



IOWA WATER QUALITY INITIATIVE

SCALE-UP PLAN: A PATH FORWARD

OUR IOWA. OUR WATER.

The Iowa Water Quality Initiative (WQI) is the action plan for the Iowa Nutrient Reduction Strategy (NRS) established in 2013. The WQI improves water quality through a collaborative, research-based approach that is evaluated and reported by a team of independent researchers from multiple institutions, led by Iowa State University. This comprehensive approach allows farmers and cities alike to adopt conservation practices that fit their unique needs, lands, and budgets.

This scale-up plan provides framework for collaboration between watersheds and public and private partners to advance NRS progress while following the logic-model approach. This scenario assumes state and federal programs will maintain current funding levels and a continued focus on soil conservation and traditional practices.

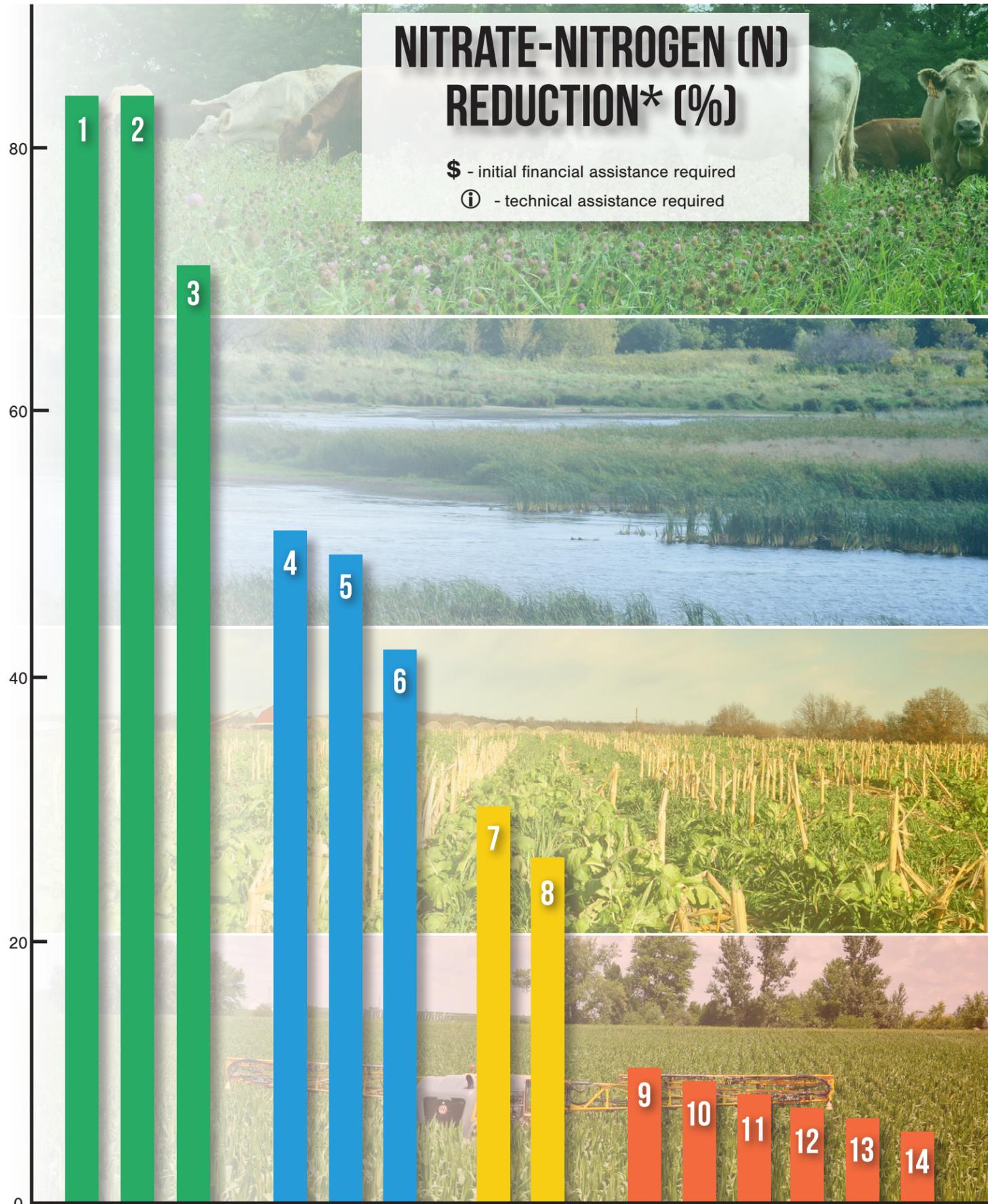
The proposed new programs address identified gaps discovered through the existing suite of state and federal programming and would expand conservation adoption beyond what current traditional programs offer. However, this does not diminish the need for currently available programs, so it's vital to include additional investments into existing programs whenever possible.

*Programs will continue to **target** and **prioritize** conservation practices within priority watersheds designated by the NRS.*

Everyone has a role to play in improving our water quality. When we all work together, we can make bigger strides.

NITRATE-NITROGEN (N) REDUCTION* (%)

\$ - initial financial assistance required
 ⓘ - technical assistance required



LAND USE

\$\$\$ ⓘ ⓘ ⓘ

Long-term transition of working lands, marginal lands, or unprofitable acres (areas with disproportionate benefits, like buffers) to conservation-focused management with added habitat benefits. Leverage federal and state dollars in form of incentives, cost share, and easements.

1. Pasture
2. Land Retirement/Buffers
3. Perennial Crops

NEXT STEPS

> Explore establishment of new Iowa program for long-term transition of working lands, marginal lands, or unprofitable acres into perennial crops

COSTS

> Long-term land-use change requires significant investment, though technical assistance will be less in comparison



EDGE-OF-FIELD

\$\$\$ ⓘ ⓘ ⓘ

Prioritize infrastructure-based conservation practices that are placed at edge of fields to provide significant, longer-term nutrient reduction and additional habitat benefits. Additional funding available through state and federal programs, but historically underserved.

4. Wetlands
5. Saturated Buffers
6. Bioreactors

NEXT STEPS

> Provide access to low/no-interest loan programs or state revolving loan fund for EOF infrastructure paired with drainage system repairs or replacements
 > Expand EOF water monitoring and scale of delivery
 > Targeted, streamlined cost-share reflecting appropriate landowner financial commitment based on where benefits accrue

COSTS

> Financial Assistance: Longer-term, capital-intensive infrastructure requires larger upfront investments, but when compared to acres treated and load reduction over time, EOF is more cost effective than land retirement
 > Technical Assistance: Need to increase in order to scale up these practices and make other adjustments

COVER CROPS

\$\$\$ ⓘ ⓘ ⓘ

Use as part of a cropping system to prevent erosion, increase soil health, suppress weeds, break pest cycles, and supply nutrients. Funding available through federal and state cost-share.

7. Overwintering Cover Crop
8. Non-Overwintering Cover Crop

NEXT STEPS

> Expand targeting to specific regions of the state, cropping systems, and watersheds
 > Provide longer-term access to funding practices over various weather and cropping patterns

COSTS

> Financial Assistance: Expanded usage to targeted areas of need
 > Technical Assistance: Leverage and build agriculture professionals' expertise to spread understanding and adoption

NUTRIENT MANAGEMENT

\$\$\$ ⓘ ⓘ ⓘ

The 4Rs: right rate, right source, right placement, right timing. Highly variable estimated load reduction due to weather, application, yield, etc. State and federal funds available, but largely driven by private sector.

9. MRTN Rate
10. Nitrpyrin
11. Sidedress N
12. Fall to Spring N

13. Spring Pre/Sidedress
14. Sidedress (Soil Test)

NEXT STEPS

> Expand public-private partnership user agreements with retailers, CCAs, and others to expand 4Rs and related nutrient management practices and other important programs

COSTS

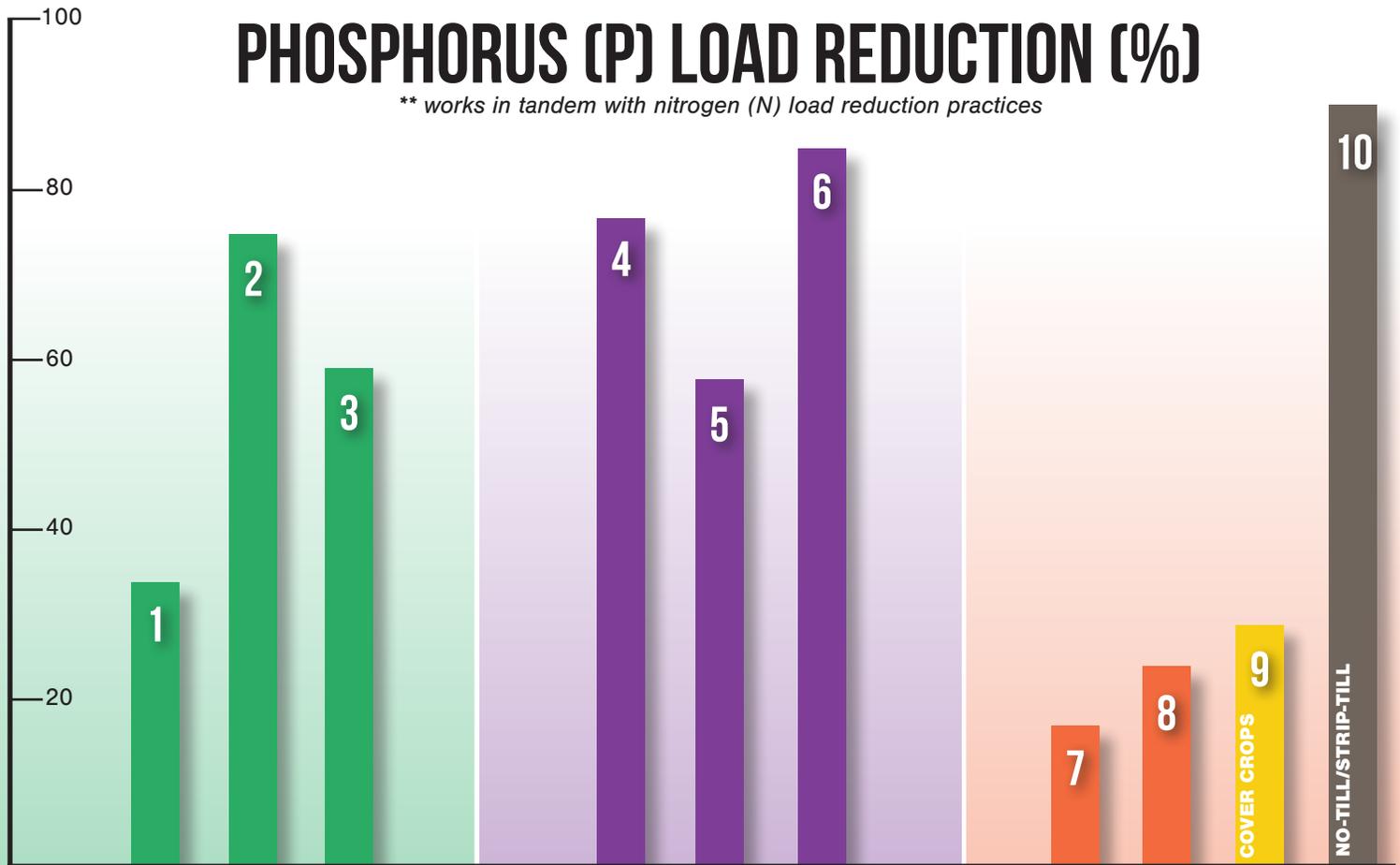
> Financial Assistance: Less economic investment because of potential increase in nutrient-use efficiency
 > Technical Assistance: Enhance and increase partnerships with agriculture professionals to coordinate improved nutrient management on a greater scale

LAND USE EDGE-OF-FIELD COVER CROPS NUTRIENT MANAGEMENT

*Actual reductions may vary year to year, but are based on the best science available for Iowa conditions. Reductions are not additive.

PHOSPHORUS (P) LOAD REDUCTION (%)

** works in tandem with nitrogen (N) load reduction practices



LAND USE

Long-term transition of working lands, marginal lands, or unprofitable acres (areas with disproportionate benefits, like buffers) to conservation-focused management. Leverage federal and state dollars in form of incentives, cost share, and easements.

1. Energy Crops**
2. Land Retirement/Buffers**
3. Grazed Pastures**

EDGE-OF-FIELD & EROSION CONTROL

Infrastructure-based conservation practices that are placed in or at edge of fields to provide significant, longer-term nutrient reduction and may add additional habitat benefits. Historical focus of traditional state and federal conservation programs.

4. Terraces
5. Buffers**
6. Sedimentation Basins or Ponds

PHOSPHORUS MANAGEMENT PRACTICES

The 4Rs: right rate, right source, right placement, right timing. Estimated load reduction is highly variable due to weather, application, yield, etc. Cover crops and reduced tillage add soil health benefits. State and federal funds available.

7. P-Rate
8. Placement of Phosphorus
9. Cover Crops**
10. No-Till/Strip-Till

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OTHER HIGHLIGHTS

Nutrient Offset Program

- > Coordinate establishment of framework for credit trading with point sources
- > Link point-source reduction goals with non-point-source water-quality infrastructure

Enhance Urban Conservation Programs

- > Partner with sponsored projects to encourage collaboration and investment in infrastructure in both urban and rural landscapes
- > Manage stormwater concerns for Iowa cities through proven water-quality practices like pervious pavers, wetlands, native landscaping, and more



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