



5 Wing Goose Bay Remediation Project

A Case Study In Sustainability?

RPIC Federal Contaminated Sited Regional Workshop
Halifax, Nova Scotia
June 19, 2013

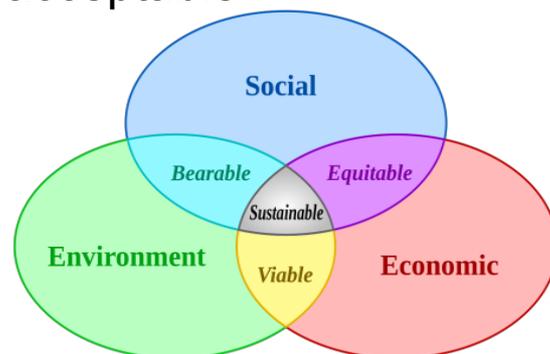


Points to Cover

- What is “sustainable remediation”?
- The site & project context
- Is the Goose Bay Remediation Project “Sustainable”?
- Conclusions

What Is “Sustainable Remediation”?

- No consistent definition of this concept
- Allows for some flexibility in determining sustainability
- SuRF-UK: ***“The practice of demonstrating, in terms of environmental, social, and economic indicators, that the benefit of undertaking remediation is greater than its impact, and the optimum remediation solution is selected through the use of a balanced decision-making process”***
- Success can be measured using 3 broad goals:
 - Achieving a risk-based site management strategy
 - Ensuring the broader effects of the strategy are acceptable
 - Balanced outcome of 3 pillars of sustainability



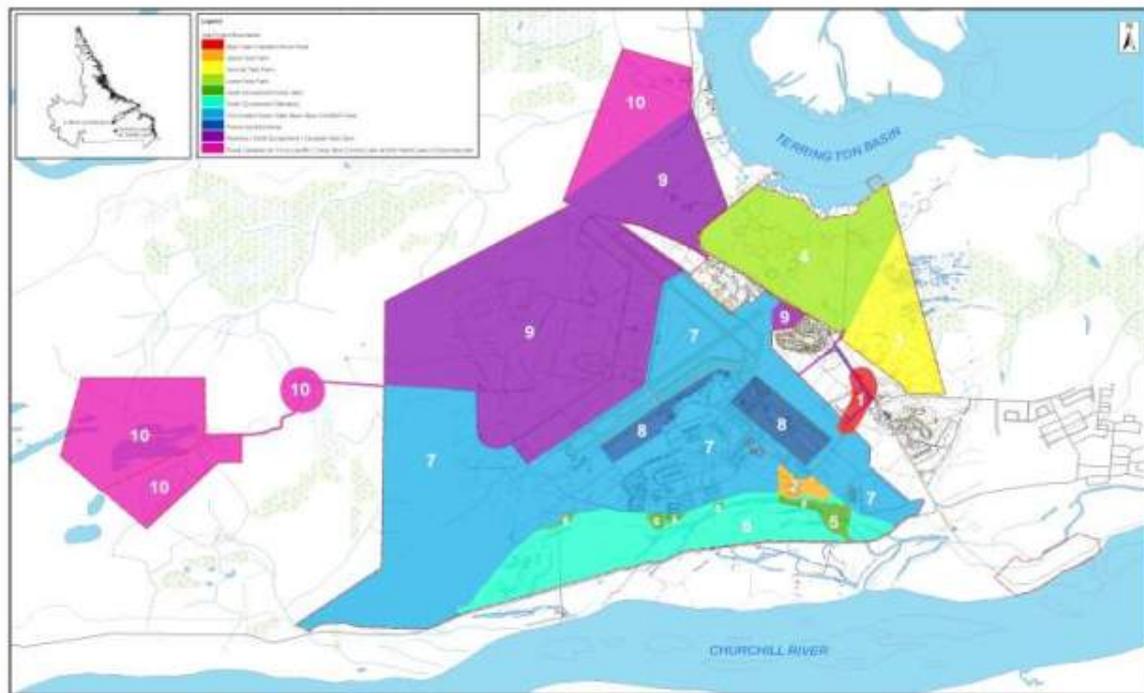
Snapshot of the Site

- 5 Wing Goose Bay was founded in 1941 - still active
- Peak population – up to 12,000
- Several hundred uniformed and civilian staff remain
- Base covers an area of 5,400 ha, 20% of which is wetland habitat
- 6 former and active tank farms
- More than 50 ASTs with total capacity in excess of 300 M litres
- Dozens of former USTs
- 160 km of pipelines
- 5 km of surface dumps along escarpment
- Other dumps scattered across site



Snapshot of the Project

- Environmental liability exceeded Air Force capacity to manage within operation budget
- DND established project in 2004 to be managed from NDHQ
- Assessment work started in 2004
- In 2007 the project team commenced TB approvals process for Omnibus project
- TB Approval in 2009 for indicative cost of \$292 M (maximum upset)
- Overall goal to reduce risk to human health & the environment, and the liability associated with the contamination



Is the GBRP “Sustainable”?

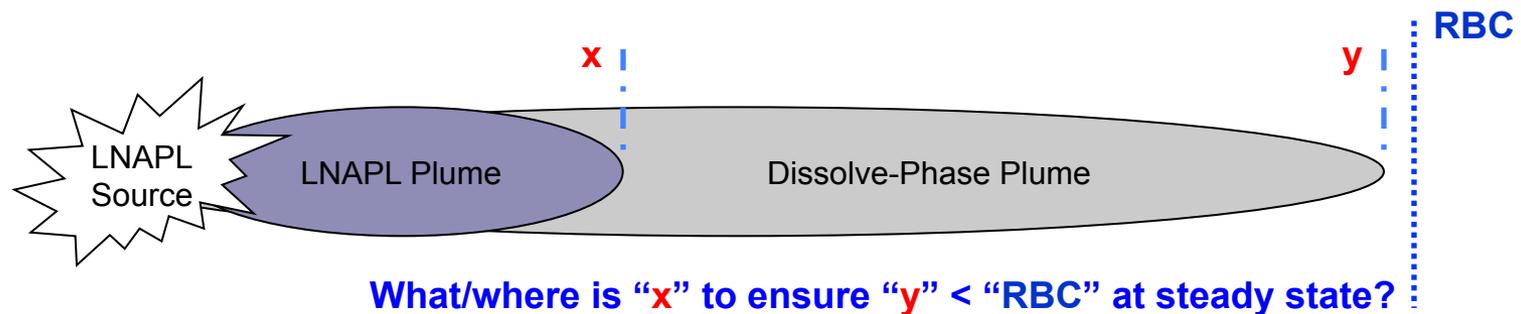
- Project was not scoped or presented to Treasury Board with specific sustainability indicators in mind
- At this stage in the project, is it too late to demonstrate sustainability?
- The table below is a good starting point to answer the question:

Considerations When Assessing Sustainability

Environmental	Social	Economic
<ol style="list-style-type: none"> 1. Impacts to various media (Air, GW, SW, soil) 2. Effects on flora & fauna 3. Use of resources 4. Waste generation 5. Rehabilitation 	<ol style="list-style-type: none"> 1. Human health & safety 2. Fairness & equity 3. Impacts on neighbouring areas 4. Community engagement & satisfaction 5. Compliance with policy objectives 	<ol style="list-style-type: none"> 1. Direct costs & benefits 2. Indirect costs and benefits 3. Employment and other capital gain 4. Project flexibility 5. Long-term effects (post project)

Achieving A Risk-Based Management Strategy

- This is not a new concept in contaminated site management
- One difference is we worked with our Technical Advisory Group to develop a best-fit process for the scope and nature of the GBRP
- We are also extending the risk-based approach to residual LNAPL
- Allows us to meet current project goals and policies, while having a process in place to deal with future conditions (i.e. land use changes)
- Eliminates spending resources to solve problems that don't – and may never – exist **in the context of the site**



Ensuring Acceptance of the Broader Effects of the Strategy

Key Principles in Sustainable Remediation:

- Protection of human health and the wider environment
- Safe working conditions & practices
- Consistent, clear, repeatable decision-making & transparent reporting
- Good governance and early stakeholder engagement
- Sound science & defensible management



Ensuring Acceptance of the Broader Effects of the Strategy

Key Principles in Sustainable Remediation:

- ✓ Protection of human health and the wider environment
 - Integral to project scope statement
 - Project-wide CEAA Environmental Assessment
 - Contract-specific Environmental Protection Plans
 - Environmental Effects Monitoring



Ensuring Acceptance of the Broader Effects of the Strategy

Key Principles in Sustainable Remediation:

- ✓ Safe working conditions & practices
 - Project-wide Health & Safety plan
 - Contract & site-specific Health & Safety plans
 - Regular inspections, audits, follow-ups
 - Documented processes, procedures, and results



Ensuring Acceptance of the Broader Effects of the Strategy

Key Principles in Sustainable Remediation:

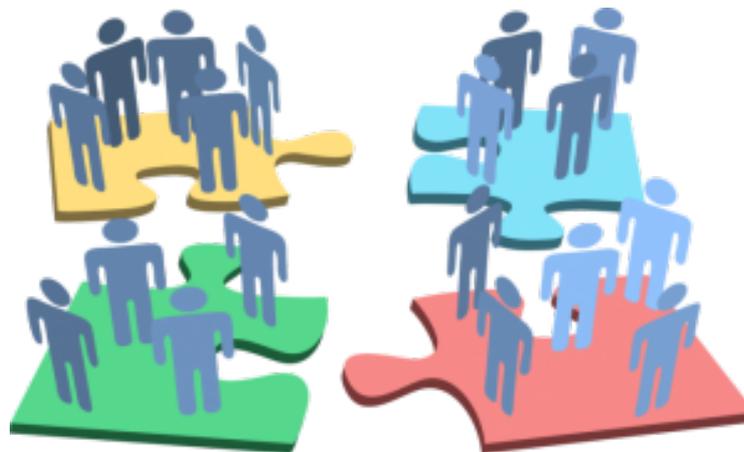
- ✓ Consistent, clear, repeatable decision-making & transparent reporting
 - Records of discussion and documented action items
 - Consistent application of policies, guidelines, best practices, and lessons learned
 - Involvement of a Technical Advisory Group with key regulatory and expert support agencies
 - Early and regular stakeholder engagement



Ensuring Acceptance of the Broader Effects of the Strategy

Key Principles in Sustainable Remediation:

- ✓ Good governance and early stakeholder engagement
 - Established functional project team and governance structure (as required by DND and TB policy)
 - Major emphasis on communication and stakeholder involvement through meetings, Technical Advisory Group, workshops, conferences, public information sessions, industry engagement, newsletters, presentations, public service announcements and anything else we can do



Ensuring Acceptance of the Broader Effects of the Strategy

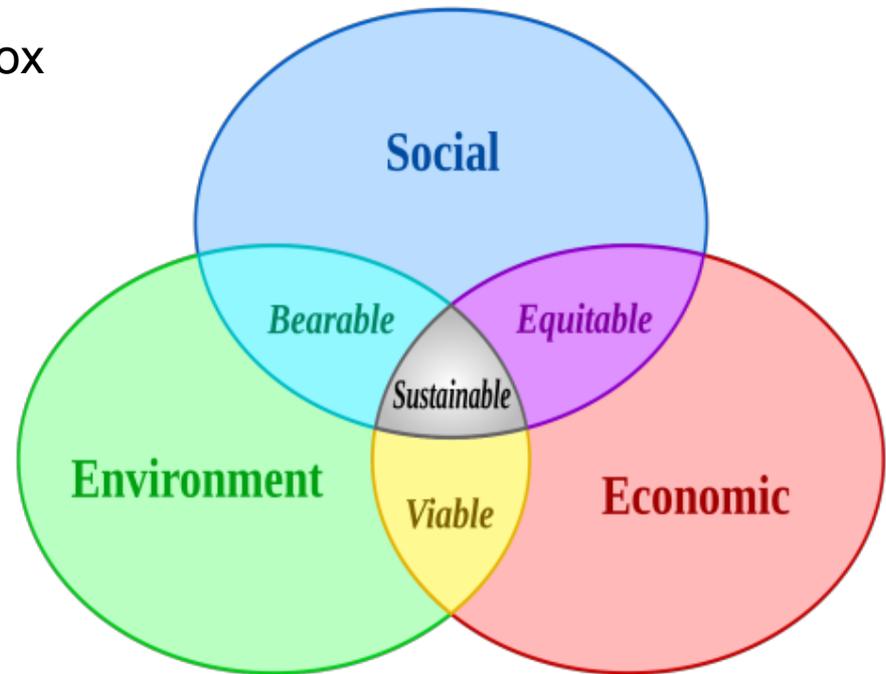
Key Principles in Sustainable Remediation:

- ✓ Sound science & defensible management
 - Using experts, state of the art technologies/techniques
 - Adopting Best Management Practices
 - Adaptability and flexibility with project execution
 - Rigorous and detailed options analysis for remedial planning



Balanced Outcome of 3 Pillars of Sustainability

- This is the toughest aspect to measure during a project
- When considering Benefits & Impacts – to whom, and in what context?
- For the GBRP, need to consider and compare federal, regional, and local aspects
- No magic formula to ensure everyone is satisfied with the approach or the outcome
- Depends on where you draw the box
- The level of detail of the assessment needs to be reasonable and relative to the project goals
- Important to realize that consultation does not necessarily mean consensus
- Decision-making authority should be commensurate with impact of decision



So... Is the GBRP “Sustainable”?

- Examining using the 3 broad goals:
 - ✓ Achieving a risk-based site management strategy
 - ✓ Ensuring the broader effects of the strategy are acceptable
 - ❓ Balanced outcome of 3 pillars of sustainability
- We have taken a lot of the right steps when carrying out the project
- Regular sustainability assessments of the project during execution would increase our likelihood of a balanced outcome at the end
- Resource availability will be a determining factor

Conclusion:

*We are on the right track,
but success is not guaranteed -
continued attention to sustainability considerations
is required throughout the project*

Discussion / Questions / Comments

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