



The Circular Shift: Leading Utilities Beyond Linear Thinking

A Change Leadership Playbook for Scaling Nutrient Trading in Northern Illinois

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Challenge Area: Change Leadership (Leading Through Resistance & Workforce Impact)

WATER LEADERSHIP INSTITUTE • RIPPLE EFFECT TEAM

THE CHALLENGE • 01

2030 Compliance Deadline: A Cost & Mindset Crisis



- **The 2030 Permit Cliff**— Per the Illinois Nutrient Loss Reduction Strategy (NLRs), major utilities must meet a strict total phosphorus effluent limit of 0.5 mg/L
- **Ratepayer and Budget Strain**— Traditional capital upgrades to meet 0.5 mg/L are financially unsustainable, risking severe ratepayer pushback
- **The "Inside-the-Fence" Mental Block** — For decades, utilities have relied on physical plant controls. Moving compliance outside the facility boundaries to dynamic natural watersheds creates operational anxiety and professional skepticism



Why Nutrient Trading? Shifting from Linear to Circular Systems

- **Preventing Pollution at the Source (Reduce & Recover):** In lieu of heavy chemical usage or energy-intensive biological processes, trading pays upstream agricultural partners to reduce nutrient runoff (Reduce) — recovering nutrients in soil as a productive crop asset (Recovery).
- **Harnessing Nature-Based Systems (Regenerate):** Applying practical best management practices delivers regional watershed co-benefits that a gray plant expansion never could.
- **Optimizing Public Capital (Shared Value):** Achieves total compliance at a fraction of the cost—saving municipal ratepayers an estimated \$12 Million by investing directly into the local agricultural economy.



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Funding Farmers, Not Municipalities

- **Cross-industry partnership** — the utility pays farmers to keep phosphorus out of runoff. Vastly different from conventional municipal-to-municipal trading to better improve watersheds.
- **Direct investment** — dollars go into on-farm conservation instead of inside the fence upgrades.
- **Real reductions** — measurable nutrient cuts credited toward the 2030 limit.



NMWRD'S APPROACH

“Investing directly in agricultural conservation efforts to promote cross-industry solutions.”

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How the Program Works

01

PLET Modeling

Quantifies the phosphorus reduction from each conservation practice.

02

BMP Implementation

Various types of best management practices can be implemented (prairie conversion, land use designation, berm implementation, agronomic adjustments, etc.)

03

Pay-for-Performance

Farmers earn \$10 for every pound of phosphorus kept out of the watershed runoff.

04

Verification Audits

Independent checks in years 2 and 4 confirm the physical results and practice maintenance.

05

Municipality Benefits

Credits can be applied immediately or banked for compliance window use.

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Big Impact, Major Savings

- **Target** — 1,900 lbs of phosphorus removed per year.
- **Costs avoided** — roughly \$12 million saved versus conventional upgrades.
- **Credits banked** — reductions secured for a full 10-year compliance window.
- **Stronger ties** — durable farmer–utility relationships across the watershed.



THE IMPACT

\$12M

"Cost saving for NMWRD ratepayers."

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Trust and Alignment Were Essential

- **Farmer concerns** — liability, data privacy, and reporting all needed clear answers.
- **Earlier engagement** — bringing growers in sooner built confidence and buy-in.
- **Regulatory certainty** — an MOU with the Illinois EPA gave every party a stable footing.



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A “Recover” Success Story

- **Waste to resource** — phosphorus is captured before it becomes pollution.
- **Restored systems** — healthier soils and waterways across the watershed.
- **Regenerative partnerships** — rural and urban partners share the value created.

CIRCULAR PRINCIPLE



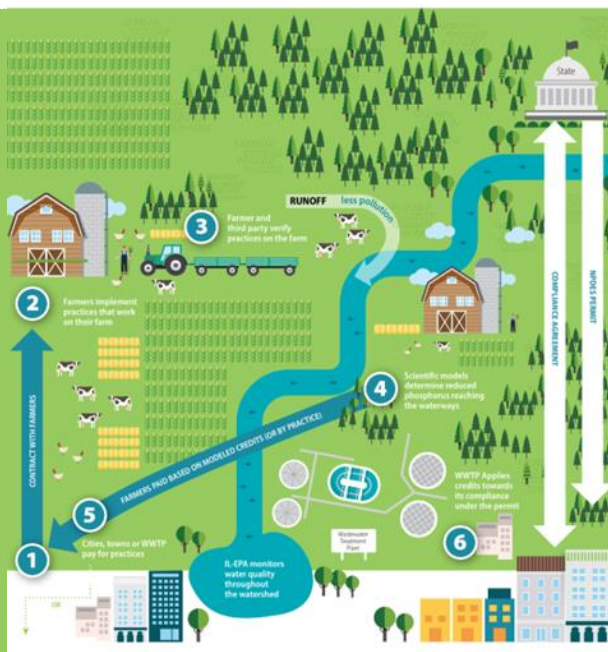
Recover

“Recover — the project pays farmers to extract phosphorus before it enters waterways.”

Advancing Nutrient Trading in Illinois



Circular Water Economy NWMRD Case Study - A Scalable Path to 2030



1,902.56 lbs
phosphorus removed per year — the
program's target



~\$12 million
saved in avoided costs versus
conventional plant upgrades



10-year window
of reductions secured and banked as
compliance credits



Stronger ties
durable farmer–utility relationships
across the watershed

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MEET THE TEAM



NWMRD Case Study - A Scalable Path to 2030

A practical, cost-effective route to Illinois' 2030 limits.

RURAL-URBAN COLLABORATION · LONG-TERM WATERSHED RESILIENCE