

Proceedings Report

Land Use Change Summit 2024: Identifying the drivers and possible solutions to land use change assessment issues

This report was drafted by: K. Howard and N. Goeser and with contributions and review from the Summit Planning Committee and other Summit attendees.

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Land Use Change Summit Planning Committee members:

Dr. Ana Segovia, World Resources Institute

Abby Rinne, U.S. Soybean Export Council

Dr. David Clay, South Dakota State University

Dr. Leah Samberg, Rainforest Alliance/Accountability Framework Initiative

Matt Sutton-Vermeulen, Context Network

Matt Herman, Iowa Soybean Association

Suzy Friedman, World Wildlife Fund, Inc.

Jack Cornell, United Soybean Board

INTRODUCTION

The Land Use Change Initiative (LUCI) is a collaborative effort that aims to unite stakeholders in developing a unified solution to inconsistent land use change estimates and definitions.

These inconsistencies cause confusion and uncertainty, impacting crucial resource management decisions that influence:

- Farmer livelihoods
- Loss of prime agricultural lands
- Consumer prices
- Water, food, and energy security
- Biodiversity and ecological resilience

There is no scientific agreement on how to measure land use change (LUC) and this prevents the application of scientific methods. This situation is limiting market access and impacting the competitiveness of U.S. commodities on the global market as well as impacting the preservation of prime American agricultural lands for food security and national security.

Several organizations are currently leading efforts to standardize definitions and methods for measuring land use and the impacts on economics, carbon, water, and biodiversity. LUCI is the first of its kind in bringing together these organizations along with additional representatives from academia, private sector, government, non-profits, conservation groups, farmer organizations, and farmers and ranchers to work together towards identifying the drivers and solutions to problems around inaccurate LUC assessment.

LUCI held its first in-person event in Chicago, Illinois entitled “Land Use Change Summit 2024: The Quest for Common Ground” on July 29 and 30, 2024. It was a dynamic, outcome-driven event delving into the intricacies of land use change assessment and its crucial role in shaping sustainable futures. Each summit participant came with their own individual and/or organizational interpretation of land use change definitions, classifications, and needs, which impact their work. Despite those differences, the summit invited all participants to come together and work toward common goals, outlined in the Objectives section of this Proceedings Paper.

This Proceedings Report provides a summary of the objectives of the Land Use Change Summit 2024, high-level summaries of collaborative results from the breakout sessions at the event, and a distillation of findings from all sessions contributing to what this multi-stakeholder group has deemed as the drivers and possible solutions to LUC issues.

OBJECTIVES

The purpose of the summit was to convene a multi-stakeholder group focused on the state of the science and key gaps in LUC assessment, data, and methodologies. The intent was to (1) continue to build the capacity of the Land Use Change Initiative, (2) highlight the important work of others and connect siloed efforts for more rapid action, and (3) build credibility for the overall initiative through representation from

producers, industry, government, academic, conservation, and other stakeholders. Drivers of LUC and solutions to alleviate issues surrounding LUC were key focuses throughout the event.

BRINGING COMMUNITY TOGETHER

The Land Use Change Summit 2024 brought together a diverse group of stakeholders, including the following organizations:

Accountability Framework Initiative	National Fish and Wildlife Foundation
American Farmland Trust	National Pork Board
American Soybean Association	National Sorghum Producers
Argonne National Laboratory	Northern Great Plains Joint Venture
Arkansas State University	OSI Group
Arva Intelligence	Rainforest Alliance
Bayer Crop Science	Regrow Ag
CAL Consulting LLC	SCS Global Services
Central Grasslands Roadmap Initiative	SmithBucklin
Context Network	South Dakota State University
Danone North America	Syngenta
Ducks Unlimited	Terra Economics and Analytics Lab
Ecosystem Services Market Consortium	Terra Genesis
Fulton Market Group	The Climate Corporation
General Mills, Inc.	The Nature Conservancy
GeoMARC at Southern Illinois University Edwardsville	U.S. Roundtable for Sustainable Beef
Gevo, Inc.	United Soybean Board
Golden State Foods	University of Maryland
Illinois Farmer	University of Minnesota
Iowa Farmer	University of Montana
Iowa Soybean Association	University of Wisconsin
JBS Foods	U.S. Soybean Export Council
Lopez Dorada Foods	Wisconsin Farmer
Mars Inc.	World Resources Institute
McDonald's Corporation	World Wildlife Fund, Inc.
NASA Acres	

THE AGENDA: ACTION-ORIENTED APPROACH

The opening sessions of the summit summarized the history of LUCI and how the project originated, followed by speakers and panelists who explained their own unique perspectives on LUC issues. Opening breakout sessions included focusing on the Land Use Change Initiative's next steps, defining land use change classifications, and technical research updates from LUCI's research team.

On the second day of the summit, breakout sessions continued, and additional networking opportunities were provided for attendees. The last session of the day held a report-out session on all breakout findings to summarize the session to all attendees. Reflections of the summit were also shared openly to the group. McDonald's then provided an optional tour of the corporate building.

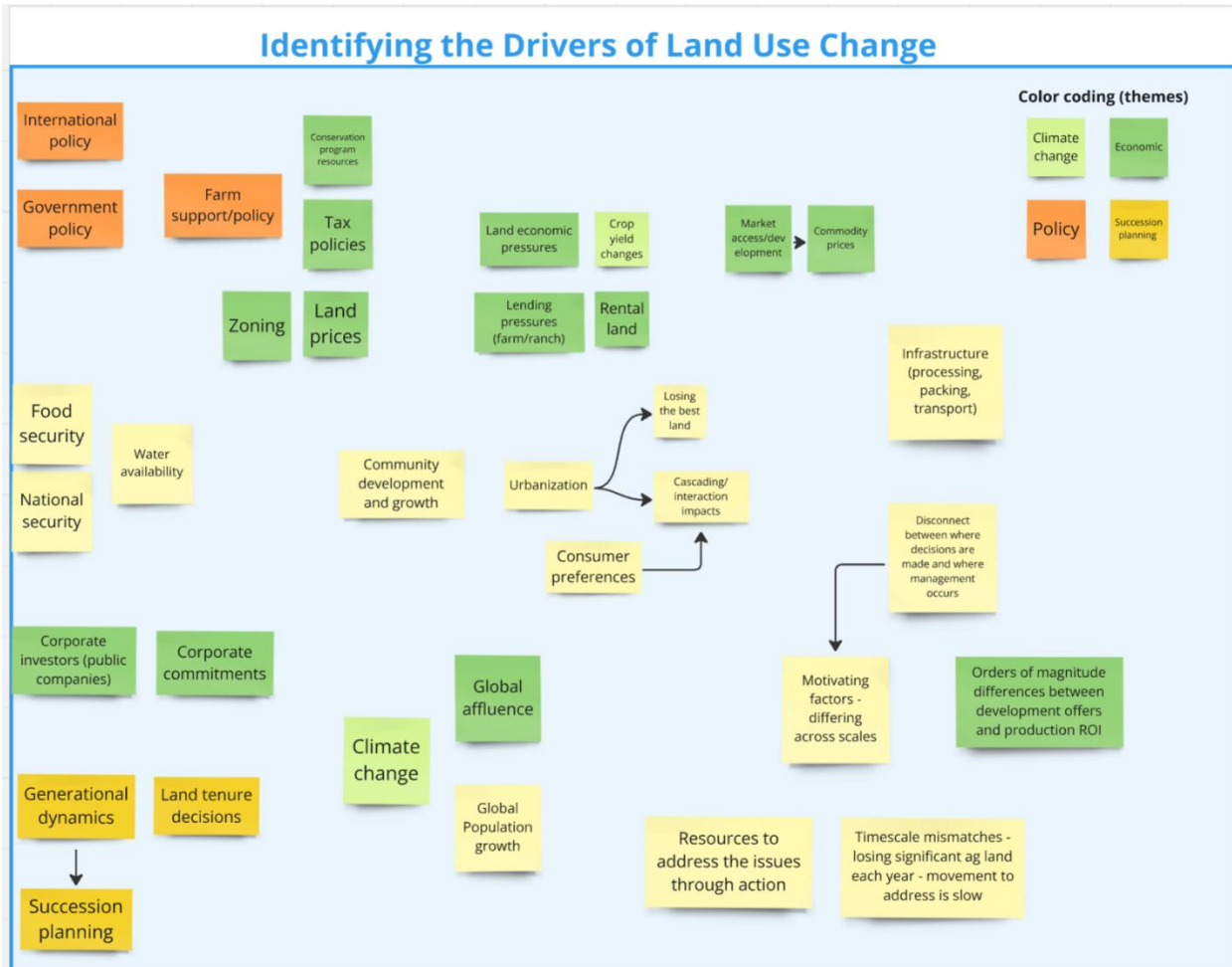
A [full agenda](#) can be found in the reference materials at the end of the report.

KEYNOTE SPEAKERS AND PANELISTS

Keynote Speakers		
Steve Reinhard	United Soybean Board	Chair
Kendra Levine	McDonald's Corporation	Director, U.S. Sustainability
Hillary Fenrich	McDonald's Corporation	Manager, Global Impact Sustainability
Robert Bonnie	United States Department of Agriculture	Under Secretary of Agriculture for Farm Production and Conservation
Panelists		
Samantha Werth	U.S. Roundtable for Sustainable Beef	Executive Director
Nancy Kavazanjian	Wisconsin farmer	
Dr. Michael Wang	Argonne National Laboratory	Director, Systems Assessment Center
Dr. Philip Loring	The Nature Conservancy	Global Director, Human Dimensions Science
Dr. Pamela Bachman	The Climate Corporation	Director, Sustainability and Outreach

ATTENDEES IDENTIFIED DRIVERS

During the breakout sessions of the summit, a session with about 40 participants set out to identify and map the drivers of land use change. Themes developed through grouping common threads.



PROPOSED SOLUTIONS

Attendees worked together to list ideal traits they want to see in future consensus-driven land use change assessments frameworks, including:

- Accountability / Transparency
- Food Security / Agriculture viability
- Inclusive / Accessible
- Recognition and respect
- Based on science
- Sustainability / Resiliency

From there, attendees identified where land use change assessment is coming from and where they want it to go. This breakout identified actions and capabilities necessary to bring successful implementation.

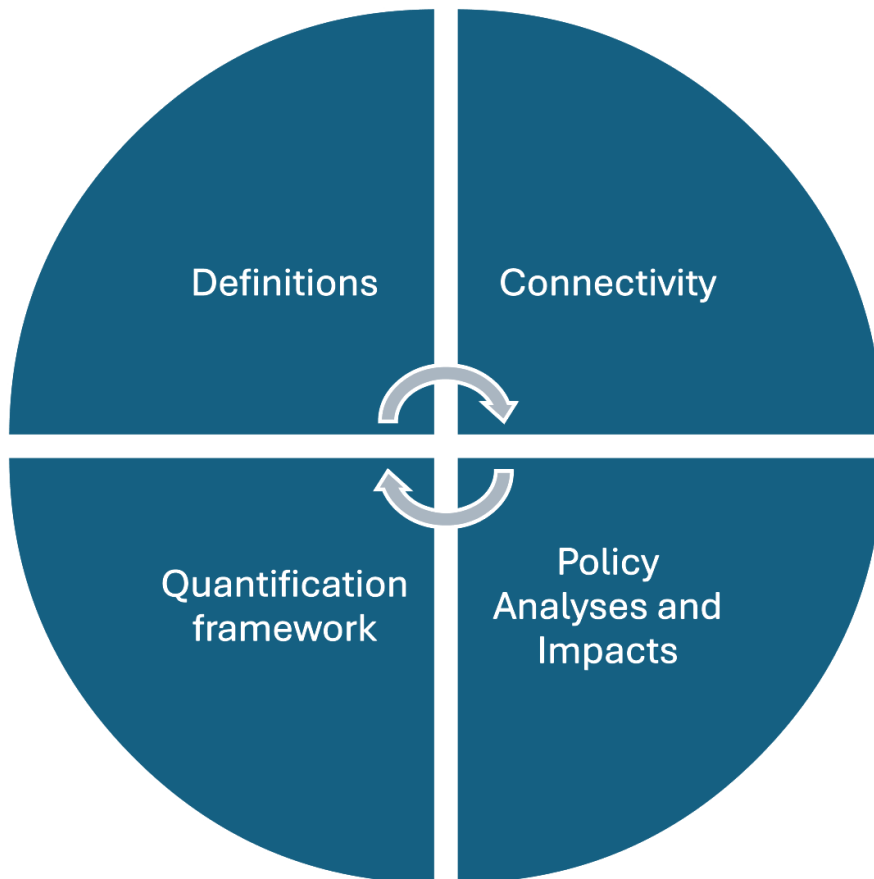
Where is LUC assessment coming from?	Where is LUC assessment going?
Disjoined and often siloed Land Use Change efforts across the community	Organized and goal oriented, prioritized short-, mid-, and long-term actions
Lack of public/political engagement for solutions	Improved policies and solutions
Independent data/information	Interconnected data system to inform decisions and place-based datasets
Confusion/opinionated definitions	Clear and agreed upon definitions
Open market, supply/demand decisions	Influence on market to increase value to maintain productivity
Confusion in indicators and metrics	Clarity and consensus on indicators/metrics
Lack of tools to analyze and assess trade-offs	Agreement and use of tools to bring resolutions through the tradeoffs
Perception of economics driving decisions for land uses	Science-based approach to quantitative externalities
Farmers/ranchers assuming risk in system shifts	Shared risk in system shifts bringing public benefit
Underfunded programs that are effective	Funded programs (connected to prioritized actions)
Nature as an externality	Valued and internal in monetization
No financial institutions/insurance firms	Financial and insurance sector involved in valuation processes

Capabilities and needs to move forward include:

- Community
 - Open-minded and open to new approaches
 - Governance for the Land Use Change Initiative
 - Power of influence through working together
 - People and network
 - Scan of existing efforts in land use change and partnering with others with capabilities
 - Recognition and respect for contributions
- Definitions, data and guidance
 - Clarity on users of info and decisions
 - Clarity on definitions
 - Inventory of existing datasets – clear nomenclature and appropriate use
 - Decision-making process to prioritize list for land uses
- Communication and education strategy
- Monetization strategy for sustainability with connection to market signals
- Funding to resource prioritized actions

ACTIONS AND NEXT STEPS

Participants identified four target areas for action, with key activities listed in each area: Definitions, Connectivity, Quantification framework, and Policy Analyses and Impact. These four areas could potentially serve as blueprints for task force development to further the Land Use Change Initiative's objectives.



Summit Outcome: Road Map for Actions:

Consensus building on definitions

- Education on definition sets
 - Webinars
 - Info-graphics
 - Short communications/videos
- Convening support for input
 - Regional listening sessions
 - Prioritizing farmers/ranchers
- Convening to harmonize efforts

- Virtual/in-person events
- Convening with other organizational leaders on land use change to harmonize efforts more broadly

Quantification assessment framework

- Develop a methodology and review body to assess conversion quantification methods and outcomes (e.g., land conversion, greenhouse gas emissions, water resources, biodiversity, social, economic)
 - Leverage and expand current technical work for recommendations
 - Review- current systems, applications, methodologies – including standard setting bodies
 - Regional community engagement and workshopping to build the methodology (leverage NASA validation model)
 - Potentially pursue accreditation (International Standards Organization or others)

Connectivity

- Complete a landscape scan of existing efforts for amplification and awareness
- Prioritize actions from the gaps/solutions breakout
- Develop engagement pathways for participation in LUCI
 - Participation levels for people/organizations
 - Common resources
 - Communications (Teams, etc)
- Identify common gathering points to bring the community together

Policy analyses and impacts

- Establish a policy analysis working group development
- Leverage drivers and solutions work from Summit – and work from other organizational leaders
- Build a consensus approach to understanding impacts of policy
- Develop and publish action paper of policy impacts

CONCLUSION

The Land Use Change Summit 2024 successfully brought together a wide range of stakeholders to address the critical and complex issues surrounding land use change assessment. Attendees worked collaboratively to identify the drivers behind these issues and propose practical solutions, laying the groundwork for future action. The event's dynamic and solution-oriented approach fostered deep conversations, collaborative problem-solving, and a shared commitment to tackle land use change challenges.

According to post-event survey results, nearly all respondents rated the event a 4 or 5 out of 5, indicating a high level of satisfaction. Moreover, 100% of respondents answered “yes” when asked if attending the summit motivated them to engage on land use change issues and be part of the solution. These results demonstrate not only the effectiveness of the summit in fostering meaningful engagement but also the attendees' strong commitment to continuing this important work.

Given the complexity and global impact of land use change, this summit marked a critical first step in fostering collaboration across sectors. However, the work is far from complete. The consensus-building efforts, policy analyses, and development of assessment frameworks initiated here need to be expanded and sustained. To ensure continued progress, it is essential that the Land Use Change Initiative receives ongoing support and resources. Another summit in the future would provide an invaluable opportunity to build on the momentum generated, deepen stakeholder collaboration, and further refine solutions.

In conclusion, the summit has catalyzed a movement toward harmonized land use change assessments, and there is strong interest in carrying this work forward.

Reference Materials

LAND USE CHANGE SUMMIT 2024 AGENDA

July 29

Start		Topic
9:00 AM		Opening Session
		Welcome speaker Steve Reinhard
		Kendra Levine , Director, US Sustainability, McDonald's Hillary Fenrich , Manager, Global Impact Sustainability, McDonald's
		LUCI definitions discussion
		Panel discussion: "Perspectives on Land Use Change" <u>Panelists:</u> <ul style="list-style-type: none"> • Nancy Kavazanjian, Wisconsin crop farmer • Michael Wang, Director, Systems Assessment Center, Argonne National Lab • Philip Loring, Global Director, Human Dimensions Science, Nature Conservancy • Samantha Werth, Executive Director, U.S. Roundtable for Sustainable Beef • Pamela Bachman, Director, Sustainability and Outreach, The Climate Corporation
12:00 PM		Lunch
Breakout Sessions		
Day 1_ Breakout Session 1		
1:00 PM		Envisioning the Future of Land Use Change Management
1:00 PM		LUC Definitions for Grasslands
Day 1_ Breakout Session 2		
2:45 PM		LUCI's 2024-2026 Strategic Objectives
2:45 PM		Identifying the Drivers of LUC
2:45 PM		LUC Technical Session I: Mapping Intact Lands
General Session		
4:30 PM		Day Recap
		USDA Speaker Robert Bonnie, Under Secretary
	5:30 PM	End of Day
6:00 PM		FMG rooftop for the Summit reception

July 30

Start		Topic
9:00 AM		Day 2 Opening Session
Breakout Sessions		
Day 2_Breakout Session 1		
9:30 AM		LUCI's 2024-2025 Action Plan
9:30 AM		Systems Solutions for Land Use Change
9:30 AM		LUC Technical Session II: Validation and Ground Truthing
General Session		
11:20 AM		LUCI discussion
Noon		Lunch
12:45 PM		Report out from Breakout rooms / Final Thoughts
	2:40 PM	End of Day

THE LAND USE CHANGE INITIATIVE WEBSITE

<https://carbonalist.com/impact/enhancing-the-infrastructure-to-improve-soybean-based-land-use-change-luc-analysis-and-assessment/>

PRE-READ MATERIALS ON LAND USE CHANGE PROVIDED TO SUMMIT ATTENDEES

- [2023 LUCI White Paper](#)
- [LUCI Primer Report](#)
- [LUCI Charter](#)
- [2023 Plowprint Report](#)
- [7 Things to Know About the IPCC's Special Report on Climate Change and Land](#)
- [Considering Historical Land Use When Estimating Soil Carbon Stock Changes of Transitional Croplands](#)
- [2017 National Resources Inventory Summary Report](#)
- [Cropland abandonment between 1986 and 2018 across the United States: spatiotemporal patterns and current land uses](#)

- [Census of Agriculture Data](#)
- [NASA Harvest - GEOGLAM](#)
- [Deforestation- and conversion-free supply chains and land use change emissions: A guide to aligning corporate targets, accounting, and disclosure](#)