

Sustainable Remediation Forum (SURF)

Fall 2021 Membership Meeting

SURF's Fall 2021 Membership Meeting was held on October 19th during the all-virtual 37th Annual International Conference on Soils, Sediments, Water, and Energy hosted by the Association for Environmental and Health Sciences (AEHS) Foundation. The meeting was open to members and non-members. Individuals that participated in the meeting, along with email contact information, are listed in Attachment 1. An agenda is provided in the presentation slides (see Attachment 2).

Welcome Remarks

The meeting began with SURF President Betsy Collins (Jacobs) welcoming participants, thanking sponsors, and providing an overview of SURF. She highlighted ways members can contribute, network, and make an impact by participating in technical initiatives (TIs). Starting a TI is straightforward:

- Submit information about your idea to the Board
 - Summarize mission and objective
 - Outline benefits to SURFers and remediation industry
 - List initial team members
 - Estimate timeline and/or level of effort
- Provide an overview of the proposed initiative during a Board meeting

Betsy noted that participation on the SURF Board of Trustees provides an opportunity to network and contribute as well. The Treasurer position and two At-Large Trustee positions are open in the 2022 election.

Technical Topic Discussion

SURF member Sabine Aplitz (SEA Decisions) facilitated a discussion entitled *Fixing Failures or Re-Thinking Futures?: From Resilient Remedies to Resilient Land- and Water-Scapes*. Sabine began by introducing concepts about remediation, resilience, and ecosystem services (see Attachment 2 for presentation slides) and then posing questions to spur discussion.

Sabine noted that times of great change are opportunities to think about how we approach things – for example, how we as environmental scientists, post-COVID, might want to rethink sustainable futures. Simply put, remediation “fixes failures,” and the process of remediation involves significant resources that “fix” landscapes. In this way, remediation projects impact ecosystem services. In addition, remediation projects depend upon and are vulnerable to changes in ecosystem services and some approaches (e.g., resilient remediation) minimize undesirable impacts. Sabine suggested moving away from an environmental risk perspective to frame remediation. Instead, the future

vision of a site and region should be the focus of remediation planning to enhance regional resilience. Sabine asked participants the following questions:

- How can we leverage our investment in clean up to create a more resilient future?
- How can we push forward beyond sustainable remediation indicators and focus more on a landscape and waterscape vision with remediation playing just one part?

SURF member Gerlinde Wolf (Ramboll) used a comparison of fast food versus slow food to show the difference in complexity and timing between framing remediation projects using environmental risk and another system (e.g., ecosystem services).

SURF member Paul Favara (Jacobs) believes that junior and mid-career staff are the best people to increase integration because they can apply upward pressure on their project teams. He believes SURF should recruit these individuals and communicate the value of sustainable remediation to help nurture an internal dynamic to advance the practice.

SURF member Rich Evans (GES) shared an experience in which a client was dismissive of sustainability as it related to the company's remediation portfolio. Instead, the client was focused solely on environment, social, and governance (ESG) practices. SURF President Betsy Collins (Jacobs) believes that the ESG topic provides an opportunity for remediation professionals to initiate conversations with people about sustainability. SURF member John Sohl (Columbia Technologies) agrees and suggested that SURF seriously consider how to position its efforts within the framework of ESG. Gerlinde mentioned the possibility of a new TI associated with ESG practices and sustainable remediation; participants seemed to like the idea.

Technical Initiative Update

Past SURF President Gerlinde Wolf (Ramboll) and SURF member Katie Elich (Woodard & Curran) summarized the work of the Sustainable Remediation Tools Review TI. In less than a year, the team created 12 online training modules to help users of SiteWise™ and SEFA (Spreadsheets for Environmental Footprint Analysis). These free videos (available on SURF's YouTube channel [here](#)) average about five minutes each and show how to use key aspects of these tools, including tips and tricks and common mistakes to avoid. The TI team plans to create a dedicated page on the SURF website for the videos and will meet quarterly to identify additional opportunities for more videos. At the end of the presentation, Gerlinde (TI Leader) thanked the team members: Evan Starr (Co-Leader), Nikki Peck (Co-Leader), Betsy Collins, Katie Elich, Jacob Klybor, Jason McNew, and Kyle Waldron.

SURF members wishing to join the Sustainable Remediation Tools Review TI should contact Gerlinde Wolf (gerlinde.wolf@ramboll.com).

Academic Outreach Update

SURF Treasurer Jason McNew (EA Engineering, Science, and Technology) provided an update of recent academic outreach activities. The Academic Outreach Committee was revived earlier this year and efforts have focused on reaching out to students, who are the key to helping advance the practice of sustainable remediation. The recent outreach efforts below offer SURF as a resource for students wanting to learn more about sustainable remediation.

- On September 22nd, Past SURF President Matt Ambrusch (Langan) organized and led a two-hour, interactive workshop for students across the U.S. The workshop began with 30 minutes of networking, followed by presentations by SURFers. (A workshop flyer detailing the agenda is provided in Attachment 2.)
- SURF member Krishna Reddy, University of Illinois – Chicago (UIC), provided his fellow SURFers with opportunities to share practical, real-world remediation experience through a guest lecturer series at UIC. SURFers are presenting on topics such as combined technologies, remedial strategies, and environmental liability as part of an environmental remediation engineering course at UIC.

The Academic Outreach Committee plans to incentivize and seek out academic involvement in SURF, with activities like sponsoring a student poster competition at an AEHS conference and engaging with students in university programs and organizations (e.g., offer sustainable remediation toolkit discussion).

SURF members wishing to join the Academic Outreach Committee should contact Matt Ambrusch (mambrusch@Langan.com).

Upcoming Events and Activities

Betsy Collins, SURF President, highlighted some upcoming events and activities available to SURF members (see Attachment 2).

- SURFers interested in presenting a sustainability topic on a SURF webinar should contact Chris Schultz, SURF At-Large Trustee (cschultz@trihydro.com).
- SURFers interested in contributing to SURF's sustainable remediation column in the *Remediation Journal* should contact Betsy Collins (president@sustainableremediation.org).

Follow-Up Items for Board of Trustees

During the meeting, the following action items were identified:

- Contact Rick Wice about potential guest lecture opportunities at Carnegie Mellon University (Matt Ambrusch).

- Consider organizing a virtual SURF Social in between meetings (or a SURF Holiday Party) (TBD).
- Conduct follow-up activities about interest in new SURF TI associated with ESG practices and sustainable remediation (Kyle Waldron).
- Send Nicole Tucker name and contact information of SURFer who could participate in Suds and Science, a public outreach event held March 2022 in San Diego, California (Betsy Collins).

Attachment 1
Participant Contact Information

Fall 2021

SURF Membership Meeting Participants

Last Name	First Name	Email Address
Adams	Kathy	kathy.adams@sustainerremediation.org
Apitz	Sabine	drsea@cvrl.org
Bouchard	Jennifer	martinbouchard@eaest.com
Collins	Betsy	betsy.collins@jacobs.com
Elich	Katie	kelich@woodardcurran.com
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Ewusi-Mensah	David	ewusimensah.david@gmail.com
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Wice	Rick	wice@battelle.org
Wiley	Wes	wes@enrxinc.com
Wolf	Gerlinde	gerlinde.wolf@ramboll.com

Attachment 2
Presentation Slides

WELCOME

Fall 2021
SURF Membership Meeting
October 19, 2021



SURF SUSTAINABLE REMEDIATION FORUM

Agenda



Time (EDT)	Topic	Speaker(s)
4:00 p.m.	Welcome Remarks	Betsy Collins, SURF President (Jacobs)
4:10 p.m.	Discussion: Fixing Failures or Re-Thinking Futures?	<i>Facilitator:</i> Sabine Apitz, SURF Member (SEA Environmental Decisions)
4:25 p.m.	Technical Initiative Update: Sustainable Remediation Tools Review	Katie Elich, SURF Member (Woodard & Curran) Gerlinde Wolf, Past SURF President (Ramboll)
4:35 p.m.	Academic Outreach: Catching the Wave	Matt Ambrusch, AEHS and Membership Meeting Chair (Langan) Jason McNew, SURF Treasurer (EA)
4:45 p.m.	What's New: Upcoming Events and Activities	Betsy Collins, SURF President (Jacobs)
4:50 p.m.	Wrap Up and Final Questions	All
5:00 p.m.	<i>Adjourn</i>	



WELCOME REMARKS

Betsy Collins

Environmental Engineer and
Project Manager, Jacobs
SURF President

VISION

We envision a world that is healthy, resilient, and improved by remediating degraded environmental conditions through sustainable practices.

MISSION

SURF is dedicated to advancing sustainable remedies and practices on a local and global scale through collaboration, education, and innovation.

- **501(c)(3) nonprofit organization**
- **Forum for government, industry, consultancy, and academia to collaborate**
- **Ways to contribute**
 - **Membership**
 - **Sponsorship**
 - **Board of Trustees**
 - **Technical Initiatives**

Thank
You
Sponsors!

Gold



LANGAN



Silver

AECOM



BURNS & MCDONNELL



Jacobs



Bronze

bsi.



www.sustainableremediation.org

Technical Initiatives (TIs): Contribute, Network, and Make an Impact



Got an idea? Start a TI!

- Submit information about your idea to the Board
 - Summarize mission and objective
 - Outline benefits to SURFers and remediation industry
 - List initial team members
 - Estimate timeline and/or level of effort
- Provide an overview of the proposed initiative during a Board meeting

Recent TI Deliverables

- Large team effort (~ 1 year)
 - “Ten Years Later” article; white paper update (2019)
 - *MA Climate Change and Hazardous Waste Site Screening Report* (2019)
- Mid-size team effort (< 1 year)
 - Training videos for tools (2021)
- Minimal individual effort (few hrs)*
 - Three new case studies (2020)
 - Webinar presentations (three this year and seven in 2020)

* Minimal individual efforts do not require Board involvement.

2021 SURF ORGANIZATION

BOARD OF TRUSTEES

Officers: Betsy Collins (President), Kyle Waldron (Vice President), Stacey Hellekson (Secretary), **OPEN**

At-Large:

OPEN

Rob Rebel, Chris Schultz,

OPEN

Roy Thun

Communication SURF President

Newsletter
Technical Editor

Social Media
Emerald Erickson-Mulanax

Website Management
Maile Smith
Betsy Collins

Outreach
Keith Thomsen
Rob Rebel

**SURF International and
SustRem 2022**
Roy Thun

Technical Initiatives SURF Vice President

Sustainable Tools Review
Nikki Carfi
Evan Starr
Gerlinde Wolf

Case Studies
Rob Rebel

Webinar Series
Chris Schultz

**Climate Change and
Resilience**
Barbara Maco
Cathy Rockwell

Membership SURF Secretary

E-Mail Distribution
Gerlinde Wolf
Kristen Thornton

**AEHS and Membership
Meeting**
Matt Ambrusch

Membership Engagement
Nicole Tucker

Finance SURF Treasurer

Sponsor Coordinator
Open

Accountant
Marcum, LLP

Auditor
Smart Devine

Lawyer (pro bono)
Dawn Monsen Lamparello
K&L Gates

Technical Editor
Kathy Adams
Writing Unlimited



DISCUSSION: SCIENCE IN SERVICE OF SOCIETY

Facilitator:
Sabine Apitz

Director and Lead Scientist
SEA Environmental Decisions
SURF Member



Fixing Failures or Re-thinking Futures?: From Resilient Remedies to Resilient Land- and Water-scapes

Dr. Sabine E. Apitz

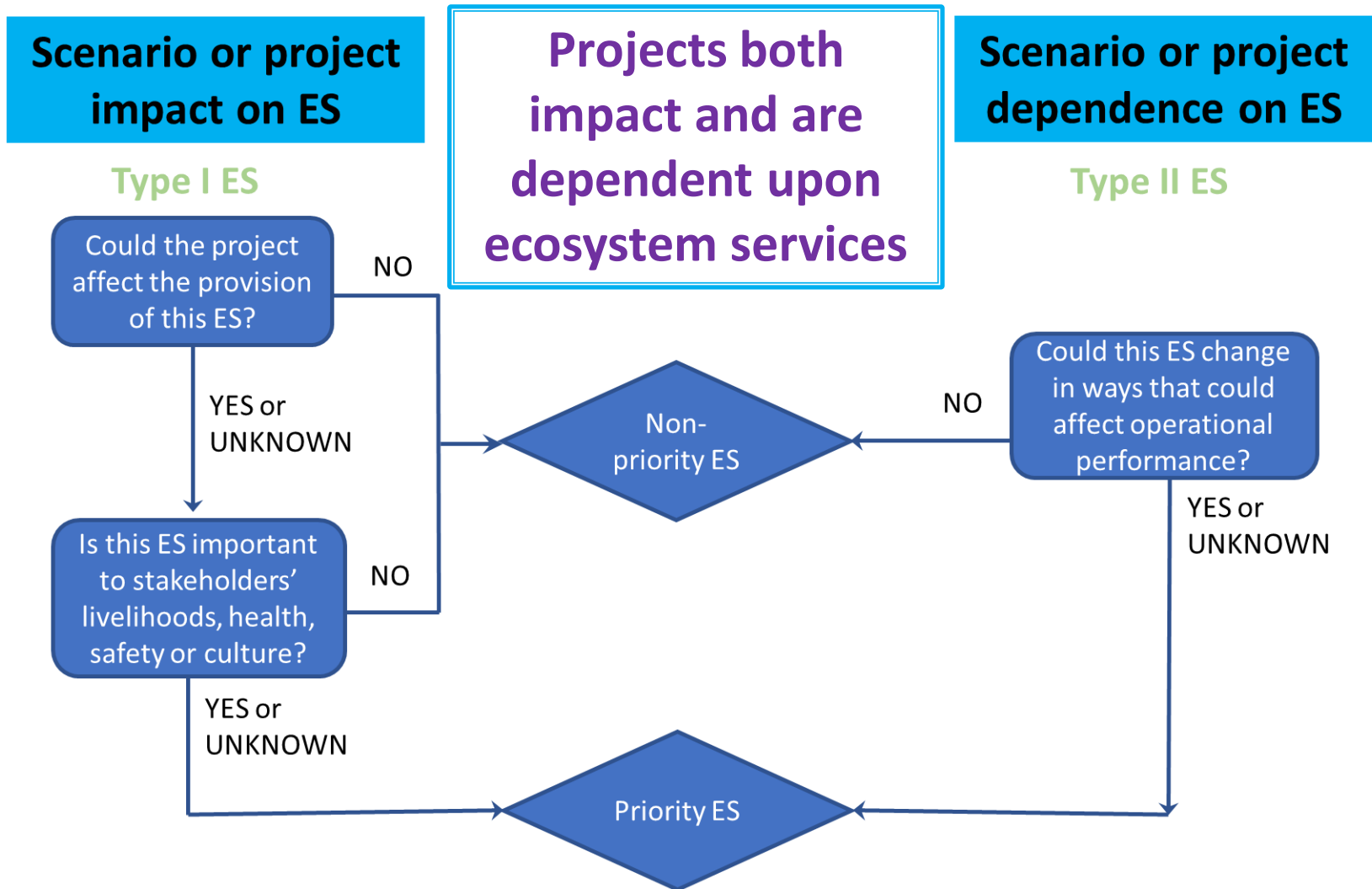
SEA Environmental Decisions, Ltd.

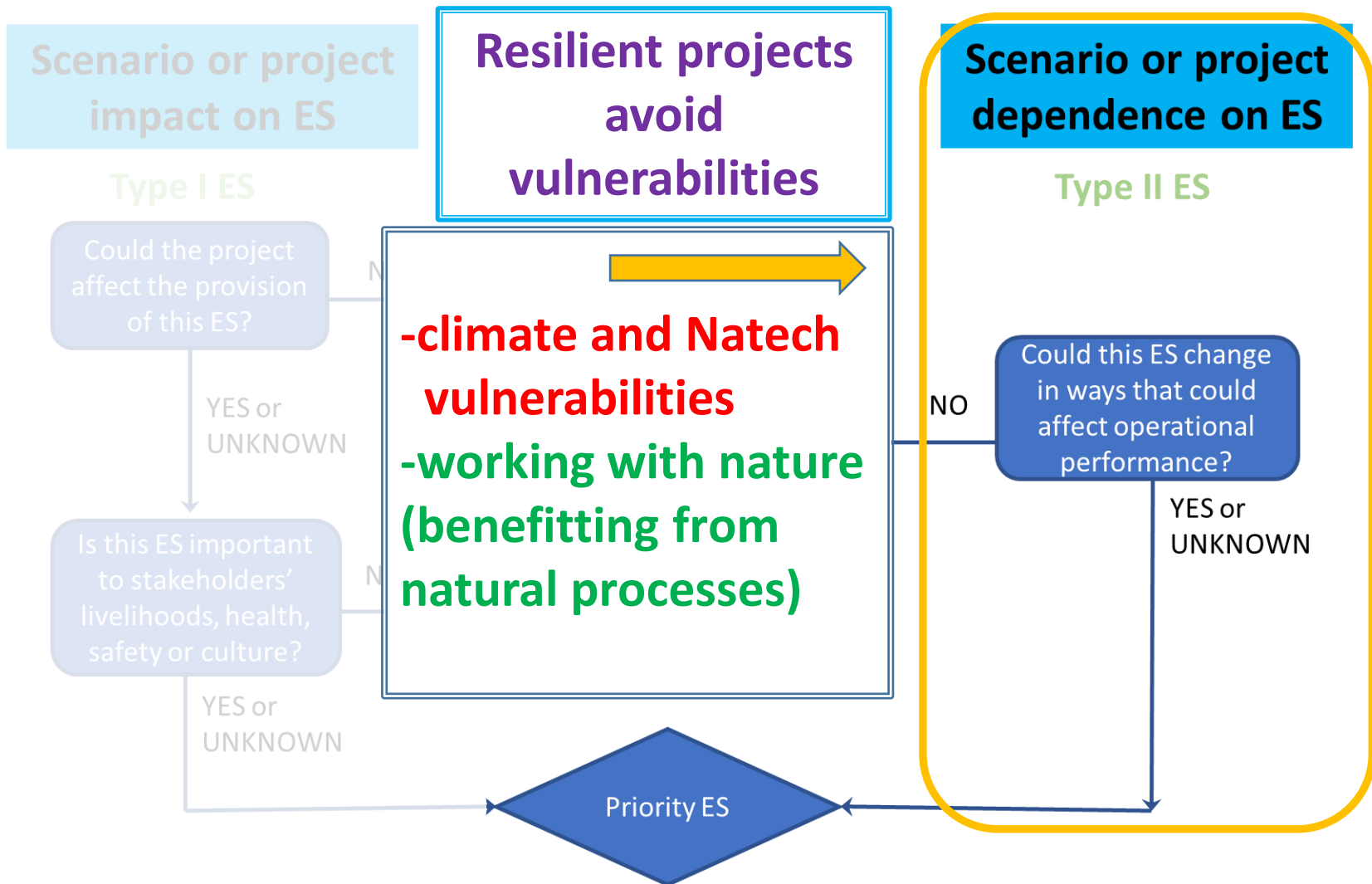
Little Hadham, UK

+44 (0)1279 771890; drsea@cvrl.org

...transform information into action







Scenario or project impact on ES

Type I ES

Could the project affect the provision of this ES?

NO

YES or UNKNOWN

Is this ES important to stakeholders' livelihoods, health, safety or culture?

NO

YES or UNKNOWN

But can projects also enhance regional resilience?

Scenario or project dependence on ES

Type II ES

←
-undesirable impacts (minimize)

-low-hanging fruit (win-win opportunities)

→ stakeholder outreach
→ regional integration

Is ES change that could operational performance?

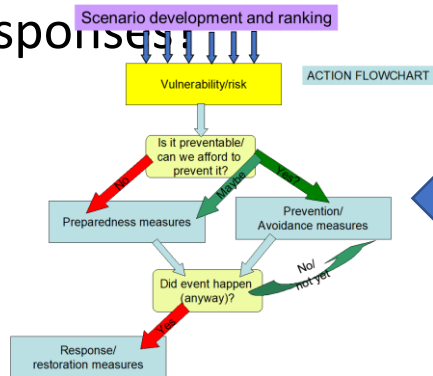
YES or UNKNOWN

Priority ES

Framing perspectives: different sides of the same coin

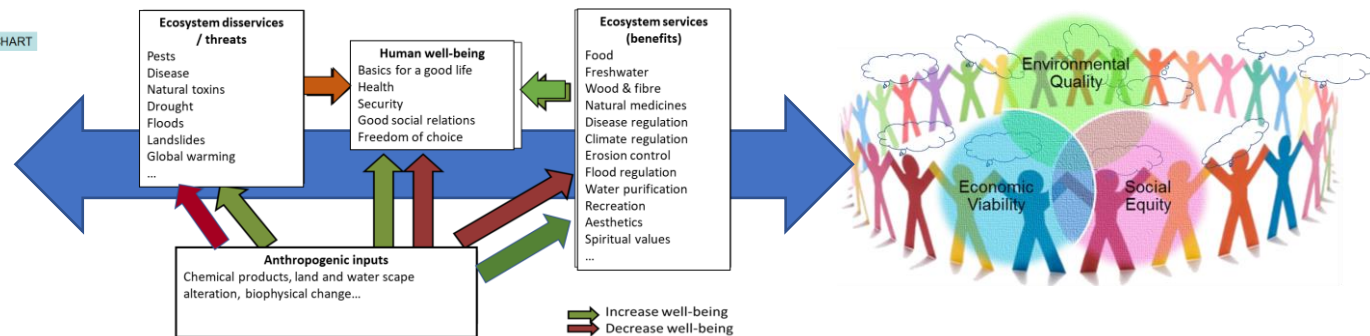
Environmental risk questions

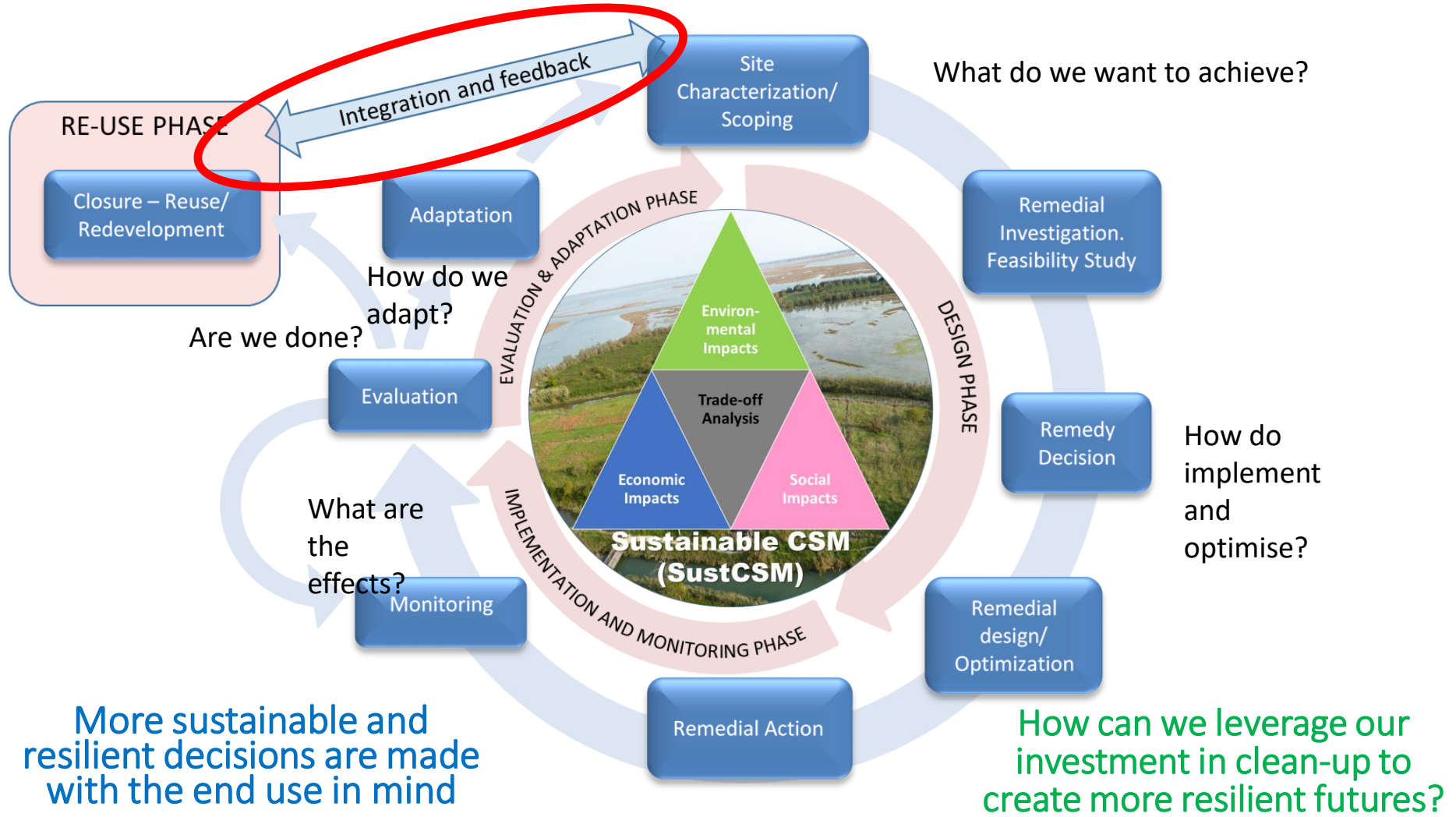
- ❖ What are the risk and vulnerabilities?
- ❖ Are we protecting against everything?
- ❖ At what spatial and temporal scale?
- ❖ What is controllable, what is not?
- ❖ Are we developing preventions, tracking changes, selecting responses?



Sustainability questions

- ❖ What is it you want to sustain?
- ❖ Who benefits?
- ❖ For what period of time will benefits be conveyed?
- ❖ At what cost (to whom)?
- ❖ Who decides?





TECHNICAL INITIATIVE: SUSTAINABLE REMEDIATION TOOLS REVIEW

Katie Elich

Project Engineer, Woodard & Curran

SURF Member

Gerlinde Wolf

Senior Engineer, Ramboll

Past SURF President

From Idea Reality



Topic of interest during
Fall 2020 SURF Membership
Meeting



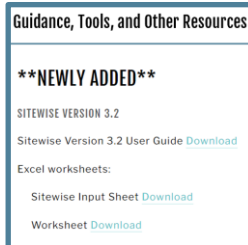
Interested SURFers gather
and form new Technical
Initiative (TI)



TI working group produces
content to help sustainable
remediation community

SiteWise™ and SEFA

(Designed to evaluate and compare environmental footprint of a remedial activity)



SiteWise™

- Created by Battelle, U.S. Navy, U.S. Army Corps of Engineers, and U.S. Army
- Available for download from SURF's website library



SEFA

- Created by the EPA in 2012, updated in 2019
- Available for download from EPA's Clu-In website

Training Videos Available NOW!



SEFA

- Project Setup
- Remedy Components
- Input Template
- Personnel Transportation
- Material Use and Transportation

5

videos

SiteWise™

- New Project Startup
- Generating Alternatives
- Inputting Data
- Comparing Alternatives
- Updating Existing Remedy
- Customizing Default Values
- Using Substitution Values

7

videos

These videos are available for free on SURF's YouTube Page! Click [here](#) to view.

Future Plans



- Create dedicated page on SURF website
 - Videos
 - FAQs to help users understand differences between tools
 - Sign-up form to join team or submit idea
- Meet quarterly to identify additional opportunities for more videos
 - Requests for specific topics
 - Inclusion of more tools

Thanks to our SURF TI Team!



Gerlinde Wolf
Leader (Ramboll)



Evan Starr
Co-Leader
(U.S. DOT)



Nikki Peck
Co-Leader
(EA)



Betsy Collins
(Jacobs)



Katie Elich
(Woodard & Curran)



Jacob Klaybor
(U.S. DOT)



Jason McNew
(EA)



Kyle Waldron
(Marathon)

Not pictured: Yamini Sadasivam (Ramboll)

ACADEMIC OUTREACH: CATCHING THE WAVE

Matt Ambrusch

Senior Project Engineer, Langan
AEHS and Membership Meeting Chair

Jason McNew

Senior Engineer, EA
SURF Treasurer

- Supports the SURF mission of outreach and education
- Targets **students**, who are the key to helping advance the practice
- Facilitates SURF as a resource for students
 - Webinars
 - Publications
 - Technical Tools
 - Questions

OBJECTIVE



First Academic Event...

Catch the Wave: Sustainable Remediation

Wednesday, September 22, 2021

1 p.m. - 3 p.m. EDT

SURF

Join the Sustainable Remediation Forum (SURF) for this interactive workshop and find out if sustainable remediation is a field you want to pursue in your studies or future career.

Click [here](#) to register.

AGENDA



Networking (30 min.)



Who is SURF and what is sustainable remediation? (10 min.)

Matt Ambrusch, Past SURF President, Langan



School is in Session: Sustainable Remediation (20 min.)

Krishna Reddy, SURF Member, University of Illinois at Chicago



The Sustainable Remediation Toolbox (15 min.)

Gerlinde Wolf, Past SURF President, Ramboll



Building a More Resilient Environment (10 min.)

Cathy Rockwell, Past SURF Secretary, Woodard & Curran



A Guide to Sustainable Design (10 min.)

Chris Glenn, Langan



I got a job...now what? (10 min.)

Developing a sustainability program at your company

Jason McNew, SURF Treasurer, EA Engineering



Got questions? (15 min.)

Let's talk

Sponsored by:

LANGAN

University of Illinois at Chicago (UIC) Guest Lecture Series



- Environmental Remediation Engineering Course at UIC
- Opportunity to share practical, real-world remediation experience
 - Betsy Collins – Combined Technologies
 - Jason McNew – Remedial Strategies
 - Matt Ambrusch – Methane Mitigation and Pneumatic Modeling
 - Kyle Waldron – Environmental Liability
 - Rob Rebel – Solar-Powered SVE
 - Stacey Hellekson – Incremental Sample Methodology
- Thank you, Dr. Reddy!

Minor in Environmental
Engineering

At least two courses must be outside the student's department.

Required Courses

Select two of the following:

CME 311	Water Resources Engineering
	Environmental Engineering
	Chemical Reaction Engineering
	Transport Phenomena I
	Heat Transfer
	Following:
	Combustion Engineering
CME 425	Environmental Remediation Engineering

CME 425. Environmental Remediation Engineering. 3 or 4 hours.

Sources of contamination, regulations, site characterization, impact assessment, waste disposal and containment options, waste treatment options, case studies. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.

Next Steps...



Continue to be a resource to students

- Webinars
- Publications
- Technical tools
- Networking

Incentivize and seek out academic involvement in SURF

- Sponsor student poster competition at AEHS conferences
- Engage with students in university programs and organizations (e.g., offer sustainable remediation toolkit discussion)

WHAT ELSE?

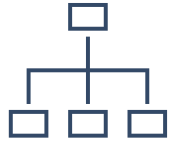


WHAT'S NEW? UPCOMING EVENTS AND ACTIVITIES

Betsy Collins

Environmental Engineer and
Project Manager, Jacobs
SURF President

Elections



- Run for an open position on the 2022 SURF Board of Trustees
 - Two-year terms
 - Open Treasurer position
 - Two open At-Large Trustee positions
 - Contact Stacey Hellekson, SURF Secretary

Webinars



- Make a sustainability presentation
 - Open months available
 - Contact Chris Schultz, SURF At-Large Trustee
- Next webinar:
Resiliency in Sustainable Remediation: Time is up!
November 10, 2021, 2 p.m. – 3 p.m. EST
James Henderson (Corteva)
Linlin Mu, ERM

SustREM2022



- *Creating a Healthier, More Resilient World through Sustainable Practices*
 - Save the date – March 14-17, 2022 in San Diego, CA
 - In consort with AEHS West Coast Conference
- Check SURF website (homepage) for updates

Wrap Up and Final Questions

SURF Social
Tomorrow, 10/20
4 p.m. – 5 p.m. (EDT)

Open to all
AEHS Conference
Participants

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Gold



CORTEVA™
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Silver

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and Technology, Inc., PBC

Jacobs



Terra Systems

INCORPORATED



CASCADE
DRILLING | TECHNICAL SERVICES

Bronze

bsi.

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