

HEALING WOUNDED LANDSCAPES

The role of landscape architects in achieving post-mining sustainability

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An aerial photograph showing a landscape rehabilitation project. A large, dark, irregularly shaped pond is the central feature, surrounded by a mix of green grass, trees, and some cleared land. In the background, there are rolling hills and a small cluster of buildings. The overall scene depicts a natural area being restored or managed.

REHABILITATE

An aerial photograph of a quarry reclamation project. The image shows a large, deep quarry pit that has been transformed into a recreational area. A large, white, tent-like structure is prominent in the center, surrounded by a paved area with parked cars and a small building. The quarry walls are steep and rocky, and a waterfall is visible on the right side, cascading into a pool of water. The overall scene depicts a successful reclamation of a former industrial site.

RECLAIM

157

Mine closure professionals surveyed

Common Goals

Technical (9)

Ecological (6)

Socio-economic (5)

Land-use (9)

Respondents

Time Frame

Success

Closure Teams

47-69%

Of respondents surveyed indicated closure goals for their project are **not** achieved

Closure Goals

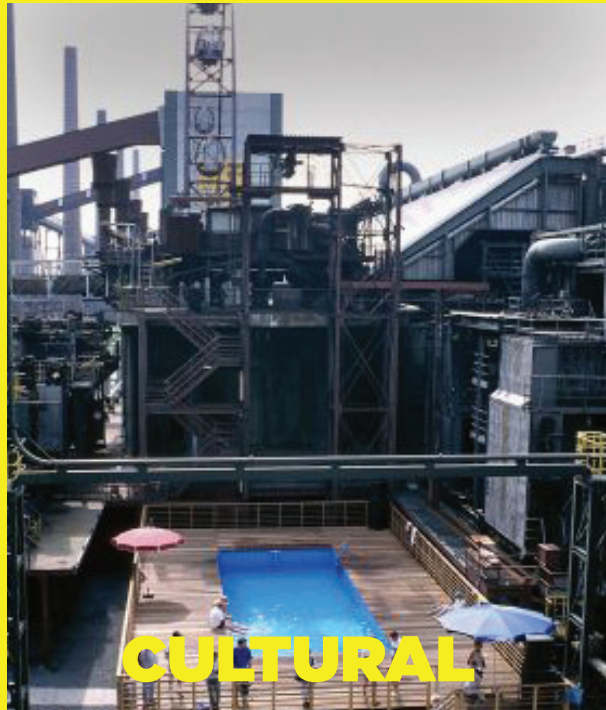
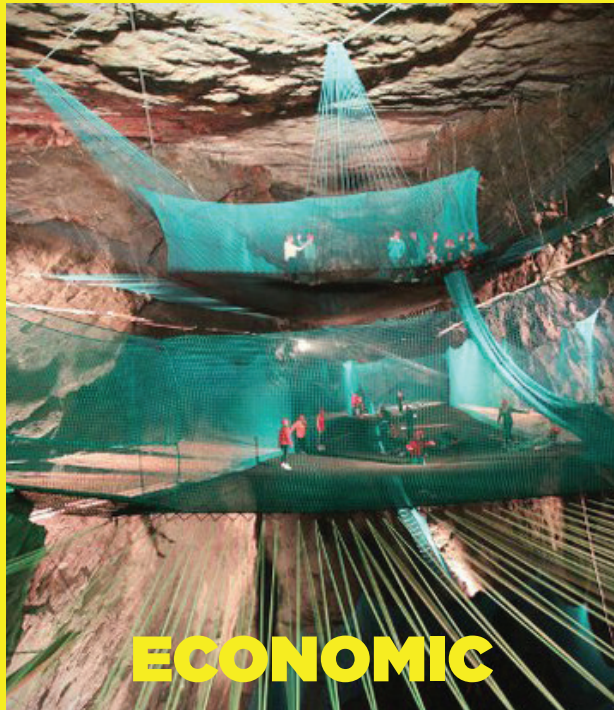
Are changing

Professionals

Are not changing



Closure goals have evolved



Closure goals have evolved

Goals common in the past 10 years include:

Revenue generation

Employment generation

Aesthetics

Historical Preservation

Naturalised Topography

Recreation

Tourism

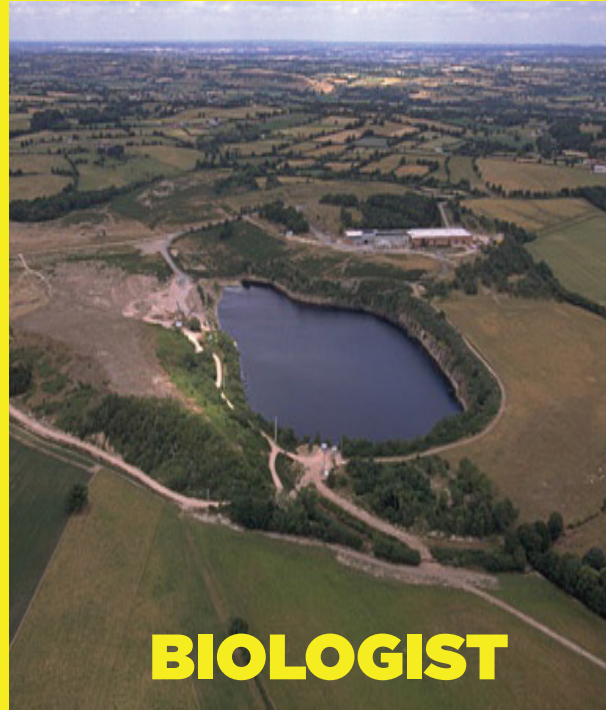
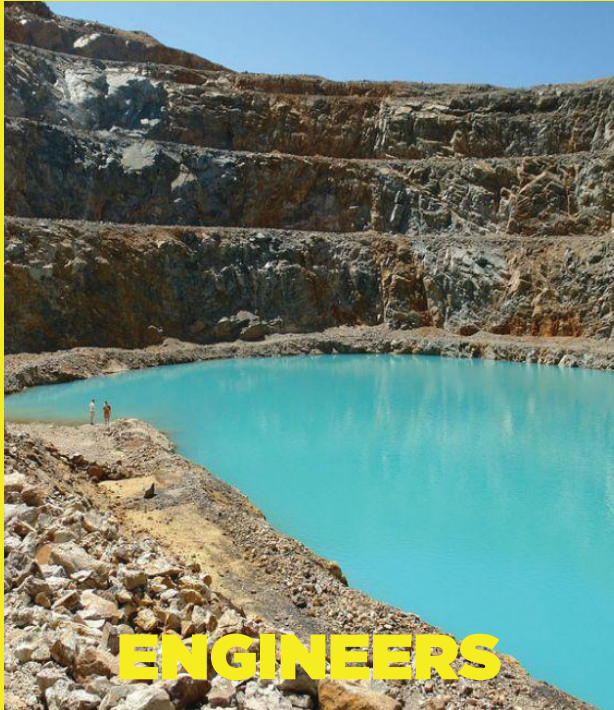
Adaptive Re-use

Ecology principles

Planting for Biodiversity

Multiple Land Uses

Closure teams have not evolved



Closure teams have not evolved

Closure teams still typically include:

Engineers

Biologists

Hydrologists

Soil scientists

An increase on closure teams has been:

Engagement

Professionals

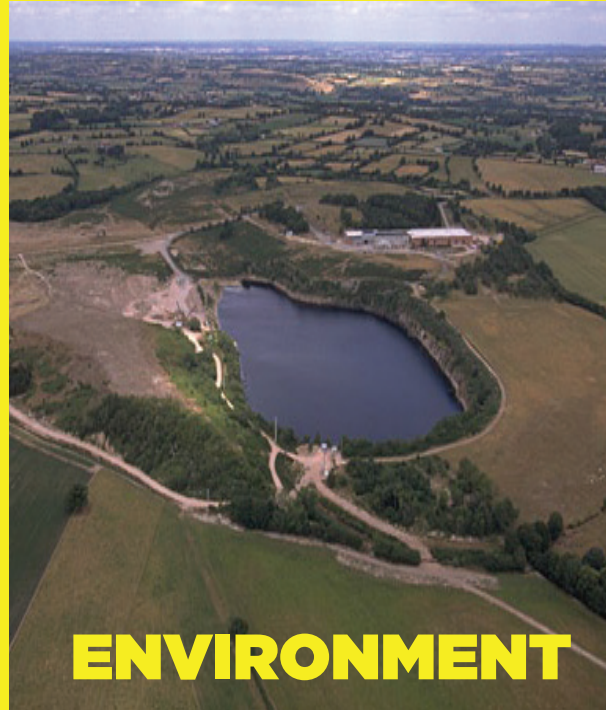
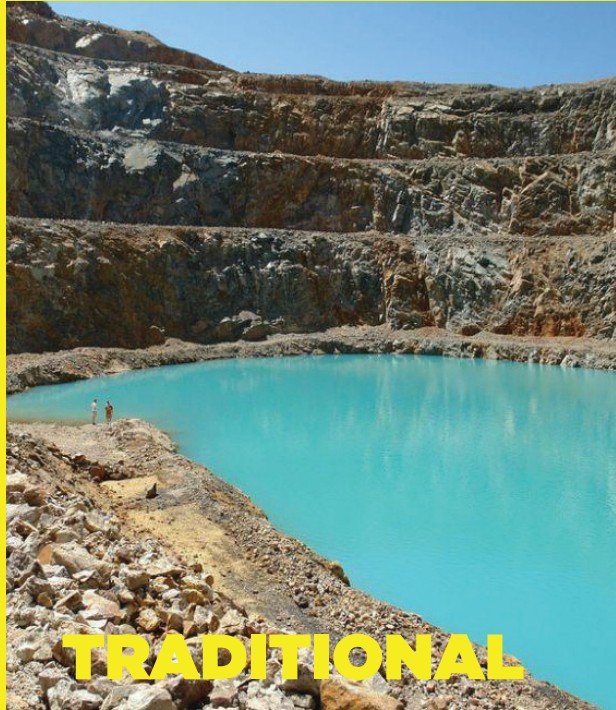
Closure teams infrequently include:

Regional Planners

Landscape Architects

Geomorphologists

Closure focus



Closure teams have not evolved

100%

indicated land use goal(s) existed on their projects

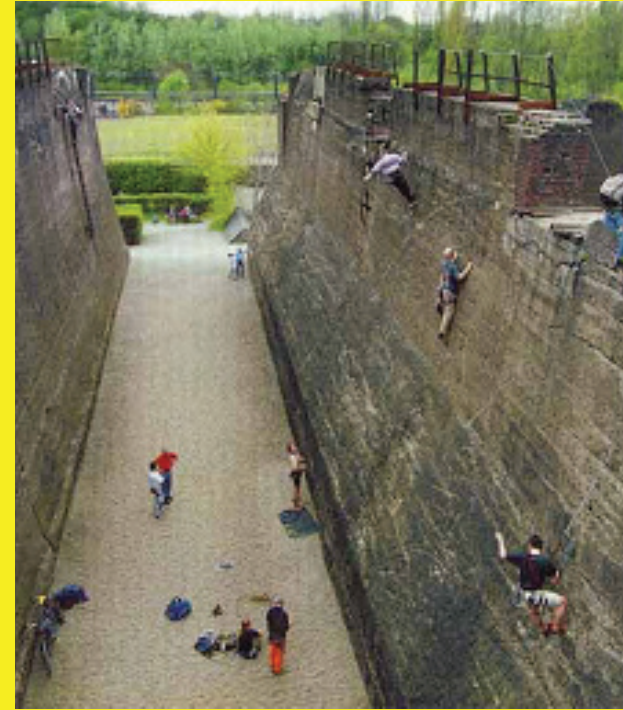
40%

of closure teams had included landscape architects and urban/regional planners

36%

successful achievement for land use goals

Who was successful?



Who was successful?

Greatest proportion of successful achievement:

13/29

Landscape Architects

8/29

Engineers

8/29

Geo-Scientists

Success not always aligned with area of specialty

Not a cause-and-effect relationship

Why landscape architects?

Breath of scope

Utilising knowledge from all aspect of closure

Clear goal setting

Upfront stakeholder engagement with precise goals set

Coordination

Across the professions

Holistic framework

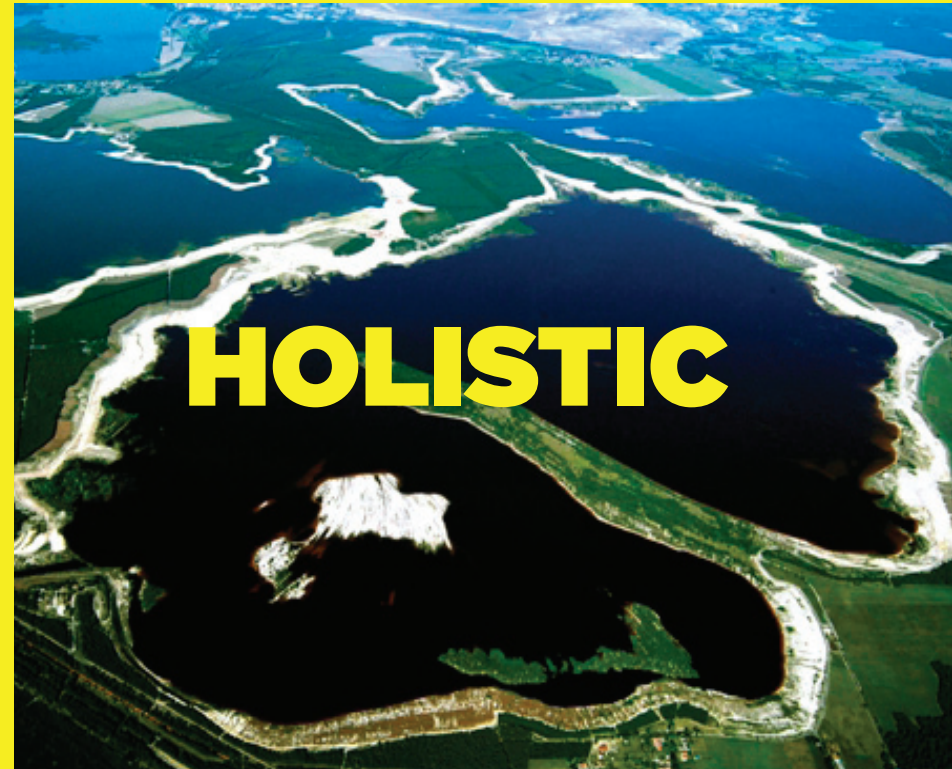
Typical within Landscape Architecture



**HOLISTIC
THINKING**



**CREATIVE
THINKING**





Daybreak Community | Development

Salt Lake Valley USA

Year:

1994-2007

Reclamation Issues:

Soil contamination

Water contamination

End land use:

20,000 Home Community

Closure goals achieved:

Clean up of contamination

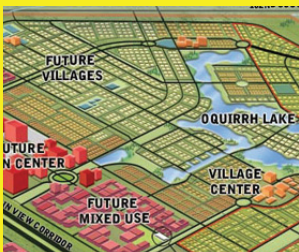
Creation of sustainable community development

Key Contributors:

Rio Tinto Kennecott

Calthorpe Associates (Urban designers,
planners, architects)

Project cost vs. annual revenue (post closure):
\$370 million vs. unknown (homes sell for \$100-
800,000 USD each)





TECHNICAL



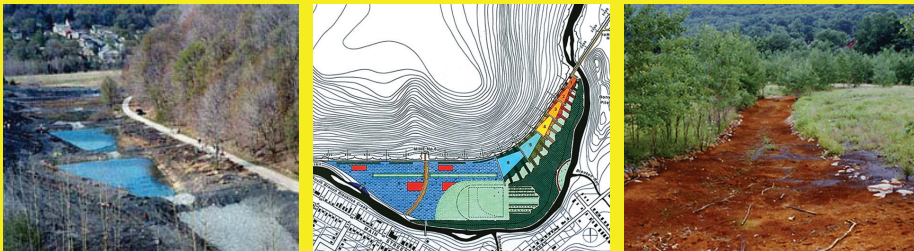
CREATIVE

A photograph of a Eurostar high-speed train at a station platform. The train is white with a yellow nose and features the 'eurostar' logo. The platform has a large, arched glass and steel roof. The word 'TECHNICAL' is overlaid in large, bold, yellow capital letters.

TECHNICAL

A close-up photograph of a champagne bottle being poured into a glass. The liquid is bubbling and creating a thick head of foam. The word 'CREATIVE' is overlaid in large, bold, yellow capital letters.

CREATIVE



AMD & Art Park | Vitondale USA

Year:

1994-2005

Reclamation Issues:

Acid Mine Drainage

Wetland and Stream Habitat

Community Facilities

End land use:

Recreational community open space and ongoing AMD remediation

Closure goals achieved:

AMD remediation

Usable public open space

Key Contributors:

Non-profit AMD&ART

VISTA volunteers

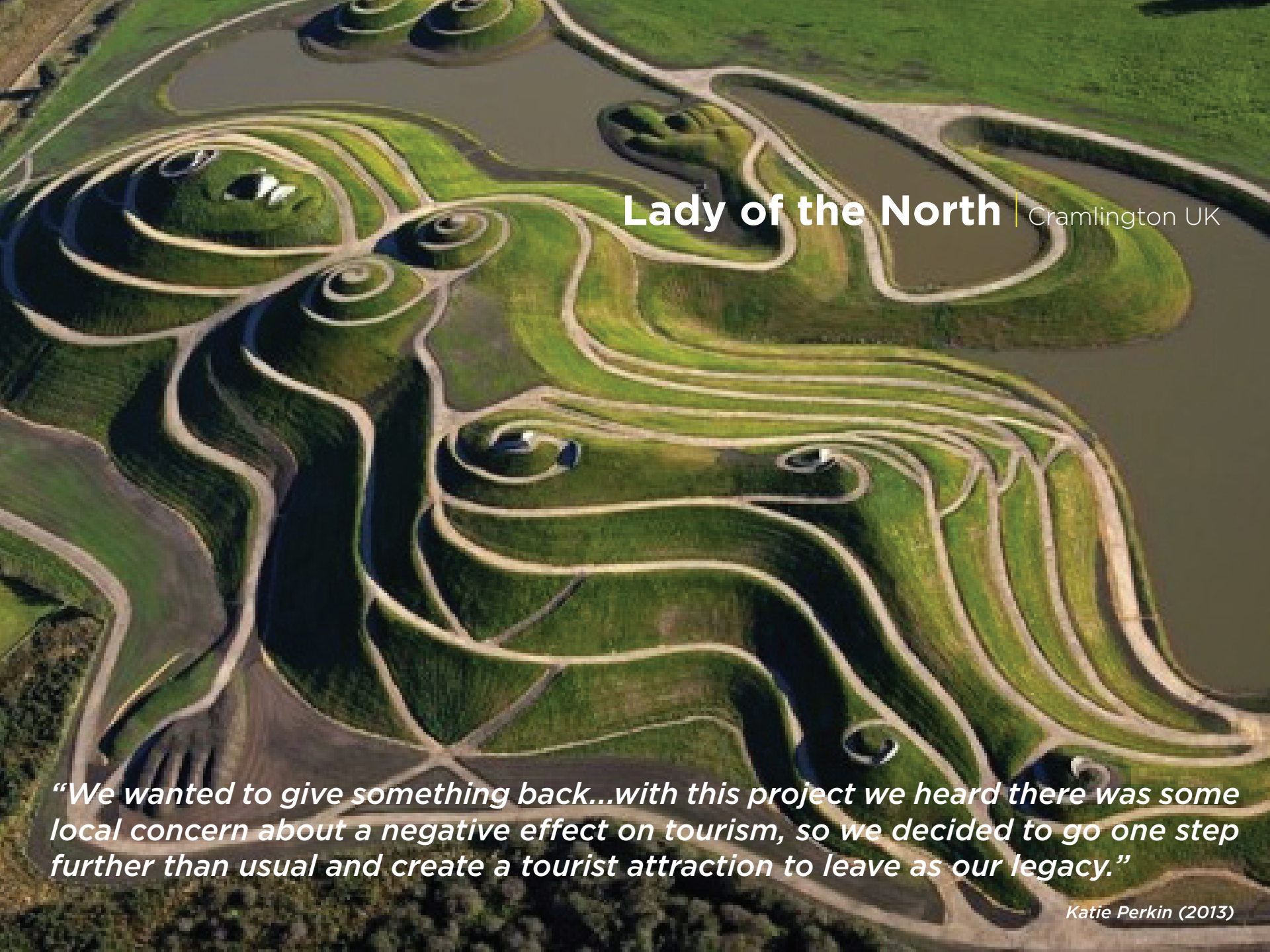
D.I.R.T Studio

Historian Allan Comp

Artist Stacey Levy

Project cost vs. annual revenue (post closure):

\$334,800 vs. intangible community and environmental health benefits



Lady of the North | Cramlington UK

“We wanted to give something back...with this project we heard there was some local concern about a negative effect on tourism, so we decided to go one step further than usual and create a tourist attraction to leave as our legacy.”

Katie Perkin (2013)



Lady of the North

3 mill.

Addition cost to Banks

20 ha.

Delivered public open space

100,000

Visitors in first year

140 mill.

Predicted injection into economy

Proven Reputation

Unanimous local government approval for
Ferneybeds mine



Lady of the North

Creative Concept

Creation of ongoing revenue generation for the region

Holistic Approach

Coordination between technical, ecological, landuse and socio-economic aspects

Early Involvement

Input begins at the planning process

Collaboration

Between professions

"An altered landscape is not fully remediated until it again serves the community it helped to establish"

Julie Bargeman

