

PlantNetwork Target 8 Project

Making progress in Scotland



Notes of a meeting held at the Royal Botanic Garden Edinburgh on 12th March 2009

Present: Richard Brown (RBGE), Rhiannon Crichton (RBGE), Simon Crutchley (RBGE), Lesley Cunningham (St Andrews Botanic Garden), Dennis Dick (Trustee, RBGE), Tommy Duffy (RBGE), Natacha Frachon (RBGE), Colin Galbraith (Scottish Natural Heritage), Mary Gibby (RBGE), Alasdair Hood (University of Dundee Botanic Garden), Ross Irvine (RBGE), Matthew Jebb (National Botanic Gardens, Glasnevin), Simon Jones (Edinburgh Zoo), David Knott (RBGE), Liz Lavery (BSBI), Deborah Long (Plantlife Scotland), Elspeth MackIntosh (RBGE), Richard Marriott, Paul Matthews (Glasgow Botanic Gardens), Graeme McGillivray (RBGE), Andy McGinn (RBGE), Heather McHaffie (RBGE), Jim McIntosh (BSBI & RBGE), Richard Pankhurst (BSBI & RBGE), Robin Payne (Scottish Natural Heritage), David Rae (RBGE), Gordon Schofield (RBGE), Lesley Scott (RBGE), Robert Unwin (RBGE), Richard Walker (Cruickshank Botanic Garden, University of Aberdeen), Andy Walker (Forestry Commission Scotland).

1. Presentations were made by Matthew Jebb, chair of PlantNetwork, Robin Payne of Scottish Natural Heritage and Heather McHaffie and Natasha Frachon of the Royal Botanic Garden Edinburgh to explain the background of the project and illustrate current progress being made by these institutions. These presentations were followed by a general discussion to establish ways to progress the work currently being done and explore ways to create new partnerships and increase the knowledge concerning the plants of interest.
2. Matthew Jebb of PlantNetwork asked the group what help they thought would be needed to take the Target 8 project forwards in Scotland. He re-iterated that the primary aim was not so much to discuss re-introduction of vulnerable species but more to establish what plant growers can bring to the existing knowledge base and what assistance they can bring to *in situ* populations. We need to fundamentally understand the reason for decline of these species otherwise there is no point in re-introducing them. The understanding of the plants growing requirements and conditions under which they thrive needs to be established.
3. So what can we do to keep the ball rolling? There are many private individuals growing these plants in their own gardens for their own interest. Perhaps someone could interview these people and collate the information? It was agreed that information sharing is a key part of the project. An interview initiative has been proposed for Wales. Could a similar one be established in Scotland?
4. MJ offered to go back to the PlantNetwork database and input the plant attributes for Britain as well as Ireland and will endeavour to create a complete data centre.

This could then be downloaded by individuals and then a link maybe could be provided for others to join in and add information.

5. Deborah Long of Plantlife Scotland stressed importance of the knowledge of how the species grows in order to tie this in with the site work and management of the relevant habitats. Plantlife currently goes to research partners to fill in knowledge gaps i.e. working with universities. The knowledge gap could be filled by the sharing of horticultural advice; getting the growing conditions right and understanding the climatic conditions required. Essentially, providing a select criteria which can be met. She was at this point encouraged to write an article for PlantNetwork including a list of the plants they were most interested in and request that people come forward with relevant information. Some other parties could well be looking for partners in this research and could link in with Plantlife. Finding people to adopt species to grow them and feed knowledge back.
6. RBGE could collate how they have grown the plants and could share that information. It was generally agreed that the failures and well as the successes should be recorded as it can add to the learning. Emphasis needs to be made on preserving the natural habitats in the wild. We shouldn't just concentrate on re-introduced plants of a particular species. Other species may well establish in these habitats and this needs to be taken into account.
7. MJ gave an example of a different breed of sheep introduced in a particular landscape and it was discovered that it had a completely different grazing habit. This changed the habitat and affected plants that hadn't been affected before. Animal behaviour also needs to be monitored in places of interest. Another example was wolves being reintroduced into Yellowstone National Park in the US and this caused the deer population to change their grazing habits to the extent that some woodland regeneration occurred in fragile habitats. This knowledge can only come about with careful monitoring.
8. Liz Lavery of BSBI asked could some kind of standard form be developed that could be filled out by individual growing the plants? MJ confirmed that this was possible and suggested PlantNetwork could develop a questionnaire that people could complete. A standard checklist of growing conditions; soil, climate, winter temp, aspect etc. and a space for observational comments. This form would record failures as well as successes. Failures can encourage a different approach the next time.
9. Richard Walker of Cruickshank Botanic Garden pointed out that smaller botanical gardens had limited resources and manpower. He informed the room that it was difficult to get the whole of the Faculty aware of the Target 8 initiative. There were a few interested parties but mainly in the Plant Sciences division. Maybe there could be an outreach to academics and students to raise awareness?

10. Simon Jones of Edinburgh Zoo pointed out that they come from a slightly different angle. There is a difficulty for smaller organisations to become fully involved in Target 8 as they can't just pick one species and work with it. Ecosystems and habitat conservation is more their remit. If you don't have the work botanical in your title then it can be a struggle to do anything specifically plant related. By looking at the conservation of animals and animal habitats they have found a way to conduct a study of *Populus tremulus* in relation to the Aspen hoverfly. Lateral thinking can produce research.
11. Dennis Dick a new Trustee of the Botanics told the meeting that he sits on the Scottish Biodiversity Committee and is retiring as Chairman of the Scottish Wildlife Trust. They are concerned with 'living landscapes', seeing plants as the basis of ecosystems and stressed that they need advice from people who know plants. An example of current work he gave was the re-introduction of the beaver. They can transform wetland habitats, they gnaw Aspen trees thus encouraging them to sucker and populate.
12. M Jebb continued in this vein. He gave the example of water buffalo being introduced into reed beds at Kingfishers Bridge Fen restoration project near Wicken, Cambridgeshire, which created the perfect habitat for plants and certain water birds, in particular the Bittern. The buffalo replaced the damage that had historically been created by thatchers collecting material for their trade and this impact saw a resurgence in certain plant growth.
13. The discussion turned to looking at the resource that we currently have in our collections. The National Trust for example don't just have buildings, but have extensive landholdings, gardens and gardeners and visitors to interpret information to. The same applies to botanic and other public gardens. If every garden was to grow one or two plants on the Target 8 list and all the aspects of growing was recorded then the knowledge could be shared. We need to access knowledgeable people in horticulture – a pool of expertise upon which to gather relevant plant information.
14. Dave Rae made the suggestion that an integrated approach could be a direction. Gardens could adopt a number of local plants and find out what would be suitable to approach their local nature reserve, start a dialog and build a relationship with them. This is a local start but could ultimately lead to more international collaborations using organisations such as Planta Europa.
15. Dennis Dick suggested that PlantNetwork could write to all managers of nature reserves in Scotland.
16. Deborah Long of Plantlife also mentioned the Target 5 initiative. In 2007 they identified IPAs and they could now get local people to work with them with plant knowledge and local botanic gardens. They could also draw up a list of the

- problems facing nature reserves and see what horticulturists could address and collaborate to work out solutions.
17. David Knott gave the example of changing the mowing regime at Dawyck saw the re-emergence of many *Dactylorhiza* and other plants in certain grassy areas. Managers of gardens could use the knowledge gained in managing their landscapes to help in the above.
 18. Robin Payne pointed out that nature conservation can fall into the same traps time and time again. If conservationists don't fully understand what requirements the plant needs to grow they can fail. Also they need to know what habitats they can survive in and be re-introduced in various places, not just restricted to one designated area. He stressed the importance of giving as much growing information to people working out in the field as possible.
 19. Information needs to be gathered on the widest natural distribution of the plant. Lots of plants in the UK today were brought in as grain aliens and grow successfully in other parts of the world.
 20. R Walker asked about gaining seed from the Millennium Seed Bank. The Millennium Seed Bank is happy to provide seed as long as approval is sought from the relevant regional authorities. A licence is required to grow the plants and the licence may have restrictions as to how the plant is grown and how many people may handle the material. Furthermore, the Seed Bank needs to be in control of the germination of the seed and collect data and will send the plants out as seedlings.
 21. Lesley Cunningham of St Andrews Botanic Garden told of a meeting of a collaboration they had with local Countryside Rangers where they looked at local sites and grew the plant *Chenopodium bonus-henricus* (Good King Henry). The countryside rangers gave them a position to re-introduce the plants. The project was successful and they built up a good population. They wondered what they could do with the information they gathered during this project?
 22. There seems to be a definite need to collect information on people's experiences growing the Target 8 plants. This would not be overlapping information as new evidence appeared, but a collection all the different approaches used and understanding gained.
 23. Plantlife reminded the meeting that when people were re-introducing plants back into their natural habitat that this shouldn't be done in isolation. All parties should be aware of the project. It would be beneficial if the BSBI could be informed if plants are back in the wild this would make it easier to track what is happening.
 24. Andrew Warwick of the National Trust told the meeting of the Woolly Willow (*Salix lanata*) project that they were involved with. They established that the ideal

habitat was a north-facing corrie and having limited relevant habitats on Trust land, they were reaching out to pertinent local landowners and collaborating with them to grow willows on their land. Local parties can be persuaded to be part of these projects.

25. Information of this kind ideally should be fed back the PlantNetwork who could harvest the current knowledge and put it together in one place where everyone could access it. Different techniques could be examined to see what works and what doesn't.
26. D Knott of RBGE emphasised that there is a need to be aware of a wider educational approach we have not yet fully acknowledged; the importance of disseminating information to a wider audience. Events such as PlantNetwork meetings do generate a small degree of publicity but there is a need to talk to a much larger audience.
27. The question was asked about increasing the interpretation in the gardens and what the public could do to help. It was agreed that not only written interpretation was needed but also verbal interpretation was key in dissemination information on the initiative. It was acknowledged that this is a huge opportunity to advise and educate the public. Garden rangers should be fully briefed alongside staff of relevant gardens and institutions. These parties need to engage verbally with the public in addition to signage. Some of the smaller gardens do not have a budget for written interpretation could some help be forthcoming? D Rae of RBGE suggested that they could create a template that other gardens could adopt. This would say what Target 8 is, include a little background information, display the PlantNetwork and relevant garden logos and a space for information on the specific plant for the garden to include.
28. Robin Payne divulged that academic studies have been conducted on some of these plants but the information gleaned is not necessarily fed back to the SNH. For every study the SNH issue a licence. Could the licence application include a condition that they must feed information back?
29. The meeting attended the opening of the Scottish Plant House in the RBGE Nursery dedicated to the growing of Target 8 plant material. They then took a tour of the Edinburgh Botanic looking at the Scottish native sections of the garden and the site of the proposed Target 8 bed in the Rock Garden before reconvening to sum up the day.

ACTION POINTS:

1. Dennis Dick offered to help in approaching local Biodiversity Officers in order to seek out what support we can give them and what they need in terms of knowledge on the Target 8 plants. He and MJ would also discuss contacting managers of nature reserves to inform them of our willingness to collaborate with them.
2. A 'dating agency' could be developed where gardens could build relationships with local nature reserves and countryside rangers to establish what plants they should be working with.
3. The database of plants on the PlantNetwork website currently can be downloaded. A mechanism will be introduced whereby individuals can open a report and fill it in on a particular plant and email it back to PlantNetwork to incorporate into the database.
4. PlantNetwork would develop a standard checklist for growers to record and share information on the plants. This would cover all growing conditions with an area for observational comments.
5. Authors of relevant academic studies on plants should be contacted and the data they have already collected be obtained, where relevant, for the Target 8 database. Current and future study licences should include a condition to feed data back to the project and any growing material should be offered to another interested party instead of being destroyed.
6. RBGE to create template for Target 8 signage for other gardens to use and augment to include the specific plants they are working with.
7. SNH licences to be appraised to see if a condition can be included to gain the knowledge back from the relevant studies to feed into the Target 8 Project.
8. It is acknowledged that all treatments of the plant material are valid and useful. Exploration of different sites and climates should be explored. The plant should be looked at in the widest context in terms of growing conditions. A plant that is failing currently in the UK may be subject to a shift in growing conditions and may be thriving on the continent under different conditions.