

Intent:

This report was written to inform the America's Watershed Initiative (AWI) Road Map #4.

Water Quality Action Definition:

A **Water Quality Action (WQA)** is defined as a specific, geographically referenced intervention, policy, financial investment, or collaborative effort designed to measurably reduce pollution loads and mitigate environmental degradation. In alignment with the **America's Watershed Initiative (AWI)** mission, a WQA must aim to not only improve the localized ecological health of an aquatic ecosystem, but also contribute to the broader resilience, economic stability, and overall grade of the Mississippi River Watershed.

To effectively filter, aggregate, and map research efforts and remediation groups across the **Upper Mississippi River Basin (UMRB)**, all initiatives evaluated in this report were assessed against this definition. Establishing this criterion is the vital first step in building a comprehensive inventory of actions. By identifying the initiatives outlined in Tables 1 -9, this report aims to inform the **Mississippi River Watershed Partnership's (MRWP) Roadmap #4 Gap Analysis** by locating sub-basin sites where data monitoring efforts are concentrated versus where they are absent. Identifying these spatial gaps provides the concrete data necessary for stakeholders to shift from broad strategies to highly targeted, informed investment allocation and precise, localized policymaking. To achieve this, all evaluated efforts were sorted into three categories:

(1) **Monitoring & Data Collection:** Actions dedicated to establishing ecological baselines, expanding sensor networks, and gathering field data.

(2) **Analysis:** The synthesis of collected data, spatial modeling, and gap identification used to establish science agendas, assess the efficacy of past interventions, and inform transparent decision-making.

(3) **Implementation:** On-the-ground restorative practices, deployment of regenerative agriculture frameworks, infrastructure upgrades, and directed financial investments that yield measurable, physical improvements to the watershed.

Tables 1 - 9 - Inventory of Water Quality Actions (WQAs) within the Upper Mississippi River Basin (UMRB).

The following tables aggregate geographically referenced interventions, policies, financial investments, and collaborative efforts designed to reduce nutrient loading and mitigate environmental degradation across the basin. Initiatives are categorized by their correspondence to the above defined Water Quality Action Criteria (Monitoring & Data Collection, Analysis, and/or Implementation). Sites were evaluated based on multi-agency/institution relationships, temporal scope, core implementation strategies, and systemic limitations. The remediation efforts present in the following tables aim to serve as a foundation for identifying gaps in current conservation infrastructure.

Region	State	Dates	Location	Agency	Program	WQA Category	Description	Funding	Pros	Cons	Link
Iowa	IA	2001 - Present	Des Moines	Iowa Dept. of Ag (IDALS) & USDA-FSA	Iowa Conservation Reserve Enhancement Program (CREP)	Implementation	Engineered wetlands are specifically designed to treat tile water.	(1) USDA-FSA. (2) State of Iowa. (3) Iowa Drainage District Association.	One of the most effective structural practices available, removing 40-90% of N from tile water.	Requires taking prime farmland out of production forever. Hard to convince farmers to retire 10 acres with high crop prices.	Here
	IA	2007 - Present	Ames	Iowa State University / USFWS	STRIPS (Science-based Trials of Row crops Integrated with Prairie Strips)	Implementation	Integration of prairie strips into row crop fields to prevent nutrient runoff.	(1) FFAR. (2) USDA FSA. (3) NSF. (4) Walton Family Foundation. (5) McKnight Foundation.	Proven to reduce N loss by up to 85% and P by 90% while adding pollinator habitat. Official USDA CP-43 practice.	Requires taking productive farmland out of row crops (up to 10% of the field), facing heavy economic resistance.	Here
	IA	2010 - Present	Statewide (Over 26 active WMAs)	Local Intergovernmental Boards (Cities, Counties, SWCDs)	Iowa Watershed Management Authorities (WMAs)	Implementation	Joint governance boards for watershed management.	(1) Iowa DNR. (2) HUD. (3) Iowa Flood Center / Univ. of Iowa. (4) Local budgets. (5) EPA Sec. 319 grants.	Forces rural agricultural counties and downstream urban cities to sit on the same board and legally cooperate, breaking down the urban-rural divide.	WMAs have no taxing authority or eminent domain. Survival relies entirely on winning competitive, temporary state/federal grants.	Here
	IA	2013 - Present	Ames	Iowa State University Extension	ISU Iowa Nutrient Research Center (INRC)	Implementation	Academic research center driving edge-of-field practice adoption.	(1) State of Iowa. (2) USDA. (3) Walton Family Foundation. (4) 11th Hour Project.	Successfully pioneered the "Batch and Build" model, installing practices in clusters to reduce costs and accelerate rate adoption.	2024 surveys show farmer support softening. Many are hesitant to invest in practices without 30+ years of testing. N loads remain high.	Here
	IA	2013 - Present	Des Moines	Iowa Department of Agriculture (IDALS)	Iowa Water Quality Initiative (WQI)	Implementation	State initiative focusing funding on priority watersheds.	(1) State of Iowa. (2) USDA-NRCS. (3) Iowa Corn Growers. (4) Iowa Pork Producers.	Creates high-visibility success stories that neighbors can see, theoretically driving peer pressure and adoption.	Rely heavily on annual legislative appropriations. Cost-share dollars can dry overnight. Described as an annual gamble.	Here
	IA	2013 - Present	Statewide (Targeted HUC-8s)	IDALS / Iowa State Univ.	WQI Conservation Cost-Share	Implementation	Large scale deployment of cover crops, bioreactors, and saturated buffers.	(1) Iowa Legislature (WQI).	Unprecedented scale and verifiable farmer adoption rates across the state.	The scale of nonpoint source pollution still outpaces current voluntary adoption rates.	Here
	IA	2019 - Present	Ankeny	AgOutcomes (Subsidiary of ISA)	Soil and Water Outcomes Fund	Implementation	Financial incentive program for environmental outcomes.	(1) Cargill. (2) Target. (3) Nutrien. (4) PepsiCo. (5) Gov. of Canada. (6) USDA-NRCS.	Pays farmers significantly more (up to \$30-40/acre) by selling both carbon and water quality credits from the same acre.	Requires a ton of modeling. If models overestimate benefits, companies buy "phantom" credits, drawing skepticism.	Here

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Iowa	IA	2020 - Present	Des Moines	Polk County & Polk SWCD	Batch and Build Initiative	Implementation	County-level program bundling conservation projects together.	(1) Polk County. (2) IDALS. (3) USDA-NRCS. (4) City of Des Moines. (5) Ag Drainage Mgmt. Coalition.	Removes hassle for farmers by building 50 buffers at a time, reducing costs by 40% and drastically speeding up implementation.	Requires a county willing to take on financial liability and project management, which many rural counties lack.	Here
	IA	2020 - Present	Ankeny	Iowa Soybean Association	Research Center for Farming Innovation (RCFI)	Analysis	Farmer-funded research center focused on agricultural innovation.	(1) Iowa Soybean Checkoff. (2) USDA-NRCS. (3) Walton Family Foundation. (4) Kellogg Company	Data is trusted implicitly by the ag community because it is funded by farmers for farmers, avoiding government skepticism.	Primary goals are yield and profit. Nutrient reduction is secondary, so they rarely push practices that hurt the bottom line.	Here
	IA	2023 -Present	Upper Fourmile Creek (Ankeny, IA)	City of Ankeny / IDALS	Urban Water Quality Initiative - Fourmile Creek Wetland	Implementation	Construction of a stormwater wetland to capture and filter urban runoff.	(1) IDALS WQI. (2) City of Ankeny.	Provides large-scale urban stormwater retention and biological filtration.	High land acquisition and engineering costs within a developed urban footprint.	Here
	IA	2023 -Present	Morgan Creek (Cedar Rapids, IA)	City of Cedar Rapids / IDALS	Morgan Creek Wetland	Implementation	Construction of a targeted water quality wetland treating mixed-use runoff.	(1) IDALS WQI.	Intercepts nutrients before entering the highly sensitive and heavily utilized Cedar River.	Requires long-term municipal maintenance and debris clearing.	Here
	IA	2025 -Present	Pool 10 (Gutten-berg, IA)	USACE St. Paul District	Lower Pool 10 Island Habitat Restoration	Implementation	Protecting and restoring island complexes to reduce suspended solid concentrations and wind fetch.	(1) 100% Federal (USACE UMR).	Restores massive island complexes to act as physical barriers against wave-induced erosion.	Multi-year staging and exceptionally high capital costs.	Here
	IA	2025 -Present	Pool 13 (Clinton, IA)	USACE Rock Island District	Lower Pool 13 HREP	Implementation	Restoration of backwater lakes, sloughs, and flowing channels over historically flooded islands.	(1) 100% Federal (USACE UMR).	Massively scales backwater refugia and restores natural floodplain function.	Lengthy pre-construction design phase required to model complex hydrology.	Here
	IA	2014-2017	Pool 9 (Harpers Slough, IA)	USACE St. Paul District	Harpers Slough HREP	Implementation	Protects 5 existing islands and aims to construct 7 additional islands in 4,150-acre backwater. Utilizes dredge material to slow island loss and reduce flow of sediment-laden water	(1) 100% Federal (USACE UMR).	Large-scale flow reduction directly decreases turbidity in critical backwater habitats.	Construction is highly dependent on fluctuating river stages.	Here
	IA	1879 - Present	Iowa City	US Geological Survey (USGS)	USGS Iowa Stream gage Network & Super Gages	Monitoring + Data Collection	Long-term hydrologic and water quality data collection network.	(1) U.S. Geological Survey. (2) IDNR. (3) IDALS. (4) Des Moines Water Works. (5) City of Cedar Rapids. (6) Univ. of Iowa.	The absolute gold standard of data. Unbiased, public, and relied upon by every modeling/regulatory agency.	Extremely expensive to operate and maintain. Rely heavily on cost-share; if local budgets fail, gages get turned off.	Here
	IA	1989 - Present	Ames	USDA Agricultural Research Service (ARS)	National Laboratory for Agriculture and the Environment (NLAE)	Monitoring + Data Collection	Highly rigorous, long-term continuous data that forms the baseline for biogeochemical models and national policies.	(1) USDA-ARS. (2) Iowa State University. (3) IDALS. (4) IDNR. (5) USDA NRCS. (6) Iowa Nutrient Research Center.	Provides rigorous, continuous foundational data.	Highly academic and localized; findings take a long time to translate into policy and are hard for regular farmers to use.	Here
	IA	2014 - Present	Iowa City	University of Iowa (IIHR); Iowa Flood Center	The Iowa Water Quality Information System (IWQIS) has been running since 2014.	Monitoring + Data Collection	Real-time sensor network tracking water quality metrics across the state.	(1) State of Iowa. (2) University of Iowa. (3) INRC. (4) Wallace Research Foundation.	Provides undeniable, real-time evidence of nitrate spikes. Easy for the regular public to extrapolate the effects of heavy rains.	Keeping delicate sensors running in muddy, flooding rivers is incredibly expensive and labor-intensive. The network shrinks if funding lags.	Here
	IA	1989 - Present	Gilmore City	Iowa State University (ABE Dept)	ISU Drainage Water Quality Research Facility	Monitoring + Data Collection	One of the longest-running continuous tile drainage monitoring sites in the country.	(1) ISU. (2) IDALS. (3) INRC. (4) Iowa Egg Council. (5) USDA.	Provides foundational science for how tillage and N-rates affect freshwater systems.	Single, highly controlled research farm in one soil type (Des Moines Lobe), making it difficult to extrapolate to the southern MRB.	Here

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Iowa	IA	1999 - Present	Ankeny	Agriculture's Clean Water Alliance (ACWA)	ACWA Water Monitoring Program	Monitoring + Data Collection	Unique industry-led effort that proactively monitors water and works directly with farmers to reduce nutrient loss.	(1) Heartland Co-op. (2) Landus. (3) Iowa Soybean Assoc. (4) Corteva Agriscience. (5) BASF.	Leverages credible agronomists to engage directly with farmers.	Viewed as a PR shield for the fertilizer industry; nitrate levels remain high, leading critics to call it a time waster.	Here
	IA	2001 - Present	Des Moines	Des Moines Water Works (DMWW)	Nitrate Removal & Watershed Advocacy	Monitoring + Data Collection	Utility tracking nitrate data and advocating that voluntary agricultural remediation is failing	(1) Ratepayers of Des Moines. (2) USDA.	Has straight numbers proving the current approach falls short; forces state/ag groups to take the issue seriously due to legal threats.	A 2015 lawsuit created massive animosity. Many farmers view DMWW as the "enemy," hindering collaborative action.	Here
	IA	2021 - Present	Statewide	Izaak Walton League of America	Nitrate Watch	Monitoring + Data Collection	Citizen science initiative using test strips to monitor local waterways.	(1) Izaak Walton League of America. (2) Wings2Water. (3) GreenState Credit Union. (4) Iowa CCI.	Massively increases spatial coverage of monitoring and deeply engages/educates citizens in local nutrient pollution.	Citizen science data is less precise than lab analysis and generally not accepted by the state for regulatory action (e.g., 303d list).	Here
	IA	2022 - Present	Ames	Iowa State University	Iowa Nitrogen Initiative	Analysis	Modern initiative tracking nitrogen application optimization.	(1) Iowa State University. (2) Iowa Corn Promotion Board. (3) IDALS. (4) USDA-NRCS.	Moves beyond the old "1.2 lbs. per bushel" rule. Users combine data to show where fertilizer is wasted, aligning profit with conservation.	Critics argue optimizing rates isn't enough. You can be efficient and still leak nitrate. Doesn't replace the need for edge-of-field filters.	Here
	IA	2004 - Present	Guttenberg (Pool 10)	USACE St. Paul District	Lower Pool 10 Island Habitat Restoration	Monitoring + Data Collection	Small water-shed delivery scale monitoring combined with farmer education.	(1) IDALS. (2) USDA-NRCS. (3) ISU. (4) Leopold Center. (5) Iowa DNR.	Proves community-wide practice adoption improves local water. Built on strong farmer-to-farmer trust.	Relies heavily on voluntary participation; scaling the intense 500-acre monitoring setup statewide is logistically/financially impossible.	Here
	IA	2014 - Present	Ankeny	Iowa Agriculture Water Alliance (IAWA)	Midwest Ag Water Quality Partnership	Implementation	Partnership leveraging agribusiness giants for conservation.	(1) Iowa Corn Growers. (2) Iowa Soybean Assoc. (3) Iowa Pork Producers. (4) USDA-NRCS. (5) Corteva. (6) Bayer.	Brings big agribusiness to the table, scaling solutions faster than nonprofits. Leverages farmer product commitment.	Critics view it as an industry shield, arguing these groups promote voluntary efforts primarily to stave off mandatory regulation.	Here
	IA	Ongoing	Ames, IA	USDA-ARS NLAE	LTAR UMRB-Ames Network	Monitoring + Data Collection	Utilizes eddy covariance flux towers and continuous terrestrial/aquatic sensors to link atmospheric vapor exchanges directly with subsurface nutrient transport.	(1) USDA-ARS.	Generates holistic continuous datasets linking atmospheric conditions directly to nutrient movement.	Highly localized research station data is difficult to extrapolate perfectly across the entire basin.	Here
	IA	2024-Present	Iowa City, IA	University of Iowa	Upper Mississippi Information System (UMIS)	Analysis	An agnostic, web-based platform providing scale-adjustable views of massive hydrological and water quality datasets, aimed at visualizing decadal trends	(1) Univ. of Iowa. (2) State Grants.	Overcomes traditional barriers of data interoperability, allowing intuitive graphing across spatial and temporal scales.	Focuses more on user operation and data synthesis than on cutting-edge predictive algorithm development.	Here
	IA	2024-2025	Clayton County, IA	USFWS	Guttenberg Ponds Connection	Implementation	Replaces failing legacy infrastructure with adaptive water control structures to restore lateral connectivity between the main channel and adjacent backwaters.	(1) USFWS Inflation Reduction Act (IRA).	Restores natural seasonal flood pulses and improves dissolved oxygen levels for aquatic life.	Heavy civil works are subject to river stage fluctuations and flooding during construction.	Here

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Illinois	IL	2015–Present	Urbana-Champaign	Univ. of Illinois Ext., IL EPA	Illinois Nutrient Loss Reduction Strategy (NLRS)	Implementation + Monitoring	Enforcement of strict numerical phosphorus limits via NPDES permits for point sources. 38% of major municipal facilities under strict P limits.	(1) IL EPA, (2) IL Dept. of Ag, (3) USDA-NRCS.	Generates immediate, permanent, and quantifiable drops in urban phosphorus loading.	Failed to meet 2025 nitrogen goals; nonpoint agricultural loads continue to rise.	Here
	IL	1994–Present	Chicago, IL	The Wetlands Initiative (TWI)	Smart Wetlands Program	Implementation	Installation of small-scale, high-tech biological reactors positioned directly at agricultural tile outlets. 40–90% nitrate removal.	(1) McKnight Fdn, (2) USDA-NRCS, (3) IL Clean Energy.	Exceptional nutrient removal efficiency utilizing a minimal footprint on productive farms.	Still requires farmers to permanently retire a fraction of arable land.	Here
	IL	2024–Present	Vermilion River Basin	USDA-NRCS, IL EPA	MRBI Vermilion Headwaters Project	Implementation	Targeted deployment of EQIP funding to construct ACT practices in specific HUC-12s like Indian Creek. Tracked via CART modeling.	(1) USDA-NRCS (EQIP).	Focuses immense federal capital directly into scientifically identified critical sub-watersheds.	Benefits are hyper-localized; un-funded neighboring HUCs continue to pollute.	Here
	IL	2020–Present	Upper Salt Creek	USDA-NRCS	MRBI Upper Salt Creek/Clinton Lake	Implementation	Targeted EQUIP implementation of ACT practices in HUC-12s like Carters Pond and the West Fork Salt Creek.	(1) USDA-NRCS (EQIP).	Directs resources to priority watersheds to protect the Clinton Lake Reservoir.	Voluntary adoption relies on heavy outreach and constant technical assistance.	Here
	IL	2020–Present	Upper Macoupin Creek	USDA-NRCS	MRBI Upper Macoupin Creek	Implementation	EQIP funding for conservation systems targeting HUC-12s like Bullard Lake. Tracked acreage aiming to reduce non-point delivery.	(1) USDA-NRCS (EQIP).	Leverages strong local partnership networks to bundle implementation.	Long lag times for measurable in-stream improvements after installation.	Here
	IL	2022–2024	Lake Lou Yaeger	City of Litchfield / IL EPA	Lake Lou Yaeger Watershed Implementation	Implementation	Construction of a sediment basin/forebay and restored stream channel above the lake. 402 tons/yr sediment removed.	(1) US EPA Sec. 319, (2) Local Match.	Provide large-scale, permanent retention of suspended sediment before it enters the lake.	Requires dry excavation maintenance to remove accumulated sediment over time.	Here
	IL	2023–2026	Upper Silver Creek	Village of Melrose Park / IL EPA	Upper Silver Creek Watershed Implementation	Implementation	Stream channel stabilization, riffles, and wetland restoration. Targets 25% P and 15% N reduction via 319 tracking.	(1) US EPA Sec. 319, (2) Local Match.	Reconnects channel to floodplain to naturally attenuate flood energy and filter nutrients.	Construction is highly dependent on favorable weather and low-flow conditions.	Here
	IL	2018–2022	Cahokia Creek	Heartlands Conservancy / IL EPA	Stabilizing Streambanks on Cahokia Creek	Implementation	Stream channel/ bed stabilization and re-meandering near Roxanna Landfill. Removed 10.69 miles from 303(d) list.	(1) US EPA Sec. 319.	Proven physical restoration leading to official EPA impairment delisting.	Exceptionally high engineering and earth-moving cost per linear foot.	Here
	IL	2023–Present	Statewide	ISAP	FFP Aquatic Habitat Program	Implementation	Jumpstarting conservation drainage (wetlands, saturated buffers) by acting as general contractor. Pilot installations.	(1) Fishers and Farmers Partnership.	Fast tracks NRCS approval by testing and removing administrative bottlenecks.	Limited initial scale (3–5 sites) intended primarily for institutional learning.	Here
	IL	2024–Present	Pool 25/26	USACE St. Louis District	Piasa and Eagles Nest Islands HREP	Implementation	Island restoration and side channel flow modifications via dredging and berming. Restores backwater flow.	(1) 100% Federal (USACE UMRR).	Reestablishes natural side channel connectivity lost to the navigation system.	Highly complex engineering constraints due to main channel proximity.	Here
	IL	2024–Present	Urbana-Champaign	Univ. of Illinois (UIUC)	Factorial SPARROW Nutrient Modeling	Analysis	Modifies USGS SPARROW models using factorial scenario analysis to mathematically separate human-derived nitrogen loss from climate-driven hydrologic variability.	(1) NSF/Federal Grants.	Allows precise identification of anthropogenic vs. climate-driven nutrient export, preventing misallocation of funds.	Computationally intensive, relies on 20 years of historical data to calibrate.	Here
	IL	2024–Present	UMR Mainstem	UMRBA, State DNRs, USEPA	Interstate Water Quality Monitoring Plan	Monitoring + Data Collection	Harmonizes multi-state chemical and biological data into a unified EPA Exchange Network database, with fixed site implementation starting fall 2025.	(1) USEPA Exchange Network Grant.	Breaks down state silos to provide a continuous biological and chemical baseline for the entire navigable river corridor.	Significant administrative coordination challenges across multiple state jurisdictions.	Here

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Indiana	IN	2019–Present	Starke & Jasper Co.	Kankakee & Yellow River Basin Comm.	Yellow River Bank Reconstruction	Implementation	Heavy-civil engineering to reshape vertical banks and build inset floodplains. 5+ miles stabilized.	(1) Special parcel assessments (IC 14-13-9-21). (2) State grants.	Directly neutralizes sources of massive glacial sand transport into the Illinois River.	Capital-intensive heavy civil work requiring ongoing tax levies.	Here
	IN	2023–Present	Lower Kankakee Basin	Jasper & Newton SWCDs	Lower Kankakee Watershed Initiative	Implementation	Cost share program for cereal rye and clover crops. Up to 75% financial reimbursement for installed practices.	(1) CWA Section 319 Grant (IDEM).	Increases soil microbiome health and reduces velocity of surface runoff.	Requires high levels of continuous technical assistance and outreach.	Here
	IN	2021–Present	Big Walnut Creek	USDA-NRCS	MRBI Big Walnut Creek	Implementation	Installation of 3,000 acres of cover crops, 2-stage ditches, and 800 acres of wetland easements.	(1) USDA-NRCS (EQIP).	Highly targets resources to reduce nutrient loads contributing to Wabash/ Ohio systems.	Relies on the volatility of yearly federal farm bill funding allocations.	Here
	IN	2024–Present	Kankakee River Basin	ISDA, USDA-NRCS	Kankakee Watershed RCPP	Implementation	Long-term monitoring of bioswale, cover crops, and no-till on working commercial farms.	(1) USDA-NRCS (RCPP).	Combines water quality improvements with significant flood storage capacity.	Heavy administrative coordination needed across 43 distinct partners.	Here
	IN	2014–Present	School Branch	IUPUI CEES / USGS / NRCS	Starkey Farm Edge-of-Field Project	Monitoring + Data Collection	Flow-normalized load/flux analysis of 5 major export sites. Informs State NRS.	(1) USDA-NRCS. (2) EPA. (3) USGS.	Captures real-world runoff data before it enters Indianapolis drinking water supply.	Generates highly localized data difficult to extrapolate basin wide.	Here
	IN	2019–Present	Statewide	ISDA / USGS / IDEM	Indiana Science Assessment (Trend Analysis)	Analysis	Development of a tool to calculate nutrient load reductions and determine the efficiency of certain conservation practices on reducing nitrogen and phosphorus loads in Indiana waters.	(1) ISDA. (2) IDEM. (3) Purdue Univ.	Established undeniable, standardized baseline loads leaving state boundaries.	An analytical tool only; does not execute physical interventions.	Here
	IN	2025–Present	Statewide	ISDA, IDEM, USGS	Indiana Science Assessment Component 2	Analysis	A county-level nitrogen risk assessment model to estimate the amount of reactive nitrogen released into the environment from major urban resource-use sectors.	(1) State of Indiana.	Provides a consistent definition and quantifiable metric for the efficiency of specific conservation practices.	An analytical tool only; requires subsequent physical implementation and farmer adoption to achieve reductions.	Here
	IN	2025-2026	Marion County, IN	IUPUI (Indiana University)	Urban Nitrogen Footprint Modeling	Analysis	A county-level nitrogen risk assessment model to estimate the amount of reactive nitrogen released into the environment from major urban resource-use sectors.	(1) Indiana University. (2) ERI.	Addresses the critical gap of urban nonpoint source pollution, expanding analysis beyond just agricultural runoff.	Focuses solely on predicting nitrogen loss rather than implementing direct physical mitigation structures.	Here

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Minnesota	MN	2014–Present	St. Paul, MN	MN Pollution Control Agency	MN Nutrient Reduction Strategy (Discovery Farms)	Monitoring + Data Collection	Establishes intensive monitoring on working commercial farms to capture real-world runoff data.	(1) MN Clean Water Fund. (2) USDA-NRCS.	Farmer-verified load reduction metrics; climatic scenario modeling.	Over-reliance on voluntary participation; fears that goals will fail without numeric regulation.	Here
	MN	2025–Present	Pool 9 (RM 671-682)	USACE St. Paul District, MN DNR	Reno Bottoms Habitat Rehabilitation (HREP)	Implementation	Construction of inlet closures, dredging, and elevation enhancement to restore hydrologic connectivity.	(1) 100% Federal (USACE UMRR).	546 acres forest managed; 27 acres deep-water habitat created. Reverses decades of ecological decay.	Exceptionally high capital cost and protracted multi-year engineering timelines.	Here
	MN	2024–2026	Anoka County	Anoka Conservation District	Ditch 20 Wetland Restoration	Implementation	Reconnection of artificial drainage ditches to restored historic wetland basins to trap runoff.	(1) BWSR Clean Water Fund (CWF).	Leverages natural topography to intercept and hold concentrated agricultural flows.	Requires continual maintenance of the physical water control structures to prevent blowout.	Here
	MN	2024–2027	Scott County, MN	Prior Lake-Spring Lake WD	Swamp Iron Enhanced Sand Filter	Implementation	Installation of iron-filing amended sand filters to chemically bind dissolved phosphorus.	(1) BWSR Clean Water Fund (CWF).	Exceptional at removing dissolved P, which traditional settling basins cannot capture.	Iron media eventually saturates and requires expensive physical excavation and replacement.	Here
	MN	2024–2028	Coon Creek WD	Coon Creek Water-shed District	Bridgewater Regional Stormwater Filter	Implementation	Implement a regional stormwater filtration system.	(1) BWSR Clean Water Fund.	Targets high-volume urban/regional stormwater flows.	Requires dedicated long-term municipal operation and maintenance.	Here
	MN	2024–2029	Todd County	Todd SWCD	Big Swan Lake Phosphorus Reduction	Implementation	Targeted phosphorous reduction implementations designated as a Tier One priority.	(1) BWSR Clean Water Fund.	Direct reduction of lake phosphorus loads in a targeted sub-basin.	Relies on landowner cooperation for shoreline and upland practices.	Here
	MN	2024–2030	Wild Rice River	Wild Rice WD	South Branch Wild Rice River Grade Stabilizations	Implementation	Construction of phase 1 in-stream grade stabilization structures.	(1) BWSR Clean Water Fund.	Physically stops active head cutting and severe bank erosion.	High capital cost for heavy civil in-stream works.	Here
	MN	2024–2031	Martin County	Martin SWCD	Fairmont Drinking Water and Watershed Restoration	Implementation	Installing saturated buffers, wetland restorations, and split-rate nitrogen applications.	(1) BWSR Clean Water Fund.	55 acres CRP, 700 acres split N, 7 structural practices; protects water for >10,000 people.	Requires permanent retirement of some agricultural land.	Here
	MN	2024–2032	Lincoln County	Lincoln SWCD	Verdi Drinking Water Supply Management Area Soil Health	Implementation	Addressing nitrate-nitrogen loading to groundwater from agricultural land.	(1) BWSR Clean Water Fund.	Prioritizes highly vulnerable karst/soil areas threatening groundwater.	Hard to measure immediate impact due to groundwater lag times.	Here

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Missouri	MO	2014–Present	Columbia, MO	MO DNR, Univ. of Missouri	Center for Regenerative Ag & Wastewater Optimization	Implementation	Recalibrating municipal aeration cycles to create alternating aerobic/anoxic zones to stimulate bacteria.	(1) USDA. (2) MO DNR. (3) EPA. (4) Lincoln University.	Achieves massive point-source reductions without requiring municipalities to pour new concrete.	Extreme variations in regional river flows often dilute and mask localized improvements.	Here
	MO	2014–Present	Pool 25 (RM 260-263); Pike Co.	USACE St. Louis District, USFWS, MDC	Clarence Cannon NWR (HREP)	Implementation	Construction of massive pump stations, gravity drains, and setback berms to sever floodplain hydrology.	(1) 100% Federal (USACE UMRR).	Empowers ecologists to perfectly manipulate water levels independent of the navigation channel.	Carries exceptionally high long-term operations, maintenance, and rehabilitation (OMRR) costs.	Here
	MO	2018–2023	Salt River Basin	Missouri DNR	Black Creek Watershed Based Plan (CWA 319)	Implementation	Implement targeted riparian buffers and planned grazing systems in low-infiltration soils.	(1) US EPA (CWA Sec. 319). (2) MO DNR.	Intercepts massive sediment plumes before they reach the primary drinking water source for 14 counties.	Extremely reliant on the continuous renewal of federal Section 319 subgrant funding cycles.	Here
	MO	2011–Present	Greater Bonne Femme Watershed	Boone County Commission	Greater Bonne Femme WBP Implementation	Implementation	Watershed plan implementation addressing streambank collapse and animal waste runoff. Targets a 92.4 sq mile area.	(1) US EPA Section 319.	Protects highly vulnerable karst geology and drinking water from nonpoint source infiltration.	Rapid urbanization creates competing land-use pressures between Columbia and Ashland.	Here
	MO	2020–Present	Statewide	MO DNR / MO Fertilizer Control Board	4R Nutrient Stewardship Program	Implementation	Incentive program for two-pass nitrogen application (min. 25% in-season). Over 50 active contracts were reported.	(1) MO Parks, Soils & Water Sales Tax.	Directly engages ag retailers and utilizes precision grid soil sampling for exact agronomy.	Strict participation requirements (requires working with 4R certified advisors only).	Here
	MO	2022–Present	Missouri/Mississippi/Gr Rivers	MO DNR / USGS	Ambient Stream Nutrient Monitoring Expansion	Monitoring & Data Collection	Addition of continuous nitrate and flow monitors to 4 USGS water quality stations. Provides real-time data.	(1) EPA Gulf Hypoxia Program (\$965k).	Generates real-time continuous data vs traditional periodic grab samples.	High equipment procurement and continuous calibration/maintenance costs.	Here
	MO	2025	Jefferson City, MO	Missouri DNR	Nutrient Loss Reduction Strategy 2025 Update	Analysis & Implementation	Analysis of statewide conservation progress, outlining prevention of 5.2 million tons of soil/nutrients and tracking 168,000 acres of cover crops.	(1) Parks, Soils and Water Sales Tax (\$168M).	Provides statewide synthesis of multiple data streams to track exact load reduction progress.	Systemic improvement is still heavily reliant on localized, voluntary farmer adoption.	Here
	MO	2024-2025	Wayne & Stoddard Counties	USFWS	Treatment of Bottomland Hardwood Forest	Implementation	Restoration and treatment of bottomland hardwood forests to build climate resiliency and improve natural watershed filtration.	(1) USFWS Inflation Reduction Act (IRA).	Restores natural floodplain function and creates significant wildlife habitat.	It takes years for newly treated forest habitats to mature and reach maximum filtration capacity.	Here

Region	State	Dates	Location	Agency	Program	WQA Category	Description	Funding	Pros	Cons	Link
Wisconsin	WI	2000-Present	Madison, WI	Univ. of Wisconsin Discovery Farms Extension	UW Discovery Farms	Monitoring & Data Collection	Empirical field-scale monitoring analyzing the precise biochemical impacts of cover crop termination. Correlation of winter freeze-thaw cycles to severe spikes in dissolved P from ruptured biomass	(1) UW-Madison Ext. (2) WI Dept. of Ag. (3) Dairy Foundation.	Generates highly nuanced, paradigm-shifting management guidelines for winter agronomy.	Does not construct physical infrastructure; relies on operators adapting to complex new data.	Here
	WI	2022-Present	Lower Pool 4 (RM 764); Wabasha	USACE St. Paul District, WI DNR	Big Lake Habitat Restoration (HREP)	Implementation	Creation and stabilization of massive barrier islands using material dredged from the main channel. Protection of backwater lakes from severe wind and wave fetch erosion.	(1) 100% Federal (USACE UMRR).	It physically blocks massive sediment plumes from the highly erosive Chippewa River.	Subject to extreme hydrologic volatility and flooding during the active construction phase.	Here
	WI	2020 – 2025	Pool 10 (Prairie Du Chien, WI)	USACE St. Paul District	McGregor Lake Habitat Restoration (HREP)	Implementation	Dredging the 200-acre backwater lake, strengthening barrier islands, and constructing small islands. Physical construction completed Oct. 2025.	(1) 100% Federal (USACE UMRR).	Effectively protects backwater refugia from main channel degradation.	Requests ongoing USFWS operations and maintenance.	Here
	WI	2024-Present	Ozaukee County	Ozaukee County / WI DNR	Surface Water Grant - River Restoration	Implementation	Physical restoration of degraded segments of Mineral Springs Creek and Pigeon Creek. Funded under a \$6M state surface water grant cycle prioritizing in-stream restoration.	(1) WI DNR Surface Water Grants.	Restores natural hydrology and stabilizes eroding creek banks.	Dispersed scale makes isolated water quality impacts hard to measure systemically.	Here
	WI	2024-Present	Yahara River (Dane Co.)	Dane County / WI DNR	Yahara River Restoration	Implementation	River restoration and implementation project for the Yahara River to reduce runoff. Implementing comprehensive TMDL targets via targeted capital deployment.	(1) WI DNR Surface Water Grants.	Direct intervention in a highly scrutinized, agriculturally dense watershed.	Heavy political and stakeholder coordination required due to multi-jurisdictional boundaries.	Here
	WI	1999 – Present	Statewide (TMDL specific watersheds)	Wisconsin DNR	Targeted Runoff Management (TRM) Grants	Implementation	Provides capital grants to municipalities to construct urban and agricultural BMPs. Up to 70% reimbursement; tracked spatially via the BITS database system.	(1) State of Wisconsin Appropriations.	Directly ties funding allocations to watersheds with EPA-approved TMDL reduction targets.	Capped at \$600,000 for large-scale projects; highly competitive application process.	Here
	WI	2024-2030	Driftless Area	The Nature Conservancy, Ag Industry	UMR Foodscape / Continuous Living Cover	Analysis & Implementation	Market-driven intervention modeling and scaling Continuous Living Cover (CLC) and regenerative agriculture to 50% of row crop acres to reduce nitrate pollution.	(1) Corporate Partnerships. (2) TNC.	Focuses on shifting entire supply chains rather than relying on piecemeal government cost-share grants.	Highly ambitious scale; requires massive shifts in entrenched agricultural commodity markets.	Here
	WI	2023-2025	Madison, WI	Univ. of Wisconsin-Madison	UW-Madison Groundwater Research	Analysis	Advanced statistical modeling evaluating the role of water table fluctuations on PFAS mobility and predicting arsenic release from deep cones of depression.	(1) WI Groundwater Coordinating Council.	Anticipates long-term, non-agricultural threats to basin water security and human health.	Focuses heavily on deep ground-water aquifers rather than surface water interventions.	Here
	WI	2025	Madison, WI	Clean Wisconsin, TNC, WI Land+Water	Clean Water Budget Blueprint	Implementation	A legislative push to fund a pilot program transitioning conventional row crop fields to permanent grass-based grazing and perennial forage systems.	(1) Proposed \$43.8M state budget investment.	Removes the primary economic barrier preventing farmers from abandoning highly erosive row crops.	Requires legislative approval and long-term state funding commitments to survive.	Here