

Climate change and garden visitors

There are two distinct but related aspects to the interrelationship between gardens and people: the effect of climate change on people, including their propensity to visit gardens, and the effect of people on gardens as climate changes.

7.1 Impacts of climate change on garden visitors

Visitor numbers to gardens will be influenced by many factors, of which climate change is only one. A recent press release from the English Tourist Council (26 August 2002) indicates that visitor numbers to tourist attractions in England have decreased by 2% in the past year, in part as a result of the destruction of the World Trade Centre on September 11 2001 and the aftermath of the outbreak of Foot and Mouth disease. Visitors to many rural attractions decreased by 25% or more. Visits to theme parks and gardens increased, however, after several years of static or slightly declining numbers of garden visitors. A recent survey of National Trust visitors confirmed that nearly 60% came solely to visit the gardens, such is their popularity.

Scenarios of social change point to an ageing population, increased leisure and increased mobility. Such changes could result in increasing numbers of people with the inclination and ability to visit gardens. A swing away from the foreign package holiday, concerns over safety and the environmental impact of air travel might discourage travel abroad. As hot areas of the world become hotter still, there may be further disinclination to travel. If these deterrents are combined with improvements in UK facilities (cleaner beaches, refurbished holiday resorts, higher standards of catering and more visitor facilities in gardens for example), there could be a positive swing towards holidays at home. The UK market could also benefit from an increase in short holidays.

If, however, pensions are reduced and living standards fall, and measures to limit private car use are implemented without a commensurate improve-

ment in public transport services, visitor numbers could be expected to decline.

Predicting the number of visitors to gardens is further complicated by competition or synergy from other attractions. The increase in visitor attractions as a result of Millennium Commission funding and a general increase in the provision of leisure facilities has made it difficult to maintain visitor numbers at older attractions, but there is potential for synergy if nearby attractions cooperate in advertising. This is clearly demonstrated in the success of the Cornish Gardens consortium. More recently the Eden Project, one of the most successful Millennium Commission funded projects, has demonstrated its success in attracting visitors to Cornwall and feeding them on into other Cornish gardens. The benefit to the local economy of the Eden Project in its first year of operation, was £11 million (Kendle, *pers. comm.*).

Climate change, although only one of many factors, can be expected to influence visitor numbers in several ways. Improved weather should attract more visitors to gardens. Evidence suggests that good weather, especially in spring, boosts visitor numbers (Entec, 2000) and that bad weather, especially at Easter, the traditional start of the gardening and garden visiting season, dramatically reduces visitor numbers to gardens and garden centres.

In the early and late parts of the year, the 'shoulders' of the holiday season, higher temperatures and a longer growing season should encourage visitors (Entec, 2000). Spring temperatures and early flowering are already encouraging many gardens to open earlier in the year. The UKCIP02 scenarios all point to a 10-20% reduction in autumn rainfall. Unless plants suffer from premature leaf fall because of summer drought, the higher autumn temperatures, sunnier conditions and the contrast between high day temperatures and cool nights which results from clear skies, should favour the development of autumn colour and further encourage visitors. The pattern of daily visiting hours may

also alter with climate change, as visitors may prefer to visit in the early morning and evening to avoid the heat of the day.

The effects of climate change on the incidence of pests and diseases on plants have already been discussed in Section 3.5, but the possible impacts of climate change are not limited to plant pests and diseases. As summer temperatures increase, ticks, which are vectors of Lyme Disease in humans, and perhaps mosquitoes, could become more common (Department of Health, 2002). If the public perceive the risk of exposure to such insects to have increased, they may be less inclined to wander through meadows or to picnic. This could negatively influence visitor numbers.

There are clearly many factors that influence visitor numbers to gardens, and each major garden will have its own set of parameters determining its catchment area and the likely threats and opportunities arising from climate change. Climate change will undoubtedly affect all gardens in the UK to a greater or lesser extent. However, the most important influence on a garden's attractiveness to visitors and on visitor numbers will be marketing in its broadest sense. If gardens can continue to offer the high quality environments that the public seek, they should succeed in maintaining and increasing visitor numbers.

Climate change is only one of many factors which may influence visitor numbers to gardens. Warmer weather could lead to increased visitor numbers, but there may also be increased competition from the beach and other destinations. Warmer and drier springs and autumns, may stimulate visitor numbers, but very high summer temperatures may discourage visiting.

Gardens will need to respond to changing climatic conditions by providing, for example, adequate visitor facilities to mitigate against the adverse effects of poor weather. Ultimately, marketing in its widest sense will be the most important factor influencing future visitor numbers.

7.2 Impacts of visitors on gardens in a changing climate

The need to attract visitors is a very important factor having an impact on heritage gardens in particular. When garden managers were asked to identify the main directions of development of their gardens and the main influences on forthcoming changes, visitor facilities were central in replies to the questionnaire. The main categories of response were:

- to upgrade and/or expand facilities for visitors;
- to increase visitor numbers, the range of visitors and the visitor season;
- to increase the educational value and use of the garden;
- to increase the diversity of the garden;
- to increase operational efficiency.

Four of these five relate directly to increasing visitor numbers and visitor satisfaction. Other objectives included expansion of the garden (offering more to visitors), raising standards (making it more attractive to visitors), integration into the surrounding landscape and expanding the scientific basis of the (botanic) garden.

Most responses also reflected the need to meet budgets (increase income) and to justify the existence of the garden by increasing educational provision, linking plants with science, and attracting more visitors over a longer season.

Of the ten responses to the question "What is your next major development?" five referred to new planting schemes, one to the replacement of existing planting (a hedge killed by flooding), two to buildings (visitor facilities), one to the reopening of an historic garden route, and the tenth to a lake for water conservation. None of the planting schemes reflected any explicit or obvious direct response to, or awareness of, climate change, though the replacement of a hedge killed by flooding (too much water) and the lake to store water for irrigation (too little water) indicate the range of problems which might arise from climate change.

One effect of climate change is that significant increases in visitor numbers might be expected at

those times of the year when the weather is most uncertain and potential damage to gardens most severe: a sunny weekend in February after a week of rain could see large numbers of visitors arriving at rain saturated gardens, causing major problems of soil compaction and major discomfort in muddy car parks and on muddy or slippery paths. This has already occurred at Nymans in Sussex, for example.

Weather will remain highly variable in future, so investment in weatherproof facilities such as garden shelters, glasshouses and other indoor visitor attractions may be needed to sustain visitor numbers and to encourage repeat visits.

Visitor expectations are equally difficult to predict. Expectations of high material standards such as green lawns and air-conditioned restaurants may increase the difficulty of adapting to impacts of climate change. On the other hand, visitor expectations of high ethical standards with respect to sustainable management of gardens may make it easier to introduce some modifications, such as accepting browner lawns, and more difficult to introduce others, such as irrigation systems, made necessary by climate change. Visitor education and interpretation, and the conspicuous implementation of good environmental practices, will be critical so that people may understand, accept and hopefully, adopt for themselves, a more sustainable way of gardening.

All the garden managers responding to the questionnaire survey indicated that increased visitor numbers were important to the funding of the garden and, in some, to meeting the educational objectives of the garden. Higher visitor numbers will exert greater physical pressures on gardens. Grass was seen as especially vulnerable. Climate change may result in an increasing number of days on which the weather is suitable for garden visiting but when the ground is wet or exceptionally dry. Both circumstances can lead to severe soil compaction beneath lawns. Intensive management techniques developed initially for sports turf can assist the garden manager to cope by invigorating, reinforcing, protecting (in exceptionally wet weather), or replacing grass. Such techniques are already widely used in heavily visited gardens. There are cost implications and environmental

implications in, for example, mowing heavily fertilised grass or replacing grass with paving, but if increased visitors bring in increased income, the solutions may be self financing.

It is evident that gardens are useful small models of the environment as a whole, and that some of the challenges presented by climate change occur in, and can be remedied on, a garden scale. The ability of a garden to demonstrate good practice in its response to climate impacts may engender increasing support for gardens. Many gardens with an educational aim are focusing on sustainability as the major thrust of their activities. Gardens which have not in the past developed this role may be able to boost visitor numbers and income, by implementing sustainable practices and marketing them as exciting and educational attractions.

Increasing visitor numbers will have impacts on gardens. Shelters, wet weather facilities and air-conditioned restaurants may be required and may change the character of the garden – for better or worse. Gardens could be most severely affected by increased visitor numbers when the soil is too wet or too dry to withstand compaction. Increased management and maintenance inputs, and perhaps changes of design, will be needed to reduce impacts. Changing climate could also impact on staff and staffing. In a hot, dry summer for instance, the garden may be at its best in the early morning or evening, but opening the garden at these times would have significant impacts on staffing.