Strength. Performance. Passion.

# Biodiversity Action at Holcim Canada

## Global Partnership for Business and Biodiversity, Montreal, Oct 2, 2013

# Why Biodiversity Matters to Holcim

- As a resource intensive business, biodiversity conservation is important to long term resource strategy

  - Public pressure
  - Accountability
  - Regulations/Requirements
  - Efficient use of limited resources is good business practice
  - Businesses can contribute to conservation through their activities

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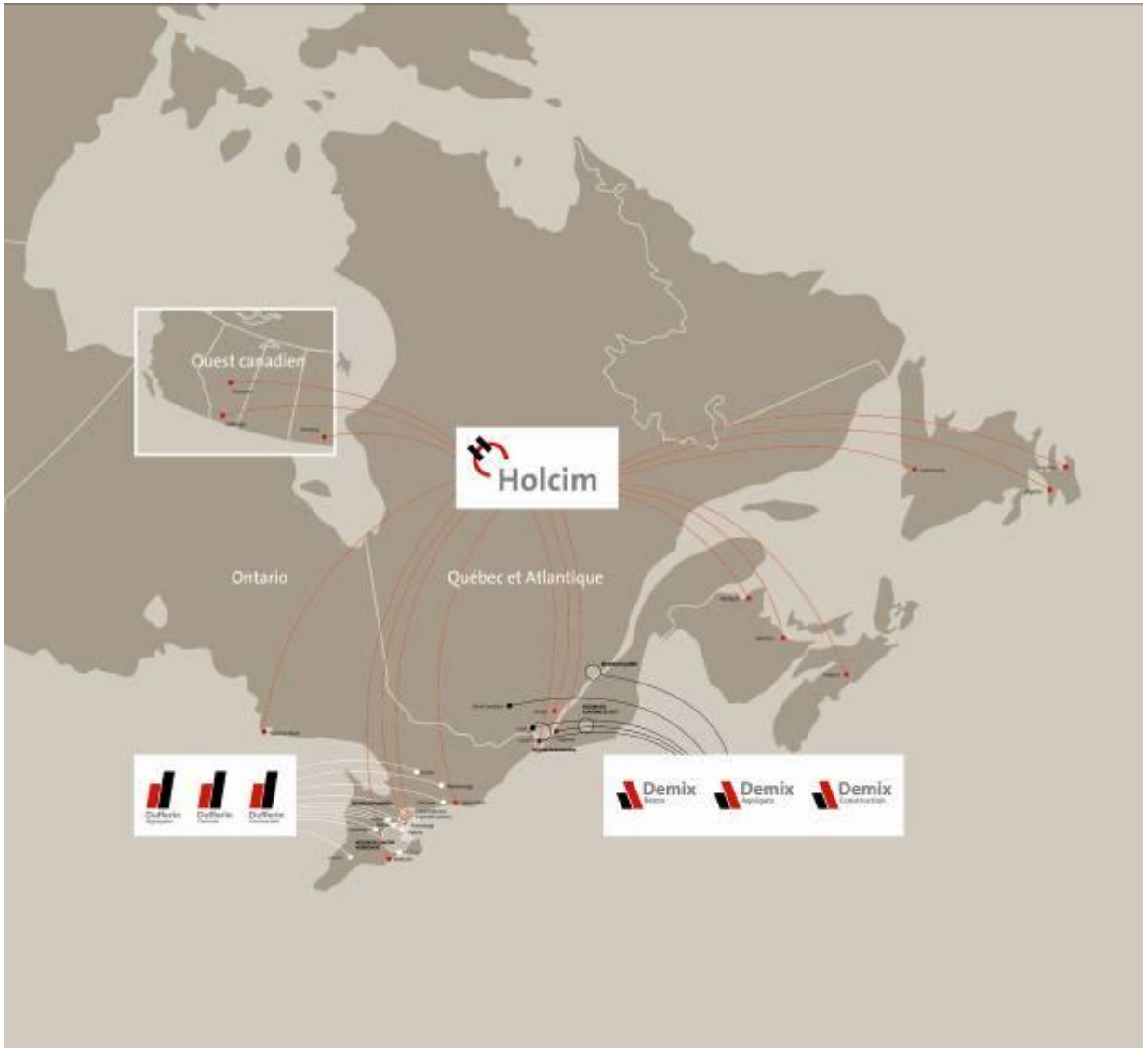
# Holcim in Canada




2 Cement Plants
Joliette and Mississauga.

Dufferin (ON)
Demix (QC)
- Concrete Plants
- Aggregates (quarries/pits)
- Asphalt Plants
- Construction

# Concrete is also essential to Society's shift to a Green Economy

- Urban densification
- Wind Power
- Hydroelectricity
- Nuclear
- Green Roofs
- Public Transport
- Even Solar Energy

# To meet this growing demand, We will need to build smart, sustainable buildings and homes

Richardsville Elementary
Bowling Green, KY
First Net-zero school in the US

Concrete buildings require up to 40% less energy to operate than similar wooden structures


Building materials represent less than 10% of the total GHG emissions over the life of a building

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# Worldwide Holcim operations cover 138,000 ha (3,000 ha in Canada). Only 30% of this land is used as part of our operations

- Number of sites : 547
- Sites in natural setting: 22%
- Sites in agricultural setting: 54%
- Sites in commercial/industrial setting 13%
- Sites in residential areas 7%
- Sites with local ENGO partnerships: 19%
- Sites with biodiversity monitoring: 20%
- Sites with an existing quarry rehabilitation plan: 86%
- Sites with completed environmental and social assessment: 55%
- Sites with significative biodiversity value: 34%
- Number of sites with Biodiversity Action Plans: 29%
  - In Canada 4/20 have BAP (5 are in a natural setting, 10 agricultural)

Progressive Rehabilitation
Dufferin, Millcreek, ON

# The first priority for Holcim has been to minimize our dependence upon non-renewable resources


former terminals at Pearson Airport

Holcim Canada (Dufferin and Demix) continues to be a leader in the use of recycled aggregates in replacement for natural stone and the use of residual materials in the replacement for fuels and raw materials

# The public, in general, is unaware of the positive long term ecological impacts of our operations


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Holcim

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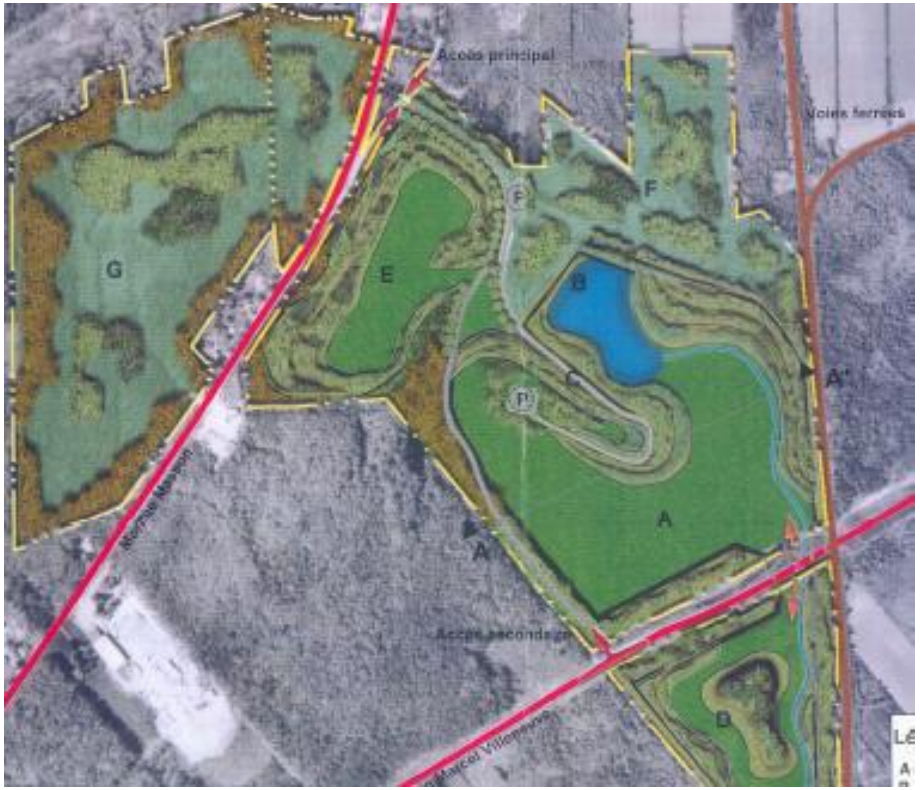
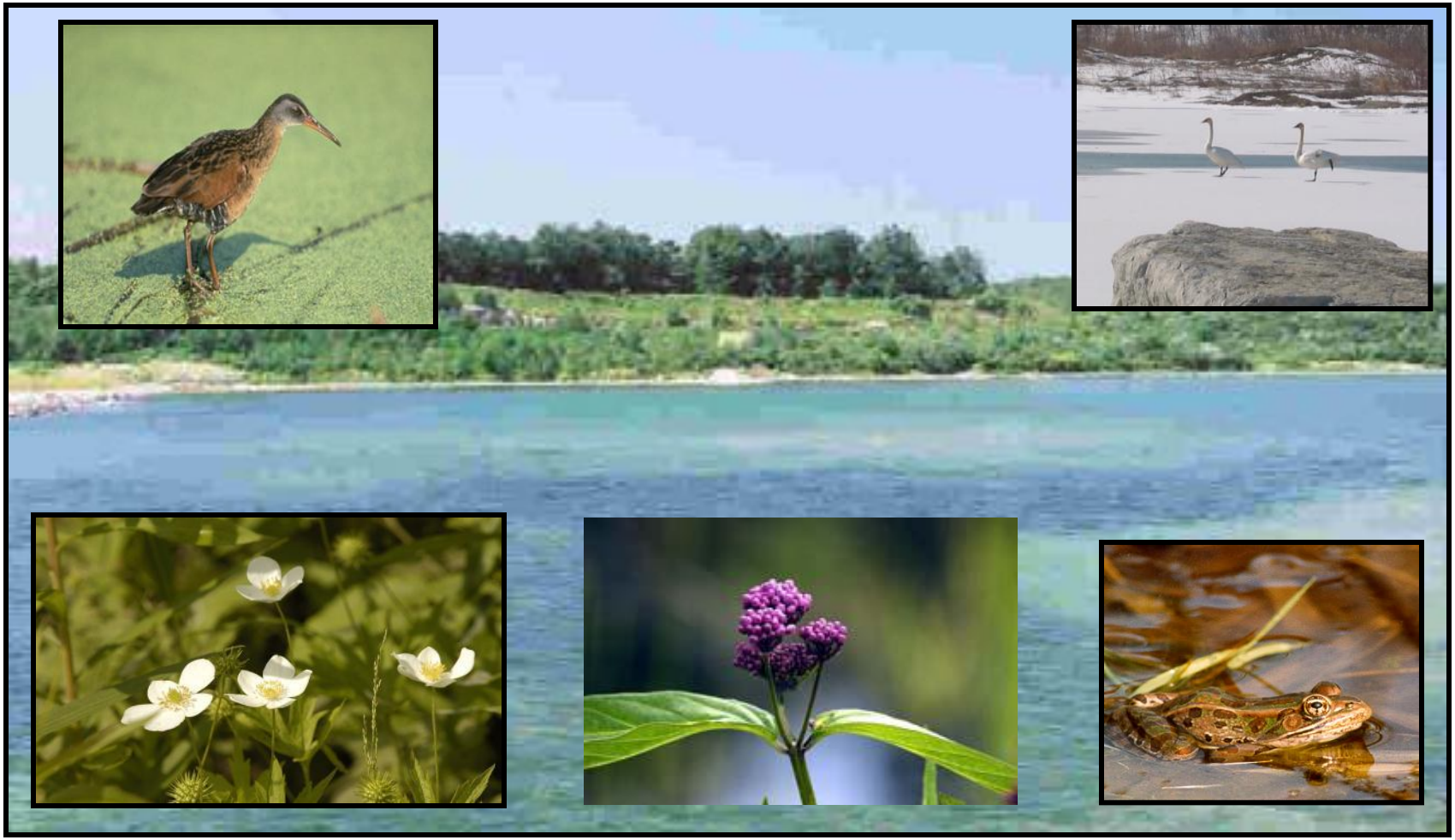
# Aggregate operations located in dense urban areas may also result in important biodiversity gains


# Other suburban quarries in Greater Montreal Area




# Shallow Aquatic Community



# Open Cliff Community





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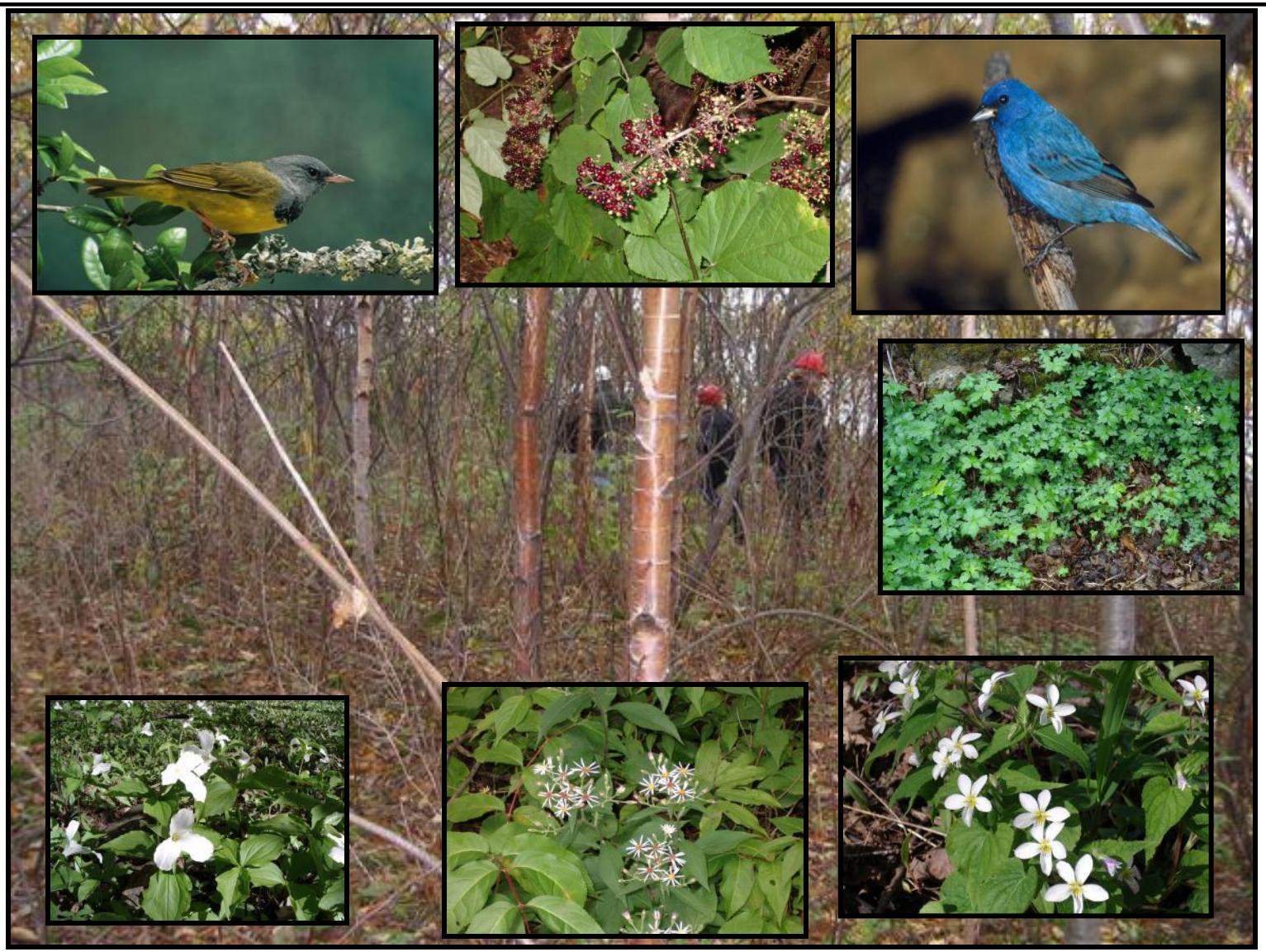
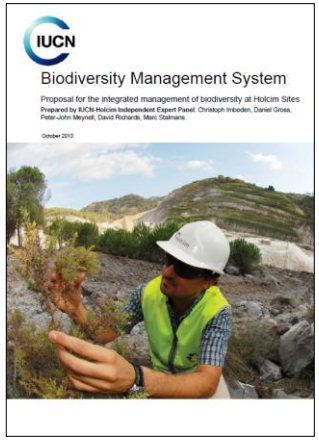
# Old Field

# Poplar/Sumac



# Integrated Biodiversity Management System developed in partnership with IUCN




**Biodiversity Management System**

**Planning Cycle**

| Pre-ESIA | | |
|---|---|---|
| Opportunity Study | Feasibility Study | ESIA |

**Operational Cycle**

| | |
|---|---|
| Site Biodiversity Management | Quarry Rehabilitation |

Biodiversity Handbook (living library): Supporting Information, additional resources

**Avoid Risk** → **Seize opportunities**

# All sites are classified according to their biodiversity importance and potential impacts of operations

***Table 4:*** **Biodiversity and Rehabilitation Plans**

| Biodiversity Importance Category | Biodiversity Impact Levels (from *Table 1*) | | | |
|---|---|---|---|---|
| | **A** | **B** | **C** | **D** |
| **1A** | High: **BAP** | High: **BAP** | High: **BAP** | Med./High |
| **1B** | High: **BAP** | High: **BAP** | High: **BAP** | Medium |
| **2** | High: **BAP** | High: **BAP** | High: **BAP** | Medium |
| **3** | Med./High | Med./High | Min./Med. | Min./Med. |
| **4** | Minimum | Minimum | Minimum | Minimum |

**LEVEL OF BIODIVERSITY INPUTS INTO REHABILITATION PLANS**

**High biodiversity input → Biodiversity Action Plan (BAP)**

- Specific positive biodiversity targets
- Re-vegetation using only native species
- Active control of invasive alien species
- Long-term post-closure management for biodiversity-related land use
- Active monitoring of target attainment
- Ultimate land use for conservation (taking into account land-use patterns in the broader landscape) or for natural resource use/biodiversity (forestry, grazing, etc.)

**Medium biodiversity input**

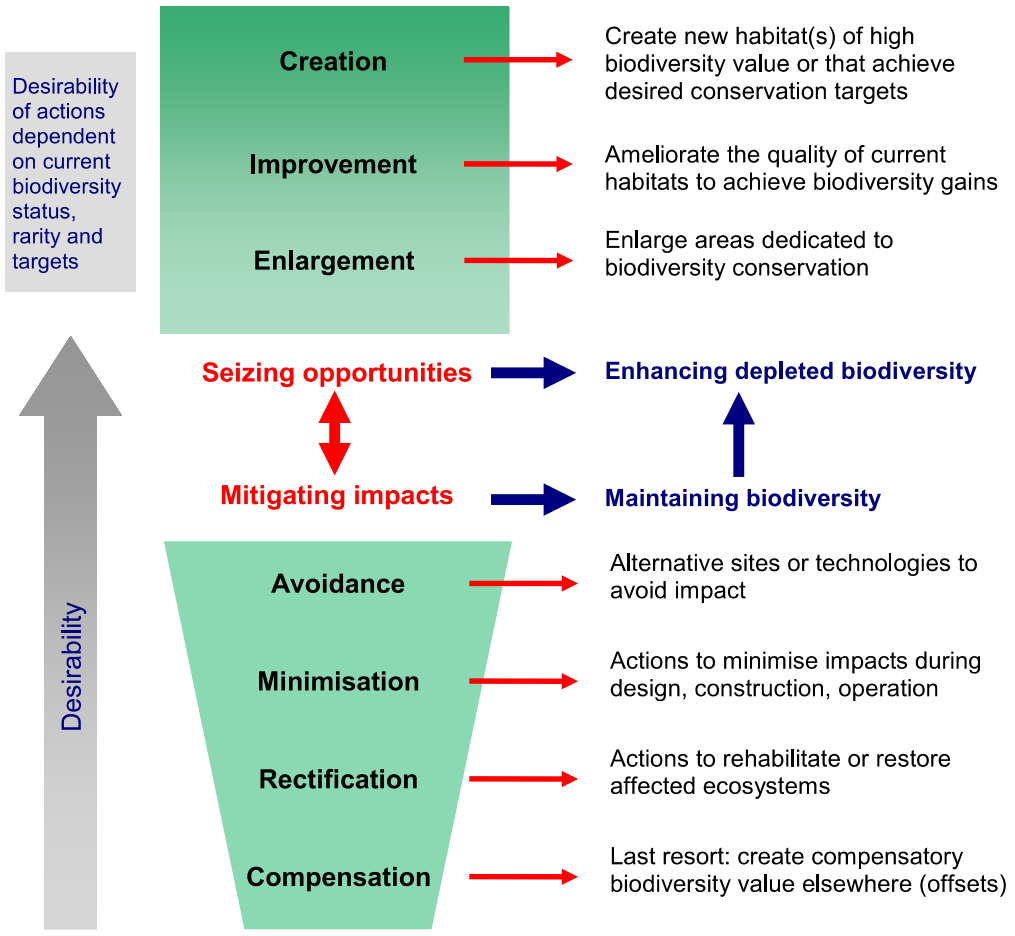
- May include biodiversity targets (together with targets for other forms of land use)
- Re-vegetation using only native species
- Active control of invasive alien species
- No biodiversity monitoring (except presence/absence of invasive alien species)
- Ultimate land use based on a natural resource base/biodiversity (forestry, grazing, etc.) with due cognizance of the land-use patterns in the broader landscape

**Minimum biodiversity input**

- Re-vegetation using non-invasive alien species or native species
- Active control of invasive alien species
- No biodiversity monitoring
- Ultimate land use not primarily geared at biodiversity or depending on biodiversity (e.g. residential/industrial)

# The interventions are also adjusted to take into account local biodiversity needs

*Figure 8:* **Biodiversity mitigation and enhancement measures**




**Adapted from**: Rio Tinto (2004)

# Biodiversity is more than…managing protected species

## Understanding ecosystem services

### Provisioning

Goods or products produced by ecosystems

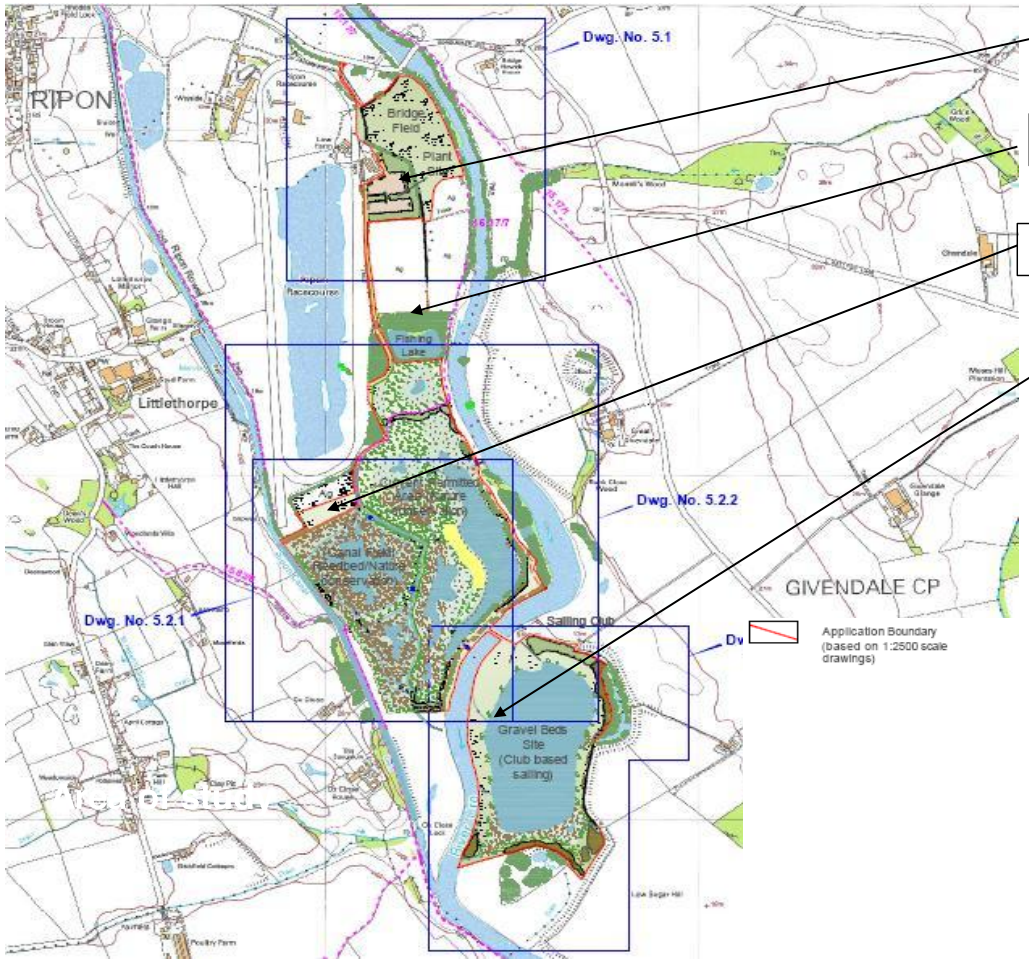
### Regulating

Natural processes regulated by ecosystems

### Cultural

Non-material benefits obtained from ecosystems

# Holcim has been involved in the testing of ecosystem valuation tools Ripon Quarry, UK (Aggregate Industries)

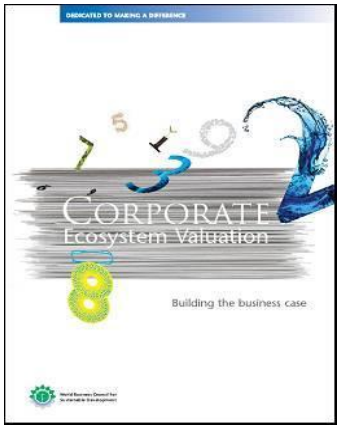



Processing plant

Exhausted extraction area

Proposed reedbed

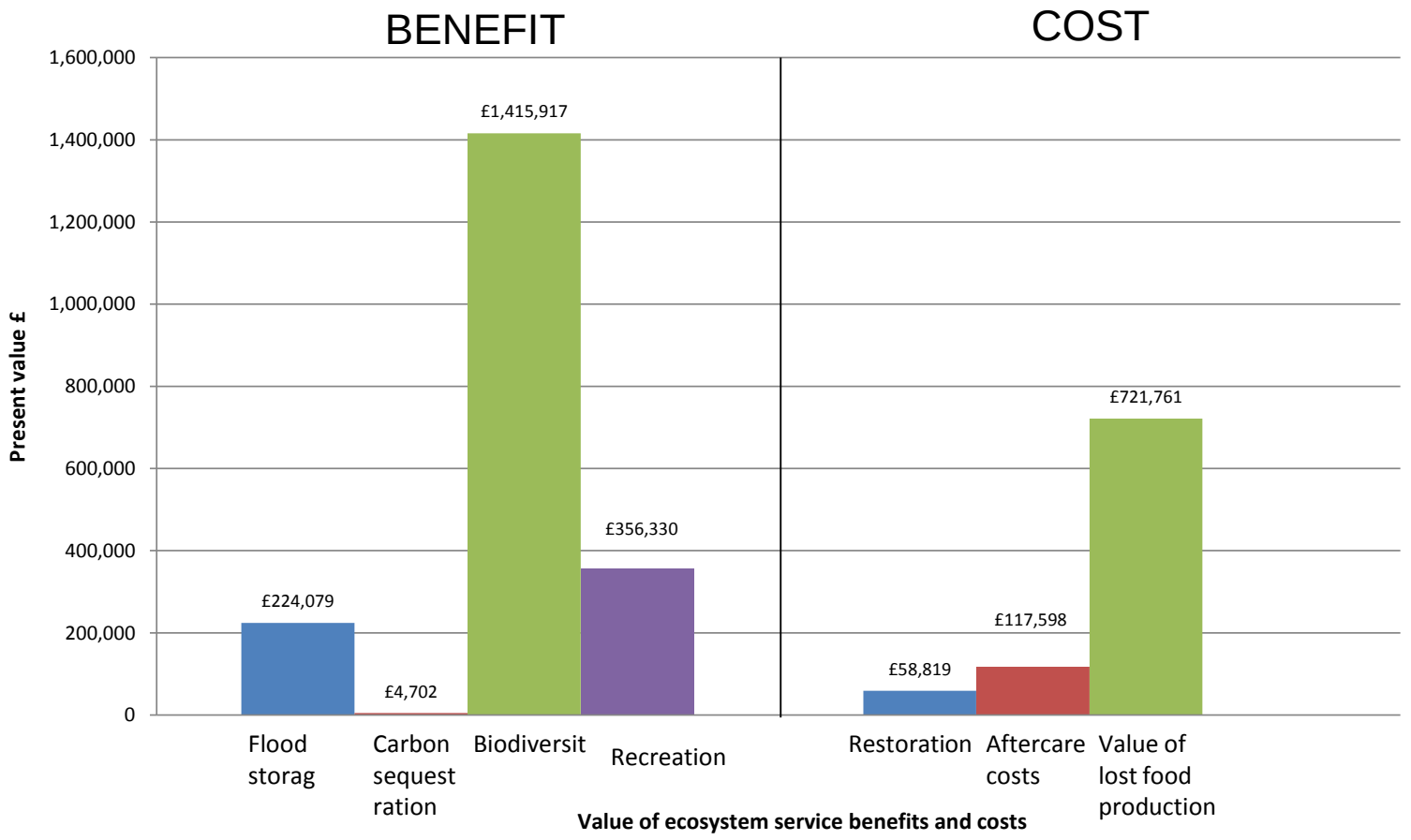
Recreational lake




www.wbcsd.org/web/evi.htm

# Summary of the Ecosystem Valuation assessment in Ripon

## Value of ecosystem service - benefits and costs of supply



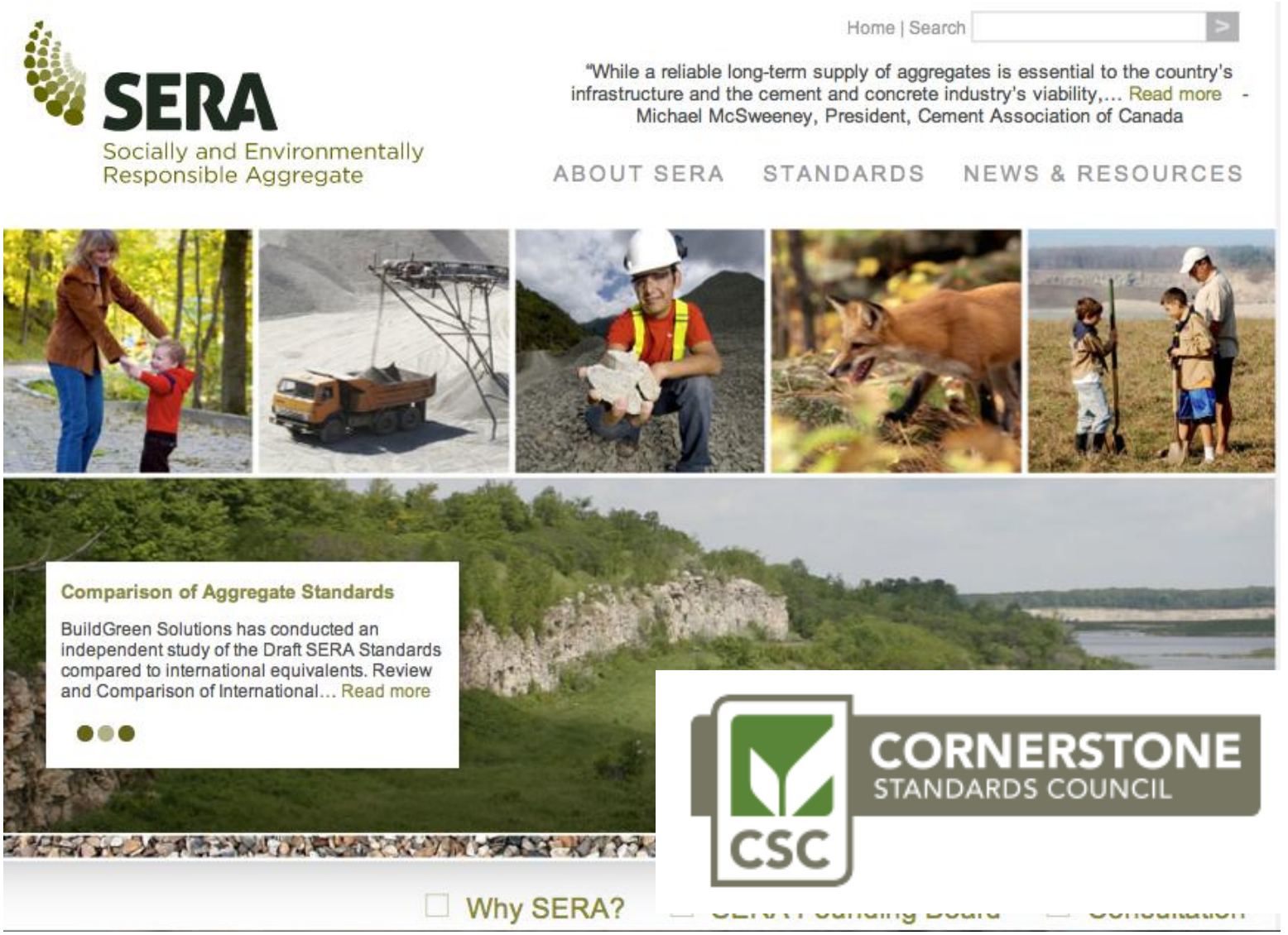
# Important benefits were obtained through the construction of a lake and wetlands

Aggregate Industries
Ripon, UK

Benefits

- Habitat: 1.4 million £
- Recreation: 350,000 £
- Flood control: 224,000 £
- Climate change: 4,700 £
- Rehabilitation and monitoring costs were not significative
- Ecosystem improvements were achieved at a reasonable cost
- The greatest economic impact is generally observed where original land use had marginal biodiversity value

# Holcim is leading industry in developing sustainable standards and practices



# What has Holcim been doing in Canada…
# Peregrine Falcons are found at a number of our sites

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- At Demix Aggregates:

Manmade falcon nests installed to prevent nesting in active areas at the Mirabel Quarry

# Bank Swallows, Dedicated nesting area at active quarry

Bank swallows face significant habitat loss due to urbanization

- At Demix Concrete:
  - Manmade nest installation
    - First experience in Quebec
    - Built by High school students, with participation of "*Montreal Biôdome*" (Museum where 5 ecosystems are recreated; dedicated to Biodiversity education)

# Biodiversity Action also occurs at Holcim concrete plants


# Where it is not possible to avoid impacts, compensation projects are undertaken to preserve specific species



 

# Partnering with local schools is an important part of our biodiversity actions and sustainability approach


# Biodiversity protection is totally compatible with all our operations

# Creating a positive lasting impact on biodiversity benefits our local communities and the environment



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