Debunking Myths about Sustainable Remediation

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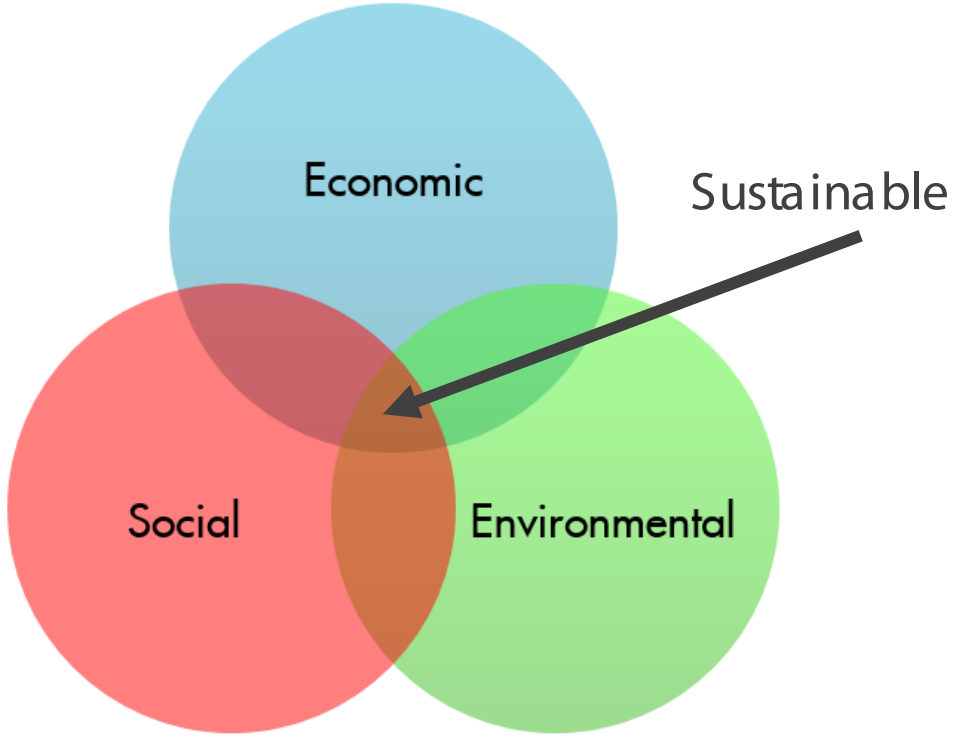
Take-away messages

- Sustainable Remediation concepts have developed rapidly in the past decade
  - SuRF-UK, and related, organizations
  - guidance has been prepared in numerous countries
  - ISO Standard 18504:2017
- The alignment in thinking necessary to develop an ISO standard also allowed joint statements of intent from practitioner and policy maker groups regarding sustainable remediation (NICOLE & Common Forum, 2013).
- Despite the consistent standards and guidance/ frameworks, there continues to be occasional misunderstanding of the goals of sustainable remediation.
- This presentation collates some of the common misconceptions, inaccurate claims and statements about sustainable remediation, and presents a view from a SuRF-UK Framework/ ISO Standard author.

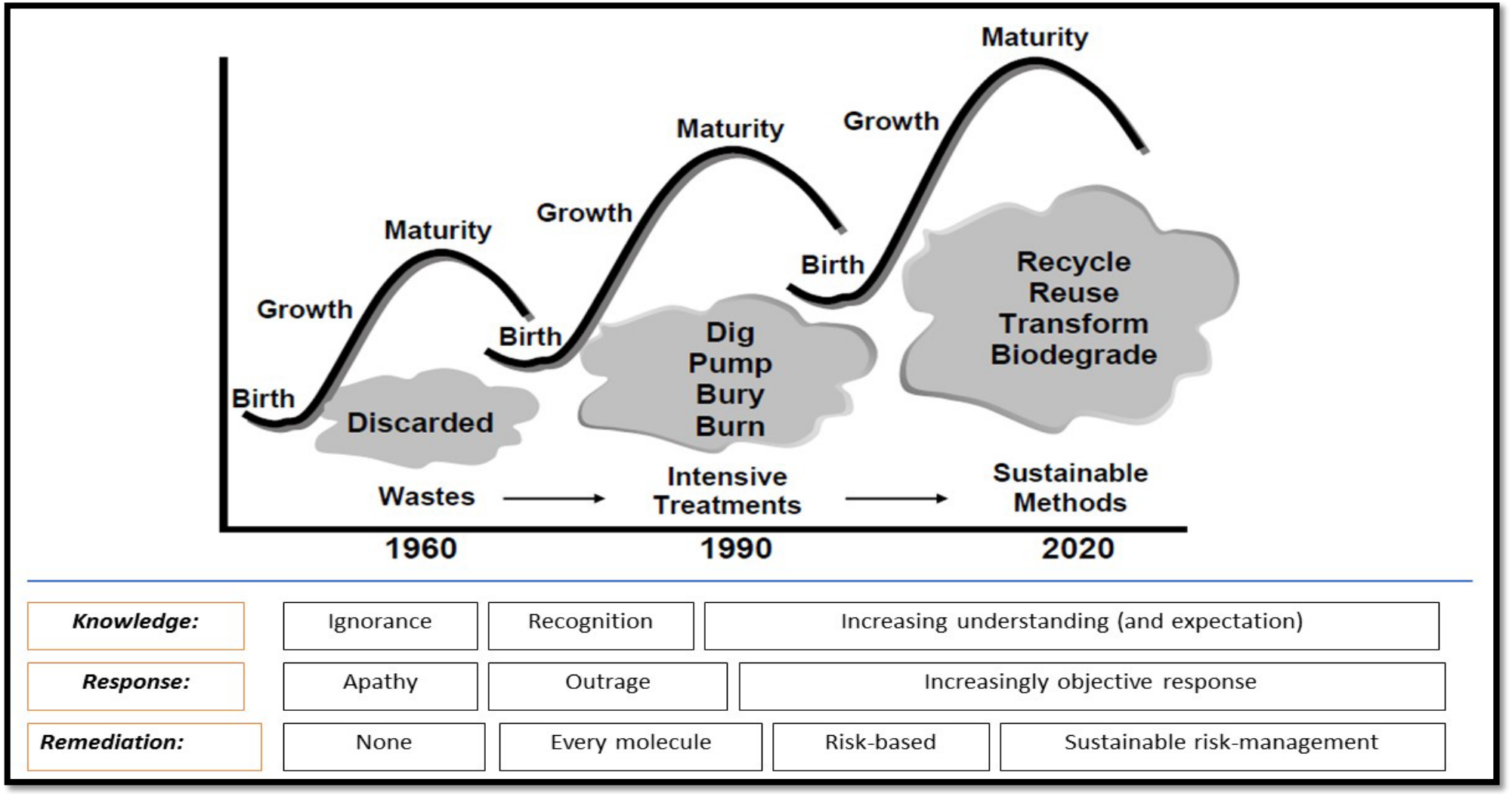
What is Sustainable Remediation?

- SuRF-UK
  - "The practice of demonstrating, in terms of environmental, economic and social indicators, that the benefit of undertaking remediation is greater than its impact, and that the optimum remediation solution is selected through the use of a balanced decision-making process."

- ISO 18504:2017
  - "elimination and/or control of unacceptable risks in a safe and timely manner whilst optimising the environmental, social and economic value of the work"



The journey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Burn
Recycle
Reuse
Transform
Biodegrade
Wastes
Intensive
Treatments
Sustainable
Methods
1960
1990
2020
Knowledge:
Ignorance
Recognition
Increasing understanding (and expectation)
Response:
Apathy
Outrage
Increasingly objective response
Remediation:
None
Every molecule
Risk-based
Sustainable risk-management

Some myths about sustainable remediation

Myth 1. Sustainability means you can do less remediation and leave unacceptable risks in place

Reality:

Risk prevails over sustainability as the criteria to trigger remedial action.

Sustainability assessment informs us of the best way to manage unacceptable risks.

Myth 2. Just saying a project is 'sustainable' makes it so

Reality:

Unsupported claims bring the reputation of sustainable remediation into question.

Claims of 'Sustainable remediation' should be demonstrated by compliance with relevant best practice documents.

More myths about sustainable remediation

Myth 3. It is only about saving money

Reality:

Efficient use of capital is important, but an SR assessment also considers environmental and social considerations.

Sustainability assessment can lead to significant value creation across all three pillars of sustainability economic, social and environmental

Myth 4. Green Remediation and Sustainable Remediation are the same thing

Reality:

Sustainable Remediation and Green Remediation are not synonymous with one another. Assessors should be clear about which framework they are adopting and why.

Even more myths about sustainable remediation

Myth 5. It is a new paradigm that requires much expertise, time and expense

Reality:

Sustainable (and risk-based) management does require some skills development. However, it is not a new paradigm and draws heavily on what the contaminated site community already know and are familiar with.

Myth 6. Sustainability assessment is the same as conducting a CO_2 footprint analysis

Reality:

Sustainability assessment requires an assessor to think broadly to ensure a valid and balanced assessment. CO_2 / GHG emissions are an important consideration, but not the only one.

Yet more myths about sustainable remediation

Myth 7. The assessment of social performance requires complex input from social scientists

Reality:

The use of existing governance structures, and fair and proper consideration of the effects of different remediation options on the range of stakeholders present is possible within existing structures and systems.

Myth 8. Sustainability can be directly and precisely measured

Reality:

It is the relative performance of the remediation options, and the selection of one, after appropriate stakeholder input, as the best or most sustainable option.

Conclusions

- Sustainable remediation assessment shows us how to manage unacceptable risks to human health and the environment in the best, most sustainable, way.
- Sustainable Remediation provides a framework to incorporate sustainable development principles into remediation projects and deliver significant value for affected parties and society more broadly.
- In debunking some myths about Sustainable Remediation it is hoped that consistent application of ISO 18504:2017/ SuRF-UK framework (or equivalently robust guidance) will facilitate even wider use of Sustainable Remediation around the world.

For the full paper

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RESEARCH ARTICLE

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Debunking myths about sustainable remediation

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Abstract

Sustainable remediation concepts have evolved during the decade 2007–2017. From the establishment of the first Sustainable Remediation forum (SURF) in 2007, to publication of ASTM and ISO standards by 2017. Guidance has been developed around the world to reflect local regulatory systems, and much has been learned in applying sustainability assessment to contaminated site management projects. In the best examples, significant improvements in project sustainability have been delivered, including concurrent reduction of the environmental footprint of the remediation program, improved social performance, and cost savings and/or value creation. The initial advocates for the concept of sustainable remediation were quickly supported by early adopters who saw its potential to improve the remediation industry's performance, but they also had to overcome some inertia and scepticism from other parties. During the debates and discussions that occurred at numerous international conferences and SURF workshops around the world, various opinions were formed and positions stated. Some proved to be correct, others not so. With the recent publication of ISO Standard 18504 and the benefit of a decade's-worth of hindsight on sustainable remediation programs implementation and project delivery, this paper summarizes a number of myths and misunderstandings that have been stated regarding sustainable remediation and seeks to debunk them. Sustainable remediation assessment shows us how to manage unacceptable risks to human health and the environment in the best, that is to say the most sustainable, way. It provides the contaminated land management industry a framework to incorporate sustainable development principles into remediation projects and deliver significant value for affected parties and society more broadly. In dispelling some myths about sustainable remediation set out in this paper, it is hoped that consistent application of ISO18504/SuRF-UK (or equivalently robust guidance) will facilitate even wider use of sustainable remediation around the world.

KEYWORDS

ISO18504, SuRF-UK, sustainable remediation

1 | INTRODUCTION

The concept of sustainable remediation (SR) of contaminated soils and groundwater was first formally articulated in 2007 when the Sustainable Remediation Forum (SURF) was established in the USA. In the following decade to 2017, it progressed from the idea of a few far-sighted advocates to the mainstream in the remediation industry. It is now the subject of both an ASTM International (ASTM International, 2013) and International Organization for Standardization (ISO) standard (ISO, 2017). The application of SR has spread around the world rapidly, and guidance has been prepared in numerous countries to encourage appropriate application. These have largely been instigated by the various national SR fora (the SuRFs), as well as collaborative contaminated land-practitioner organizations such as the U.S. Interstate Technology & Regulatory Council (ITRC; www.itrcweb.org), the EU's Network for Industrially Co-ordinated Sustainable Land Management in Europe (NICOLE; www.nicole.org) and the EU Common Forum (www.commonforum.eu/) that bring policy-makers, regulators, consultants, industry, and academia together (Exhibit 1). The alignment in thinking necessary to develop an ISO standard also allowed joint statements of intent from practitioner and policy maker groups regarding SR (NICOLE & Common Forum, 2013).