Rethinking Practice Delivery to Scale Up Edge-of-Field Conservation

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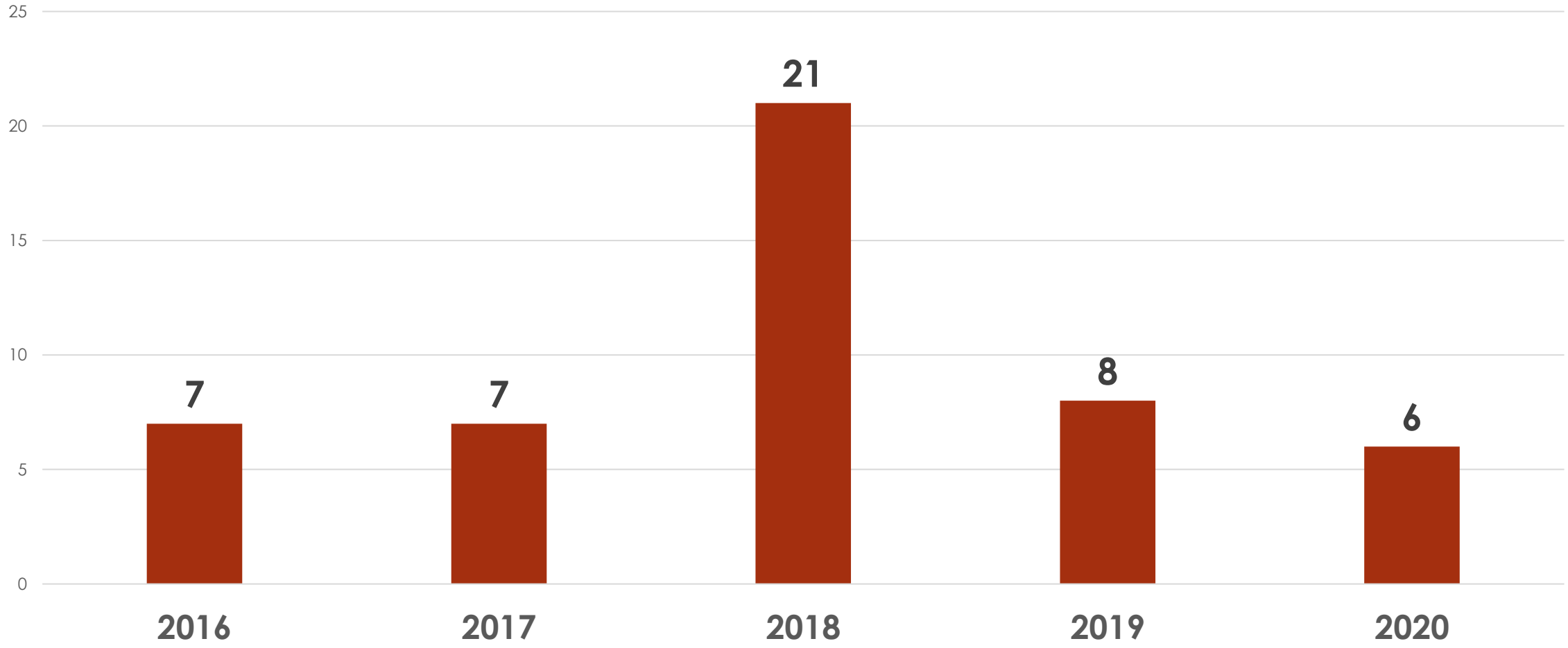
Keegan Kult, Agricultural Drainage Management Coalition
Laurie Nowatzke, Iowa State University

Photo Credit: NRCS/SWCS photo by Lynn Betts

Nationwide NRCS EQIP Bioreactors and Saturated Buffers



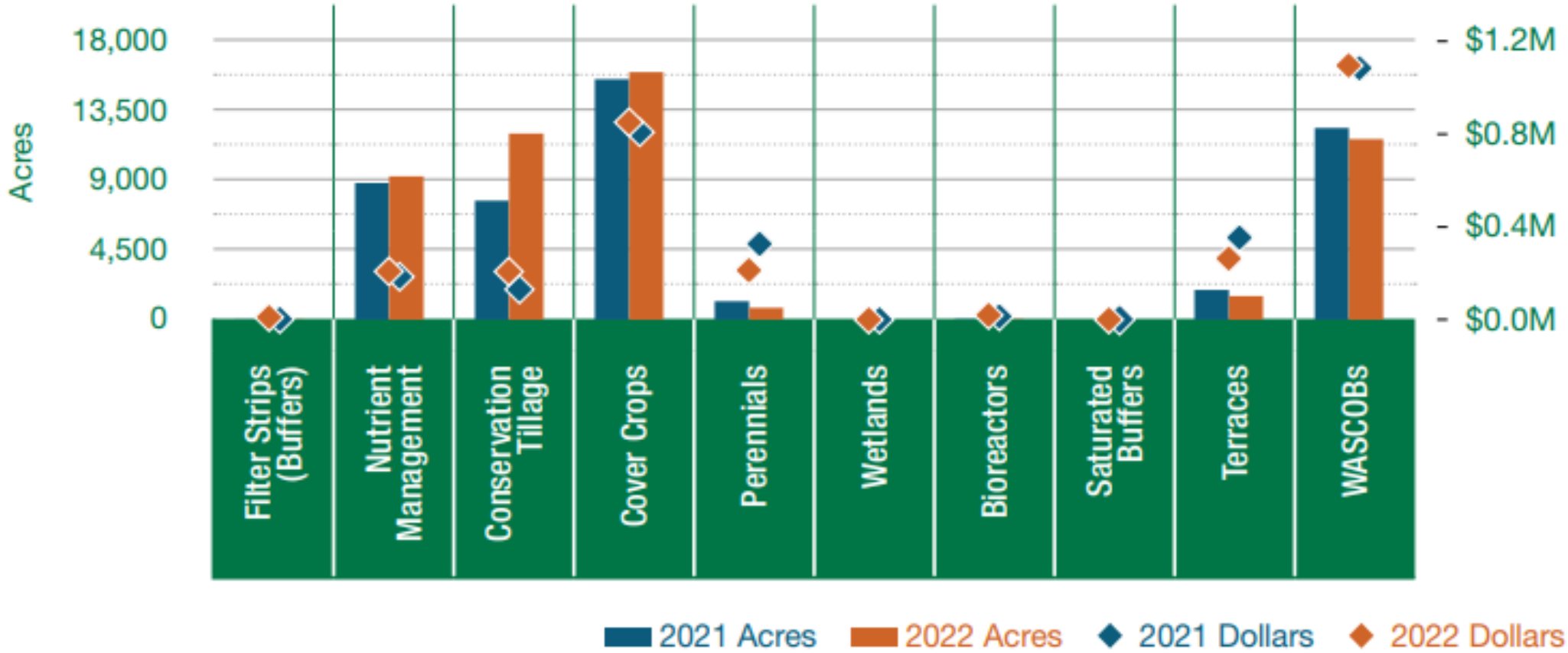
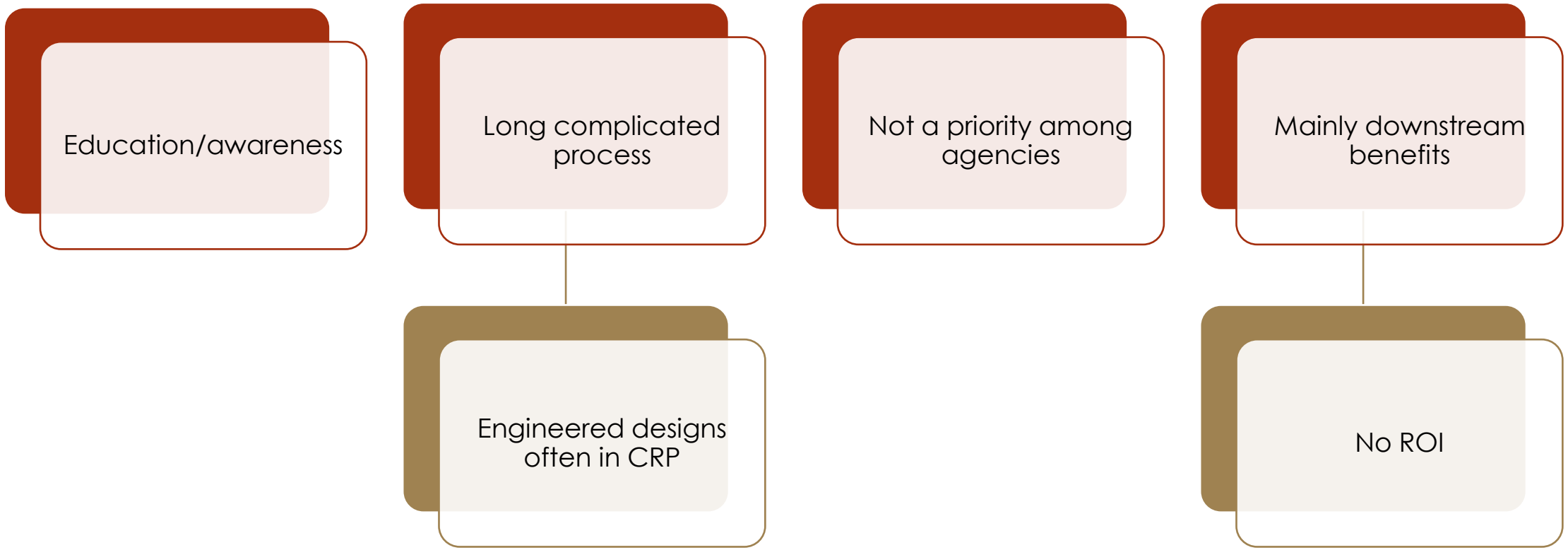
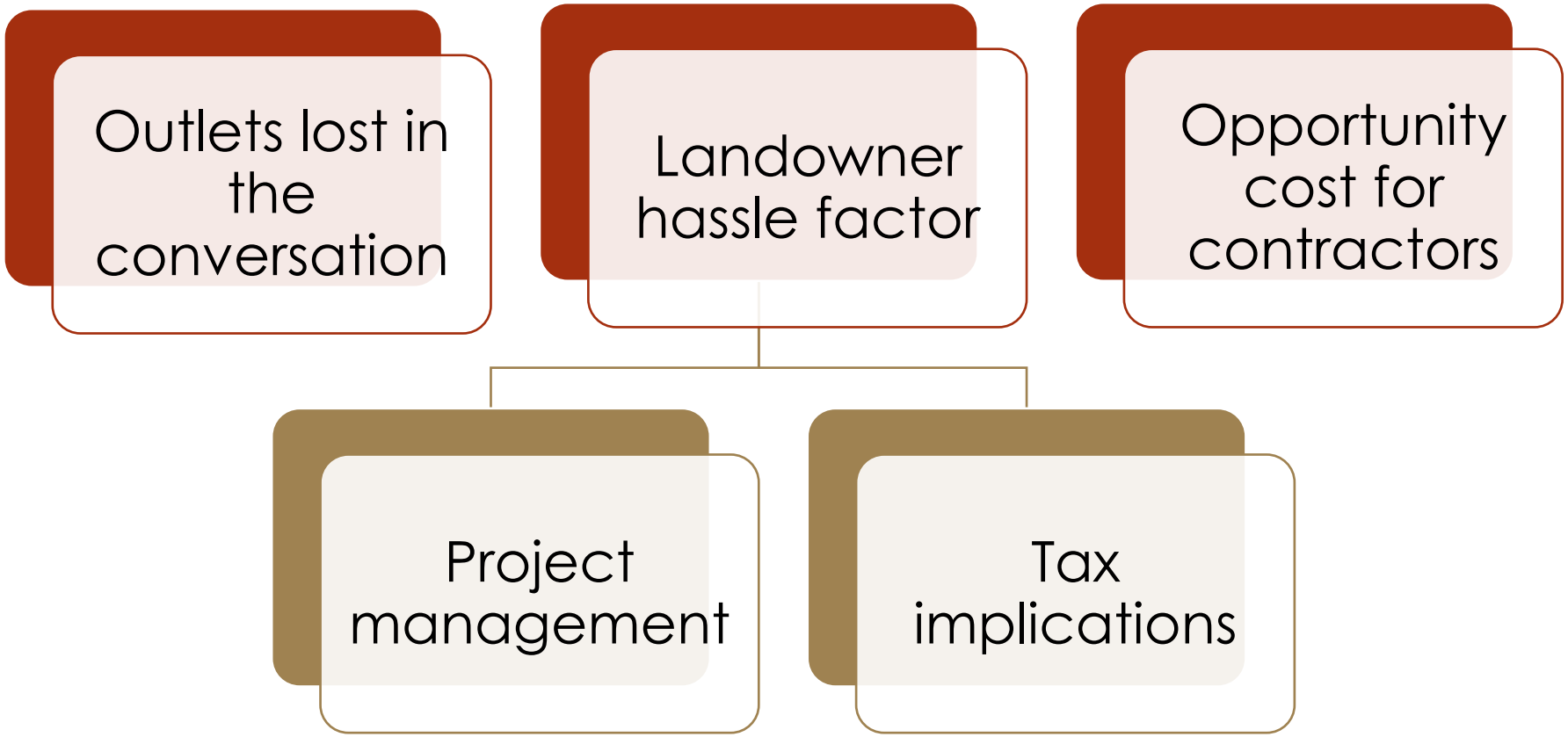


Figure 4.6. *Acres implemented and dollars spent on nutrient conservation practices through EQIP. See Appendix G for companion data.*

Reasons for slow adoption



Additional Reasons for slow adoption



Alternative Practice Delivery Models

Batch and Build

- Originated in Iowa
- Utilizes fiscal agent
- Blends multiple funding pools

Turn-key

- Originated in Minnesota
- Utilizes qualified planner
- So far has used federal funding

Minnesota Model or Turn-Key Approach

- Qualified conservation partner receive NRCS funding
  - Eliminates batching dates
  - Contractors get paid directly by the project
- Coordinate with TSP to design and manage contractor
- Practice designs and installation follow NRCS standards
- Reduces NRCS staffing demands and transactional cost
- Engages partners and private sector

Ecosystem Services Exchange
Valuing Conservation

ADMC Agricultural Drainage Management Coalition

www.admcoalition.com

Turn-key results

- 8 manual dwm structures
- 10 automated dwm structures
- 5 bioreactors
- 14 saturated buffers

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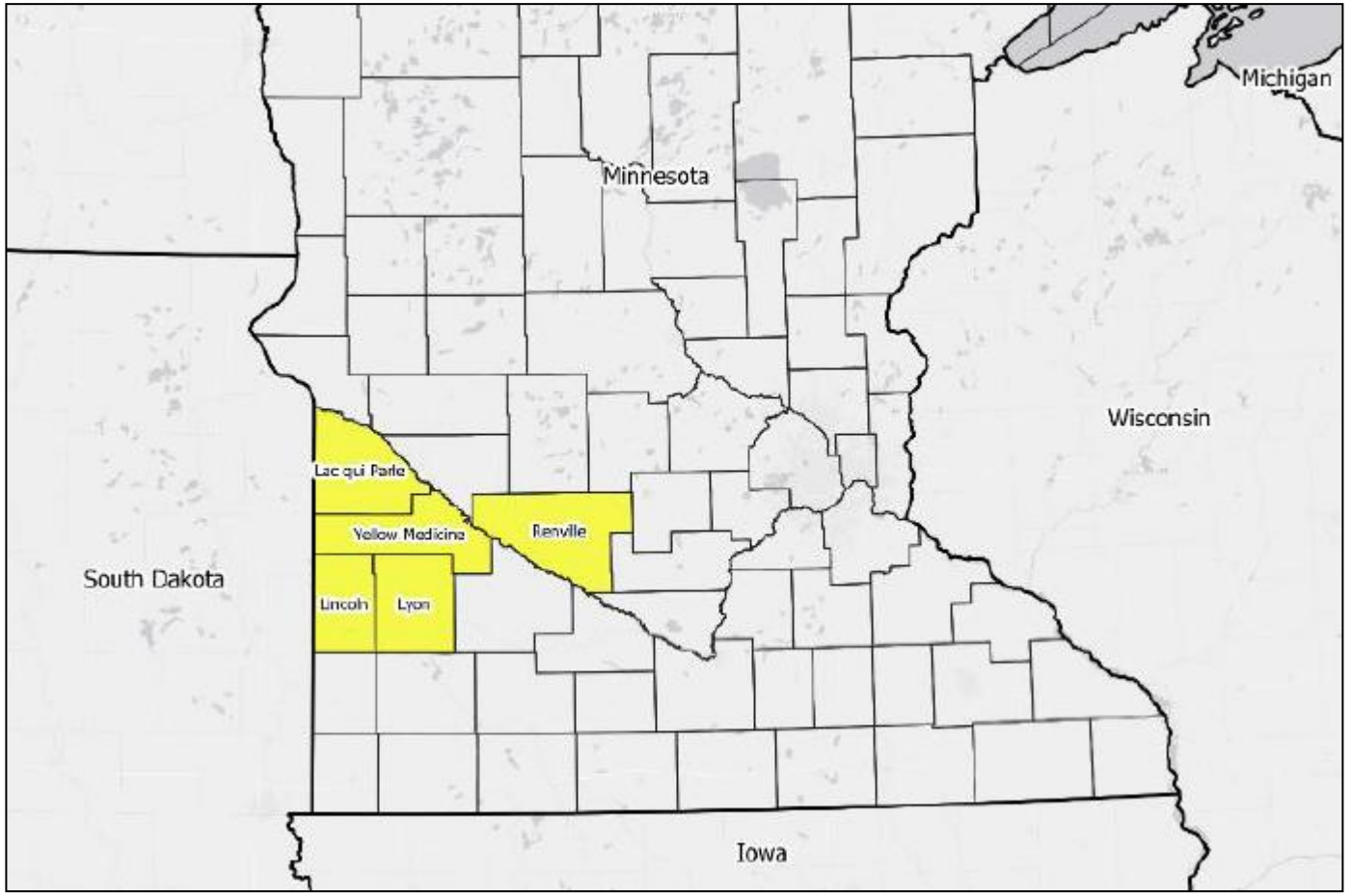
MN Turn-key 2.0: Accelerating Voluntary Conservation Drainage Adoption for WQ & Crop Production Benefits

Ecosystem Services Exchange received funding from NRCS

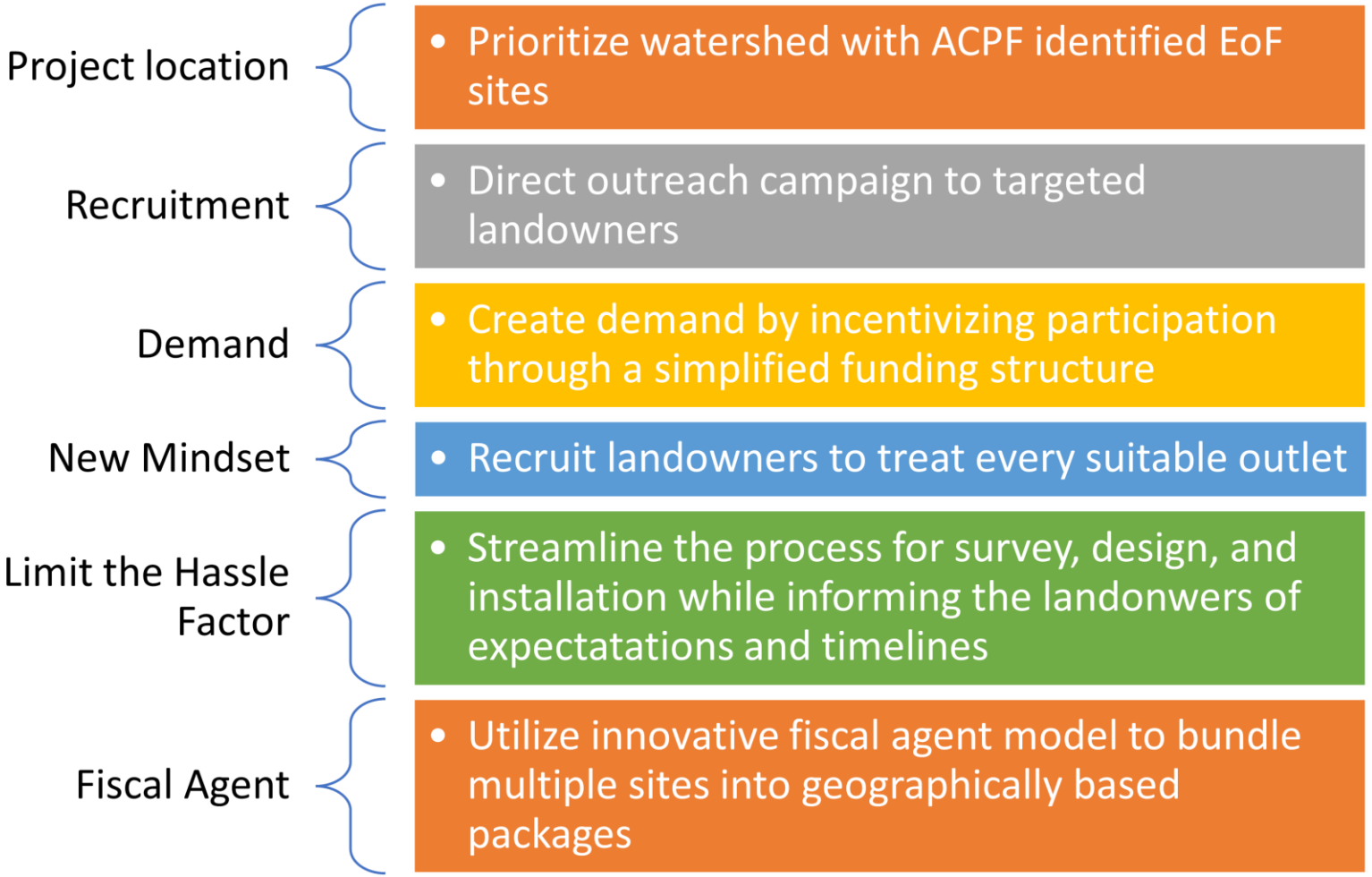
- 29 saturated buffers
- 25 drainage water management systems



Turn-key disadvantages

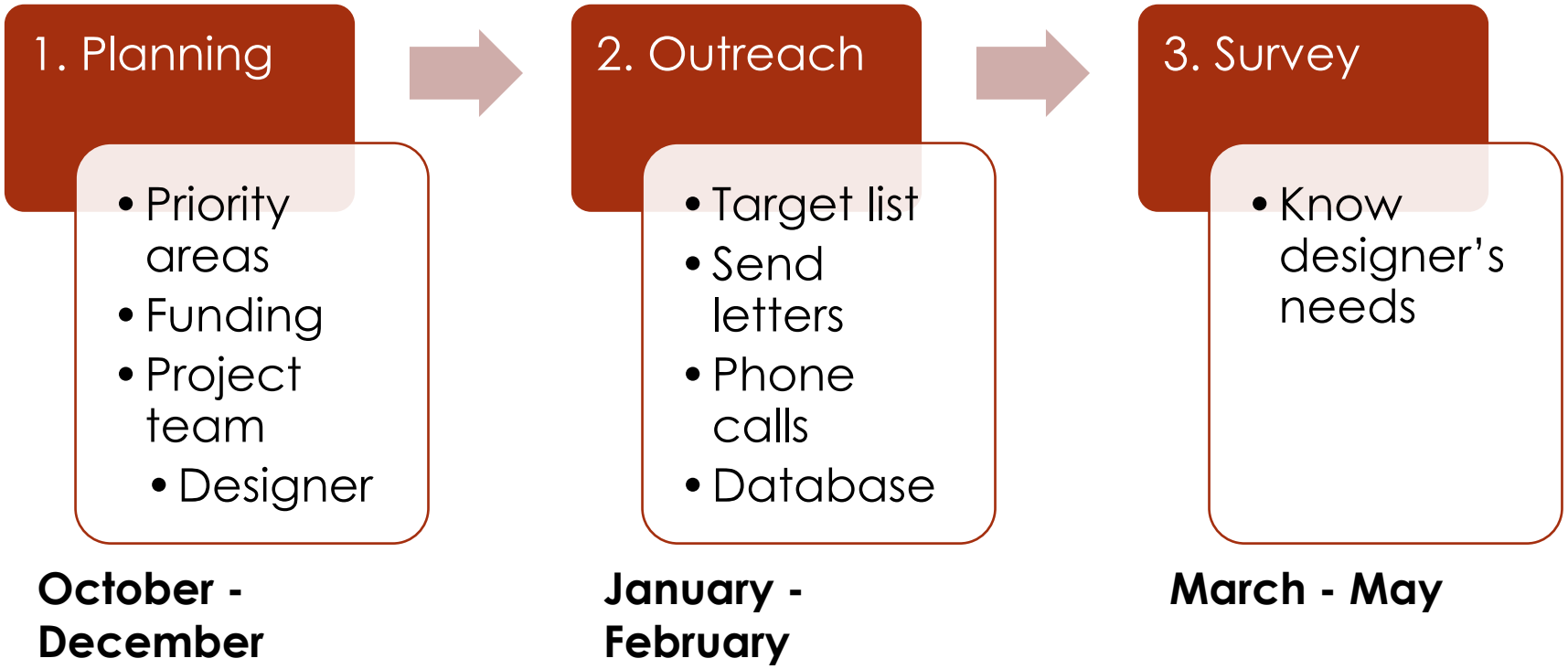
- Dependent upon a cooperative agreement or grant
- Number of qualified partners
- Site selection could be a concern (profitable vs. high impact)

Batch and Build model



Batch and Build Steps

Steps 1 - 3


1. Planning
• Priority areas
• Funding
• Project team
• Designer
October - December
2. Outreach
• Target list
• Send letters
• Phone calls
• Database
January - February
3. Survey
• Know designer's needs
March - May

Build a “Dream Team” aka define roles

- Project Manager
- Coordinator/Salesperson
- Fiscal agent
- Survey Crews
- Engineer / Designer
- Contractor

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Bringing Conservation Drainage to Scale in Polk County

Project details

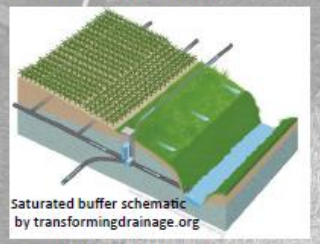
The Iowa Water Quality Initiative has had successful pilot projects which have demonstrated effective practices. Within the WQI, saturated buffers have been identified as one of the most cost effective methods to improve water quality. Project partners have come together to secure funding as well as technical expertise in order to see saturated buffers installed at a scale large enough to have an impact. The Polk County Project has an aggressive goal of installing a minimum of 25 saturated buffers by December of 2020.

Landowner overview:

- 100% Cost share available for saturated buffers
- Project $1,000 incentive payment
- Assistance with working through program sign-up
- Establish Polk County as a national leader in conservation drainage
- Be a champion in Iowa's nutrient reduction strategy

Practice basics

Saturated buffers modify the outlet of a tile system to distribute the water below ground, through the soil profile of a buffer or grass filter strip. A tile line, typically 500-1,000 feet long, distributes the water in a buffer that is at least 30 feet wide.



Saturated buffer schematic by transformingdrainage.org

- 44% average nitrate load reduction
- Minimal or no learning curve
- Doesn't require changes to current management or equipment
- Up front costs eliminate annual expenses

"My saturated buffer was designed by the Polk County NRCS, and installed by a local contractor. The project was a cooperative effort between neighboring landowners which does not benefit us directly, but does benefit the downstream water quality by reducing the nitrate concentration by 92%."

-Lee Tesdell, Fourmile Creek Landowner

Project partners

Agricultural Drainage Management Coalition
Farm Services Agency
Iowa Department of Agriculture and Land Stewardship
Natural Resource Conservation Service
Polk County
Polk County Soil and Water Conservation District

Polk Soil & Water
CONSERVATION DISTRICT

1513 North Ankeny Blvd Ste 3
Ankeny Iowa 50023
515.964.1883 x3
www.polk-swcd.org

Dear (mr/ms) (Blank),

The Polk Soil & Water Conservation District and local partners are currently scaling up effort to implement the Iowa Nutrient Reduction Strategy. We are focusing on practices that reduce nitrates by treating tile outlets near streams, our primary practice is saturated buffers. We are reaching out to you because we have identified a potential site on your property at (blank) based on soil types and proximity to the stream.

Through efforts of our partners, funding has been secured to provide 100% cost share for the construction of these saturated buffers. For your participation, we are offering a $1000 incentive per tile outlet treated.

This Letter includes a map showing fields that contain potential saturated buffer sites. We have also included a document providing a brief overview of saturated buffers and the project itself.

Lead project staff:

Tanner Puls- Watershed Coordinator
Polk Soil & Water Conservation District
515-964-1883 ext. 3
tanner.puls@usda.gov

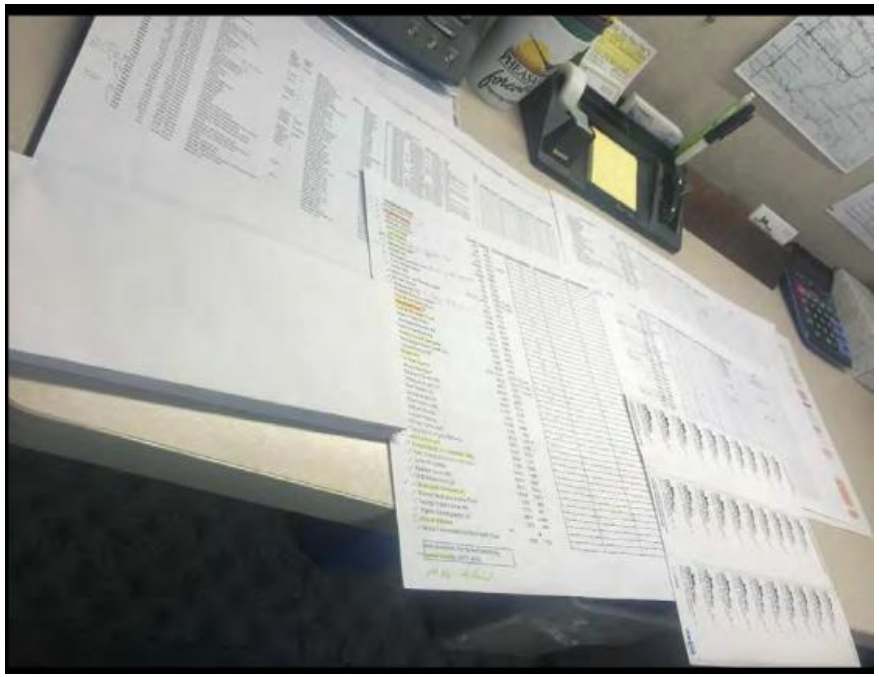
Keegan Kult- Executive Director
Agricultural Drainage Management Coalition
515-291-2350
kkult@admcoalition.com

In a few days a project lead will be following up with you at (blank) to discuss this opportunity further.

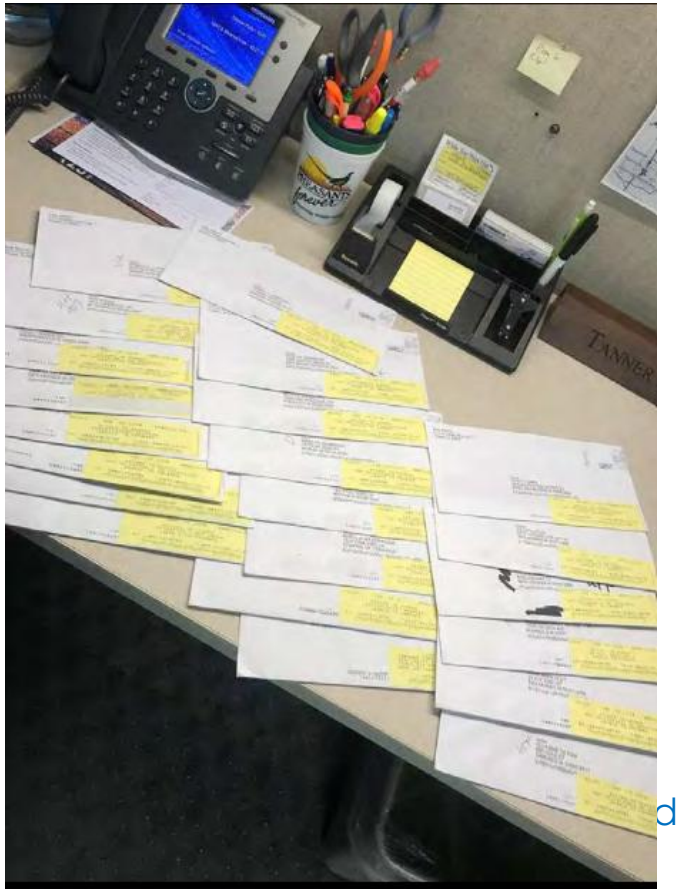
Best regards

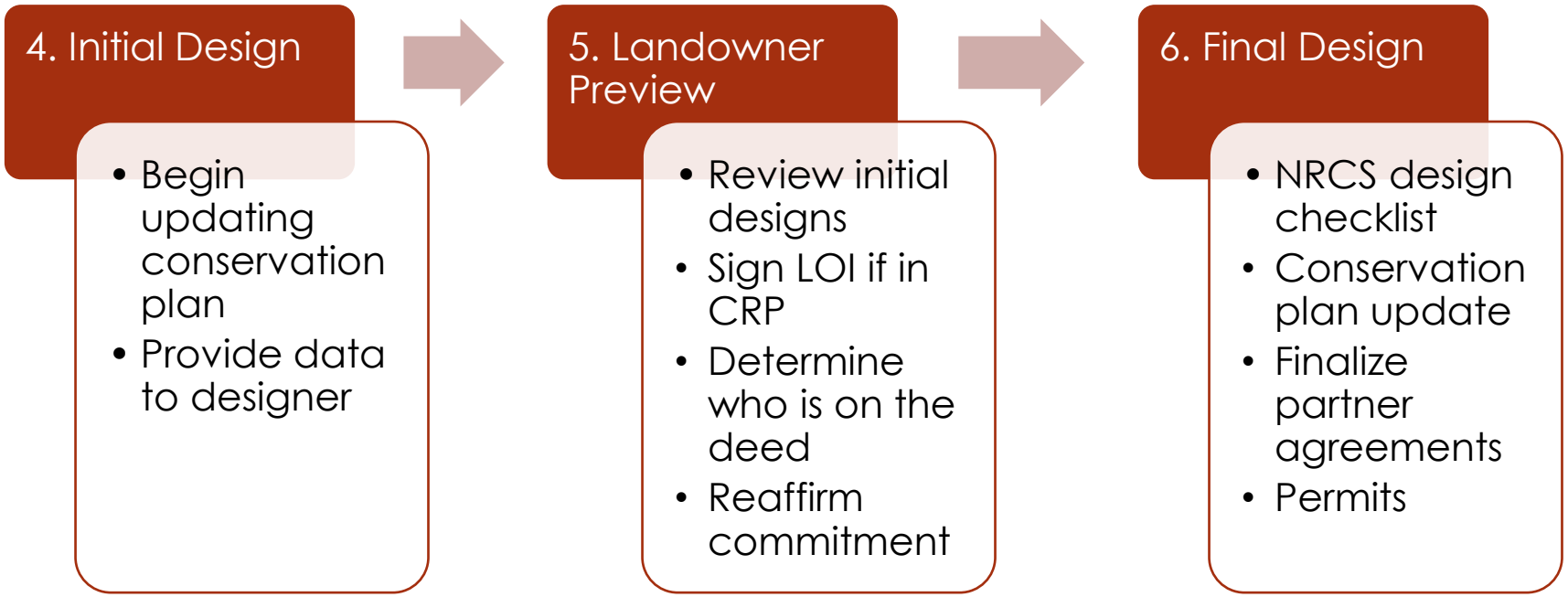
Successful outreach

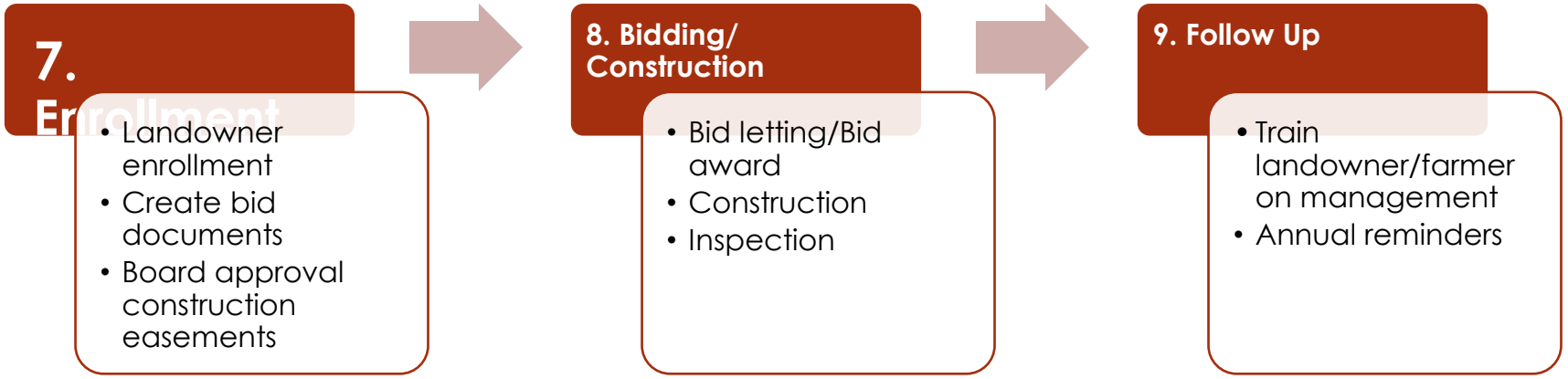
How it started



How it went



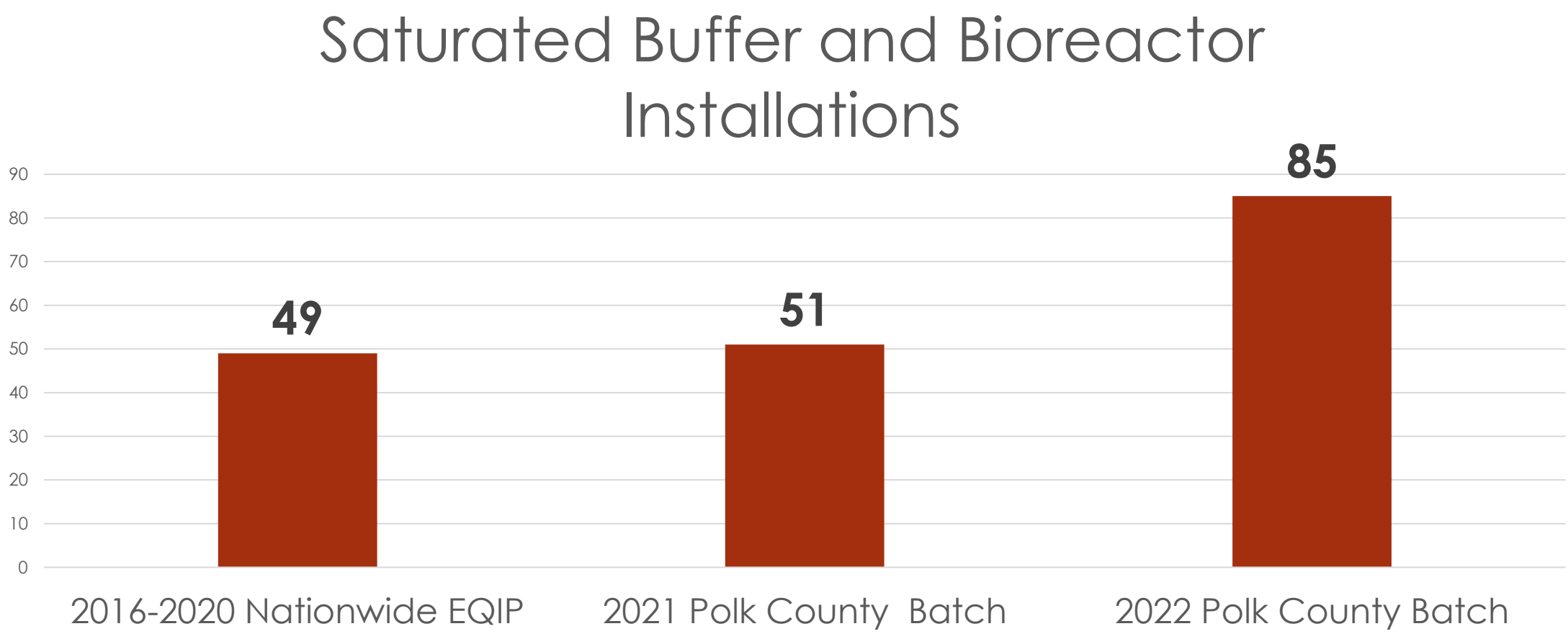

4. Initial Design
• Begin updating conservation plan
• Provide data to designer
5. Landowner Preview
• Review initial designs
• Sign LOI if in CRP
• Determine who is on the deed
• Reaffirm commitment
6. Final Design
• NRCS design checklist
• Conservation plan update
• Finalize partner agreements
• Permits
June - July
August
Sept. - November



November - December

January - December

Batch and Build Results



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Heartland's performance

	In Progress	Complete	Total
Structures	60		
Outlets			72
Acres			7,928

Getting #%@$ Done

ADMC Agricultural Drainage Management Coalition

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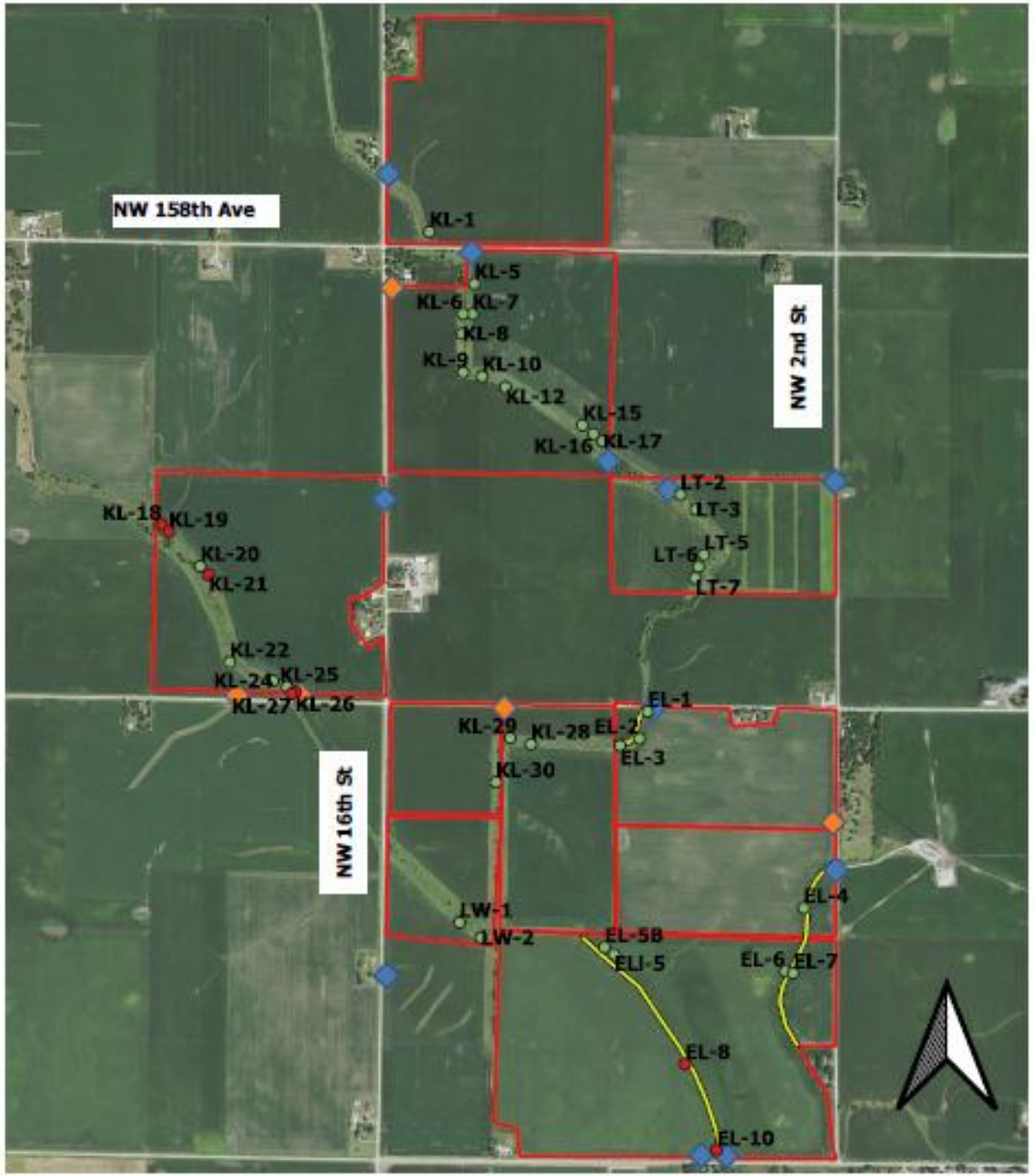
NW 158th Ave
NW 2nd St
NW 16th St
KL-1
KL-5
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EL-8
EL-10

2025 Iowa Nutrient Reduction Strategy Update

INNOVATIVE "BATCH AND BUILD" MODEL RAMPS UP

WATER QUALITY & SOIL CONSERVATION HIGHLIGHTS

$77.2M IDALS DIVISION EXPENDITURES

$34.3M STATE COST-SHARE INVESTMENT

$47M ESTIMATED FARMER AND OTHER PARTNER CONTRIBUTIONS

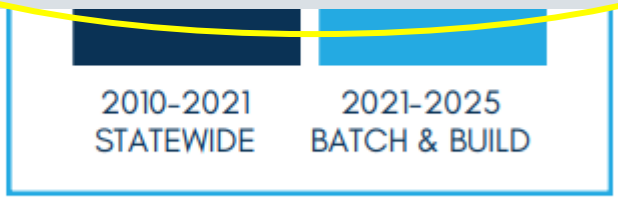
8,000+ FARMERS AND LANDOWNERS PARTICIPATING IN CONSERVATION PROGRAMS

COVER CROP ACRES **3.8M** (*2024 INREC SURVEY)

WETLANDS **147** COMPLETED **94** IN DEVELOPMENT

SATURATED BUFFERS AND BIOREACTORS **484** COMPLETED **200+** IN DEVELOPMENT

Benton, Black Hawk, Boone, Buchanan, Buena Vista, Calhoun, Cedar, Dallas, Franklin, Greene, Grundy, Hamilton, Hancock, Hardin, Humboldt, Jasper, Johnson, Linn, Marshall, Muscatine, Pocahontas, Polk, Poweshiek, Sac, Story, Tama, Webster, Wright



Room for improvement

- Reduce the number of outlets surveyed
- What to do with larger mains?
- Improved database managen
- Design to bid book
- More contractors
- Prioritize targets
- Follow up once installed
- Agency engagement

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Advantages

- More sites
- Can lead to higher quality sites
- Increases general awareness
- Agencies start to focus on it

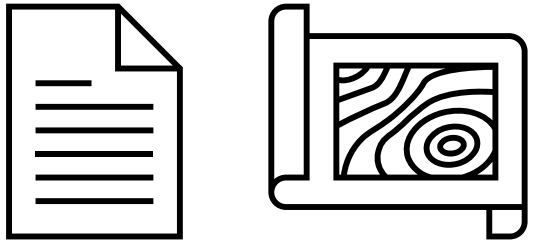
Scale-Up programs have been underway for a few years. What do you need to know?

- General structure of Iowa Batch & Build and Minnesota Turnkey
- Are other states trying this out?
- What did we learn from interviewing staff, contractors, and landowners?
- Resources and handy info

Iowa Batch & Build

Minnesota Turnkey

What do they have in common?



- Simplifies the process for the landowner
- Focuses on conservation drainage
- Dedicates outreach

What is unique about each?

- Can save $ due to economies of scale
- Doesn't necessarily need a specialized grant

- More continuous installations
- Allows landowners to have input for the contractor

How are Engineering and Installation Processes Impacted?

- Can save $$ by grouping
- Communication needs to be increased
- Both are often selected by bidding

How do these novel programs address conservation barriers?

- Focuses efforts
- Increases awareness
- Removes the hassle factor
- Opportunity for contractors and designers

Interviewing Stakeholders: What Have We Learned About the Initial Programs?

Group	Iowa Batch & Build	Minnesota Turnkey
Contractors	1	1
Designers & engineers	2	1
Fiscal agents	2	-
Landowners & producers	7	2
Project initiators & conceptual leads	4	2
Project management	6	-
Surveyors & planners	1	4

Landowners Find Their Way to These Programs through Varied Pathways

Based on landowner interviews:

- Direct 'cold-call' from project staff
- Walking into county office
- Newspaper feature
- Demonstration farms events
- Professional relationships / tenant
- Social relationships / neighbors

Financial Incentives are Important for Some Participants, But Not All

"…we wanna make sure that the practice is, is successful in the way of, like, reducing nutrients…financially it needs to make sense, but it also needs to make sense on the conservation side." -B&B Project Manager

"They're like, 'We'll give you $1,000 for every one that we do for your inconvenience.' ...You're going to do all the work and you're going to pay me? Yeah, sign me up." - Landowner

"I thought this was the right thing to do. For the amount of money, it doesn't make any difference to me…I wasn't doing it for the money. I was doing it because I thought it was something that would not bother my tenant and improve things." - Landowner

There are other motivations, too

"I try to put in a comprehensive program to use the land for what I think it would, anticipating what's going to happen the next 10 to 20 years with climate change, then also a way of trying to take care of some of the pollutants that come off agricultural land." -Landowner

[Prompt: Can you describe a little bit about why you did decide to enroll in the program?] Response: "Because it was said that it was going to help abate the flow of chemical runoff into the water supply. That is the beginning and the end. That's it." -Landowner

My thought was to bypass that and then drain the water right into my wetland, so I didn't have to wait for a tile. But also what it does is of course allows me to clean the water that comes off agricultural land, so it goes into the wetland, it's ponds there and then soaks in the wetland, cleans out the nitrates and phosphates and all those types of things." -Landowner

Paperwork and Communications Make or Break the Process

"Yeah, I mean, that's the biggest benefit of this is that the landowner doesn't have to worry about going to the NRCS office or the USDA office and, like, getting, you know, the limited staff of that office to come out and do the survey and then the...landowner has to hire the engineer and then pay up front and then the landowner has to hire the contractor and pay that up front and then get reimbursed. … So there's a lot of downsides for the traditional way of doing conservation." -B&B Project Mangr

Regarding a landowner's relationship with their tenant: Installation "took a lot of time from my tenant and I wasn't happy about that because it wasn't his responsibility." -Landowner

Timelines are Still a Significant Concern for Batch & Build (Turnkey has pretty quickturnaround!)

"There's no waiting. You know, you don't do the plan and then have to compete for funding, you're, you're approved from the beginning, you have a seamless planning, design, and installation process with, without any of these programmatic delays." -Turnkey Staff

"…I think that first batch you do is probably on, like, an 18 to 24 month timeline, but then from there on it's kind of closer to 18 month timeline." -B&B Project Coordinator

Scale-Up Programs Streamline the Process, but Partnerships are Still Critical (if not more so, compared with traditional programs)

"Another important partner...are the land improvement contractors associations at the state level. Um. And obviously they can play a big role in promotion and education too, because many producers have a relationship with a land improvement contractor. They trust them, and if they're hearing the right things from that land improvement contractor, that can really help to promote the adoption of these practices." -Turnkey staff

Some other points we gleaned from the landowner interviews...

- Tenant-landowner relationships weren't a significant barrier but communications could improve.
- Landowners and tenants felt relatively capable with the practices (e.g. control structure, gates).
- A few landowners were not very aware of future maintenance needs (e.g. woodchip replacement).
- Most landowners were understanding about the long timelines, but described some long gaps in communications.
- Paperwork is still....on paper!
- Very clear appreciation for project staff. Few regrets with participating.

Keys to Future Success at the Institution Level

Agencies	Conservation Organizations	Research and Outreach Orgs
As demonstrated via Iowa Batch & Build programs and Minnesota Turnkey programs, **ensure that partnerships with fiscal agents, contractors, county office, and watershed projects are pre-established**; these connections are vital for the streamlined approaches that these programs offer.	Identify opportunities to leverage community connections. In interviews, few landowners suggested that their neighbors had knowledge of their installed practices, so **increased field days, signage, and related approaches may support future recruitment** for batches and Turnkey.	**Facilitate long-term relationships with landowners, particularly those who participate in research and data collection.** For example, sharing research outcomes with participants may support their willingness to join future conservation and research efforts.

Keys to Future Success at the County, Contractor, and Fiscal Agent Level	
Agency Offices	**Contractors & Design Firms**
Batch & Build participants expressed frustration with the drawn-out timeline in some instances. Consider instituting a phased batch approach so that Batch & Build programs may adopt the rapid turnaround of Turnkey programs. Alternatively, arrange flexible contract bids that are in place before the batches are finalized. **Establish a clear communications protocol for internal teamwork and external work with partners** (e.g. contractors, NRCS). Project timelines and accountability mechanisms are critical to maintain credibility and trustworthiness with landowners.	Communicate early with agency offices and project coordinators to **establish expectations regarding payment schedules, installation timelines, and regular communications protocols.** Request consideration of the following provisions: • Options or flexibility for installation time periods • Partial payment up-front to cover initial supplies and mobilization • Frequent communication & meeting opportunities with the project coordinator to support the logistical complexity of bundled practice contracts

Keys to Future Success for Interpersonal Relationships

Watershed Coordinators and Program Staff	Landowners & Farm Managers
Program staff should develop a **diverse set of recruitment approaches** to maximize program enrollment. Coordinators should **assign individual points-of-contact to handle each project enrollee**, as landowner interviews showed that confusion arises when several staff members and external partners are involved in regular communications. Projects should be individualized to the local area, but coordinators and staff should also leverage professional development opportunities that facilitate shared learning across projects.	In communications with program personnel, **request a complete list of contacts, processes, and requirements for post-installation repairs and maintenance**; drainage issues are unlikely but possible following practice installation. Landowners should also maintain clear and frequent communications with their tenants, if applicable

Resources (Top 3)

Soil and Water Conservation Society, Conservation Media Library

Agricultural Drainage Management Coalition

Conservation Drainage Network

My experience as a watershed coordinator

- November 2009 – September 2012, Watershed Coordinator Scott County Soil & Water Conservation District (SWCD)
- Watershed planning
- Fundraising and grant writing
- Conservation education
- Public speaking
- Water monitoring
- Event organizing
- Communications
- Conservation practices and management activities - over 100
- Set me up to advance my career, a career in leadership

ALSO my experience as a watershed coordinator

Low GPA, couldn't pass math, semi-related field

Urban

Undersized first conservation practice

Raises and benefits

Dog poop debacle

Left a livestock meeting crying

Lead authentically

- Leaders are often considered "outcasts"
- The most impactful leadership development comes when you are able to build the emotional stamina to withstand people telling you that your new idea is naïve, reckless, or just plain stupid
- Successful leaders understand that who they are defines their leadership and that knowing themselves allows them to play to their strengths and build teams to make up for what they lack
- Be YOU, unapologetically YOU!
- One who makes no mistakes, makes nothing

Emerging Leader Program!!!!