ESMC

Ecosystem Services Market Consortium

2024 ANNUAL REPORT

Ecosystem Services Market Consortium
www.ecosystemservicesmarket.org

KEY ACCOMPLISHMENTS

We are thankful to our board, team, members, and partners who contributed to the remarkable strides in our program throughout 2024, reaffirming ESMC as a leading nonprofit consortium achieving environmental stewardship via innovation in regenerative agriculture. Read on for program wins, new initiatives, learnings and outcomes.

Restructuring Eco-Harvest Producer Payments

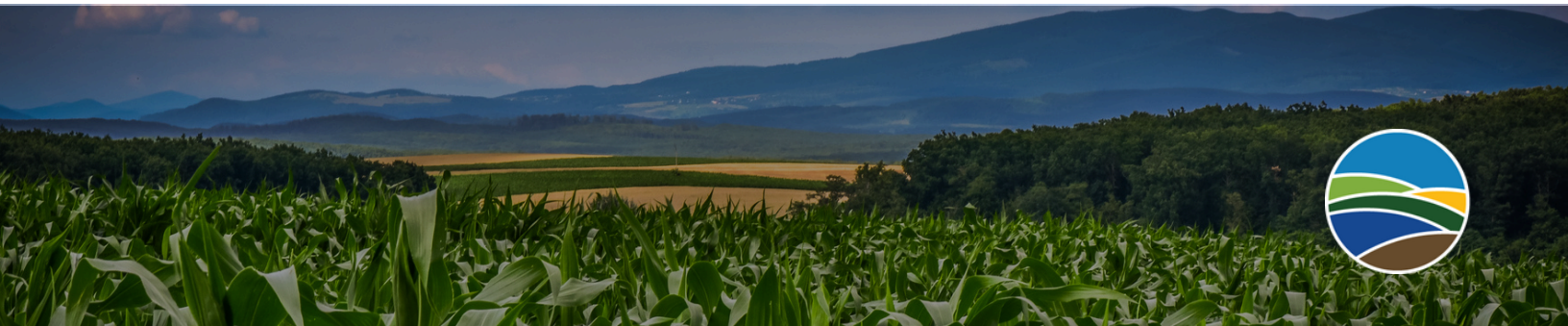
Based on feedback from producers, we moved to a hybrid payment model which pays producers for both practice changes and for outcomes. A hybrid model balances the need for ensured payments with outcomes-based payments and creates a more solid income stream for producers.

Expanding Project Opportunities

Through Eco-Harvest, we continued project refinement and expansion through 11 projects across the U.S. and Canda. We launched grazing projects using SNAPGraze, a model to simulate regenerative grazing practices. We also started dairy projects using RuFaS, a whole-farm model.

Enabling Co-Investment & Co-Claiming for Partners

By allowing multiple partners across the lifecycle of a product to co-invest in projects and co-claim the outcomes, we increase opportunities for buyers to get the largest return on investment. In 2024, we implemented some of the industry's first Scope 3 co-investment partnerships between manufacturers and retailers.



Increasing Data Automation, Accuracy and Security through Expanded MMRV Capabilities

Part of our verification process includes an in-depth review of Eco-Harvest's underlying digital architecture, including the end-to-end data flow and our measurement, monitoring, reporting, and verification (MMRV) system. In 2024, our team expanded our MMRV capabilities by building MMRV data integration and automation for enhanced ecological modeling, including the Ecosys biogeochemical model and the EPA Pollutant Loading Estimation Tool (PLET).

Upgraded Stratification Approach

In collaboration with EarthOptics, ESMRC, our research arm, transitioned from field-level to project-level stratification, reducing sampling density from 1 per 4 acres to 1 per 40–50 acres while enhancing scientific rigor and efficiency. Further refinements are planned for 2025 to reduce field labor and increase efficiency through machine learning and AI.

Data Insights & Modeling

Collaborations with NASA Acres and the University of Maryland have provided deep insights into years of data, revealing the impacts of practice changes across geographies. Advanced modeling techniques have demonstrated powerful capabilities in analyzing soil organic carbon and yield relationships. We shared these learnings at meetings and conferences throughout the year.

Valuing Biodiversity

ESMRC continued work to identify criteria for a biodiversity quantification including below-ground and edge-of-field impacts to integrate biodiversity into ecosystem service evaluations and expand opportunities for producers in Eco-Harvest projects.

Valuing Water

The PLET tool expansion allows us to include water data for every project in 2024; in 2025, we'll be able to model the water quality outcomes to a watershed.

Enhanced Technical Working Groups (TWGs)

In 2024, the TWGs became a vital hub for open scientific exchange, fueling innovation and progress. In 2025, we'll build on this success with revamped quarterly sessions that will feature expert-led discussions, actionable insights, and a sharper focus on driving program impact and advancing scientific breakthroughs.

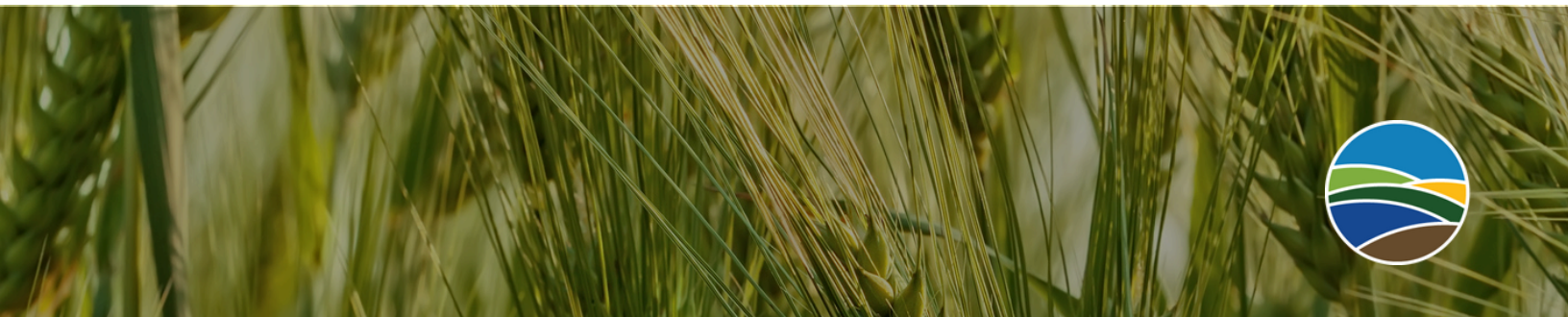
Continuing our Commitment to Social Impact

Our Manager for Member Engagement & Equity grew our Social Impact program by participating in a number of events with partners and members. We launched a Restorative Justice Ambassador program with partner National Association of Conservation Districts and developed trainings targeting historically underserved producers to increase participation in ecosystem services markets.

Increasing our Team, Board, and Member Organizations

In 2024, we expanded our team and welcomed long-time COO Alana Pacheco as our new President. Alana stepped into the role as Debbie Reed retired.

We had six new board members join and welcomed new organizational members from across the agricultural supply chain.



OUTCOMES & LEARNINGS

2024 established a solid foundation and delivered measurable climate value. We recorded 8,865 metric tons of CO_2e removed and built a clearer view of how practice choices translate into outcomes at field scale. These results validate our science, strengthen partner confidence, and give us the evidence base to accelerate impact.

8,865

Total soil carbon removals

Net soil carbon sequestration measured in mtCO2e; this means that soils stored this amount of carbon based on project activities.

Equally important, the year sharpened our understanding of where to focus next: data pinpointed emissions hotspots linked to fertilizer intensity and to the consistency of practice adoption. Those insights are already shaping our playbook through tailored agronomic support for producers, clearer practice guardrails, and streamlined reporting and verification. We expect these changes to increase removals and reduce emissions intensity as programs mature.

Our methodology measures the full picture with rigor, which is why stakeholders trust our numbers. By accounting for all outcomes with transparent documentation and independent checks, we keep credibility at the center while turning learning into better design, better delivery, and better results.

.

PROGRAM STATISTICS, 2024

11 Eco-Harvest Projects *on more than* **165,000** Acres

over 175 Producers *from* **12** U.S. States & Canadian Provinces

Regenerative ag practices (by total project acreage)

- Cover cropping
- Cover cropping, Nutrient management
- Cover cropping, Nutrient management, Tillage reduction
- Cover cropping, Tillage reduction
- Nutrient management
- Nutrient management, Tillage reduction
- Tillage reduction

LOOKING TO THE FUTURE

We are continuing to expand opportunities for producers to successfully participate in Eco-Harvest projects. We are adding more regions, more crops, new production systems, and more practice change opportunities. As part of this expansion and refinement, we are launching the Midwest Feed Program to target key regions based on buyer requirements.

In addition to payments for carbon, increased biodiversity plantings and enhanced biodiversity practices (such as edge-of-field practices) as well as increased soil biodiversity are key to regenerative agricultural systems. We are finalizing a new water quality and water use efficiency tool for our 2025 projects and moving to watershed-level reporting. Our research team is developing and refining science-based protocols for additional project opportunities for these non-carbon outcomes.

We continue to prioritize our investment in a sophisticated, secure, and well-functioning MMRV platform to input data, track outputs, and verify results.

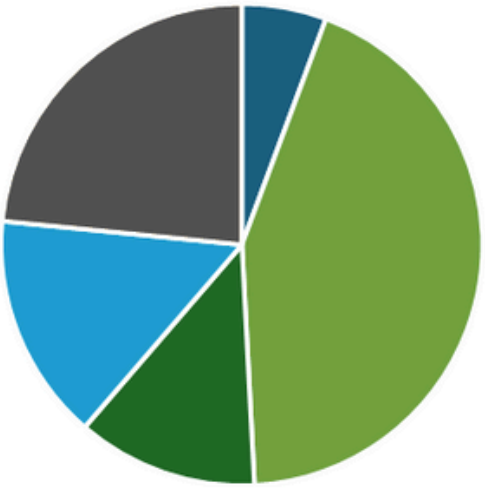
Additionally, to meet market demand from buyers, we will move from intervention accounting to inventory accounting. For outcomes buyers like CPGs, this means credits and supply chain outcomes they can use with greater confidence in public reporting, sustainability disclosures, and regulatory filings. For producers, it means that increased soil carbon and reduced emissions reductions are captured as tangible, quantifiable results.

In 2025, we are onboarding new organizational leadership through hiring Ryan Tregaskes as our CEO. We look forward to sharing further results and outcomes to showcase new leadership and growth in our programming.

REVENUE

ESMC receives funds from diverse sources, including public and private foundations, competitive and philanthropic grants, and dues from our members. Under our second Foundation for Food & Agriculture Research (FFAR) grant, FFAR continues to release research and development funds when cash or in-kind matching funds are provided from our members or via other non-federal sources – so these matching funds are included as a funding source.

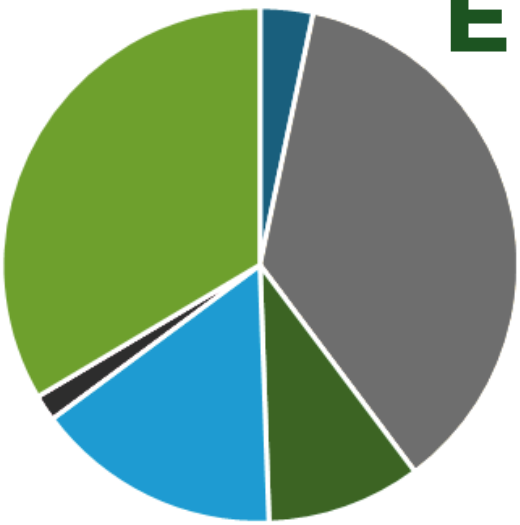
*Program Income includes revenue generated through our cost recovery fee and other fees charged related to running our program.



- In-kind (R&D, TWG and pro bono legal support)
- Public and Private Funding
- Membership Dues
- Competitive Grants
- Program Income

EXPENSES

Expenses cover research, development, demonstration, and deployment efforts to test and refine our dynamic program, implement Eco-Harvest projects, hire and retain staff and technical contractors, make producer payments and participate at meetings and conferences.



- Consulting Services
- Operations & Projects
- Research and Development (R&D)
- Finance and Administration
- Travel and Meetings
- Program Expense

2024 FUNDERS

We thank our funders for their generous support in 2024:

- Foundation for Food & Agriculture Research (FFAR)
- General Mills, Inc
- Walton Family Foundation
- United States Department of Agriculture (USDA)
- Natural Resources Conservation Service (NRCS)
- USDA Climate Smart Commodity grants
    - National Association of Conservation Districts (NACD)
    - University of Tennessee (UT)
    - Farm Journal Foundation (FJF)
    - Conservation Innovation Fund (CIF)

2024 MEMBERS

Our members provide financial, technical and operational support and are key to our success. We thank each for your time, funding and dedication.

ESMC BOARD

We welcomed many new board members in 2024 and thank our departing board members for their service and guidance.

The following served on ESMC's board during 2024:

- **Delane Atcitty**, Executive Director of the Indian Nations Conservation Alliance
- **Aline DeLucia**, CEO and co-founder of AgSpire
- **Emily Johannes**, Partnership Development Director, Trust in Food
- **Rattan Lal, Ph.D.**, Distinguished University Professor of Soil Science and Director of the CFAES Rattan Lal Center for Carbon Management and Sequestration, The Ohio State University
- **Bob Lawrence**, retired environmental lawyer
- **Gene Lollis**, Ranch Manager at Archbold Buck Island Ranch
- **Shelly Mayer**, Executive Director of the Professional Dairy Producers of Wisconsin
- **Ashley McDonald**, Executive Director of the National Grazing Lands Coalition (NatGLC)
- **Ashley McKeon**, Director of Regenerative Agriculture, Cargill
- **Mary Jane Melendez**, Chief Sustainability and Social Impact Officer, General Mills
- **Debbie Reed**, Consultant
- **Elizabeth Walls**, Senior Manager, Climate Sourcing Transformation, McDonald's
- **Jay Watson**, Senior Director of Sustainability, General Mills