

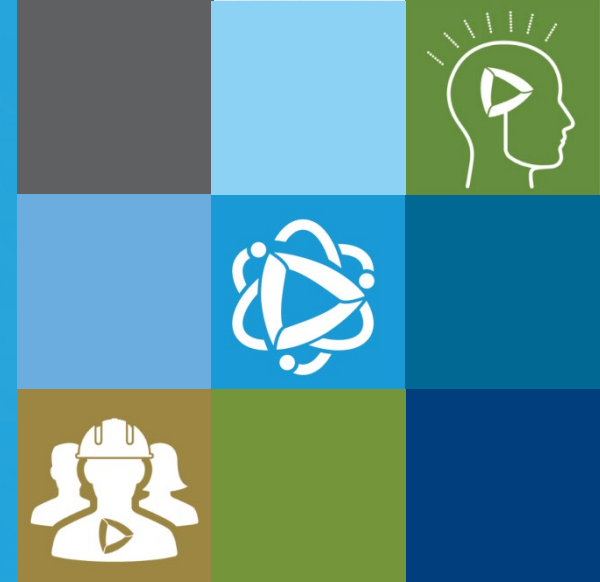


# 10 Years of SURF: Have we Re-Programmed?

Amanda D. McNally, PE | 04.18.2019

*Battelle Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies –  
Baltimore, Maryland*

*with Jake Torrens, Sustainable Remediation Forum (SURF)*





- Vision of SURF and Sustainable Remediation (SR) Leaders in 2009
- Progress and Accomplishments
- Challenges
- How do we persist?



# 2009 White Paper Established a Vision



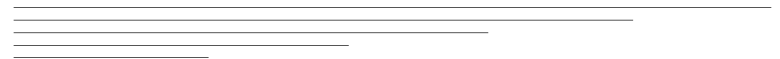
Contribute to planetary sustainability by promoting approaches and practices that take into consideration the long-term effects of remedial actions on the environment, stakeholder communities, and economics.

*REMEDIATION Summer 2009*



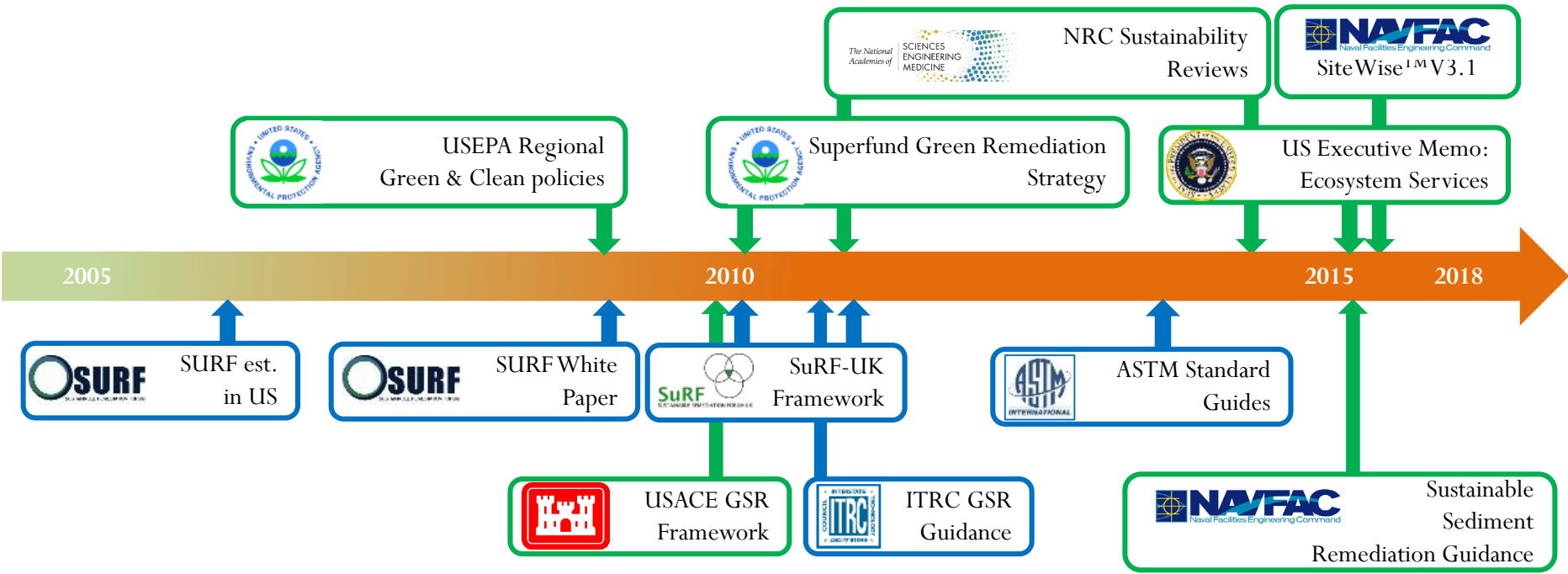
## Sustainable Remediation White Paper—Integrating Sustainable Principles, Practices, and Metrics Into Remediation Projects

David E. Ellis



Paul W. Hadley

# Progress has been steady



# Significant Accomplishments in Sustainable Remediation



- **Regulatory Outreach**
  - USEPA and State Agency engagement
  - Development of programs (e.g., MA, NJ, NY, IL, MN, WI)
  - API/ITRC Sustainable Remediation Initiative
- **Collaboration**
  - SURF meetings – technical initiatives, knowledge sharing
  - Publications – White Paper, Framework, Metrics, Life Cycle Assessment (LCA), Social Aspects, Water Reuse, Resilience, Newsletter
  - Sustainable Remediation Conferences – Copenhagen, Vienna, Ferrara, Montreal, São Paulo
  - International Sustainable Remediation Alliance
- **SURF Partnership with AEHS Conferences**

# State of the Practice in 2009



Does your organization have any guidance, policy, or programs that address sustainability practices in remediation?

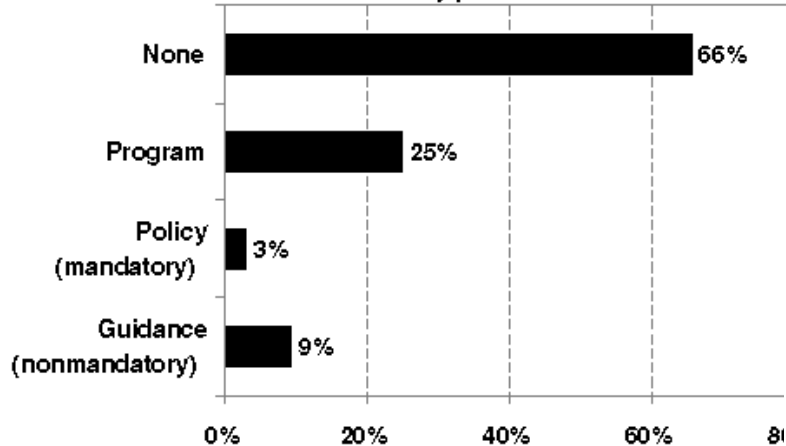


Exhibit 2-5. Organization practices

What do you believe is the most significant barrier to incorporating sustainable remediation within your organization?



Exhibit 2-6. Barriers within organizations

# What was holding us back?



Primary barriers to implementation of SR (2009 White Paper):

(1) lack of a well-defined framework and agreed-upon metrics

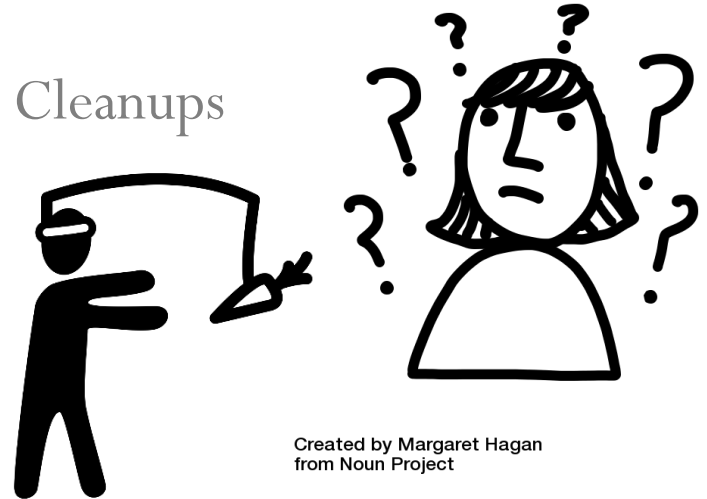
(2) lack of regulatory consensus of how to integrate these metrics and framework within the current regulatory structure

(3) lack of financial or certification incentives to encourage innovation and adaptation of sustainable remediation practices

# Do 2009 Impediments Persist?



- Well-defined framework(s)
  - SURF Framework
  - ITRC Guidance
  - USEPA Green Remediation
  - ASTM Standard Guide for Greener Cleanups
- Regulatory consensus
- Incentives to implement SR

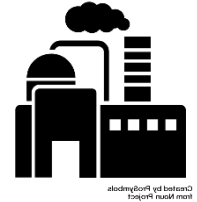
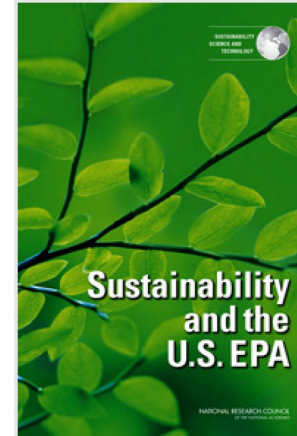




# So how do we persist?



- Many drivers still exist
  - NRC Green Book & Sustainability Concepts in Decision Making
  - EPA and State programs
  - Focus on GHG
  - Sustainable Development Goals
- International collaboration
- Corporate sustainability programs
- Linking site remediation to stewardship



Created by Protoprojects from Noan Project



# Leading the Way



# Lessons from SR Leaders



- Socialization
- Seek Opportunities for Collaboration
- Recognize Value
- Change in Outlook



## Closing Thoughts – What's Next?

- Re-programming is a continuous process
- Policies and framework alone won't shift the paradigm
- Have we quantified the externalities?
- Explore opportunities for grant funding & partnerships
- Incorporate resiliency & adaptation





- Amanda McNally, PE, Geosyntec Consultants, Pittsburgh, PA, [amcnally@geosyntec.com](mailto:amcnally@geosyntec.com)
- Jake Torrens, Sustainable Remediation Forum, Oakland, CA, [jaketorrens@gmail.com](mailto:jaketorrens@gmail.com)