

The SURF Report

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A Message from SURF's President: The Year in Review

Dear SURFers,

As we look forward to what 2020 may have to offer, it is only fitting to take a moment and reflect on SURF's accomplishments in 2019 and give thanks to those that continue to contribute to SURF's mission.

- SURF again partnered with the Association for Environmental Health and Science (AEHS) Foundation for their West Coast (March) and East Coast (October) conferences. SURF sponsored technical sessions and panel discussions focused on sustainable remediation and held our semi-annual membership meeting and group dinner. All of these events are highlighted in this newsletter.
- SURF, represented by Barbara Maco and Kathy Adams, was selected as the Program Advisor for the new Interstate Technology and Regulatory Council (ITRC) team focused on Green and Sustainable Remediation with Resiliency to Extreme Weather Events and Wildfires. Many past and current SURF members are also contributors to this team.
- A group of dedicated SURF members, led by Paul Favara (Past SURF President; Jacobs), published an update to SURF's 2009 white paper in *Remediation* in September. The paper commented on the progress made by the industry over the last 10 years and highlighted the advancements and possible future direction of sustainable remediation.
- SURF's ongoing partnership with EcoAdapt culminated in a final report highlighting the results of recent pilot testing completed to study the climate resiliency of contaminated sites in Massachusetts. The report is available as a PDF on the SURF website. The Excel screening results are available to SURF members through the membership portal.

- SURF webinars have been re-established thanks to the efforts of Betsy Collins (SURF Vice President; Jacobs) and Kyle Waldron (SURF At-Large Trustee; Marathon Petroleum). Details on past and future webinars are provided on page 3.

As you can see, great things happened in SURF last year. In 2020, we want to build on these successes and accomplishments, including establishing stronger ties and collaborating more with international SURF chapters, continuing to conduct more SURF outreach, and reinvigorating membership involvement in existing and new technical initiatives.

Great thanks and recognition are due to my fellow SURF Board members for all of their contributions last year that allowed SURF to flourish. They are true ambassadors for SURF. Thanks also to SURF members who have been involved and engaged in SURF in one way or another throughout the year – your participation has provided us the support needed to realize all our accomplishments over the last year. Finally, I would like to thank Kathy Adams for her continued support of SURF in many behind-the-scenes ways.

As we enter a new decade, SURF is poised to make an even bigger and better impact on the sustainable remediation industry. If you are interested in being a part of and contributing to SURF, I urge you to contact a Board member. Please let us know you are interested, and we will be sure you are part of the action!

All the best to you and your families,



Matt Ambrusch, SURF President

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About SURF

The Sustainable Remediation Forum (SURF) promotes site assessment and remediation that protects human health and the environment while maximizing environmental, social, and economic benefits throughout the project life cycle by:

- Advancing the science and application of sustainable remediation
- Developing best practices
- Exchanging professional knowledge
- Providing education and outreach

About The SURF Report

This newsletter is published semi-annually by the SURF Communications Committee to provide you with highlights of SURF's activities and opportunities and developments in the field of sustainable remediation.

Deadline for newsletter submissions is the 15th of April and November for the following semi-annual issue.

Contact the Newsletter Editor by email for submittal: Mike Smalley, Georgia Department of Environmental Protection, newsletter@sustainableremediation.org

Submissions are subject to editing for space considerations.

Circulation: The newsletter is circulated to about 1,000 individuals directly and is posted online at www.sustainableremediation.org.

Address Changes: Please submit to the SURF Secretary at secretary@sustainableremediation.org.

The SURF website, www.sustainableremediation.org, is our primary resource for sharing the latest and greatest news about SURF and sustainable remediation. Our online library provides a one-stop shop for guidance, tools, information, and related documents. You can also learn more about SURF's committees and initiatives, partners, and sponsors. Suggestions for additions and improvements are welcome by using the Contact SURF form on the website or by emailing administrator@sustainableremediation.org.

Fall 2019 SURF Membership Meeting

SURF held its fall membership meeting of 2019 on October 22nd during the 35th Annual International Conference on Soil, Water, Energy, and Air in Amherst, Massachusetts. The conference is hosted by SURF's partner, the Association for Environmental Health and Sciences (AEHS) Foundation. Highlights of the meeting are summarized below.

- Paul Favara (Past SURF President) proposed focusing on less labor-intensive products when developing a scope for a new technical initiative (TI). Deliverables could range from short, monthly newsletters to fact sheets. Regardless, the goal is for SURFers to create new information to share so that sustainable remediation remains part of practitioners' thought processes. If you have an idea for a TI, contact Paul Favara by clicking [here](#).
- Jason McNew (SURF Treasurer) reviewed SURF's structure and highlighted the importance of individual members' contributions to existing efforts (see page 7 for current volunteer opportunities).
- Cathy Rockwell (SURF Secretary) showed attendees the more modern and fresh look of SURF's re-designed website at www.sustainableremediation.org. The new platform for the website is mobile friendly, facilitates social sharing, and incorporates search engine optimization. Members can access their membership profiles, pay for SURF's group dinner, and retrieve documents from the members-only archive through the ClubExpress portal.
- Betsy Collins (SURF Vice President) and Kyle Waldron (SURF At-Large Trustee) provided an overview of the new SURF webinar series that addresses various sustainable remediation topics (see boxes below for more information).
- Emerald Erickson-Mulanax (SURF At-Large Trustee) provided a summary of Washington State's climate change guidance (see page 4 for a summary of the presentation).

2020 SURF Webinar Series

SURF initiated our webinar series in mid-2019 and will continue to hold free, one-hour webinars on sustainable remediation topics in 2020. Webinars are held every two to three months and are open to non-members as well as members. Webinars are announced via SURF e-mails; **click here** to get on the distribution list.

We are always looking for new speakers (currently SURF members only) and topics; contact Betsy Collins or Kyle Waldron (see p. 2 for contact information) if you have ideas for future webinars or want to be part of the Webinar Team.

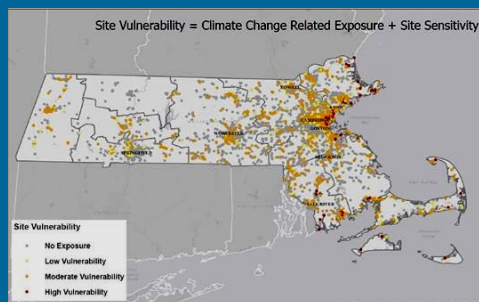
February 27, 2020: Solar-Powered SVE Case Studies

Rob Rebel, LT Environmental



April 2020: Resilient Remediation of Contaminated Land: Strengthening Massachusetts' Most Vulnerable Communities

Eric Mielbrecht, EcoAdapt
Barbara Maco, ITRC GSR/R Team Program Advisor
Cathy Rockwell, Woodard & Curran



2019 SURF Webinar Series

SURF's 2019 webinars are available on demand on the SURF YouTube channel ([click here](#)). Timing and topics addressed are highlighted below.

Introduction to SiteWise

Jason McNew,
EA Engineering
July 17, 2019



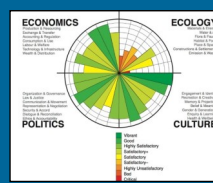
Sustainable Remediation 10 Years Later

Paul Favara,
Jacobs Engineering
October 8, 2019



The Social Side of Sustainability

Melissa Harclerode,
CDM Smith
December 3, 2019



Washington State Guidance: Adaptation Strategies for Resilient Cleanup Remedies

At the Fall 2019 SURF Membership Meeting, Emerald Erickson-Mulanax (SURF At-Large Trustee; Farallon Consulting) provided a summary of the climate change guidance developed by Washington State that can be used cleanup project managers to:

- Assess how aspects of cleanup sites may be vulnerable to climate change on a site-specific basis.
- Increase climate-resilience of cleanup sites by using the recommended adaptation actions specific to each stage of cleanup.

The guidance includes climate data, a summary of climate change issues for cleanup sites, and guidance about how to conduct a vulnerability assessment and assess adaptation strategies.

Climate Data

Observed climate data from the Pacific Northwest reveal a sea level rise of 8.6 inches since 1990, resulting in an increased number of nuisance tidal floods along the coast; one to three flood days per year; wetter springs; an increased number and extent of wildfires since the 1970s; and a decline in spring snowpack in Western states. Climate projections for Washington State are as follows:

- By the 2050s, average annual air temperatures are predicted to increase by 4.2°F to 5.5°F. Warming will occur in all seasons, with the greatest increase in the summer.
- By 2100, sea levels are predicted to rise about 1 foot on a global scale under a low-emissions scenario.
- By the 2050s, total annual precipitation is predicted to decrease 22% in summer and increase between 2% and 11% in all other seasons.
- By the 2080s, heavy 24-hour rain events are predicted to increase from an average of 2 days/year to 8 days/year.

Climate Change Issues for Cleanup Sites

Emerald highlighted two issues facing cleanup sites in Washington State: (1) flooding and erosion and (2) landslides. The impacts of these events are shown in the before and after photographs on this page and page 5.

Vulnerabilities Assessment and Adaptation Strategy Guidance

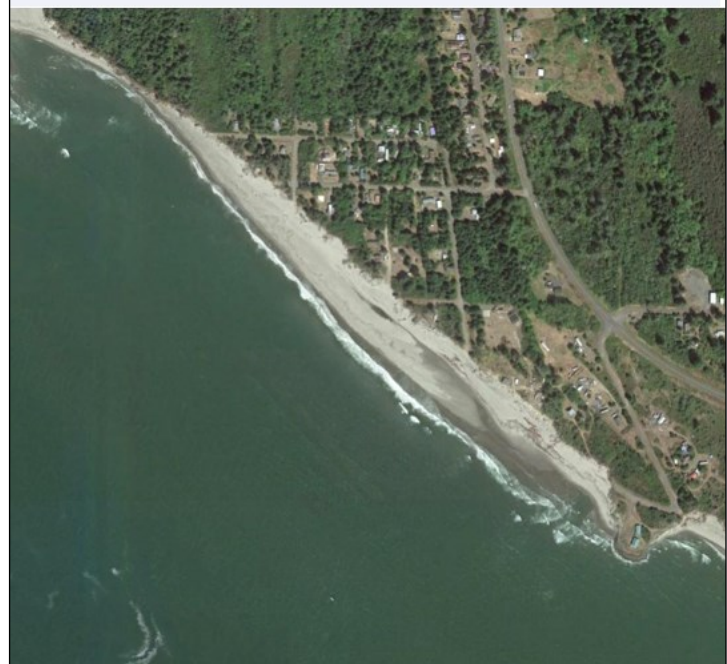
The guidance summarizes how to perform a vulnerability assessment and includes two phases to identify high-risk im-

1990 – Washaway Beach



Sea level rise, storm severity, and rainfall has resulted in flooding and erosion at Washaway Beach in Washington State. (Source: Bobbak Talebi, Ecology)

2016 – Washaway Beach



Washington State Guidance, cont'd on p. 5

Washington State Guidance, cont'd from p. 4

pacts and reveal vulnerabilities based on the cleanup site type and location. In addition, it identifies resilient aspects of remedies, recommends resiliency efforts to be considered at each

cleanup stage, and outlines risk management options for various risk scenarios. To access the guidance online, click [here](#). A fact sheet about the guidance is available by clicking [here](#).



A landslide occurred in Oso, Washington on March 22, 2014, resulting in 43 fatalities. According to the U.S. Geological Survey, the landslide's average speed was about 40 miles per hour and it moved about 18 million tons (enough to cover about 600 football fields 10 feet deep) of sand, till, and clay. Precipitation in the area during February and March 2014 was 150% to 200% of the long-term average, which was likely a contributing factor. (Photo Sources: Seattle Times, CBS News, Google Earth)



SURFers gather after the membership meeting for a group dinner.

Los Angeles METRO Sustainability Strategy

The LA County Metropolitan Transit Authority (METRO) is finalizing its new sustainability strategy "Moving Beyond Sustainability." METRO has taken cues from State and LA City leaders to create an integrated sustainability plan that firmly establishes sustainability as a core tenet for its projects and practices. Roy Thun, At-Large Board Member, is a member of METRO's Sustainability Council and believes the sustainability plan will set a new standard for public agencies across the country.

JOIN US! SURF Sessions and Membership Meeting at AEHS West Coast Conference

SURF SESSION 1

March 17, 1:30 p.m. to 3 p.m.

Sustainable Practices and Partnerships to Ensure a Cleaner and Greener Environment

Session Chair: Matt Ambrusch, SURF President and Langan Engineering

Panelists: TBD

Join SURF as we discuss the importance of implementing sustainable practices within an organization and how to best incorporate sustainability as a strategy to ensure a cleaner environment. The panel will discuss how their organizations are putting sustainability to practice in impacted cities and communities.

SURF MEMBERSHIP MEETING

March 17, 3 p.m. to 5 p.m. ~ Open to all

To register, click [here](#).

SURF GROUP DINNER

March 17, 6:15 p.m., Courtyard 1 ~ Wear your green! ♣

To join us, click [here](#).

SURF SESSION 2

March 18, 8:30 a.m. to 10 a.m.

Green and Sustainable Remediation: Principles in Action

Session Chair: Matt Ambrusch, SURF President and Langan Engineering

Assessing Performance of an Endophyte-Enhanced Hybrid Poplar Phytoremediation Program for TCE at an Arid, Fractured Bedrock Site

Devon Rowe, Ramboll

Combined Technologies to Address Two Complex Chlorinated Hydrocarbon Sites at a Military Installation

Betsy Collins, SURF Vice President and Jacobs

Integrated Large-Scale Green/Sustainable Remediation of Chlorinated Volatile Organic Compounds and Perchlorate in Soil Bermite Facility, Santa Clarita, California

Hassan Amini, GSI Environmental

SURF SESSION 3

March 18, 10:30 a.m. to 12 p.m.

Green and Sustainable Remediation: Using the Metrics

Session Chair: Maile Smith, Past SURF President and GSI Environmental

Sustainable Groundwater Remediation at Coal Ash Pond Sites

Krishna Reddy, SURF Member and University of Illinois at Chicago

Applying Conceptual Site Models to Utilize Social Science Methodologies for Stakeholder Engagement

Rosalie O'Brien, Colorado School of Mines

Case Study: Transitioning from Active Remediation to MNA by Refining the CSM Using Existing Data

Scott Stromberg, Orion Environmental

Update: SURF International

We are thrilled to see the continued enthusiasm and membership interest in our SURF chapters and affiliates across the globe. SURF initiatives are now well established in the USA, UK, Canada, Australia, New Zealand, Netherlands, Italy, Taiwan, Brazil, Columbia and Japan with further interest in China and France. SURF members are raising awareness of sustainable practices, technology, and resources to improve the social, economic, and environmental footprint of impacted properties and natural resources. One such effort is SURF UK's update to the *2011 Framework for Assessing the Sustainability of Soil and Groundwater Remediation, Annex 1: The SuRF-UK Indicator Set for Sustainable Remediation*. This *Second Edition of Annex 1: The*

SuRF-UK Indicator Set for Sustainable Remediation updates the indicator guidance based on experience since 2011, commentary in the technical literature, and a public consultation exercises during 2019. The second edition, expected to be published soon, will also be expanded to describe a general approach to sustainability assessment that consolidates a range of guidance issued by SURF UK since 2011. The objective of the document is to describe a process for determining the scope of any sustainability assessment for the purposes of land contamination management and develop a checklist of possible sustainable remediation indicators.

Contributed by Roy Thun, SURF At-Large Trustee

Get Involved and Make a Difference!

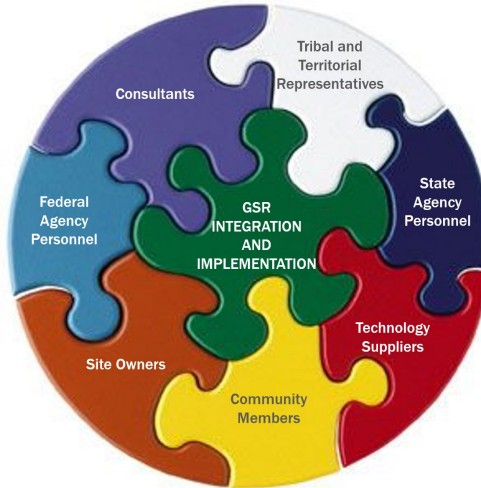
Name of Team	Help Needed	Leader
Climate Change and Resiliency	Help us partner with private and public sectors to support pilot studies and build capacity.	Barbara Maco and Cathy Rockwell
Case Studies	Contact Leader and submit case study for new template.	Sue Dugas
Webinar Series	Contact Leaders if interested in presenting a topic or participating on the team.	Betsy Collins and Kyle Waldron
Meetings and Programs	Brainstorm ideas with team to establish membership meeting purpose and intended outcomes.	Matt Ambrusch
Partnership with AEHS	Chair a session, brainstorm ideas with team for session topics, and recruit speakers.	Paul Hadley and Maile Smith
Membership	Send an email to the Leader explaining the benefits you derive from membership.	Cathy Rockwell
Finance	Help with annual sponsorship renewal and tracking.	Jason McNew
Newsletter	Write an article for our next issue.	Mike Smilley
Government Outreach	Reach out to government personnel and work with team to present a sustainable remediation topic that interests them.	Kyle Waldron

Green and Sustainable Remediation: We All Have a Role

A SURF session entitled “Thoughts and Discussion on 10-Year Anniversary SURF White Paper” was held at the Association for Environmental Health & Sciences Foundation’s (AEHS) 35th Annual International Conference on Soil, Water, Energy, and Air on October 21-24, 2019. Paul Favara (Past SURF President; Jacobs) chaired the session. Panelists included individuals representing key stakeholder roles in the remediation process:

- Consultant: Melissa Harclerode (CDM Smith)
- Federal Agency Personnel: Carlos Pachon (U.S. Environmental Protection Agency)
- State Agency Personnel: Tom Potter (Massachusetts Department of Environmental Protection)
- Technology Supplier: Dick Raymond (Terra Systems)
- Site Owner: Kyle Waldron (Marathon Petroleum)

Despite their varying perspectives and roles, panelists agreed that we all have an important role to serve in both



communicating the value of green and sustainable remediation (GSR) and identifying drivers for its implementation. The top 10 recommendations based on the discussion are provided to the right.

#1

Incorporate GSR (e.g., clean practices plan) into the existing contracting framework (e.g., task orders) at your organization.

#2

Integrate GSR principles and practices into the scope of work in a proposal, regardless if it is required.

#3

Integrate GSR principles and practices into requests for proposals.

#4

Document GSR success stories within each project to help gain traction for future integration and implementation.

#5

Include consideration of GSR and/or consultation with sustainability experts early in the project schedule.

#6

When using specific tools or programs to integrate and implement GSR, document decisions and processes so that the information can be used as a baseline and example for other projects.

#7

Integrate risk management impacts (e.g., timeframe of risk reduction) when assessing different remedial alternatives.

#8

Identify and explain the differences in sustainability parameters for different technologies.

#9

Incorporate GSR into the existing peer-review process in your organization.

#10

Define the sustainable remediation strategy at the beginning of a project to maximize the benefits of implementing the approach.

Thank You to SURF's Sponsors

Gold

Corteva | Langan
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Silver

Cascade | Jacobs | Terra Systems | Trihydro

Bronze

BSI | EA Engineering | Earthcon
Marathon Petroleum | Provectus

Frameworks to Approach Sustainable Remediation

A session entitled “Frameworks to Approach Sustainable Remediation” was held at the Association for Environmental Health & Sciences Foundation’s (AEHS’) 35th Annual International Conference on Soil, Water, Energy, and Air on October 21-24, 2019 at the University of Massachusetts in Amherst, Massachusetts. Matt Ambrusch (SURF President; Langan Engineering & Environmental Services) chaired the session.

Using United Nations Sustainable Development Goals to Develop Key Project Indicators

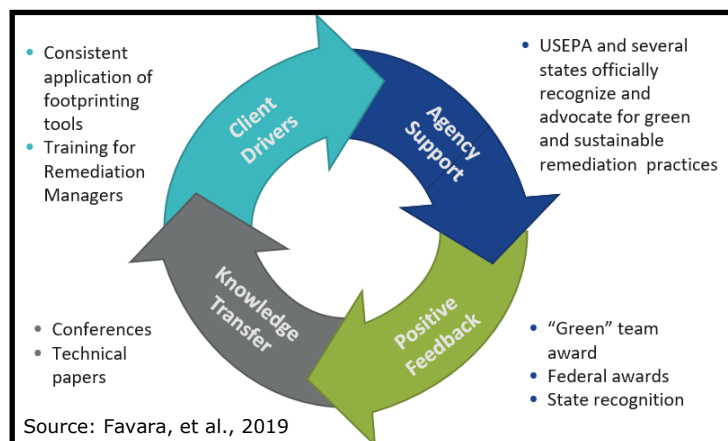
Betsy Collins (SURF Vice President; Jacobs) introduced the United Nations’ sustainable development goals (SDGs), discussed how the goals are relevant to the remediation industry, and proposed a process to use the goals to develop key project indicators. (A key project indicator is a measurable value that demonstrates how effectively objectives are being achieved.)

Betsy began by providing some background about the SDGs, explaining that their overarching purpose is to “achieve a better and more sustainable future for all by 2030.” The 17 goals are broad (e.g., poverty, inequality, climate change) and interconnected; success in one goal impacts success in others. These 17 broad goals are broken down into 169 actionable targets that, in turn, are divided even further. Betsy said that, although leaders at the corporate level recognize the importance of SDGs, the importance or opportunities provided by these goals can be lost at the practice level.

Betsy showed participants which SDGs were relevant to sustainable remediation (see graphic) and provided case studies documenting potential opportunities associated with these

SDGs. The case studies demonstrated how the KPI was developed and the beneficial results. For example, the potential opportunities associated with Goal 6 (Clean Water and Sanitation) and Target 6-4 (Increase Water Use Efficiency and Ensure Freshwater Supplies) are to reduce potable water use (e.g., injections, dust suppression) and/or reduce water withdrawn from the aquifer (e.g., pumping tests, well development). Reducing potable water use during injections was selected as the KPI. As a result, potable water consumption was reduced by approximately 30,000 gallons or 95%.

In the case studies presented, SDGs served as a starting point and a way to develop KPIs. Achievements and lessons learned were documented, and the virtuous cycle was triggered (see graphic below).



Integration of Sustainability and Resiliency into a Remedy Optimization Review Framework

Melissa Harclerode (SURF member; CDM Smith) presented a case study demonstrating the value of performing optimization reviews before remedy selection to revisit and redefine site-specific drivers that have led to remedial alternative development and incorporate and update sustainability and resiliency metrics.

At the Hunters Point Naval Shipyard in San Francisco Bay, historical activities have resulted in the contamination of off-shore sediments with polychlorinated biphenyls (PCBs), copper, lead, and mercury at Areas III, IX, and X within Parcel F. An optimization review was performed prior to remedy selection in these areas to reevaluate the assumptions and remedial alternatives resulting from a 2008 feasibility study.

As part of the optimization review, site-specific drivers such as contaminant concentrations, water depth, hydrodynamics, natural recovery rate, and constructability were evaluated.



In September 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development that includes these 17 SDGs.

Frameworks, cont'd on p. 10

Frameworks, cont'd from p. 9

These data were used to underpin a resiliency evaluation in which site-specific climate change impacts potentially affecting remedy vulnerability were identified. A comprehensive sustainability assessment was performed to identify sustainable risk management approaches and sustainable BMPs for design consideration, as well as establish a continuous GSR evaluation and remedy optimization process.

The selected remedial alternatives for Parcel F include sustainable BMPs (e.g., refining active treatment footprint, using a community truck hauling route, and integrating additional stakeholder feedback on the proposed plan). Resiliency adaptation measures identified include cap and in situ amendment optimization to consider dynamic hydrodynamic conditions, hydrodynamic modeling of existing and future design storms to inform the type and sizing of cap/backfill materials, and climate change vulnerability monitoring to continuously evaluate long-term permanence.

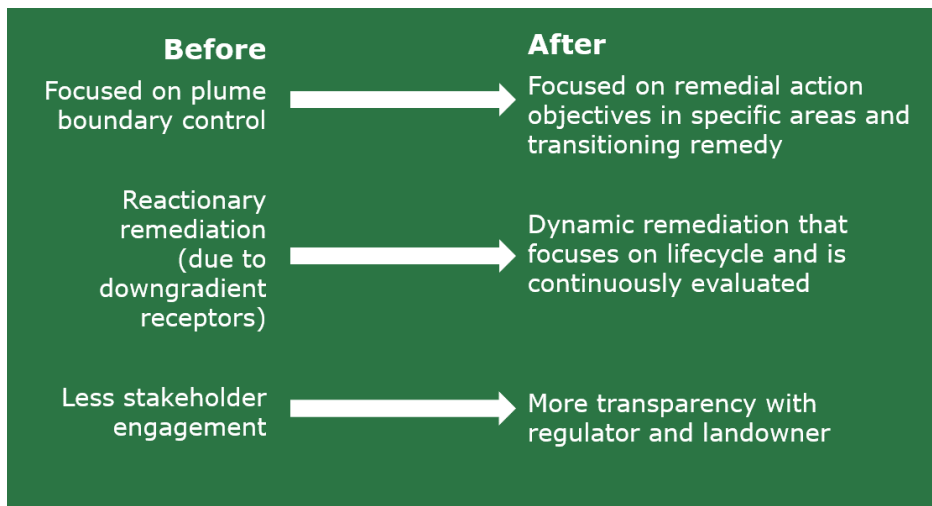
The Evolving Quest to Establish a Formal Sustainable Remediation Program with Successes and Challenges

Kyle Waldron (SURF At-Large Trustee; Marathon Petroleum) discussed his efforts establishing a formal sustainable remedi-

ation program in the face of consistent company changes through acquisitions and restructuring. The key objectives of the initial program were as follows:

- Measure sustainability metrics.
- Develop a simple reporting mechanism for sustainability and associated cost savings, sustainability relative to performance, and key performance indicators.
- Show value.

To test the process, a sustainability assessment was conducted at a former Alaska terminal. An initial site review included reviewing the remedy in place (i.e., air sparging), performing a sustainability assessment, and developing recommendations for consideration to improve remedy effectiveness, minimize the environmental footprint of activities, and improve outward communication. In this case, a waste generation evaluation prompted a review (and subsequent update) of the conceptual site model. The review prompted an investigation to fill data gaps. The investigation was conducted using a more focused, sustainable technology than traditional methods. The benefits of performing the sustainability assessment are provided in the green box below.



SURFers are passionate about SURF's mission. At our group dinner last fall, a SURFer received this alert on his smartwatch.

Above: The impact of the sustainability assessment is shown.
Below (L to R): SURFers gather at group dinner; UMass campus.



Climate Change Impacts on Remediation

A SURF session entitled “Climate Change Impacts on Remediation” was held at AEHS’ 35th Annual International Conference on Soil, Water, Energy, and Air on October 21-24, 2019 at the University of Massachusetts in Amherst. Betsy Collins (SURF Vice President; Jacobs) chaired the session.

Climate Change Resilience: Leveraging Local Regulations

Susan Chapnick (NEH, Inc.) discussed how to leverage local policy to integrate resilience into local community projects. Susan is a member of the Town of Arlington (Massachusetts) Conservation Commission, which has implemented local climate change resilience by adding a specific section in its local wetland regulations (March 2018) requiring applicants to “integrate considerations of adaptation planning into their project to promote climate change resilience so as to protect and promote resource area values in the future.” Susan emphasized the importance of resource areas to build a community’s resilience and adaptation to the impacts of climate change. Specifically, resource areas can provide for flood control, storm damage mitigation, and habitat resilience.

Susan summarized how climate change resilience considerations were integrated into a riverbank restoration after a tanker truck overturned and spilled 9,600 gallons of fuel onto the road and into storm drains and the Mystic River. As part of a Natural Resources Damages grant awarded to the Town of Arlington, resilience considerations included removing a broken headwall and pipe, installing a flared-end pipe section with rip-rap outlet protection, installing a sediment forebay and stone-lined vegetative swale, and creating a riparian habitat.

Resilient Remediation of Contaminated Land; Strengthening Massachusetts’ Most Vulnerable Communities

Cathy Rockwell (SURF Secretary; Woodard & Curran) presented an overview of the SURF pilot project conducted in Massachusetts assessing the vulnerability of oil and/or hazardous waste sites using the state’s existing database and publicly available climate change models for predicted sea level rise, storm surge, and flooding potential. The work also integrated community and environment sensitivity looking at vulnerable populations, drinking water resources, and protected resource areas.

A state-wide screening was performed on 6,000 hazardous waste sites to assess the vulnerability and integrity of site remedies, as well as the vulnerability of the surrounding

community and environment — all with a goal of being a resource to stakeholders during vulnerability assessments and remediation planning. An additional goal of the pilot program is to provide a scalable template for other communities for resiliency projects nationwide.

Massachusetts Climate Change Vulnerability and Preparedness for Hazardous Waste Sites

Tom Potter from the Massachusetts Department of Envi-



Presenters (from L to R): Tom Potter, Susan Chapnick, and Cathy Rockwell

ronmental Protection (MassDEP) Bureau of Waste Site Cleanup (BWSC) provided an overview of the various programs in place and how they relate to the assessment and remediation of oil and/or hazardous material (OHM) release sites in Massachusetts. The presentation highlighted efforts by MassDEP BWSC to mitigate and reduce greenhouse gas emissions, evaluate and build resilience, and adapt to the impacts of climate change. Tom also provided the following:

- An overview of Massachusetts State goals and waste site mitigation and adaptation efforts related to climate change
- 2019 Massachusetts Contingency Plan climate change regulatory considerations and the nexus with assessment and remediation
- Results of vulnerability assessments for OHM sites
- Adaptation and resiliency measures and resources for OHM sites

Join us at the Sustainable Remediation Forum

Join SURF or Renew your Membership TODAY!

SURF provides great value to our members, the public, and the practice of remediation. We do this by supporting:

- Alignment with organizational sustainability goals
- Environmental footprint reduction
- Social responsibility and public outreach
- Reduced remediation costs and long-term liabilities
- Innovative thinking, research, and real world application
- Peer benchmarking (domestic and international)
- Access to leading-edge case studies
- Opportunities to collaborate on publications
- Networking and access to subject matter experts
- Academic outreach and mentoring

By joining SURF, you establish partnerships and build relationships with a wide variety of remediation stakeholders: industry and agency peers, customers, clients, academia, technology vendors, and the public. Our website, meetings, and communications provide a clearinghouse and source for the latest information about

policy, case studies, best practices, and educational opportunities.

As a member, you have the opportunity to participate in SURF's Technical Initiatives. SURF has published several groundbreaking guidance documents, and recent or current initiatives include examining more sustainable practices for water use and reuse, compiling sustainable remediation case studies, assessing the social aspects of sustainable remediation, and exploring the viability of a sustainable remediation site rating and professional certification system.

SURF has several membership levels based on an individual's qualifications: Regular Member (dues are \$150 annually for new members and \$140 for renewing members), Government Member (Free!!), Student Member (dues are \$25 annually), Retiree Member (\$60 annually), and Academia Member (\$50 annually). The term for all classes of Members is February 1 through January 31 of the following year.

Learn more and apply for membership at www.sustainableremediation.org/membership/.

Sponsorship

Sponsorship is a great way to demonstrate to your communities, clients, employees, or shareholders that you are committed to advancing the science and application of sustainable remediation.

As an appreciation for sponsorship, your company or organization will receive the following benefits:

- Complimentary SURF memberships and meeting registrations
- Use of the SURF Sponsor logo
- Name displayed on the SURF website and hyperlinked to your webpage
- Name displayed in the SURF newsletter
- Name announced during SURF events



If you'd like to be a SURF sponsor, contact [Jason McNew](#), SURF Treasurer