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ECOLOGICAL SOCIETY OF AMERICA WORKSHOP

Ecology for Enterprise Solutions

1ST ANNUAL
WORKSHOP

JULY 25-26, 2026

SALT PALACE CONVENTION CENTER
SALT LAKE CITY, UT

What:

The Ecological Society of America (ESA) is hosting a two-day workshop for businesses seeking to drive innovation, meet sustainability goals, and mitigate risk through sound ecological science. The program is organized by representatives from Exponent and other environmental service providers, including individuals who are section leaders of ESA's Early Career section and Private & Public Sector section. Environmental professions will present seminars on a wide range of topics (a full list can be found below), such as sustainable business strategy development, mobilizing transparent and highly accurate data collection techniques, legal risks and opportunities in environmental assessments, and establishing meaningful partnerships with Indigenous groups to dramatically improve environmental outcomes.

When:

ESA will host the workshop July 25-26, the weekend prior to its Annual Meeting in Salt Lake City, UT. It will begin on Saturday afternoon and end on Sunday morning. The program will include short seminars from major businesses that offer ecological services and expertise; breakout sessions and networking; and an evening mixer at a local venue on Saturday evening. Participants are welcome to stay for the opening plenary of the Annual Meeting on Sunday afternoon.

Cost:

Attendance at the workshop is free for all invited participants regardless of ESA membership status. For participants wishing to explore the wide variety of talks, workshops, short courses, panels, and exhibits at the Annual Meeting

on Monday through Friday, ESA is offering member rates to all non-members for one-day (\$270) or full-week (\$600) registrations. If participants do wish to attend part or all of the Annual Meeting, please refer to promotional codes and instructions on the registration page (link below).

About ESA:

The Ecological Society of America (ESA) is a nonpartisan, nonprofit organization of scientists founded in 1915 to:

- Promote ecological science by improving communication among ecologists;
- Raise the public's level of awareness of the importance of ecological science;
- Increase the resources available for the conduct of ecological science; and
- Ensure the appropriate use of ecological science in environmental decision-making by enhancing communication between the ecological community and policymakers.

Hotel Availability:

ESA has hotel blocks at the Salt Lake Marriott Downtown at City Creek (\$249 King or \$269 Queen/Queen) and the Hilton Salt Lake City Center (\$225 single/double). To reserve a room at this discounted rate, please follow instructions on the registration page (link below).

For questions, contact astoler@exponent.com
or crotter@WEST-INC.COM
[Register Here](#)

DAY 1, JULY 25

Time	Presenter	Company	Talk Title
Opening Remarks, Introductions, and Goal-Setting			
1:00-1:15	Jon Miller	ESA	Overview of ESA: Then, Now, and the Future
1:15-1:30	Aaron Stoler	Exponent, Inc.	Bridging the gap between ecology and business: moving past the regulatory hurdles and into profitable solutions
Setting the Scene: Framing a Business & Ecological Context for Ecological Solutions			
1:30-2:00	Gabriel Thoumi	Responsible Alpha	A Framework for Ecosystem Services within Corporate Sustainability
2:00-2:30	Aaron Stoler	Exponent, Inc.	Aligning biodiversity measurements with ecosystem services to address both impacts and dependencies of business operations
2:30-3:00	Breakout Groups / Discussion: How are you currently considering ecosystem services and what are the biggest challenges?		
Data, Measurement, and Decision Quality			
3:30-4:00	Leigh Ann Starcevich	WEST, Inc.	Making Lemonade: Assessing the Impact of Survey Disruptions on Long-term Monitoring for Trend Detection

DAY 1, JULY 25

Time	Presenter	Company	Talk Title
Data, Measurement, and Decision Quality			
4:00-4:30	Lee Lance	Ecobot	Better Field Data is the Key to Impactful AI: How Permitting Data Byproducts Can Power Predictive Ecological Models
4:00-4:30	Breakout Groups / Discussion: How are you currently using technology to advance sustainability goals?		
Applied Ecology in Regulatory & Legal Contexts			
4:50-5:20	Paul Krause	Ramboll	Navigating NEPA changes and the need for solid baseline and ecological metrics
5:20-5:50	Konrad Kulacki and William Goodfellow	Exponent, Inc.	A Broader Take on Effluent Management
6:30 PM – 8:30 PM	Networking dinner and mixer; venue TBD		

DAY 2, JULY 26

Time	Presenter	Company	Talk Title
8:30-9:00	Breakout Groups / Discussion: What should constitute a baseline for a given operation, and where do we see the future of reporting in the US?		
Restoration, Mitigation, and On-the-Ground Application			
9:00-9:30	Tim Nuttle	Naturion	Compensatory Mitigation and Aquatic Resource Restoration in the United States: history, approaches, and applications
9:30-10:00	Chris Adkison	Geosyntec	Functional/Conditional Rapid Assessments for Restoration Planning & Monitoring
10:00-10:30	Cait Rottler	WEST, Inc.	Preserving and Building Soil Health to Meet Regulatory Requirements and Corporate Environmental Goals
10:30-11:00	Breakout Groups / Discussion: What is meant by “nature-based solutions” and how can we use them to drive ROI?		
Partnerships, Trust, and Long-Term Outcomes			
11:00-11:30	Eric Scuoteguazza	CEC, Inc.	Practitioner Insights into Relationship-Based Tribal Affairs: How Ecological Consultants Can Help Build Trust, Improve Outcomes, and Move Past the “Checkbox” Model
Conclusion			
11:30-12:00	Aaron Stoler	Exponent, Inc.	Where do we go from here?

Abstracts:

A Framework for Ecosystem Services within Corporate Sustainability

Gabriel Thoumi, Responsible Alpha

This session discusses the relevancy of identifying ecosystem services and the underlying data and data collection needed to support companies looking to evaluate, improve, and remediate their environmental impact.

Aligning Biodiversity Measurements with Ecosystem Services to Address Both Impacts and Dependencies of Business Operations

Aaron Stoler, Exponent, Inc.

Businesses are facing increasing pressure from regulators and investors to disclose their impacts and dependencies on biodiversity. However, global economies nebulously define “biodiversity” as all variability in the natural world, according to the United Nations Convention on Biological Diversity. Not surprisingly, this has generated significant confusion over what businesses should be measuring – and how they should be measuring and reporting it. This talk will discuss where economists and ecologists deviate in their definitions, and how ecologists can help realign the corporate world on meaningful actions to support biodiversity and ecosystem services.

Making Lemonade: Assessing the Impact of Survey Disruptions on Long-term Monitoring for Trend Detection

Leigh Ann Starcevich, WEST, Inc.

Long-term monitoring programs are susceptible to many types of survey disruption. In the past decade, wildfires, hurricanes, changing budgets, staffing shortages, and a pandemic have prevented data collection for long-term monitoring. Impacts of missed survey seasons and reduced survey effort on the power to detect trends were assessed for long-term monitoring programs led by the National Park Service and the National Oceanic and Atmospheric Administration. Monte Carlo simulations were used to calculate power to detect trends with generalized linear mixed models. These simulations were examined for a range of monitoring scenarios that included planned and unplanned breaks, reduced sample sizes, and years with reduced sampling intensity. We discuss the results of these simulations, synthesize guidance from available literature, and consider the implications for long-term monitoring programs affected by survey disruptions.

Better Field Data is the Key to Impactful AI: How Permitting Data Byproducts Can Power Predictive Ecological Models

Lee Lance, Ecobot

This talk will provide a full lifecycle of normalized data, including how it’s collected in the field, shared at scale, and extended through AI to strengthen the quality, defensibility, and consistency of strategic consulting for clients. A case study with Ecobot, Center for Geospatial Solutions, Kimley-Horn, and SCDOT will be presented.

Navigating NEPA: Current State, Ecological Baselines, and Workable Mitigation

Paul Krause, Ramboll

The US NEPA regulations have changed and continue to evolve. Understanding the changes and implications for the current regulatory regime is important for project leaders and ecological professionals. Recent NEPA updates clarify consideration of “reasonably foreseeable” direct, indirect, and cumulative effects, including climate-related impacts and environmental justice, and encourage earlier coordination and more focused scoping. Fiscal Responsibility Act amendments add enforceable schedule and length targets (typically ~1 year/75 pages for EAs and ~2 years/150 pages for EISs, with exceptions), and promote efficient use of programmatic reviews, adoption/incorporation by reference, and categorical exclusions where supported. NEPA documents increasingly rely on a defensible baseline built from best-available science (e.g., seasonal surveys, habitat modeling, eDNA/occupancy methods where appropriate) and a clear effects pathway linking project stressors to species and habitat endpoints. Mitigation is typically structured under the avoid–minimize–restore–compensate hierarchy, with impact thresholds, measurable performance standards, monitoring, adaptive management triggers, and enforceable commitments (permit conditions, conservation measures, or mitigation banking/ILF instruments) to support significance and alternatives determinations. It is important for professional impact assessors, ecologists, and researchers to understand how to best adapt streamlined baseline and mitigation measures into the new paradigm of a streamlined NEPA regulatory environment.

A Broader Take on Effluent Management

Konrad Kulacki and William Goodfellow Jr., Exponent, Inc.

To protect receiving waters, wastewater effluents are subject to a number of restrictions on specific chemicals that can be released, and in what concentrations. These restrictions are enforced through discharge permits or NPDES permits. Another common restriction placed on effluents is unacceptable toxicity to sentinel organisms (e.g., *Ceriodaphnia dubia* or *Pimephales promelas*) in laboratory whole effluent toxicity (WET) bioassays. These toxicity requirements are often made with little consideration of the existing ecosystem present at the end of an effluent discharge pipe. This presentation will highlight the importance of taking a holistic approach to effluent management, considering both processes inside the facility and the overall potential impacts to the ecological community of the receiving stream.

Compensatory Mitigation and Aquatic Resource Restoration in the United States: History, Approaches, and Applications

Tim Nuttle, Naturion

In the United States, federal and some state laws require mitigation to replace aquatic resource functions lost from unavoidable, permitted impacts. This presentation examines compensatory mitigation for stream and wetland impacts, integrating regulatory policy and restoration practice. The 2008 Mitigation Rule prioritizes watershed-scale restoration, particularly through mitigation banks, which generate credits in advance of impacts. Permittees purchase credits to offset permitted losses. In the eastern U.S., streams and wetlands commonly occur within floodplain complexes. I review restoration approaches — including form- and process-based methods — and present examples comparing pre-restoration conditions with post-restoration monitoring outcomes.

Functional/Conditional Rapid Assessments for Restoration Planning & Monitoring

Chris Adkison, Geosyntec

Many ecological restoration projects aim to improve habitat suitability, biodiversity, biogeochemical processes, soil and water quality, or simply aesthetics, but often lack a cost-effective and robust assessment methodology to guide the restoration process and monitor success. In many cases even, restoration efforts are informed by simple desktop studies that consider a single species or ecosystem service, and other co-benefits or project limitations are not provided adequate consideration until projects are met with constraints or failure. Detailed multi-year investigations are useful and can

certainly overcome the common pitfalls of desktop studies with limited scope, but practitioners, private landowners, and many others often lack the resources to pursue multi-year efforts, or may need to make decisions on a shorter timescale.

To satisfy the need for a cost-effective, time-sensitive, and robust assessment method, many state governments and federal bureaus have developed rapid assessment protocols that can evaluate an ecosystem's condition and/or function and be completed in generally under 8 hours. These rapid assessments are extremely powerful tools that allow natural resource managers to assess ecosystems in a holistic manner and evaluate numerous attributes, services, and conditions such as biodiversity, landscape connectivity, hydrology, and physical topography, all within one mobilization and with only minimal preparation time. This presentation will introduce field conditional and functional assessments for aquatic and terrestrial ecosystems that are used to monitor ambient conditions, inform planning and restoration potential, and evaluate project success in a rapid, cost-effective, and holistic manner.

Preserving and Building Soil Health to Meet Regulatory Requirements and Corporate Environmental Goals

Cait Rottler, WEST, Inc.

Healthy soils are vital to self-sustaining, healthy ecosystems. As awareness of the importance of soil health to erosion, water quality, carbon sequestration, and other concerns has become more widespread, some corporations have begun including improvement or conservation of soil health in their corporate environmental, social, and governance goals and objectives. Healthy soil can further assist in meeting regulatory requirements for preventing erosion and runoff, as well as provide the necessary foundation for successful post-disturbance restoration of plant communities. Finally, there is growing interest in fostering soil health as a method for sequestering carbon to combat climate change.

Attendees of this session will leave with a better understanding of soil health, opportunities to utilize soil health-promoting practices to meet regulatory requirements and corporate environmental goals, common challenges encountered while implementing these practices, and considerations (as well as solutions) for successfully navigating these challenges.

Practitioner Insights into Relationship-Based Tribal Affairs: How Ecological Consultants Can Help Build Trust, Improve Outcomes, and Move Past the “Checkbox” Model
[Eric Scuoteguazza, CEC, Inc.](#)

Ecological consultants often approach Tribal engagement through a narrow regulatory lens, treating consultation with tribes as a procedural requirement rather than a relationship-driven responsibility. In reality, successful Tribal affairs work depends on trust, respect for sovereignty, and early, consistent, meaningful communication. A compliance-only mindset can inadvertently undermine project success, increase conflict, and damage long-term relationships.

Drawing from decades of practical experience working with Tribal Nations, federal agencies, and project sponsors across the United States, this presentation explores what “beyond compliance” truly means in day-to-day ecological practice. Attendees will gain insight into the real-world challenges consultants face, why conventional approaches fall short, and how relationship-focused engagement strengthens outcomes for all parties.

We will discuss effective communication strategies, common pitfalls to avoid, and key steps ecological consultants can take to build and maintain productive, respectful partnerships with Tribal governments. This session is designed to help practitioners elevate their approach to Tribal engagement and to ultimately improve project delivery, reducing risk and supporting meaningful, collaborative, and sustainable outcomes.

