



NORTH CENTRAL
REGIONAL CENTER
FOR RURAL DEVELOPMENT

Annual Report 2024





NORTH CENTRAL REGIONAL CENTER FOR RURAL DEVELOPMENT

OUR MISSION

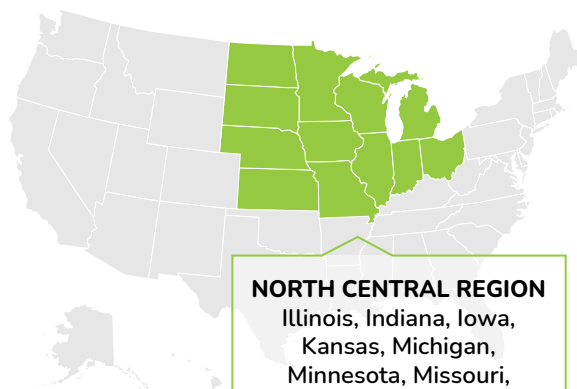
To build the North Central Region's rural communities through cutting-edge research and Extension programs and innovative partnerships. To achieve this mission, we seek to engage research and Extension at all of the land-grant institutions across the North Central Region.

WHAT WE DO

North Central Regional Center for Rural Development (NCRCRD) is one of four Regional Rural Development Centers in the United States. NCRCRD's work links the research and educational outreach capacity of our region's 34 land-grant universities with our region's communities, local decision-makers, entrepreneurs, families, farmers, and ranchers to help address a wide range of development issues unique to our region.

NCRCRD promotes regional collaboration by elevating the research and Extension programs in our region; offering grant opportunities to support new and ongoing regional research, Extension, and integrated activities; building a North Central Region database to encourage regional exploration; and creating networking opportunities through webinars, conference development, and making introductions between our partners.

We approach our endeavors from three thematic areas:



NORTH CENTRAL REGION
Illinois, Indiana, Iowa,
Kansas, Michigan,
Minnesota, Missouri,
Nebraska, North Dakota,
Ohio, South Dakota,
and Wisconsin



Creating Resilient Communities

The NCRCRD is committed to building a more resilient North Central Region by improving the adaptive capacity of households, businesses, and communities through impactful research and outreach.



Developing Leadership and Civic Engagement

The NCRCRD is committed to working with partners to address constraints and enhance the capacity for inclusive leadership and civic engagement in the North Central Region.



Promoting Community Health and Wellness

NCRCRD's health initiatives focus on enhancing health and wellness in rural communities across the North Central Region by raising awareness, engaging community members to improve public health, and building community partnerships.

OVER 50 YEARS OF ELEVATING RURAL COMMUNITIES

Since 1972, the nation's four Regional Rural Development Centers (RRDC), have played a critical role in elevating rural America through research, Extension education, and outreach.

NCRCRD moved to West Lafayette, Indiana in 2020 when Purdue University became the Center's new host. Prior to this move, NCRCRD was hosted by Iowa State University from 1972-2009 and Michigan State University from 2009-2020.

TABLE OF CONTENT

Director's Message	2
--------------------------	-------------------

NCRCRD Board of Directors, Advisors, and Staff	3
--	-------------------

REGIONAL ACTIVITIES

■ NCR-Stat: A North Central Regional Database	4
---	-------------------

■ 2024 Grants and Fellowships Awarded.....	6
--	-------------------

■ Grants and Fellowships Completed in 2024.....	7
---	-------------------

■ New Partnerships and Collaborations	8
---	-------------------

■ Conference Development.....	9
-------------------------------	-------------------

■ Elevating the Region's Research and Extension Programs.....	10
---	--------------------

■ Visits with the Region's Land-Grant Institutions	11
--	--------------------

■ Presentations and Publications, 2024	12
--	--------------------

THEMATIC ACTIVITIES

■ Creating Resilient Communities and Economies	13
--	--------------------

■ Developing Leadership and Civic Engagement.....	16
---	--------------------

■ Promoting Community Health and Wellness.....	18
--	--------------------

The North Central Regional Center for Rural Development receives core funds from the U.S. Department of Agriculture's National Institute of Food and Agriculture (award #2021-51150-34732, #2022-51150-38141, and #2023-51150-41114) as well as from agInnovation North Central, the North Central Cooperative Extension Association, and Purdue University, College of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the U.S. Department of Agriculture or those of other funders.

Purdue University prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran.

© 2025 The North Central Regional Center for Rural Development hosted by Purdue University.

DIRECTOR'S MESSAGE

I want to express my sincere gratitude to our partners, board, advisory committee, and staff for their unwavering dedication and hard work. Thanks to your efforts, our programs and initiatives continue to offer valuable resources, training, and support to individuals, organizations, and local governments working to create positive change in the North Central Region (NCR).

While our Annual Report summarizes the Center's accomplishments in 2024, it also reflects the dedication, resilience, and innovation of faculty and staff across our twelve states in addressing the complex challenges facing rural communities. We are honored to work with such determined and talented partners.

In 2024 the Center's endeavors remained guided by our three thematic areas of creating resilient communities and economies; developing leadership and civic engagement; and promoting community health and wellness. Within these themes, the Center continued to focus on fostering innovation and collaboration, strengthening local economies, preserving cultural heritage, and improving livelihoods.

Upon review, collaboration played an important part of our accomplishments this year. The Center had the honor of partnering with or supporting others on many unique projects. Some of the highlights include:

- NCRCRD worked with other institutions and our sister Regional Rural Development Centers to develop and conduct three surveys of regional interest.
- NCRCRD grant funding supported land-grant institutions in Minnesota to collaborate on implementing the FORWARD curricula.
- A new working group consisting of six NCR land-grant universities received funding from NCRCRD to explore power of place action within rural communities.
- An NCRCRD Fellow collaborated with the North Central Region Housing Working Group to develop a regional housing survey that will be conducted by the Center.
- The Center began a partnership with two federally funded programs to provide technical assistance to each.
- NCRCRD and several organizations from the North Central Region came together to lead a national effort to review and revise a set of impact indicators that serve to highlight the impact and public value of Extension's Community, Resource, and Economic Development (CRED) contributions.
- NCRCRD collaborated with Extension Disaster Education Network (EDEN) and USDA National Institute of Food & Agriculture (NIFA) to encourage greater participation and collaboration with and between 1994 land-grant colleges and universities.

We're honored to serve as a trusted collaborator in any capacity. We remain committed to collaborating with all of you in 2025 to promote sustainable growth in our rural communities. Together, we can unlock the full potential of our region by combining knowledge, resources, and partnerships.



Maria I. Marshall, Ph.D.
Professor and Jim and Lois Ackerman Professor of Agricultural Economics
Director, North Central Regional Center for Rural Development
Director, Purdue Institute for Family Business



Maria I. Marshall, Ph.D.
Director, North Central
Regional Center for
Rural Development

NCRCRD Board of Directors, Advisors, and Staff

BOARD OF DIRECTORS

Angela Abbott, Ed.D.
Purdue University

Francis (Frank) Arpan
Haskell Indian Nations University

Elizabeth Dobis, Ph.D.
USDA Economic Research Service

Mary Emery (Chair), Ph.D.
University of Nebraska, Lincoln

Lynette Flage, Ph.D.
North Dakota State University

Sarah Rocker, Ph.D.
USDA National Institute of Food and Agriculture

Ron Turco, Ph.D.
Purdue University

ADVISORY COMMITTEE

Rial Carver
Kansas State University

Himar Hernandez
Iowa State University

Zach Kennedy
University of Illinois

Thomas Krumel, Ph.D.
North Dakota State University

Xinyi Qian, Ph.D.
University of Minnesota

Corinne Valdivia
University of Missouri

Program Leader Liaisons

Tim Tanner, Ph.D. / 4-H
South Dakota State University

Dave Ivan, Ph.D. / Community Development
Michigan State University

Pat Bebo / Family and Consumer Sciences
The Ohio State University

Thank you!

NCRCRD would like to thank Advisory Committee members, **John P. Beck**, Associate Professor, Michigan State University, and **Andrea Bjornestad**, Associate Professor & Extension Mental Health Specialist, South Dakota State University, for their 3-years of contributions and service to the North Central Region. Both completed their terms with the Committee in September 2024.

CENTER STAFF

Maria I. Marshall, Ph.D. Director	Shelly Surber Senior Program Manager/Account Manager	Karen Ivanna Carillo Siller Graduate Research Assistant
Michael D. Wilcox, Ph.D. Associate Director	Mary Breidenbach Communications Specialist	Deandre Malone Graduate Research Assistant
Zuzana Bednarik, Ph.D. Research and Extension Specialist	Antara Chowdhury Graduate Research Assistant	Olivia Williams Undergraduate Research Assistant
Renee Wiatt Research and Extension Specialist	Alejandra Armesto Gómez Graduate Research Assistant	Kyla Wolfe Undergraduate Research Assistant

CONTACT NCRCRD

Address: 403 Mitch Daniels Blvd.
West Lafayette, IN 47907

Email: ncrcrd@purdue.edu

Phone: 765-494-8541

Website: <https://ncrcrd.org/>

Social: [!\[\]\(799877f5c2f906134441300079881630_img.jpg\)](#) [!\[\]\(2cdb4db9cae0d6ef949a960a952715f8_img.jpg\)](#) [!\[\]\(42db6ea4631dfa4c986fa7b55279824c_img.jpg\)](#) [!\[\]\(5f1b540fe7c8f59ee2e108aebf112118_img.jpg\)](#)

NCR-Stat: A North Central Regional Database

The NCRCRD continued to grow the NCR-Stat Database this year by adding two, open access regional datasets and expanding the surveys to other regions.



GROWTH OF NCR-STAT DATABASE

The Center published two themed North Central Region datasets in 2024:

NCR-Stat: Caregiving Survey

- Purpose: To learn about individuals and families who provide care and how caregiving affects economic development and quality of life in the North Central Region.
- Conducted: 2023 in collaboration with Ohio State University and the National Farm Medicine Center.
- Published: 2024
- Respondents: 4,532 (1,596 child caregivers and 1,325 adult caregivers, and 752 cared for both children and adults)

Inwood, S., Bednarik, Z., Becot, F., Caldera, S., Henning-Smith, C., Cohen, S., Finders, J., & Brown, L. (2024). *North Central Region Household Data. NCR-Stat: Caregiving Survey* (Version 2.0) [Dataset]. Purdue University Research Repository. <https://doi.org/10.4231/Q22G-WE30>

NCR-Stat: Small Business Survey

- Purpose: To provide data on NCR small business owners, their businesses, and their households focusing on the intersection of small business, benefits, and rural health.
- Conducted & Published: 2024
- Respondents: 1,287 small business owners

Wiatt, R. D.; Marshall, M. I.; Wilcox, Jr., M. D.; Bednarikova, Z.; Adams, N.; Katere, B. (2024). *NCR-Stat: Small Business Survey*. [Dataset]. Purdue University Research Repository. <https://doi.org/10.4231/6VG5-5386>

EXPANSION OF SURVEYS TO OTHER REGIONS

NER-Stat: Caregiving Survey

Identical to the NCR-Stat: Caregiving Survey, NCRCRD conducted the **NER-Stat: Caregiving Survey** in 2023 in the Northeast Region for our sister center, the Northeast Regional Center for Rural Development (NERCRD) and published the dataset in 2024. *NER Caregiving Respondents: 4,480 (725 child caregivers, 714 adult caregivers, and 1,175 cared for both children and adults).*

Inwood, S., Bednarik, Z., Becot, F., Caldera, S., Henning-Smith, C., Cohen, S., Finders, J., & Brown, L. (2024). *Northeast Region Household Data. NER-Stat: Caregiving Survey* [Dataset]. Purdue University Research Repository. <https://doi.org/10.4231/TP7N-8B10>

Collaboration on Three New Regional Surveys

In addition to the new NER dataset, NCRCRD collaborated with the Southern Rural Development Center and Auburn University to develop the Baseline 2024 Survey which is built upon the NCRCRD's first survey, NCR-Stat: Baseline 2022.

The Baseline 2024 survey was conducted in the North Central, Northeast, and Southern Regions in 2024. The resulting three regional datasets, **NCR-Stat: Baseline 2024**, **NER-Stat: Baseline 2024**, and **SR-Stat: Baseline 2024** will be released in 2025.

NCR-STAT DATASETS AND THEIR 2024 METRICS



- 992 total dataset views
- 131 dataset downloads
- 2 outreach articles*
- 2 presentations*
- 2 graduate student theses*
- 1 webinar*

Download data: bit.ly/3J6ig87



- 853 total dataset views
- 105 dataset downloads
- 5 outreach articles*
- 3 presentations*
- 2 webinars*

Download data: bit.ly/4bMMFmO



- 862 total views
- 137 dataset downloads
- 1 outreach articles*
- 2 presentations*
- 1 graduate student theses*
- 1 webinar*

Download data: bit.ly/3K9AogJ

* See next page for the complete list of 2024 articles, presentations, and theses citing NCR-Stat datasets.

LEARN MORE: <https://nccrd.org/nccr-stat/>

2024 Articles, Presentations, Theses, and Webinars Using NCR-Stat Data

NCR-STAT: BASELINE 2022

Outreach Articles:

- Bednarik, Z., Marshall, M. I. (2024). NCR-Stat: Generational gap in rural North Central Region. *Purdue Ag Econ Report. Outlook 2024*. PAER-2024-05. <https://ag.purdue.edu/commercialag/home/paer-article/ncr-stat-generational-gap-in-rural-north-central-region/>
- Chowdhury, A. (2024, July). *The impact of food sufficiency on the health status: The case of households in the North Central Region*. Research Brief. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.344110>.

Presentations:

- Bednarik, Z. (2024, July 24-28). *The impact of health, demographic, and spatial indicators on the subjective well-being in rural communities*. [Conference presentation]. 86th Annual Meeting of the Rural Sociological Society, Madison, WI.
- Bednarik, Z. & Wiatt, R. (2024, March 26). *Introduction to research: Data in the North Central Region*. [Guest lecture]. AGECE 498, Purdue University, IN.

Theses:

- Chowdhury, A. (2024). *The association between food sufficiency and self-evaluated health: A bivariate ordered probit analysis for the households of the USA*. [MS thesis]. Purdue University. <https://doi.org/10.25394/PGS.26355268.v1>
- Carrillo-Siller, I. (2024). *Unveiling discrepancies: An analysis of women's current and preferred workplace*. [MS thesis]. Purdue University. <https://doi.org/10.25394/PGS.26314993.v1>.

Webinars:

- Bednarik, Z. (2024, January 24). *Data in the North Central Region: NCR-Stat* [Webinar]. In *Data in the North Central Region: The Nebraska Rural Poll, the Ohio Farm Poll, and the NCR-Stat*. North Central Regional Center for Rural Development.

NCR-STAT: SMALL BUSINESS

Outreach Articles:

- Williams, O., Wilcox, Jr., M. D., Wiatt, R. D. (2024, December). *Review of business owner demographics in the North Central Region*. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.348436>.

Presentations:

- Armesto, A. & Marshall, M. I. (2024, April 12). *Power dynamics of couples working together: Impact on businesses' gross income and perceived success* [Conference presentation]. Small Business Institute (SBI) 2024 Annual Conference, Orlando, FL.
- Wiatt, R. & Marshall, M. I. (2024, October 4). *Introducing the NCR-Stat: Small Business Dataset*. [Presentation] NC1100 Group.

Thesis:

- Armesto, A. (2024). *Power dynamics of couples working together: Impact on businesses' gross income and perceived success*. [MS thesis]. Purdue University. <https://doi.org/10.25394/PGS.26351923.v1>.

Webinar:

- Marshall, M. I., Wiatt, R. (2024, Aug. 27) *Introducing the new NCR-Stat: Small Business dataset* [Webinar]. North Central Regional Center for Rural Development. <https://youtu.be/brgoL6G09vc>.

NCR-STAT: CAREGIVING

Outreach Articles:

- Becot, F. and Inwood, S. (2024, July). *The economic and social well-being of caregivers in the North Central Region*. [Research snapshot]. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.344111>.
- Bednarik, Z. (2024, July). *The relationship between education and happiness: Findings from the North Central and Northeast Regions*. [Research brief]. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.344483>.
- Carrillo-Siller, I. (2024, September). *The landscape of childcare time burden in the North Central Region*. [Research brief]. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.345102>.
- Pojman, E., Becot, F., and Inwood, S. (2024, August). *Variations in caregivers' health and well-being in the North Central Region*. [Research snapshot]. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.344688>.
- Southard, E., Becot, F., Inwood, S., and Pojman, E. (2024, October). *What do caregivers in the North Central Region use for support and what support do they still need?* [Research snapshot]. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.346770>.

Presentations:

- Bednarik, Z., Finders, J., Sandel, J., Hall, T. (2024, June 17-21). *The cost and quality of child care in rural Indiana*. [Conference presentation]. National Association of Community Development Extension Professionals 2024 Annual Conference, Houston, TX.
- Bednarik, Z. (2024, October 25). *Caregiving data in Indiana* [Meeting presentation]. College & Community Collaboration Biannual Meeting, Carroll County 4-H Fairgrounds, IN.
- Bednarik, Z. (2024, November 13-16). *How living in different places affects the relationship between education and happiness: Evidence from the North Central and Northeast Regions*. [Conference presentation]. Regional Science Association International 2024 Annual Meeting, New Orleans, LA.

Webinar:

- Bednarik, Z. (2024, November 7). *Caregiving data in the North Central Region* [Webinar]. The North Central Region Quality Child Care Network.
- Inwood, S., Becot, F., & Bednarik, Z. (2024, February 27). *Caregiving across the life course in rural and urban households in the North Central Region* [Webinar]. North Central Regional Center for Rural Development. <https://youtu.be/Z89jG7fg16Q>

2024 Grants and Fellowships Awarded

NCRCRD grant opportunities support new and ongoing regional research, extension, and integrated activities and enhance the ability of the North Central Region's (NCR) thirty-four land-grant institutions to positively influence the quality of life in the region's rural areas.

SIX GRANTS FUNDED IN 2024

4 Small Grants

Similar to years past, the four Small Grant projects funded in 2024 offer unique and creative approaches to address the region's rural challenges.

The funded projects seek to: Utilize generative AI to enhance rural healthcare; study and assess the social value and impact of rural business entities on their community's well-being; customize a curriculum to support rural gateway communities in developing an outdoor recreation sector; and evaluate and develop a sustainability plan for a burgeoning food distribution program.

1 Extension Collaboration & Implementation Grant

The Extension Collaboration and Implementation Grant is meant to incentivize the implementation of Extension programs available through any of the 34 land-grant institutions in the North Central Region (NCR), in another NCR state where the program is currently not being implemented.

In 2024, the University of Minnesota (UMN) Extension received funding for a project that supports a collaboration between all five land-grant institutions in Minnesota to implement the FORWARD curricula. The institutions are: UMN Extension, Red Lake Nation College, White Earth Tribal Community College, Leech Lake Tribal College, and Fond Du Lac Tribal and Community College.

1 Thematic Working Group

The Center funded its second North Central Region thematic, multi-state working group in 2024. The new Place Action Working Group seeks to harness the transformative power of place action within rural communities, to develop and sustain these systems for place action knowledge, and to establish a core community of practice. The collaborative effort of six land-grant universities in our region is led by Todd Barman, University of Wisconsin-Madison.

LEARN MORE: Details about the new and completed grants are detailed in the Thematic Activities sections in this publication (pp. 13-21).

TWO FACULTY FELLOWS NAMED

Samuel C. H. Mindes, Ph.D.

Adjunct Assistant Professor,
Rural Sociology, Department of Sociology
and Criminal Justice, Iowa State University

*Rural Gentrification and Housing Disparities
in the North Central Region*



Samuel Mindes,
Ph.D.

Dr. Mindes' fellow project combines qualitative and quantitative sociological research to investigate rural housing disparities in the North Central Region. The quantitative regional housing survey he developed is based on his work with the NCR Housing Working Group and will be conducted by the Center in 2025. The resulting dataset will be the future open access dataset, NCR-Stat: Housing.

Mindès' qualitative research component involves ethnographic research in amenity-rich rural Lake Michigan communities with recent histories of gentrification, seasonal residential patterns, and economic development among growing disparities.

Sarah Kennedy, MPH

Field Specialist-Community Development,
Early Childhood Impact,
University of Missouri Extension

*Activating Civic Leaders to Address the
Childcare Crisis in the North Central Region*



Sarah Kennedy,
MPH

Sarah Kennedy's fellow project aims to transform the NCR-Stat: Caregiving survey data into action by using the survey's data as a foundation for researching, developing, and piloting a toolkit of strategies for addressing early child care across NCR communities.

The project will also establish a model for communities of practice, collaborative learning, and knowledge-sharing among stakeholders throughout the region.

LEARN MORE about our current and past fellows at:
ncrcrd.org/funding-opportunities/current-fellows/

Total Funds Awarded: \$241,827

Grants and Fellowships Completed in 2024

CREATING RESILIENT COMMUNITIES & ECONOMIES

Bridging Horizons: Rural Career Pathway Development by UMN Extension, Red Lake Nation College, White Earth Tribal Community College, Leech Lake Tribal College, and Fond Du Lac Tribal and Community College – using APLU's FORWARD Curricula

PI: Rani A. Bhattacharyya,
University of Minnesota Extension

Type: NCR Extension Collaboration
& Implementation Grant

Satellite-based Automated Data Collection and Visualization for Mobile Home Park Analysis Using Computer Vision

Fellow: Armin Yeganeh, Ph.D.,
Michigan State University

Type: Faculty Fellowship

DEVELOPING LEADERSHIP & CIVIC ENGAGEMENT

Leadership Chautauqua: Utilizing Peer Learning Networks to Revolutionize Extension's Approach to Community Leadership Development Systems

PI: Lindsay Hastings,
University Nebraska–Lincoln

Type: Small Grant

Turtle Mountain Community College Leadership Internship Program

PI: Robert Monette,
Turtle Mountain Community College

Type: 1994 Land Grant
Innovation Grant

PROMOTING COMMUNITY HEALTH & WELLNESS

Emergency Preparedness for Rural Families

PI: Jenna Nees,
Purdue University Extension

Co-PI: Ann Kline,
University of Nebraska

Type: Small Grant

Rural Family Caregiving: Building Selfcare and Resiliency of Rural Women Family Caregivers for Older Adults

PI: Nasreen Lalani, Purdue University

Type: Small Grant

North Central Region Caregiving Survey

Fellow: Shoshannah Inwood, Ph.D.,
The Ohio State University

Fellow: Florence Becot, Ph.D., M.Sc.,
Pennsylvania State University

Type: Faculty Fellowship

NCRCRD grants awarded and completed in 2024 are detailed in the Thematic Activities Section on pages 13-21.

COLLECTIVE IMPACTS OF THE 7 COMPLETED GRANT PROJECTS



16

presentations



2

datasets



5

journal
articles



3

workshops



6

webinars



1

curriculum

2 manuscripts

4 outreach articles

professional development activities

New Partnerships and Collaborations

Center Partners with Two Programs to Provide Technical Assistance

In 2024, NCRCRD was awarded two cooperative agreements that support initiatives of importance to our region and draws upon the Center's expertise.

New Beginnings for Tribal Students (NBTS)

Cooperative Agreement: \$500,000 / 2024-2029

Awarded by: USDA National Institute of Food and Agriculture (NIFA)

The USDA-NIFA program, New Beginnings for Tribal Students (NBTS), makes competitive grants to land-grant universities to provide identifiable support specifically targeted for Tribal students and their academic success. NBTS aims to help increase the retention and graduation rate of Tribal students attending 1994, 1862, and 1890 land-grant universities.

Over the next five years, NCRCRD will assist USDA-NIFA in identifying and assessing barriers by compiling and analyzing data that the NBTS project directors collect on the program's barriers in recruiting and retaining students, and other factors contributing to student success. In addition, NCRCRD will collect programmatic data to ensure Congressional objectives for NBTS are being met and provide recommendations to overcome identified barriers.

Zuzana Bednarik, Ph.D., Research and Extension Specialist with NCRCRD, is the project manager for this grant.

PROPEL Technical Assistance Initiative

Cooperative Agreement: \$600,000 / 2024-2026

Awarded by: Delta Regional Authority (DRA)

The Delta Regional Authority (DRA), a federal regional commission promoting economic development with an eight-state service region across the lower Mississippi River Delta and Alabama Black Belt regions, has partnered with NCRCRD on the PROPEL Technical Assistance Initiative.

The PROPEL Initiative aims to enhance economic development and community resilience by providing targeted support and resources to economically distressed communities in their service region. During NCRCRD's three-year commitment, the Center will assist five communities in Missouri and Illinois to increase their community capacity and help them alleviate challenges around issues such as public infrastructure and business development. The Southern Rural Development Center also partnered with the DRA to provide similar support to communities in Kentucky, Louisiana, and Mississippi.

Susan Odum, Community and Economic Development Specialist, University of Illinois Extension, is NCRCRD's community coordinator for this grant.

Collaborative Effort to Review CRED Impact Indicators

In the first half of 2024 the North Central Region led an effort to review, refresh, and revise a set of impact indicators that serve as the foundation for highlighting the impact and public value of Extension's Community, Resource, and Economic Development (CRED) work nationally.

With the support of the North Central Cooperative Extension Association, the Southern Rural Development Center (SRDC), and the North Central Regional Center for Rural Development (NCRCRD), a plan for reviewing the indicators on a national level began in April 2024 with a national survey and webinar.

Following these initial efforts, Community Development Extension representatives from across the United States came together May 13-14, 2024, for the Community Development Extension Impact Indicators Retreat at the Red Lake Nation College site in Minneapolis, Minnesota. This retreat aimed to create new and improved ways for 1862, 1890, and 1994 land-grant institutions to expand the reach of their impact stories in inclusive and culturally relevant ways.

A post-Impact Retreat survey was conducted by NCRCRD and SRDC to provide a venue for additional input on the proposed indicators. Michael Wilcox, NCRCRD and Purdue Extension, Anne Silvis, University of Illinois Extension, and Stacey McCullough, University of Arkansas Extension, shared all the findings gathered from this endeavor during the National Community Development Program Leaders meeting at the 2024 NACDEP Conference on June 17 in Houston, Texas.

Once agreed and finalized, the group will share the new quantitative and qualitative indicators and work toward their adoption across the country.

The first use of the revised Impact Indicators will be in the North Central Region Community Development 2024 Impact Report (available June 2025). The NCR is inviting program leaders to report on either the old or the new indicators in order to gradually incorporate them into use.

Below are some of the documented aspects of this effort.

Webinar: Extension CRED Impact Indicators – Review, Refresh, Revise
(5/2/24)

<https://youtu.be/7PZsMSAADxc>

CD Extension Impact Indicators Presentation Slides
(6/17/24)

<https://bit.ly/3Dek52t>

Proposed Impact Indicators
(as of 7/18/24)

<https://bit.ly/3F8wdCs>

Conference Development

NCRCRD conference support in 2024 focused on encouraging collaboration and facilitating partnerships among land-grant institutions through conference development (CD), presentations (P), and outreach (O).

2024 National Association of Community Development Extension Professionals (NACDEP) Annual Conference ^(CD, P, O)

Houston, Texas | June 17-20

NCRCRD participation included the National Community Development Program Leaders Meeting, the North Central Regional Meeting, and two academic sessions. The Center shared display tables with our sister Regional Rural Development Centers. <https://www.nacdep.net/>

National Rural Grocery Conference ^(CD)

Montgomery, Alabama | June 24-25

<https://www.ruralgrocery.org/summit/>

2024 Community Development Society (CDS) Conference ^(CD)

Omaha, Nebraska | July 14-17

<https://cdsociety.org/>

Rural Sociological Society 2024 Annual Meeting ^(CD, P, O)

Madison, WI. 2024 | July 24-28

NCRCRD presented at the conference and shared a display table with our sister Regional Rural Development Centers.

<https://www.ruralsociology.org/>

The First Americans Land-Grant Consortium (FALCON) Annual Conference ^(CD, P, O)

Minneapolis, Minnesota | October 11-13, 2024

NCRCRD presented at the conference and staffed a display table.

<https://www.falcontribalcollege.org/>



Zuzana Bednarik, Ph.D., NCRCRD Research & Extension Specialist, presents at 2024 NACDEP Annual Conference.

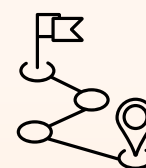
NCRCRD Collaborates with EDEN and NIFA on 2024 Workshops and Supports NCR Attendees with Travel Stipends

In June 2024, the Extension Disaster Education Network (EDEN) and the National Institute of Food & Agriculture (NIFA) held concurrent workshops with the shared goal of encouraging greater participation and collaboration with and between 1994 land-grant institutions (LGIs).

Members of the EDEN Executive Committee and FADI-EDEN partnership held a two-day meeting with invitees from 1994 LGIs from the North Central and Western Regions, to allow both EDEN and Tribal colleges to co-learn about each other and develop partnerships to address the emergency disaster education needs of Tribal colleges and the communities they serve.

Meanwhile, the NIFA workshop, Grant Development and Grant Management Training for 1994 Universities, covered grant management and focused on developing opportunities and partnerships between the Tribal Colleges and NIFA.

Seeing the synergy of the two events, NCRCRD sought to support these efforts by helping to coordinate the workshops so that they would be held consecutively at the same location — Salish Kootenai College in Pablo, Montana — and offered travel stipends to North Central Region 1994 LGIs to encourage attendance. Overall, NCRCRD awarded six travel stipends.



6

**travel
stipends
awarded**

Elevating the Region's Research and Extension Programs

NCRCRD WEBINAR SERIES

This year the 2024 NCRCRD Webinar Series offered eleven webinars that sought to promote regional collaboration between researchers, Extension professionals, and stakeholders.



NCRCRD Webinar Series

Topics: The Series explores a diverse set of topics that relate to the Center's three thematic areas and elevates the work of North Central Region (NCR) rural development Extension programs and research, integrated work of multiple NCR institutions, and NCRCRD-funded grant projects.

2024 metrics indicate the webinar series continues to be an effective avenue for regional engagement in 2024.

► **High ratings given in post-webinar attendee surveys.**



4.52 stars

Overall attendees' rating for the 2024 Webinar Series.



4.62 stars

Likelihood of attending another webinar.

► **Total registrations in 2024 remain steady.**

Registrations were almost identical to 2023 with a total of 1,246 registrants.

Year	No. of Webinars	Total Registrants	Average Registrants Per Webinar
2024	11 webinars	1,246	113
2023	10 webinars	1,230	123
2022	10 webinars	1,046	105

► **Total views of NCRCRD webinar recordings grew again in 2024 with a 27% increase from 2023's total views.**

2024 = 1,329

2023 = 1,085

2022 = 793

► **2024 watch time: 159.4 hours = 21% increase from 2023**

► **Number of NCRCRD YouTube channel subscribers grew 43% in 2024.**

LEARN MORE

NCRCRD Webinar Series: <https://ncrcrd.org/webinars/>

NCRCRD YouTube Channel: <https://www.youtube.com/@ncrcrd3668>

NCR COMMUNITY DEVELOPMENT EXTENSION IMPACT REPORT

NCRCRD hosts and provides logistical support to the

region's Community Development Extension program leaders for their monthly meetings. NCRCRD also facilitates the compilation and reporting of the North Central Region (NCR) Annual Community Development Extension

(CDE) Impact Report. The report gathers the common indicators that NCR university Extension leaders from the twelve North Central 1862 land-grant universities developed for reporting their impacts.



EXPLORE NCR IMPACTS / DOWNLOAD REPORT:

<https://ncrcrd.org/community-development/impact-reports/>

UPDATE:



COMMUNITY DEVELOPMENT EXTENSION LIBRARY

The Community Development Extension Library provides a national repository for Extension professionals to share and discover programs and resources that support a comprehensive, logical, and theoretically sound community development process.

Created in 2023 with the support of an NCRCRD small grant and in partnership with NACDEP, the website showed strong growth in 2024.

Year	Total Visits	File Downloads
2023	82,651	3,937
2024	103,604	7,131

Today, NCRCRD continues to maintain and support the site.

VISIT CD EXTENSION LIBRARY:

<https://cdextlibrary.org/>

Visits with the Region's Land-Grant Institutions

With their 2024 trips, NCRCRD Directors have now visited over 50% of the region's LGIs!

In 2024, NCRCRD Directors, Maria Marshall and Michael Wilcox, visited Michigan, Minnesota, and Missouri land-grant institutions (LGIs). The gatherings with faculty, Extension, and staff serve not only to introduce the Center's resources and opportunities, but also an opportunity for the Center to learn more about each institution's programs and research.



The University of Missouri Extension faculty and leadership with the NCRCRD team. (Photo credit: Dr. Rob Russell, University of Missouri Extension.)

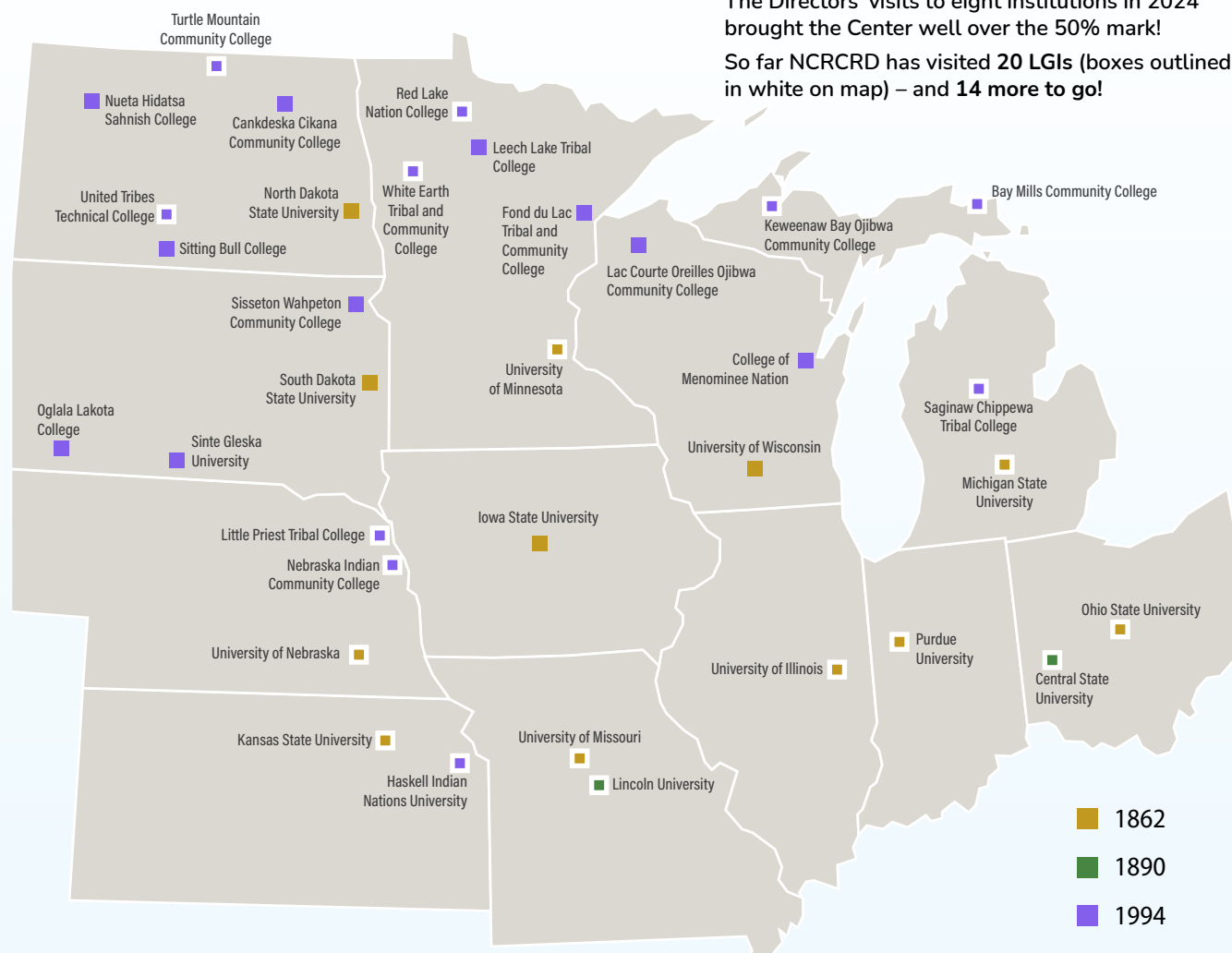
2024 Visits

- **Minnesota (March)**
 - White Earth Tribal and Community College (1994)
 - Red Lake Nation College (1994)
- **Missouri (March)**
 - Lincoln University (1890)
 - University of Missouri (1862)
- **Michigan (October)**
 - Keweenaw Bay Ojibwa Community College (1994)
 - Bay Mills Community College (1994)
 - Saginaw Chippewa Tribal College (1994)
 - Michigan State University (1862)

So how far along is NCRCRD in its quest to visit all LGIs in the North Central Region?

The Directors' visits to eight institutions in 2024 brought the Center well over the 50% mark!

So far NCRCRD has visited 20 LGIs (boxes outlined in white on map) – and 14 more to go!



2024 Presentations and Publications

In addition to the NCR-Stat outputs listed on page 5, NCRCRD also produced the following in 2024.

CONFERENCE PRESENTATIONS

- Adhikari, L. D. G., Katare, B., Marshall, M. I. (2024, July). *Do workplace wellness programs help in improving employee health and well-being: Evidence from a workplace wellness training for small rural businesses in Indiana*. [Conference presentation]. AAEA Annual Meeting, New Orleans, LA.
- Bednarik, Z. (2024, July). *Surveying rural populations: Challenges, strategies, and lessons learned*. [Conference panel]. 86th Annual Meeting of the Rural Sociological Society, Madison, WI.
- Fitzgerald, M., Lee Y. G., Marshall, M. I., Wiatt, R. (2024, June). *Copreneurs and family business adjustment strategies*. [Conference presentation]. Work Family Researchers Network Conference, Montreal, Canada.
- Marshall, M. I., Wiatt, R., Fitzgerald, M., and Lee, Y. G. (2024, January). *Socioemotional wealth among business owning couples*. [Conference presentation]. USASBE Conference, Birmingham, AL.
- Marshall, M. I., Wiatt, R., Fitzgerald, M., and Lee, Y. G. (2024, June). *Socioemotional wealth and income among business owning couples*. [Conference presentation]. Work Family Researchers Network Conference, Montreal, Canada.
- Walls, W. G., Marshall, M. I., Wiatt, R. (2024, April). *Are farm heir preferences considered in succession?* [Conference presentation]. SBI Conference, Orlando, FL.
- Wilcox, Jr., M. D., Hall, T., and Goodman, H. (2024, February). *Future Opportunities for Rural Workforce and Rural Development (FORWARD): Workforce development program developed for Extension educators by Extension educators*. [Conference session]. JCEP Leadership Conference, Tampa, FL.
- Wilcox, Jr., M. D., Hall, T., Goodman, H., White, M., Sherman-Duncan, J., Martin, S., Burkhart-Kriesel, C., Hill, P., James, T., Ure, K. (2024, June). *Future Opportunities for Rural Workforce and Rural Development (FORWARD): Workforce development program developed for Extension educators by Extension educators*. [Post-conference session]. National Association of Community Development Extension Professionals 2024 Annual Conference, Houston, TX.
- Wilcox, Jr., M. D., Silvis, A., McCullough, S. (2024, June). *Community development extension impact indicators*. [Session]. National Association of Community Development Extension Professionals 2024 Annual Conference, Houston, TX.

PEER-REVIEWED JOURNAL ARTICLES

- Bednarik, Z. and Marshall, M. I. (2024). Personal relationships of rural small businesses with community banks in times of crisis. *Journal of Small Business and Enterprise Development*, 31(5): 881-904. <https://doi.org/10.1108/JSBED-04-2023-0196>
- Entsminger, J., Green, J. J., Wiatt, R., & Bednarik, Z. (2024). Multi-method research in the digital age: A methodological case study of a broad-scale rapid rural appraisal. *Community Development*, 1–20. <https://doi.org/10.1080/15575330.2024.2438011>
- Lee, Y. G., Kelley, H. H., Wiatt, R. and Marshall, M. I. (2024). Work-family balance and perceived business outcomes among copreneurial and noncopreneurial small business owners. *Journal of Family and Economic Issues*, 45(1): 200-2011. <https://doi.org/10.1007/s10834-023-09897-w>
- Edobor, E. W., Marshall, M. I., Katare, B., and Valdivia, C. (2024). Insuring for cyclone events: What matters most to small business owners? *Journal of the Agricultural and Applied Economics Association*. <https://doi.org/10.1002/jaa2.146>
- Wiatt, R., Marshall, M. I., Lee, Y. G., and Haynes, G. (2024). In the depths of despair: Lost income and recovery for small businesses during COVID-19. *International Journal of Disaster Risk Reduction*, 101:104251. <https://doi.org/10.1016/j.ijdrr.2024.104251>
- Wiatt, R., Marshall, M. I. and Lee, Y. G. (2024). Love of work or love and work: Does small business owners compulsion to work payoff? *Journal of Family and Economic Issues*. <https://doi.org/10.1007/s10834-024-09949-9>

OUTREACH ARTICLES

- Gallardo, R. (2024). *The age-dependency ratio in the North Central Region: Implications for regional and community development*. [Research brief]. North Central Regional Center for Rural Development. <https://doi.org/10.22004/ag.econ.339557>
- Wilcox, Jr., M. D. (2024). *Mino-Bimaadiziwin*. [Editorial]. North Central Regional Center for Rural Development. <https://ncrcrd.ag.purdue.edu/2024/03/28/mino-bimaadiziwin/>

WEBINARS

- Chazdon, S., Silvis, A., Wilcox, Jr., M. D. (2024, May 2). *Extension CRED impact indicators – review, refresh, revise* [Webinar]. North Central Regional Center for Rural Development. <https://youtu.be/7PZsMSAADxc>

WORKSHOPS

- Wilcox, Jr., M. D., and Hall, T. (2024, May). *Future Opportunities for Rural Workforce and Rural Development (FORWARD): Workforce development program developed for Extension educators by Extension educators*. [Workshop]. Red Lake Nation College, Minneapolis, Minnesota.
- Wilcox, Jr., M. D., Silvis, A., and Chazdon, S. (2024, May). *Community Development Extension impact indicators retreat*. [Workshop]. Red Lake Nation College, Minneapolis, Minnesota.
- Wilcox, Jr., M. D., Adams, N., and Worland, E. (2024). *Taking Action to Address Substance Use in Communities (TASC)*. [Three train-the-trainer workshops]. Cincinnati, OH (April), Minneapolis, MN (May) and Madison, WI (August).

Creating Resilient Communities and Economies

Thematic Activities, 2024

Building a more resilient North Central Region by improving the adaptive capacity of households, businesses, and communities through impactful research and outreach.



Grants Awarded in 2024

NCR SMALL GRANT

Assessing Social Value of Nebraska Livestock Sale Barns to Assist with Community Well-Being and Resiliency

Principal Investigator: Marilyn Schlake

Organization: University of Nebraska-Lincoln

State: Nebraska

Project Abstract:

Globally, research on social value measurement of economic entities is evolving in relationship to individuals and community. This growing field explores community social capital through the lens of social value, or how social connections translate into actions with tangible outcomes impacting individual livelihoods and community well-being. This project seeks to apply and modify the framework of an Australian research study to Nebraska livestock sale barns, which is a significant rural economic entity. The team will use a mixed-method study to identify the sale barns' social value and explore implications for individual and community well-being and resiliency. These findings can help establish the value of rural business entities or organizations beyond the traditional economic focus. Research findings will also help identify the social connections that enhance belongingness and connectivity and provide potential avenues for enhancing Extension program delivery.

NCR SMALL GRANT

Partnering to Customize Building an Entrepreneur-Friendly Community Curriculum for the Outdoor Recreation Sector

Principal Investigator: Gwynn Stewart

Organization: The Ohio State University Extension

States: Ohio and Minnesota

Project Abstract:

Utilizing strategic planning and education as well as a grant writing curriculum and/or broadband development, in U.S. Forest Service areas, we seek to support rural gateway communities in creating resilient economies through enhancing the outdoor recreation economy.

Utilizing the Ohio State University Extension's Building an Entrepreneur-Friendly Community curriculum that provides resources, training, and tools to develop community capacity to better understand and support the local entrepreneurial economy, the team would work to customize the curriculum for Outdoor Recreation gateway communities, as well as customize the Grant writing Curriculum with a list of potential Outdoor Recreation grant resources.

This NCRCRD small grant will also couple well with the already in-process Environmental Justice Thriving Communities Technical Assistance Centers Program (EJ TCTAC) in the two states as well.

NCR EXTENSION COLLABORATION & IMPLEMENTATION GRANT

Bridging Horizons – Rural Career Pathway Development

by UMN Extension, Red Lake Nation College, White Earth Tribal Community College, Leech Lake Tribal College, and Fond Du Lac Tribal and Community College – using APLU's FORWARD Curricula

Principal Investigator: Rani A. Bhattacharyya, University of Minnesota Extension

State: Minnesota

Project Abstract: This training and piloting grant is planned for calendar years 2024-2025 to support our University of Minnesota's collaboration with tribal college peers in Minnesota to implement the FORWARD curricula developed by the APLU and help our respective communities strengthen the STEM career pathways they have for low-income youth. We feel this project would align with NCRCRD's priority #2 – Workforce Development, Training and Education – because it would build the rural skill sets and knowledge concerning workforce, entrepreneurship, and investment and help to bridge this knowledge close to home between tribal and non-tribal communities co-inhabiting northern Minnesota.

Grants Awarded in 2024

NCRCRD Working Group

In Pursuit of Place: Developing Resilient and Meaningful Communities

Principal Investigator: Todd Barman

Organization: University of Wisconsin-Madison

State: Multiple

Project Abstract:

Our proposal seeks to harness the transformative power of place action within rural communities, aligning with the NCRCRD's mission to foster resilient communities and economies, leadership and civic engagement, and community health and wellness. We utilize the term place action – action to purposefully increase the likelihood people will connect positively with a place and with each other – to capture the numerous types of community planning and design activities associated with place. Because inclusive place action can drive healthy community, demographics, and climate change, support from NCRCRD can be leveraged to attract additional resources.

The goal of this collaborative effort is to develop and sustain systems and routines for culling, creating, accessing, training, and applying place and place action knowledge for applied practitioners and professionals working with rural communities. This effort will be unique in its attempt to bridge the gaps and identify the overlaps within the place action realms of place knowing, place keeping, placemaking, and place management, as well as the placemaking realms of tactical, creative, strategic, cultural and community placemaking. There are two primary audiences: a community of practice/science (academicians and practitioners) and a community of communities (local change agents). As part of a broader plan to develop and sustain these systems for place action knowledge, this proposal pursues the establishment of a core community of practice through monthly meetings, the launch of an inaugural summit, the development of a virtual repository, and the development and publication of new scholarship to represent the full range of place action.

Six land-grant institutions in the region have confirmed their commitment to working together on this proposed place action working group. They include Michigan State University, Purdue University, University of Minnesota, University of Missouri, University of Nebraska-Lincoln, and University of Wisconsin.

Webinars in 2024

Data in the North Central Region: The Nebraska Rural Poll, the Ohio Farm Poll, and the NCR-Stat (1/24/24)

Presenters: L. J. McElravy, Associate Professor, Department of Agricultural Leadership, Education, and Communication and Rural Prosperity Nebraska, University of Nebraska-Lincoln; Douglas Jackson-Smith, Professor, Kellogg Chair, and Director of the Agroecosystem Management Program, The Ohio State University; and Zuzana Bednarik, Research and Extension Specialist, North Central Regional Center for Rural Development (NCRCRD)

<https://youtu.be/hjYiopNTYAU>

Collaborative Drought Planning Using Drought Scenario Exercises (3/7/24)

Presenters: Deborah Bathke, Education and Outreach Coordinator, National Drought Mitigation Center, University of Nebraska-Lincoln and Interim Nebraska State Climatologist and Tonya Bernadt, Education and Outreach Specialist, National Drought Mitigation Center, University of Nebraska-Lincoln

<https://youtu.be/jPTPnBZ7k0U>

Incorporating AI into Housing and Community Development (10/17/24)

Part 1: AI-Driven Detection and Mapping of Manufactured Housing Communities

Presenter: Armin Yeganeh, Ph.D., Assistant Professor, Construction Management Program, Michigan State University

Part 2: Exploring the Potential Role of AI in Community Development

Presenters: Lisa Bates, Assistant Director of Community and Economic Development, Iowa State University Extension and Outreach and Christopher J. Seeger, PLA, GISP, Morrill Professor and Extension Specialist, Landscape Architecture, Iowa State University Extension and Outreach. https://youtu.be/oPCOF2bpc_c

The Changing Relationship Between Farm and Non-Farm Economies (12/10/24)

Presenter: Steven C. Deller, Vilas Distinguished Achievement Professor, Department of Agricultural and Applied Economics, University of Wisconsin-Madison. https://youtu.be/xwn1_2yJ2rk

Grants Completed in 2024

NCRCRD FACULTY FELLOWSHIP

Satellite-based Automated Data Collection and Visualization for Mobile Home Park Analysis Using Computer Vision

Fellow: Armin Yeganeh, Ph.D., Assistant Professor,
School of Planning, Design and Construction,
Michigan State University

Project Goals:

- To develop an AI-driven methodology for automatically gathering reliable data on Manufactured Housing Communities (MHCs).
- To apply the methodology to detect MHCs in the North Central Region and create a publicly accessible database and GIS map resource.
- To demonstrate the findings through a case study that identifies and examines the socioeconomic drivers behind the growth and decline of MHCs.

Project Accomplishments:

- A robust methodology (code) for the automated collection of accurate data on Manufactured Housing Communities (MHCs). The methodology manuscript is under review in *Scientific Data*, a journal published by Nature Research.
- A publicly available database and GIS map resource that provides reliable information on MHCs in the North Central Region.
- A case study exploring the socioeconomic factors influencing the growth and decline of MHCs. The case study manuscript is under review in *Journal of Housing Policy Debate*.

Training Provided:

- Training in Advanced Data Collection Techniques: Students and staff developed expertise in computer programming for high-resolution aerial imagery analysis and computer vision techniques.
- GIS and Spatial Data Analysis: Students gained hands-on experience with Geographic Information Systems (GIS), geospatial datasets, and mapping tools.
- Socioeconomic Research and Data Integration: Students and staff have had the chance to join socioeconomic data from various sources, such as historical imagery, government data, and Census Bureau surveys.
- Project Management and Collaboration: As this is a multidisciplinary project involving data science, socioeconomic research, and urban planning, students and staff have had the opportunity to develop collaborative project management skills.
- Following this project, the PI has prepared and submitted an NSF grant to further explore the topic.

Dissemination of Findings:

- PI presented results to: 1) the Community and Economic Development group at Iowa State University and 2) the School of Planning, Design, and Construction at Michigan State University.
- *Webinar:*
Yeganeh, A. (2024, Oct. 17). *AI-Driven Detection and Mapping of Manufactured Housing Communities* [Webinar]. North Central Regional Center for Rural Development.
https://youtu.be/oPCOF2bpc_c
- The resulting data and maps will be hosted on publicly accessible databases and the PI will use future opportunities to further disseminate the findings.

Impact:

The study/project on Manufactured Housing Communities (MHCs) has several significant impacts:

- *Improved Data Availability:* By creating a publicly accessible database and GIS map resource, the project addresses a major gap in systematically collected data on MHCs. This provides researchers, policymakers, and planners with reliable information to better understand these communities and develop targeted interventions.
- *Enhanced Understanding of Affordable Housing:* MHCs are a critical source of affordable housing for low-income households in the U.S. The study's insights into the physical and socioeconomic factors influencing MHC growth and decline will inform housing policy decisions aimed at preserving and improving this vital housing stock.
- *Advancements in Technology-Driven Housing Research:* Leveraging computer vision techniques and high-resolution aerial imagery, the project showcases innovative methods for detecting and mapping MHCs. This approach can be applied to other types of housing or infrastructure studies, promoting broader use of AI and geospatial analysis in urban planning and real estate research.
- *Educational and Professional Development:* The project offered students and staff opportunities to develop valuable skills in AI, geospatial analysis, and socioeconomic research, contributing to workforce development in fields like urban planning, data science, and housing policy.
- *Influence on Regional and National Housing Strategies:* The findings from the study could influence strategies not only in the North Central Region but also at the national level, shaping policies that respond to the challenges and opportunities associated with MHCs across the country.

OUTPUTS:

1 dataset/maps

1 webinar

2 presentations

2 manuscripts

professional development activities

Developing Leadership and Civic Engagement

Thematic Activities, 2024

The NCRCRD is committed to working with partners to address constraints and enhance the capacity for inclusive leadership and civic engagement in the North Central Region.



Grants Completed in 2024

1994 LAND GRANT INNOVATION GRANT

Turtle Mountain Community College Leadership Internship Program

Principal Investigator: Michael Poitra, Turtle Mountain Community College (TMCC)

Project Goals:

Provide financial assistance to Ogimaawiwon Leadership Internship Participants to take burden away from students. Help the community that may not have the financial means to pay for the internships.

Project Accomplishments:

- Students worked for certain programs of the community and helped provide needed assistance and mind set to get projects started. Many of the projects have the basic work done and will allow others to continue where they left off.
- A new grant was written with the help of the students.

Training/Professional Development:

This grant allowed students to get leadership experience and to provide consultation for needed areas in the community.

Dissemination:

- One presentation:
Ogimaawiwon (Leadership) & Management Internship Program [Session] on June 18, 2024 at the NACDEP 2024 Annual Conference, Houston, TX.
- Two workshops

Impact:

Students worked for the Turtle Mountain Band of Chippewa Agricultural Department to help lay the groundwork for programs that will eventually start in the fall of 2025. Parts of the internship were to develop family-oriented programs that will help the community with food sovereignty, food distribution, and food preservation.

OUTPUTS:

1 presentation

2 workshops

16 internships

professional development activities

Webinars in 2024

Climbing the IAP2 Ladder with Marketing Hometown America (4/29/24)

Presenters: Lynn Adams, Field Specialist, Community Economic Development, Iowa State University Extension and Outreach; Cheryl Burkhart-Kriesel, Ph.D., Extension Specialist, Rural Prosperity Nebraska, Department of Agricultural Economics, University of Nebraska-Lincoln; and Marilyn Schlake, Extension Educator, Rural Prosperity Nebraska, Department of Agricultural Economics, University of Nebraska-Lincoln.

<https://youtu.be/oMwcSVwV2TY>

Leadership Chautauqua: Revolutionizing Extension's Approach to Community Leadership Development Systems (5/15/24)

Presenters: Lindsay Hastings, Ph.D., Clifton Professor in Mentoring Research and Research Director, NHRI Leadership Mentoring, University of Nebraska-Lincoln; Mary Emery, Ph.D., Director, Rural Prosperity Nebraska, University of Nebraska-Lincoln; and Jordan Rasmussen, M.A., Rural Prosperity Nebraska Extension Educator, University of Nebraska-Lincoln.

https://youtu.be/TQyeshVC_tg

Grants Completed in 2024

NCR SMALL GRANT

Leadership Chautauqua: Utilizing Peer Learning Networks to Revolutionize Extension's Approach to Community Leadership Development Systems

Principal Investigator:

Lindsay Hastings, University of Nebraska-Lincoln

Project Goals:

The goal of the Leadership Chautauqua approach was to take the community leadership movement to the next level in three ways: (a) bringing together diverse partners to move the needle on building a strong leadership infrastructure to support rural America in addressing today's challenges; (b) addressing the underlying community systems to encourage sustainable approaches with the capacity to spiral up both the quality and quantity of leaders, and (c) understanding the role of leaders in identifying, accessing, and mobilizing both community assets and leaders' gifts to generate a prosperous future for all.

Objectives

1. Engage scholars and practitioners in the leadership field to perform a needs assessment in preparation for the Chautauqua.
2. Design a systems-based approach to creating community leadership development systems using a participatory process engaging peer networks of community leaders throughout the North Central Region.

Project Accomplishments:

- Developed a network map of existing leadership programs and contacts.
- Created an asset mapping process and map to guide assessment conversations around existing leadership resources and structures during the Chautauqua. Identified people who manage, support, and provide training for community leadership programs, as well as participant of these leadership programs, providing a core of invited participants for the Chautauqua.
- Hosted Leadership Chautauqua on November 8, 2023 in Kearney, NE and brought together over 100 thought leaders, practitioners, and community leaders from across the North Central Region to engage in dialogue, asset and network mapping, and workgroup planning. This effort also resulted in the development of both informal and formal peer learning networks. The Chautauqua provided the pathway to a more in-depth understanding of the factors that trend positively over time with successful community leadership as well as the invisible structures that facilitate community leadership development (CLD) and succession.
- The Chautauqua findings served as a bridge into the more comprehensive research planned within a NIFA grant project by developing a stronger basis for the measures of antecedents of community change and fostering relationships for further research and piloting.

- Spring 2024: Hosted three online peer learning sessions for leaders statewide. Thematic insights from the Chautauqua event that were confirmed in the peer learning sessions included (a) encouraging collective leadership, (b) addressing the 'Who's Missing?' question, and (c) promoting organizational and regional partnerships.
- Hosted a three-session "Lead & Succeed Lunchbox Series" in the summer of 2024 to dive into each topic with local leaders. Community stakeholders also explored possibilities to strengthen how the university could provide technical assistance to enhance collaborative community leadership.

Training Provided: Professional development opportunity for students and staff in group facilitation techniques.

Dissemination of Findings:

- Rural Prosperity Nebraska communications staff within the University of Nebraska-Lincoln created and distributed news stories on the Chautauqua that highlighted its results.
- We presented about Chautauqua at several conferences: International Association of Public Participation, Community Development Society, Association of Leadership Educators, and International Leadership Association.
- Presented talks for Rural Rendezvous and Connecting Entrepreneurial Communities events in Nebraska.
- We presented several webinars – one for NCRCRD. Hastings, L., Emory, M., Rasmussen J. (2024, May 15). *Leadership Chautauqua: Revolutionizing Extension's Approach to Community Leadership Development Systems* [Webinar]. North Central Regional Center for Rural Development. <https://youtu.be/TQyeshVC tg>

Impact: As a result of the Leadership Chautauqua work, we have seen and developed opportunities to revolutionize Extension's approach to community leadership development – incorporating existing leader development resources into a larger systemic approach to support strong rural community leadership systems capable of addressing challenges impacting the well-being and prosperity of rural communities. In-depth understanding of factors that trend positively over time with successful community leadership systems as well as the invisible structures that facilitate CLD and succession have improved precision regarding the study of leadership in community contexts, improved CLD programming approaches for effective community leadership transfer, and have offered pathways for centering equity in community leadership structures.

OUTPUTS:

6 presentations

4 webinars

professional development activities

Promoting Community Health and Wellness

Thematic Activities, 2024

NCRCRD's health initiatives focus on enhancing health and wellness in rural communities across the North Central Region. The Center increases the quality of life for individuals and communities by raising awareness, engaging community members to improve public health, and building community partnerships.



Grants Awarded in 2024

NCR SMALL GRANT

Partners In Produce – A Food Distribution Project in East Central Illinois

Principal Investigator: Krystal Hodge, University of Illinois
State: Illinois

Project Abstract:

Food insecurity affects over 1 in 7 people in Coles County, Illinois. The University of Illinois Extension builds partnerships with local organizations to address food insecurity. One such collaboration, Partners in Produce, distributed over 100,000 pounds of produce to East Central Illinois residents in 2023. Program challenges remain regarding produce delivery and sustainability, and the impact of these efforts on dietary intake and food insecurity among residents is unknown. This project will support Partners in Produce through produce delivery in Summer 2024, outcome evaluation, and development of a sustainability plan for 2025 involving collaboration from partner agencies.

Produce purchases and delivery will be tracked to evaluate produce distribution. Participants will be recruited (n=100) to assess the impact on dietary intake and food security. Participants (n=29) will be recruited to participate in a workshop led by Extension staff to develop a plan for pick up and/or delivery of produce and opportunities to share resources to ensure that produce is available for all food pantries that would like to receive it. A diverse audience will be recruited to evaluate the impact of the efforts. The results will inform future years of program implementation.

NCR SMALL GRANT

Enhancing Rural Healthcare by Incorporating Generative AI and Machine Learning: Building Stronger Communication Networks

Principal Investigator: Richard Johnson-Sheehan,
Purdue University

Co-Principal Investigator: Thomas Rickert, University of
Nebraska-Lincoln Extension

State: Indiana and Nebraska

Project Abstract:

This project addresses the challenges faced by rural healthcare clinics in North Central United States, particularly in Indiana, where geographic isolation, financial constraints, and limited resources lead to healthcare disparities. These clinics struggle with inefficient communication networks, outdated record keeping, and a lack of specialized resources. Our aim is to develop strategies in which land-grant universities use generative artificial intelligence and machine learning to enhance rural development by improving healthcare communications.

This approach will streamline administrative tasks, improve patient data management, facilitate remote consultations, and enable predictive healthcare management. The project involves three phases: assessing current communication practices, developing AI methods to strengthen these practices, and educating healthcare professionals on using AI tools. Ultimately, this initiative will enhance rural healthcare delivery, reduce the strain on healthcare professionals, and improve the quality of life for rural residents, showcasing the role of land-grant institutions in rural healthcare advancement.

Grants Completed in 2024

NCR SMALL GRANT

Rural Family Caregiving: Building Selfcare and Resiliency of Rural Women Family Caregivers for Older Adults

Principal Investigators: Nasreen Lalani, Purdue University

Project Goals: Conduct study to determine the selfcare needs and practices of rural female caregivers and its association with resilience and wellbeing.

Project Accomplishments:

- Conducted study and analyzed results: Using a mixed method approach, our study surveyed (N=100) rural female caregivers followed by qualitative interviews in two rural counties of Indiana.
- Conference presentations
- Papers: Abstract published in *Journal of Innovation in Aging*; two papers submitted on financial caregiving to *BMC Geriatrics* and *Journal of Aging and Innovation*; Scoping Review submitted in *Journal of Rural Mental Health*
- Applied for larger NIFA and NIH grants under Health and Wellness portfolio last year. Will revise and resubmit in this years' cycle.

Training Provided:

- Mentored seven students: four undergraduates, two Masters, and one Ph.D. Supported students as Research Assistants.

Dissemination of Findings:

- **Articles:**
Lalani, N., Yang, S., Katare, B., Alejandro Cuevas Jimenez, N., Shelar, S., Lu, Y., Gallegos, J. [In press]. Interventions to support the well-being of rural family caregivers: A systematic review. *Journal of Rural Mental Health*.
Lalani, N., Evans, O., Yang, S., Katare, B., Wagle, S. (2024). Financial health and well-being of rural caregivers of older adults with chronic illnesses. Submitted to *BMC Geriatrics*.
Wagle, S., Lalani, N., Katare, B., Yang, S., Evans, O. (2024). Caregiving demands, intensity, and financial well-being of rural family caregivers of older adults with chronic illnesses or disability. Submitted to *Journal of Innovations in Aging*.
- **Poster and Oral Presentations:**
Lalani, N., Katare, B., Yang, S., Wagle, S. (2024, November). *Selfcare and resilience of rural women caregivers*. Oral Presentation. GSA.
Evans, O., Lalani, N., Katare, B., Yang, S., Wagle, S. (2024, September). *We had to cash out our retirement savings because I didn't know what else to do: Financial health and well-being of rural caregivers for older adults*. Poster, Conference, Indiana State Nurses' Association.
Evans, O., Lalani, N., Katare, B., Yang, S., Wagle, S. (2024). *Role of faith and spirituality in promoting selfcare of rural caregivers' of older adults*. Competitive Symposia, MNRS.

Impact: Presentations made to Extension, academia, and policy makers. Scoping review helped in findings, interventions, and submitting larger application. In process to pilot a caregiving intervention collaborations with Daviess County and other Indiana Extension counties. Developed arts-based intervention and received IAC grant for its implementation in 2024 in Monon and Tippecanoe Counties, Indiana. Developed infographics for presentations to Extension.

OUTPUTS:

5 presentations

4 journal articles

Webinars in 2023

Resilient Couples, Resilient Communities (9/17/24)

Presenter: Allen Barton, Assistant Professor & Extension Specialist, University of Illinois Urbana-Champaign.

<https://youtu.be/cbGvNcgkwf4>

Addressing Rural Mental Health in the North Central Region (11/22/24)

Part 1: Supporting Youth Mental Health – An Adult Volunteer Training Program

Presenters: Shannon Sparks, Evaluation Specialist, Division of Extension, University of Wisconsin-Madison; Danette Hopke, Behavioral Health Outreach Program Manager, Division of Extension, University of Wisconsin-Madison; Sheila Michels, Adams County Behavioral Health Educator, Division of Extension, University of Wisconsin-Madison; Megan Suehring, Shawano County Positive Youth Development Educator, Division of Extension, University of Wisconsin-Madison.

Part 2: South Dakota Needs Assessment on Farm Stress & Mental Health: Preliminary Findings

Presenter: Andrea Bjornestad, Ph.D., LPC, NCC, Associate Professor/Extension Specialist-Mental Health, School of Education, Counseling, & Human Development, South Dakota State University of North Carolina in Chapel Hill.

<https://youtu.be/4kkxIVJvjQ8>

Grants Completed in 2024

NCR SMALL GRANT

Emergency Preparedness for Rural Families

Principal Investigator: Jenna Nees, Purdue University

Co-Principal Investigator: Ann Kline, University of Nebraska

Project Goals:

1. Develop a 4-session workshop series that focused on farm emergency management, first aid, fire protection, and HAZMAT on the farm.
2. Utilize the curriculum developed for the 4-session workshop series on a local basis to additional audiences proving that the curriculum can be repeated in the future.
3. Develop and implement an evaluation that could be utilized for both the larger program series and the shorter sessions that were delivered.
4. Utilize the information shared in the program to write an article that would share the information with a larger audience.

Project Accomplishments:

- Developed a curriculum (lectures and hands-on activities) for the 4-session workshop, *Emergency Preparedness for Rural Families*.
- Presented 4-session workshop: 27 people attended the 4-session workshop that was offered in-person and virtually to audiences in Indiana and Nebraska.
Participant surveys (n=14) were gathered and analyzed. Results indicated 29% (n=14) of participants had a better understanding of emergency preparedness. Likewise, 23% stated they had new resources to help them make decisions, while 20% stated they were more confident in their ability to make a decision related to emergency preparedness. Twenty-nine percent (n=14) of the participants planned to develop an emergency preparedness plan, while 42% planned to adopt or implement one thing they learned from the workshop series. Forty percent (n=14) of participants estimated that this program had a financial impact on their farming operation of greater than \$10 per acre.
- Hosted two additional educational sessions.
 - **Session 1:** “First Aid on the Farm” at the Northeast Purdue Ag Center Field Day featured the curriculum from the first aid portion of the larger workshop series. The session drew 101 participants.
Participant surveys (n=79) were gathered and analyzed. Results indicated 85% (n=79) of participants had a better understanding of first aid. Likewise, 42% stated they had new resources to help them make decisions, while 52% stated they were more confident in their ability to make a decision related to emergency preparedness. Thirty-seven percent (n=79) of the participants planned to develop a plan to address first aid, while 64% planned

to adopt or implement one thing they learned from the workshop series. Additionally, 97% (n=79) felt they were more comfortable using tourniquet and bleeding control as a result of the program; 94% said they were more comfortable recognizing a medical emergency; and 86% said they were more comfortable using 911 and backups.

- **Session 2:** Forty participants learned about fire protection during a Private Applicator Recertification Program in Clay County, Indiana. This session featured curriculum from the fire protection portion of the larger workshop series. Evaluation results from this program included 60% of the individuals (n=15) learned something they didn't know before. Similarly, 87% (n=15) said they either agree or strongly agree that they learned a new skill related to fire protection.

- Evaluation tools were developed and implemented at each of the programs as indicated above.

- One newspaper article was written and appeared in *The Banner Graphic*, *Morning Ag Clips*, and on the Purdue Extension – Putnam County website. This article focused on developing an initial farm emergency plan.

Nees, J. (2024, May 4). *Preparing for Future Disasters*. Purdue Extension – Putnam County website. <https://extension.purdue.edu/news/county/putnam/2024/05/preparing-for-future-disasters.html>.

Training Provided:

Extension staff in Indiana and Nebraska were invited to participate in the 4-session workshop. Seven staff members participated.

Dissemination of Findings:

A report of the impact of this program was provided to the Purdue Extension Leadership Team and local Purdue Extension Boards. Plans are in place to use the idea of rural preparedness in future Purdue Extension programming.

OUTPUTS:

1 curriculum

1 workshop

2 presentations

1 news article

Grants Completed in 2024

NCRCRD FACULTY FELLOWSHIP

North Central Region Caregiving Survey

Principal Investigator: Florence Becot, Ph.D., M.Sc., Associate Professor, Agricultural Safety & Health, Pennsylvania State University (formerly with National Farm Medicine Center)

Project Goals:

The goal of the project was to develop, implement, and analyze the 2023 NCRCRD Caregiving Survey. Specifically that included:

1. Participate in identifying the Caregiving Survey Team, an advisory group of research scholars and Extension professionals working in the field of caregiving.
2. Work in collaboration with the Caregiving Survey Team to:
 - a. Define the objectives and scope of the survey;
 - b. Research and develop survey questions;
 - c. Develop a data analysis plan.
 - d. Develop research briefs to summarize the findings including data analysis and write-up;
 - e. Participate in the dissemination of the findings.
3. Visit and collaborate with the NCRCRD at Purdue University.

Project Accomplishments:

1. Provided names of potential advisory individuals based on professional networks and review of the literature.
2. Participated in defining the objectives and scope of the survey through one-on-one meetings and emails with project lead, Dr. Shoshannah Inwood and larger team meetings. Also, I shared the bank of survey questions I had developed while working on a survey on childcare for farm families (CDCNIOSH project). The bank included 78 questions and these were a mix of questions from 12 existing survey instruments and questions that I developed.
3. Provided written and oral feedback on several iterations of the survey instruments.
4. Dataset published.
Inwood, S., Bednarik, Z., Becot, F., Caldera, S., Henning-Smith, C., Cohen, S., Finders, J., & Brown, L. (2024). *North Central Region Household Data. NCR-Stat: Caregiving Survey* (Version 2.0) [Dataset]. Purdue University Research Repository. <https://doi.org/10.4231/Q22G-WE30>
5. Data analysis
 - Participated in team meetings at Purdue when overarching data analysis plan was developed.
 - Developed the data analysis plan for one research brief and mentored a graduate student in the development of a data analysis plan for two research briefs and one scholarly article.
 - Led the data analysis and write-up for one research brief and mentored a graduate student in the data analysis and write-up of two research briefs and one journal article (work on last research brief and journal article to be completed beyond funded period).

Training Provided:

One Penn State Ph.D. student was mentored through the development of data analysis plan, data analysis, and write-up for two research briefs and one journal article.

Dissemination of Findings:

For communications with lay audiences and stakeholders:

- NCRCRD webinar:

Inwood, S., Becot, F., & Bednarik, Z. (2024, February 27). *Caregiving Across the Life Course in Rural and Urban Households in the North Central Region* [Webinar]. North Central Regional Development for Rural Development. <https://youtu.be/Z89jG7fg16Q>

- Three research briefs:

Becot, F. and Inwood, S. (2024, July). *The economic and social well-being of caregivers in the North Central Region*. [Research brief]. North Central Regional Center for Rural Development. [10.22004/ag.econ.344111](https://doi.org/10.22004/ag.econ.344111)

Pojman, E., Becot, F., and Inwood, S. (2024, August). *Variations in caregivers' health and well-being in the North Central Region*. [Research snapshot]. North Central Regional Center for Rural Development. [10.22004/ag.econ.344688](https://doi.org/10.22004/ag.econ.344688)

Southard, E., Becot, F., Inwood, S., and Pojman, E. (2024, October). *What do caregivers in the North Central Region use for support and what support do they still need?* [Research snapshot]. North Central Regional Center for Rural Development. [10.22004/ag.econ.346770](https://doi.org/10.22004/ag.econ.346770)

- Future outreach planned: Communicate with researchers, submit journal article to peer-reviewed journal (target: *Rural Sociology*), and submit abstract for presentation at conferences.

OUTPUTS:

1 dataset

3 Extension publications

1 journal article

1 webinar

professional development activities



**NORTH CENTRAL REGIONAL CENTER
FOR RURAL DEVELOPMENT**



<https://ncrcrd.org>

403 Mitch Daniels Blvd., West Lafayette, IN 47907

ncrcrd@purdue.edu • 765-494-8541

