora of unique local cultivars and the sheer number of taxa involved. We have good collections within the current scheme, but there may be areas not sufficiently covered. Daffodils are an example where the UK has a long history of breeding and selection, but a comparatively sparsely represented within current collections. Using these tools to identify conservation priorities in terms of living collections is key to ensuring we are conserving as wide a range of threatened cultivated plants and groups as possible and direct scarce resources in the most effective way.

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Partners

As a volunteer organisation we rely on individuals and organisations to hold collections and carrying out our conservation work. Our individual members and collection holders perhaps remain our key audience. Links to other organisations are also key. Many are sources of data that underlie the work of the TPP and equally recipients of threatened plant lists helping them to ensure such plants are not lost from the UK cultivated flora. Specialist plant societies are key for their expertise and potential as collection holders or guardians for their plants. Large organisations including the National Trust, National Trust for Scotland, National Botanic Gardens and the Royal Horticultural Society are important as major holders of plant collections, and for the number of NPC's they could collectively hold, including coverage of key cultivated plant groups.

A key aspiration of Plant Heritage is to inform and encourage certain groups including horticultural colleges and particularly students. They should be aware of PH's work and many could be collection holders of the future. The strategy through it actions needs to ensure we have good relationships with other key partners that reach the wider horticultural sector including PlantNetwork, the horticultural trade and the Professional Gardeners Guild.

Whilst the work of Plant Heritage is focussed on the UK cultivated flora, Aichi Target 13 illustrates the need and value of PH working in an international context. In essence as the first organisation devoted to cultivated plant conservation, the first to develop a methodology for prioritising plant conservation leading to the TPP it has led the way in this area despite its small size and limited resources. Other organisations conserving cultivated plants have emerged around the World, particularly in Europe, a network in which PH should actively participate in, inform and learn from. Many of the practices pioneered have now been adopted by others, although it still remains the only organisation primarily conserving plants through a network of volunteers ranging from individuals to large organisations, rather than established gardens and plant collections.

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Conservation Strategy

Objective 1: Increase the number of cultivated plants held and actively conserved through Plant Heritage through targeted assessment.

Why is this important?

There are over a hundred thousand cultivated plant taxa recorded in the UK; not all of these plants have a pressing need or reason for conservation. Plant Heritage has not, to date, been in the position to proactively recruit plants of conservation importance into the National Plant Collections scheme, or to influence their long-term security on the loss of a Collection Holder. The intention is to ensure enduring coverage of the most important elements of our cultivated flora, and give precedence to those most in need of conservation within the living collections administered by Plant Heritage

To encourage more Collections that are strongly conservation-orientated we need to prioritise some plants and groups over others and ensure we have a more comprehensive overall coverage.

How will we do this?

Implement innovative, targeted and effective recruitment of new Collections using the TPP and UK Significant Plant Genera list.

- Further develop existing work using the Collections Criteria, Plant Guardians and the Plant Exchange to prioritise the key taxa, groups and genera.
- Develop conservation resource action plans integrating the tools available to retain plants of conservation importance within the auspices of the charity.

What will this mean?

- A larger number of taxa held within a more diverse range of living collections. The recently revised National Collections criteria offer greater flexibility in size and scope of collections allowing a larger and diverse number of potential holders to match their resources to a suitable Collection
- Large plant groups more easily accommodated within the National Collections scheme through improved scoping or Dispersed Collections

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- Plant Guardians scheme used effectively as a method of conserving small numbers of threatened plants, and acting as a safeguard for those temporarily not in National Collections.
- Plant Exchange scheme is integrated into the mainstream conservation functions (TPP, Plant Guardians, NPCs), to increase the traceability of plants conserved and propagated by members.
- Best practice guidelines and examples of conservation management for waning and withdrawn Collections.

Objective 2: Develop curation standards to ensure quality and create a framework for achievement.

Why is this important?

Effective conservation requires consistent standards of plant curation throughout the many activities of the charity. Increasingly, legislation affecting plant conservation and collections requires that a minimum of data be retained with each plant for an indefinite period. Standards across the NPCs (over time, geographically and by type of NCH) have been varied, as has the degree of recording and archiving. The 2015 Review aims to bring all the Collections to the required standard in term of coverage of scope. In the wake of this procedure, best practice guidelines, improved monitoring and regular reviews will alleviate reputational risk and uphold the standards required in the application process in what can be a challenging area. PH needs to continue to encourage and recognise excellence in cultivated plant conservation, providing an aspirational path of development for those who wish to progress.

How will we do this?

- Complete the 2015 Review of scope and coverage
- Implement improved monitoring and review of living collections
- Develop and implement curation standards and data management advice for the living collections.
- Develop hierarchy of curation standards to better signpost and encourage Collection Holders to develop their work.
- Review the criteria for the Brickell Award with the aim of attracting sufficient high-calibre applicants, while maintaining the prestige it bestows.

What will it mean?

- A more robust and consistent standard of Collections throughout the scheme.

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- A coherent structure and policy for the integration of the data held within separate schemes and resources (including but not limited to: National Plant Collections, Plant Guardians, Plant Exchange, Threatened Plants Project, Desiderata)
- To ensure the essential data that PH considers to be vital to cultivated plant conservation and taxonomic work is recorded
- A suite of guidelines on aspects of collections curation (not to include cultivation).
- Guidelines on progression for those who wish to develop their conservation work within the schemes. and more holders actively researching their Collections

Objective 3: Influence and guide future work in the field of conservation of cultivated plants.

Why is this important?

National Plant Collection Holders and Plant Guardians are significant holders of genetic material within their collections. There are legal as well as moral imperatives requiring holders of such material to be aware of, and work within, national and international legal and policy frameworks. Plant Heritage has an obligation to inform them of their obligations and provide the appropriate information and guidance. Plant Heritage is one the leaders in the conservation of cultivated plants in living collections; it should continue to influence and share knowledge with likeminded organisations and learn from each other's practices.

How will we do this?

- Actively contribute to the international community of plant conservation organisations through presenting at appropriate conferences and exchanges of practice and information
- Review and assess the relevance of PH conservation strategy in the context of international conservation policy and legislation, continuing to contribute to policy forums and meetings appropriate to its work e.g. concerning national and international legislation
- Continue to offer training sessions and create guidance to inform holders of living collections

What will this mean?

- PH continues as a leading organisation in its field and continues to learn from others to our mutual benefit
- PH aims to contribute to the debate on policy to the benefit of its work and NPC holders
- Collection Holders have necessary knowledge, reducing likelihood of non-compliance and reputational risk to PH

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