

BGCI's U.K. symposium on plant conservation education

May 18 - 19, 2006

Royal Botanic Gardens, Edinburgh

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Royal Botanic Gardens, Kew, UK

Issues

- Corporate sector not engaged
- Lack of emphasis on life long learning
- Big gaps in 'plant biodiversity' in science curriculum from age c12-16 – mostly cellular/molecular biology etc – not whole organism / habitat
- Higher Education offerings good – but not many courses available and few students entering field
- Schoolchildren have little opportunity for field study / outdoor experiences (several reasons for this)/ and many 'visits' are only short term
- Physical access to 'green spaces' in general
- Little real evaluation of 'learning'
- General loss of connection to 'nature'
- Language (e.g. the word biodiversity)
- Science still seen as 'elitist' – environmental 'learning (in schools) mostly accessed through geography / citizenship – and consequently not always assessed/ compulsory
- Still has a 'negative' association – too big a problem / 'I can't do anything as an individual'
- People can't always 'see' the problem – not enough concrete evidence – often importance not understood
- Communication between key organisations poor – not enough joined up thinking and lack of clarity on messages
- Potential for development
- Community education
- 'In depth' learning provision – multiple visit programmes etc/ smaller groups for longer time
- Teacher training to bridge 'teenage' gap

- Teacher training across broader range of curriculum disciplines
- Adult education / lifelong learning programmes
- Concerted policy and lobbying effort

Recommended Actions

- Initiate correspondence with list of other key organisations working in this field e.g. Natural England, RSPB, Groundwork, Scouts etc.
- Develop good ‘partnerships’ to deliver targets
- Explore good ‘drivers’ that will encourage positive response
- Make things ‘concrete’ / use ‘supply links’ etc
- Work more effectively within current useful initiatives e.g. Outdoor Manifesto for schools, Breathing Places and Real World learning campaigns for volunteers and informal ‘learners’.
- Try to set programmes within a known context for participants e.g. climate change or UN Millennium Goals
- Multi-directional approach – bottom up as well as top down
- Develop a communications strategy
- Develop specific targets for different audiences / programme levels
- Find a ‘Target 14’ champion &/or bring on board a group of 5-6 politicians (cross party) to lobby on our behalf
- Work more effectively with media
- Find a consistent ‘brand’ or strap-line all deliverers can use
- Develop range of ‘consistent’ messages

Actions for specific audiences

Schools

More ‘in depth’ programmes with schools

Provide ‘inspirational’ teacher training and CPD

Use creative ‘ways in’ e.g. through ‘food’, every child matters programme, citizenship etc

Develop outreach teaching materials

Develop partnership programmes with schools

Feed into current initiatives e.g. applied science GCSE, vocational GCSEs

Get the kids outside ‘doing’

Presentations at school conferences e.g. NUT, School governors - or to exam boards etc

Higher / Further education

Extend and expand provision at higher level

OU to perhaps create a course for general public on biodiversity

Encourage better feed back loops from graduates into schools to encourage take-up

Current situation in Formal Education

Biodiversity education and botanic gardens: an overview

Gail Bromley MBE FLS, Royal Botanic Gardens, Kew

UK BGs / Arboreta etc offering educational programmes

- 61 botanic gardens / arboreta / reserves currently operating in the UK
- 30 are registered with BGEN as offering education programmes
- Several other organisations offer a range of environmental education programmes
- National Trust sites and private country houses
- Zoos e.g. Chester, Marwell, Paignton, Jersey
- Environmental trusts e.g. Woodland Trust, Charles Darwin Trust
- Museums e.g. Natural History Museum, London

Range of education programmes

Nearly all gardens offer an informal education / ‘visitor’ experience in the form of exhibitions, displays, brochures, trails, labels etc

A large proportion of gardens / arboreta facilitate a visit by / actively engage with school groups (66%), in particular primary

A few gardens offer education for adults, community, FE or HE audiences (25%)

Types of education programmes available for schools in UK

- Teacher training / student teacher training e.g. Kew, Chelsea, Eden, RHS, Edinburgh
- Guided tours e.g. Glasgow, Westonbirt, Oxford
- Workshops e.g. Eden, Kew, WP, RHS, Oxford, Edinburgh

- Trails e.g. Edinburgh (Benmore), WP, Birmingham

Types of education programmes available for schools in UK

- Self use activity sheets e.g. Birmingham, Kew, Bedgebury
- Project work e.g. Kew, Hilliers
- Membership services e.g. newsletters etc e.g. RHS, Ventnor, Wetlands
- Teacher placements e.g. Kew, WP, Oxford, Eden

Top 14 ‘gardens/organisations’ with assisted education at primary level

Total number of schoolchildren on assisted visits / Percentage of primary schoolchildren within this

- RBG Kew (41K / 55%)
- RHS (total for 4 Gardens) (10K / 95%)
- RBG Edinburgh (10K / 80%)
- Wakehurst Place (12K / 65%)
- Chelsea BG (2K / 98%)
- Eden (29K / 45%)
- Cambridge BG (2K / 95%)

Top 14 ‘gardens/organisations’ with schools education at primary level

- Glasgow BG (2.5K / 95%)
- Bedgebury Arboretum (2.8K / 45%)
- National BG Wales (7K / 80%)
- Sir Harold Hilliers BG (12K / 90%)
- Westonbirt arboretum (14K / 75%)
- Oxford BG (4K / 45%)
- Birmingham (8K / 80%)

Topics

- Naturally very dependent on site resources
- where tropical houses are present – adaptations / rainforest etc
- in arboreta – trees: their life cycles and uses
- where local reserves are accessible – local habitats and local biodiversity

- Where facilities exist on site (or at the school) – may be easier to develop more ‘interactive’ or ‘investigative’ activities for topics e.g. horticulture

Top Topics (plant theme; not curriculum)

- Rainforests (Kew, Birmingham, Edinburgh, Cambridge, Glasgow, Eden, Oxford)
- Adaptations (Kew, Birmingham, Chelsea)
- Everyday choices (sustainable devt.) (Wales, Eden)
- Plant explorers (Eden)
- Plants / seeds and their life cycles / botany (Wales, Bedgebury, Westonbirt, WP, RHS)
- Ecology / pond dipping / minibeasts/ pl&animal interactions (Cambridge, Bedgebury, WP, Hilliers)
- Trees (Scottish – Glasgow, Edinburgh; Global – Westonbirt)
- Growing plants / Helping plants grow well (Hilliers, Chelsea, RHS)

Others offered but not necessarily top for most

- Food
- Sustainable Devt. / fair trade
- Plant hunting
- Classification
- Art & Plants

Issues

Botanic garden staff (and teachers) overstretched in UK

Staff often not trained in educative practices and processes

Very little evaluation of materials is done – quite a lot exists but no-one knows if it is any good!

Very little research is done on ‘what learning actually takes place’

School visits are often short term (2-3 hour hits) and are not properly followed up

For more information, see the website, www.bgci.org/education or www.plants2010.org