The Future of Charnwood Forest’s Quarries: A Vision

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Background

1993 I wrote the climbing guide to Leicestershire and visited almost every rock exposure in the county.

2006 Retired from Loughborough University.

2008 Involved in consultation on the new Bardon Quarry.

2010 First draft of Vision Proposal.

2011 Vision Forum in County Hall.

2012 British Mountaineering Council formed the Quarries Working Group.
Because of recycling, EU and other legislation, plus the Landfill Tax it is no longer practicable to landfill old quarry voids.

About 14 million tonnes/year hard rock removed from Leicestershire

67% exported outside the County
Leaving 5 million m$^3$ a year of “hole”

That’s a cube just over 170 m per side

(A 575 ft sided cube)

Not much, but every year!

Will get worse.

And it doesn’t look very nice
Bardon View from near the highest point in Leics
Mountsorrel – mostly invisible

Best seen on Google Earth
Mountsorrel – they want an extension
Bardon Hill – work starting on an extension
Stanton – just south of Bardon
Cliffe Hill – adjacent to Stanton
Longcliffe – disused, south of golf course
Newhurst – south of Shepshed. Incinerator site?
Newhurst is actually quite big
Whitwick – disused and near old filled quarry
Groby disused but may be re-opened
Markfield Owned by Borough Council
The Brand – flooded and now a garden
Woodhouse Eaves – built around
Why does Charnwood have so many hard rock quarries?

Its Geology.

The “Stone Line”

All soft rock on the right of the line
and Geography - Population density
As the National Mineral Planning Guidance (M P G 7) puts it

“1 Minerals make an essential contribution to national prosperity and in improving the quality of life. However, their extraction can have significant environmental effects and abandoned sites have, in the past, been one of the country’s major causes of dereliction.”
The Objectives
8. To ensure land is reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place to an appropriate after-use that enhances and complements the natural and historic environment and that is in keeping with the local area, adding to local distinctiveness and biodiversity.
Which, being translated, means “let it flood”
A common interpretation of “restoration”
The problem, as the Bardon “extension” Summary puts it

“Following extraction the quarry would slowly fill with water and it is estimated that the bottom 8 levels will take around 50 years to fill. If the whole proposed quarry fills this could take a further 100 years.”

This is “dereliction” not “restoration”
Why does it take so long to flood a quarry void?

Rainfall is about 600mm/year

But evaporation from a free water surface is almost the same as this

So a void will only fill if the catchment area is larger than the free water surface area
So the voids in disused quarries cannot be filled with anything and will take well over 100 years to flood.

What might they be used for?


Are these appropriate for Leicestershire?
Geology and Geography
So Leicestershire quarries could be the closest specialist recreational space for a large fraction of the English population.

The British Mountaineering Council has 70,000 members.

Horse riding is about 3 times more popular than climbing. Scuba about the same.

Canoeing is half as popular as climbing.
The scale is also significant. Even now Leicestershire has tens of kilometres of benching.

Enough to rival the climbing in the Peak District.

The Peak District get considerable tourist income from outdoor pursuits – so might Charnwood.
Probably the most tourist potential is in Klettersteigs or Via Ferratas.

Cabled “paths”
Hugely popular on the Continent.

Local communities install them to attract tourists.
Klettersteigs or Via Ferratas come in various grades and positions
Could this be done in Charnwood?
The Mineral Products Association says

“When operations have finished, a rock quarry can have much to offer in its final restoration, with forestry, nature conservation, water-based leisure activities, country parks and various forms of built development being common among end uses.”

Doesn’t mention klettersteigs or climbing as possible after-uses.
So what is the minimum bench requirement?

Rock face should be sound, clean, with a clear top.

The rock fractured so as to give “holds”.

Overall angle appropriate.

Create local structural features; corners, slabs.
All of the quarry companies active in Leicestershire are multi-nationals. They are enormously efficient and productive.

They cannot spend money on major restoration unless forced to.

The only pressure that can be exerted is through the planning and control system.

Or, ultimately, by the electorate.
So, what can be done now?

Existing national planning guidance (MPG7) already requires that rock faces be stabilised (“scaling”) and that Landform Replication might be adopted. Leicestershire (MDF) requires that “land is reclaimed at the earliest opportunity”.

So current planning rules would allow a start to implement the Vision to be made
Planners should insist now that:

a) all quarries should have a current Restoration Plan

b) better stabilisation of final rock exposures is carried out

c) restoration is started as soon as practicable (concurrent with extraction)

d) Landform Replication is adopted where practicable.
Planners should insist now that:

e) recreational access could be part of a reclamation plan.

f) access should be made available as soon as possible

g) restoration is completed (including flooding) within 5 years of operations ceasing
Leicestershire Minerals and Waste Strategy is currently under review and should be amended to include:

1. Eventual amenity use of disused quarries is acceptable restoration.

2. Restoration should progress whilst the quarry is still being worked.
3 Better stabilisation of the final rock faces by “soft” blasting and “scaling”

4 The top levels of quarries should be stabilised and made available for amenity use as soon as practicable.

5 Mineral extraction should be made more “sustainable”
Going further:

“Concurrent restoration to public amenity” should be adopted as the default for all Leicestershire hard rock quarry Restoration Plans. To deviate, Operators would have to show that this was impracticable and come up with a practicable better plan.
Why?

Quarrying is obviously not “sustainable” except

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

The two “needs” don’t have to be the same!
Landfill is one future “need”

But the Landfill Tax has made this uneconomic. So

a) Give rebate on the Landfill Tax for “restoration landfill”

b) Charge operators the difference between economic landfill and Landfill Tax
Taxes

For environmental reasons an Aggregate Levy is paid on every tonne of aggregate removed.

About £2 a tonne (£30M pa for Leicestershire)

About 10% was returned to ameliorate past damage caused by mineral extraction. The current Government has cut this to 0%.
Taxes

To encourage “fracking” the Government introduced the idea of “community benefits” setting a figure of 1 to 4% of revenue

Quarrying is a vastly more intrusive process than fracking. 67% of the product is exported. Why does Leicestershire not get more back? Say 2 to £6M.
What about Very Long Term

Plans need to be made for very long term maintenance of quarry sites

Will they need to be fenced and manned forever?

Recreational use is unlikely to pay for continued maintenance

Will need an endowed trust to maintain the facility (similar to Bradgate Park?). How much?
To summarise, in Leicestershire we need:

- Revision of the regulations
- Industry commitment
- Minimum stable faces for restoration schemes
Diagram of stakeholders. Add amenity users
What next?

There are several possibilities.

Each Operator might restore a trial area of their own quarry

Find a small trial site in Charnwood Forest
Longcliffe Quarry

Regionally Important Geological Site
Longcliffe Quarry
before M1
Longcliffe Quarry after M1
Google Earth
Site Attributes

way in under M1

almost complete perimeter track

crags

water

off-road biking

significant height gain
Access to the quarry
Part of the perimeter path
The slabby side nearest the motorway
Just the right angle for climbing
On the big slab
Slabs are covered with routes
Mountain bike area?
Easy scuba diving access?
Longcliffe’s Current Position

Garendon Trust are owners of Newhurst and Longcliffe Quarries.

Both are leased to MQP and then subleased to Biffa

Landfill plans approved for Newhurst Quarry

Longcliffe is derelict with no current restoration plan
Longcliffe’s Future

Biffa have subsequently got Planning Permission for Energy from Waste Facility in Newhurst Quarry

If Biffa go ahead they need to exercise the Agreement with Garendon Trust for both Newhurst and Longcliffe

Agreement incurs obligation to restore Longcliffe

Biffa due to make decision early 2014
Longcliffe Restoration

Biffa and Garendon Trust are keen to investigate restoration opportunities with a consortium involving the BMC

Opportunity to provide:

Multi-use Recreational Facility

Model for collaboration of interest groups in hard rock quarry restoration including the operators
What next?

1. Await Biffa decision to Exercise Agreement
2. Form Consortium
   - Local and County Authorities
   - Quarrying Companies
   - BMC
   - Other Interest Groups
3. Consortium / Biffa/ Garendon Trust meet
4. Working Group to address issues.
Issues for a Working Group to address

Aims and Responsibilities

Lease and Liability

Physical Operations

Management and Finance
Already elsewhere in UK

Via Ferrata in Cumbria
Already elsewhere in UK

Climbing in Wilton Quarry, Lancs
Already elsewhere in UK

Mountain biking in Rossendale Quarries, Lancs
Already elsewhere in UK

Zipwire at Penrhyn Quarry, North Wales
Already elsewhere in UK

Diving at Stoney Cove, Leics
There needs to be a proper restoration plan for Longcliffe Quarry

Owned by the Garendon Estate. Leased to Hanson. Sub-leased to Midland Quarry Products. Sub-sub-leased to Biffa Waste Management.

Legal requirement to “restore”. But to what? And by who?
The Peak District have gone some of the way there http://www.peakdistrict.gov.uk/mineralsstrategy.pdf

- “the creation of appropriate access opportunities on restored sites”

- “the creation of appropriate recreational use of disused quarries e.g. liaise with minerals operators over the end-use of quarries (where not already determined) to leave quarry faces in sound condition suitable for future climbing sites or to leave spoil mounds suitable for mountain bike or vehicular off-road courses.”