

Drainage Water Management

More production ✓

Less risk ✓

Cleaner water ✓

Presented by:

Firstname I. Lastname

DWM Specialist



More Production



Less Risk



Cleaner Water



Drainage On Demand

Drainage Water Management

- More production
- Less risk
- Cleaner water
- Better soil health
- Create & enhance wildlife habitat

Drainage Water Management



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Overview

- Define the resource concern
- Explain Drainage Water Management (DWM)
 - How does it work?
 - Where does it apply?
 - Benefits
- Planning and applying the practice
- Available resources to help



More Production



Less Risk



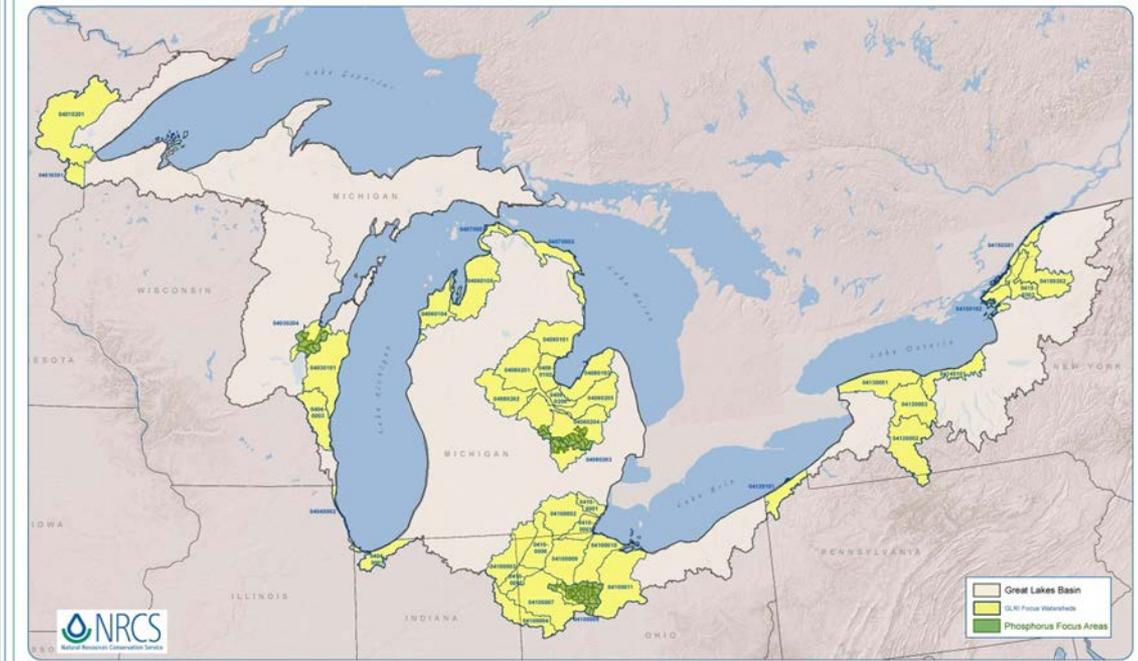
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A Big Water Quality Issue

- Hypoxic Zone or “Dead Zone”
- Excess nutrients (primarily nitrogen but also phosphorus)
- Algal growth → organic matter sinks to bottom, decays, consumes available oxygen
- Oxygen levels fall lower than 2mg/l

Great Lakes Restoration Initiative (GLRI) Priority Watersheds and Phosphorus Focus Areas



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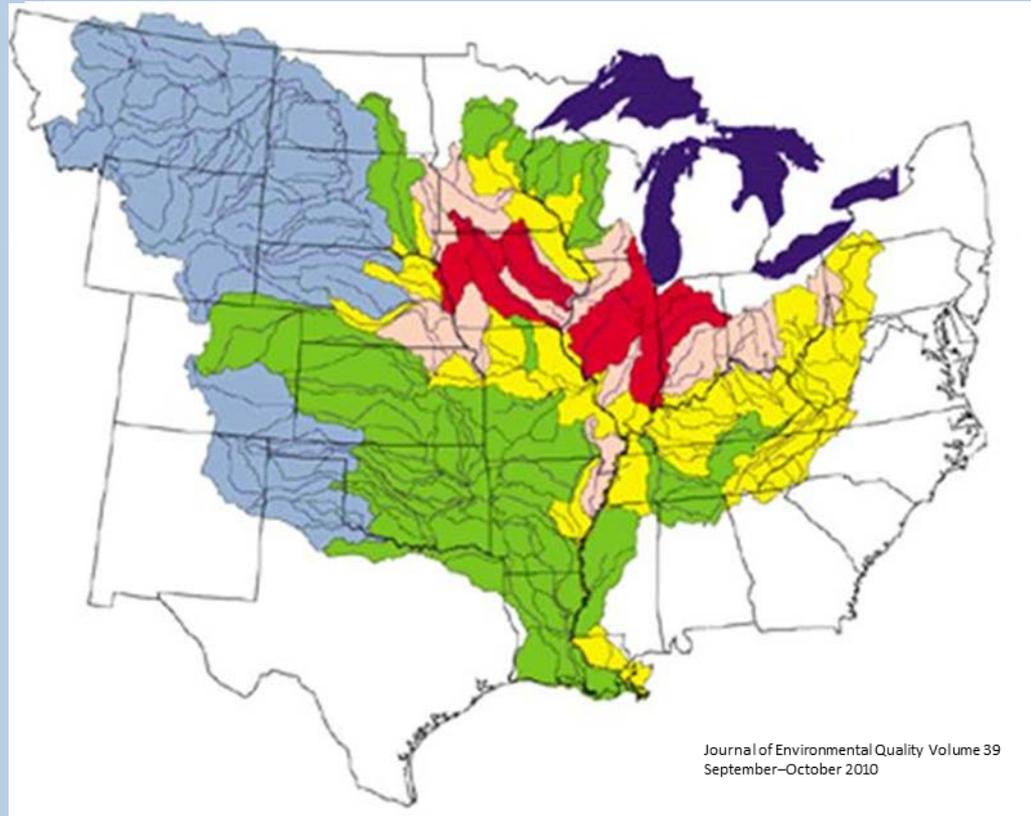
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Mississippi River Basin

Average Annual Nitrogen Load in Streams



Watershed Average = 2.6 lbs/acre



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NRCS Agriculture Water Management

Focus Area Map - 2012



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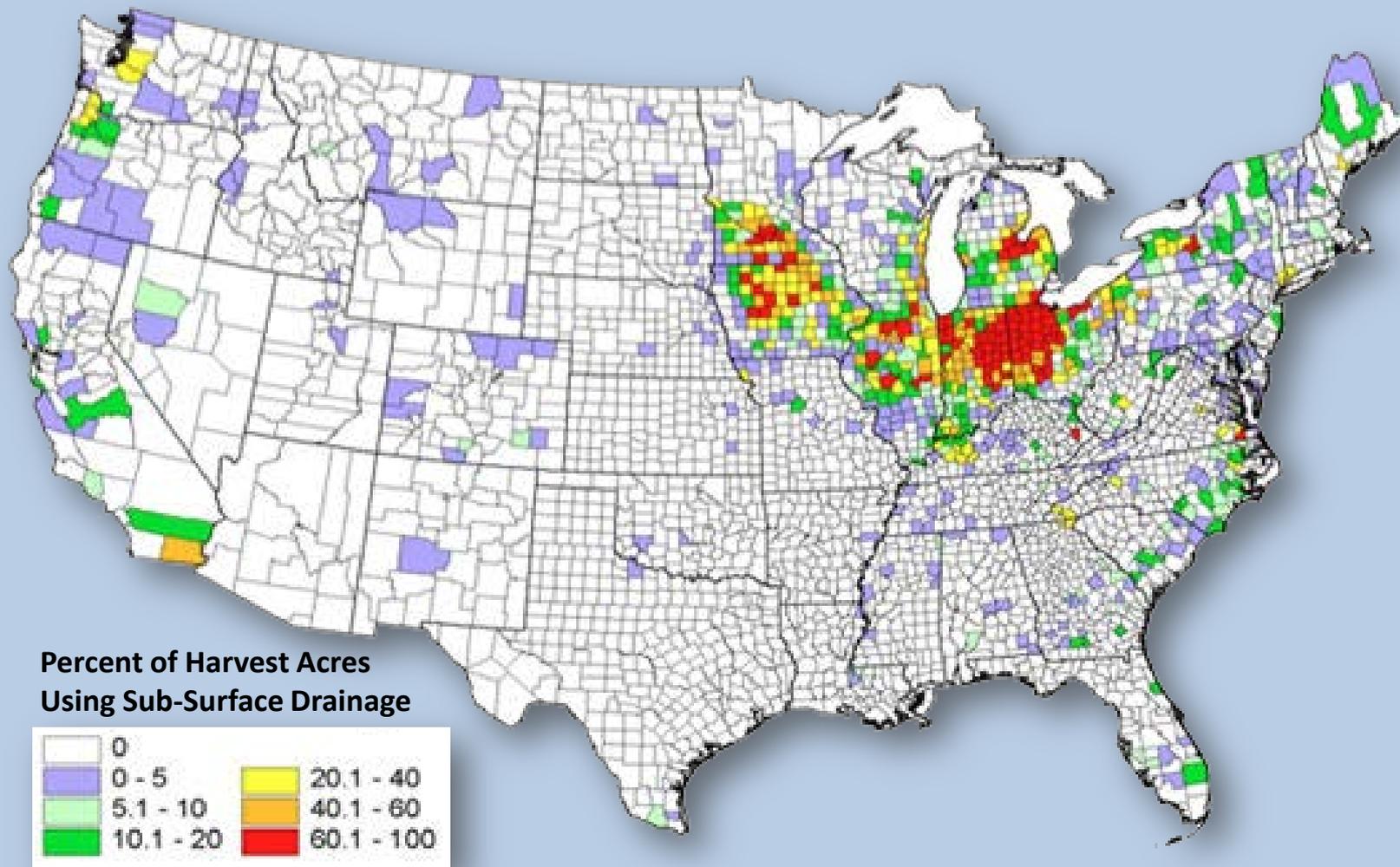
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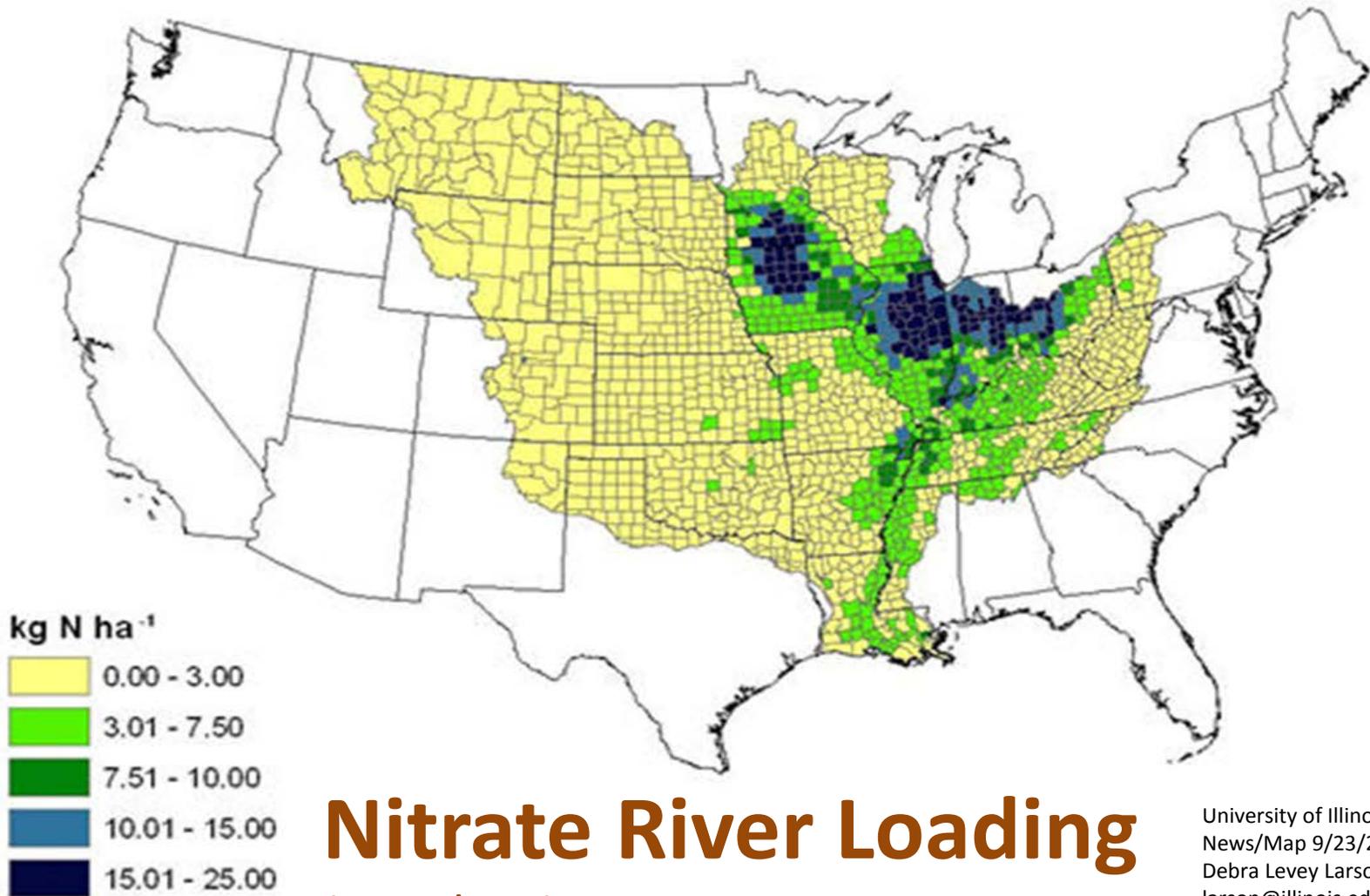


Harvest Acres w/ Sub-Surface Drainage



Source: 1992 NRI; 1992 Census of Agriculture

Map showing predicted average riverine nitrate N yield, January to June, for all counties in the Mississippi river basin for the period 1997 to 2006.

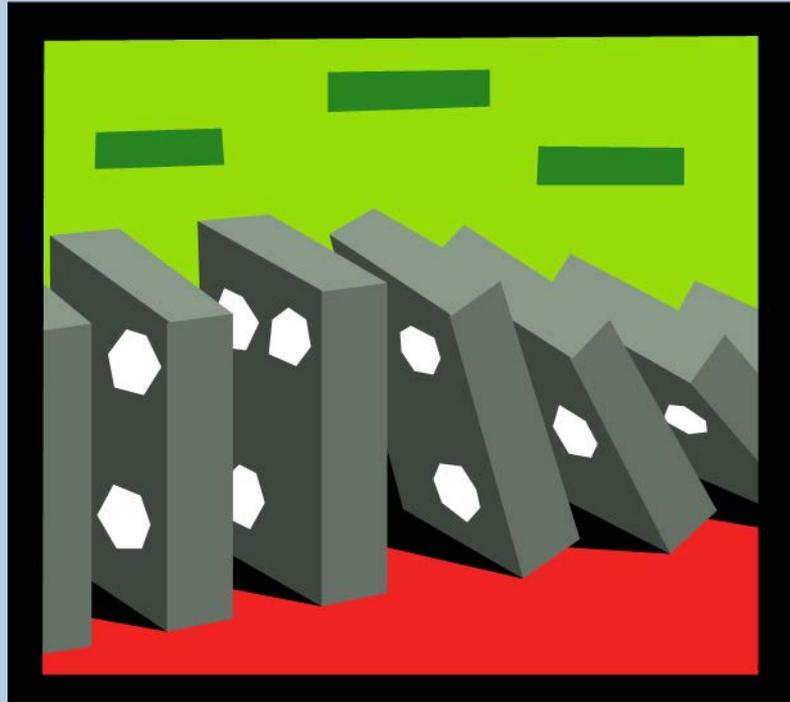


Nitrate River Loading

(kg N/hac)

University of Illinois-ACES
News/Map 9/23/2010
Debra Levey Larson,
larson@illinois.edu

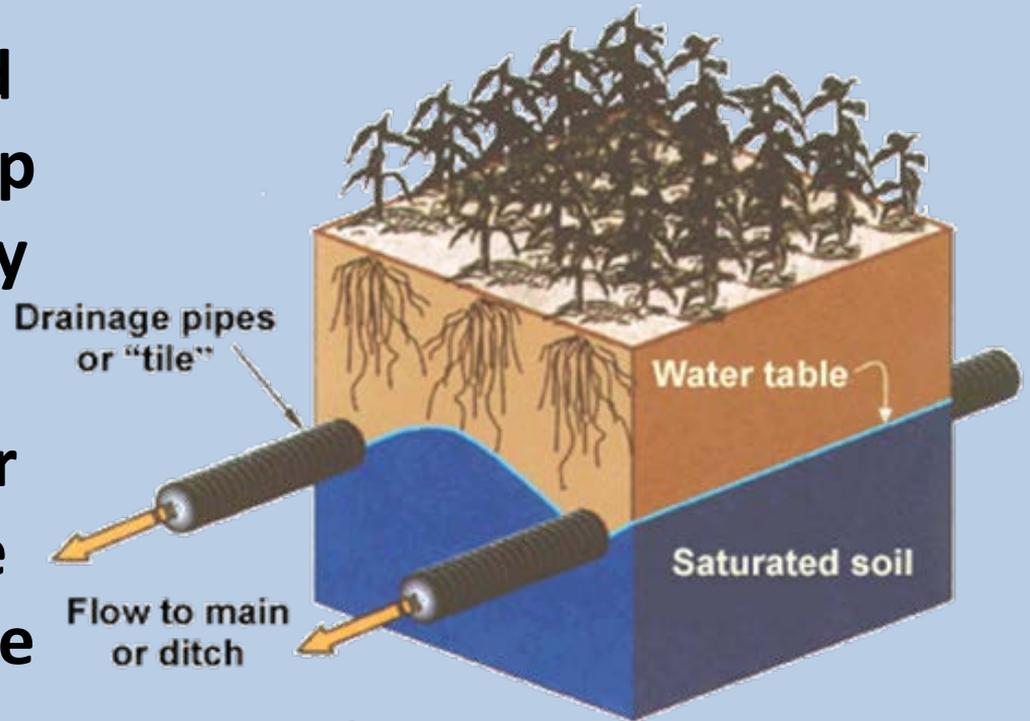
Tile drained soils vs. High nitrate levels



There IS a Correlation!

Reality

- Drainage is needed for economical crop production in many cropped fields.
- Tile drainage water is a primary source of nitrate to surface water.



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**Is YOUR land suitable for a DWM System?
Visit your county NRCS office for a field visit!**



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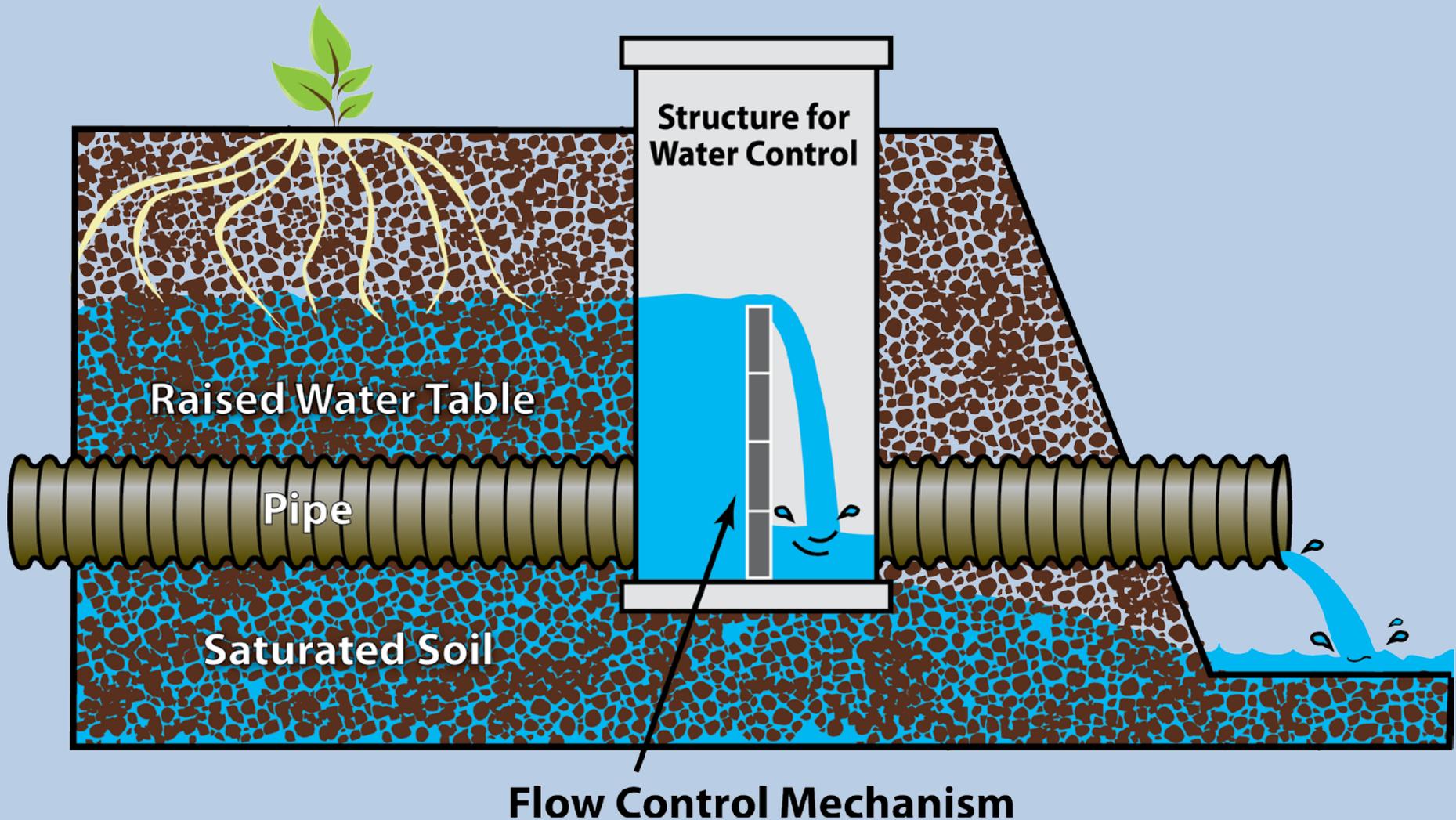
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The DWM Concept



Get a DWM Plan!

To successfully initiate a DWM system on an agricultural tile drainage system, it is essential to have a plan of action—a DWM Plan.

When applying for NRCS programs or financial assistance, producers are more likely to be funded once they have a DWM plan.



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DWM Benefits...

A successful DWM system can help:

- Increase yields
- Reduce risk during weather extremes
- Offer environmental trading credit options
- Utilize USDA program funds to assist in improving water quality



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DWM Benefits...

When successful, a DWM system can help:

- Protect community water resources
- Ensure potential for regulatory “Certainty”
- Improve soil health and vegetative growth
- Enable seasonal flooding for migratory birds and provide other wildlife habitat benefits



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What's In a DWM Plan?

DWM plans identify the precise location and size for each planned structure for water control.

To effectively use and benefit from a DWM system, the plan must include a detailed set of instructions for operation and maintenance.

Note: A tile drainage system with DWM is most beneficial if operated properly.



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Remember, the most important word in
Drainage Water Management is
MANAGEMENT.

This means it is a conservation practice
MANAGED by YOU.



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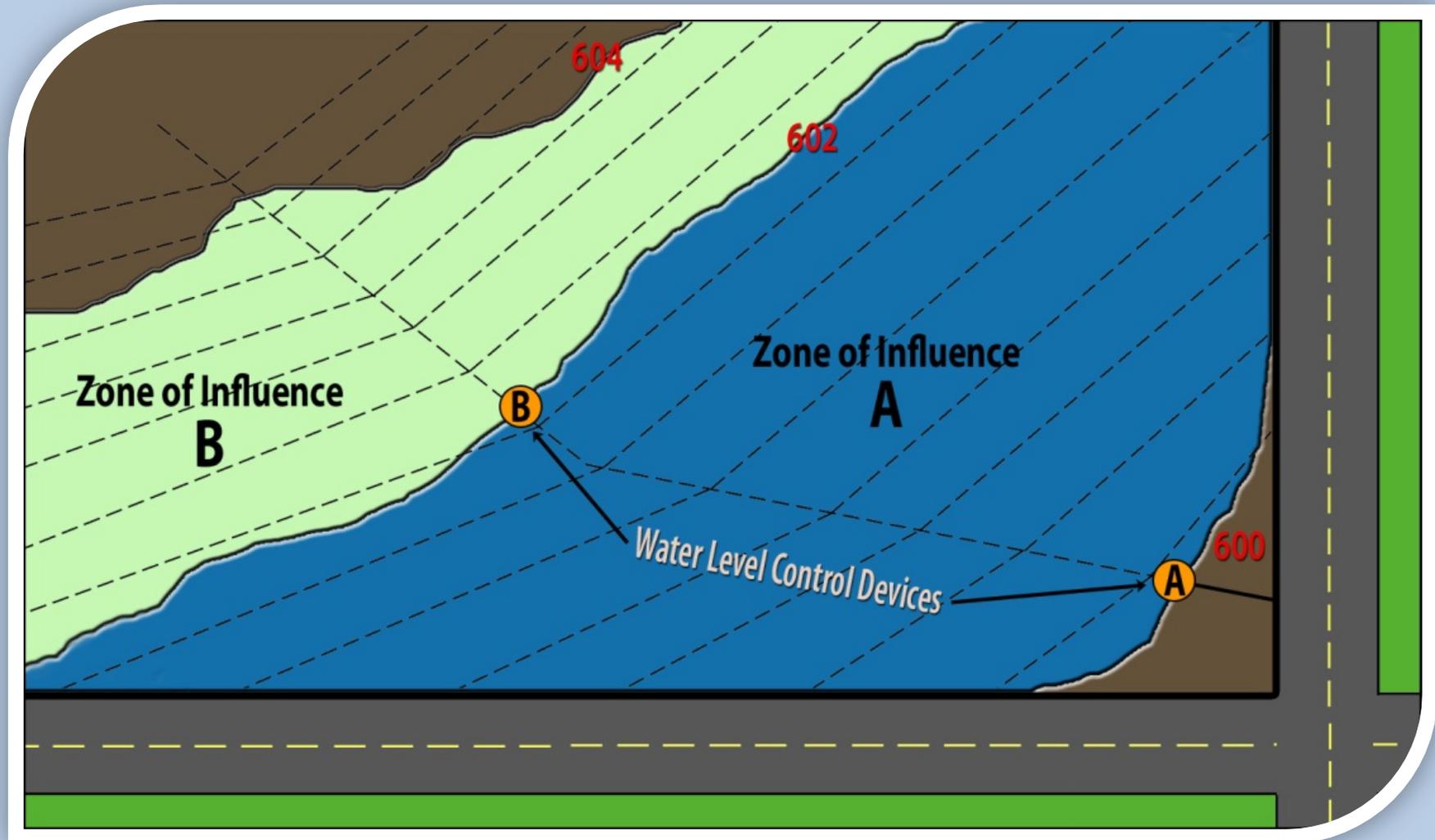
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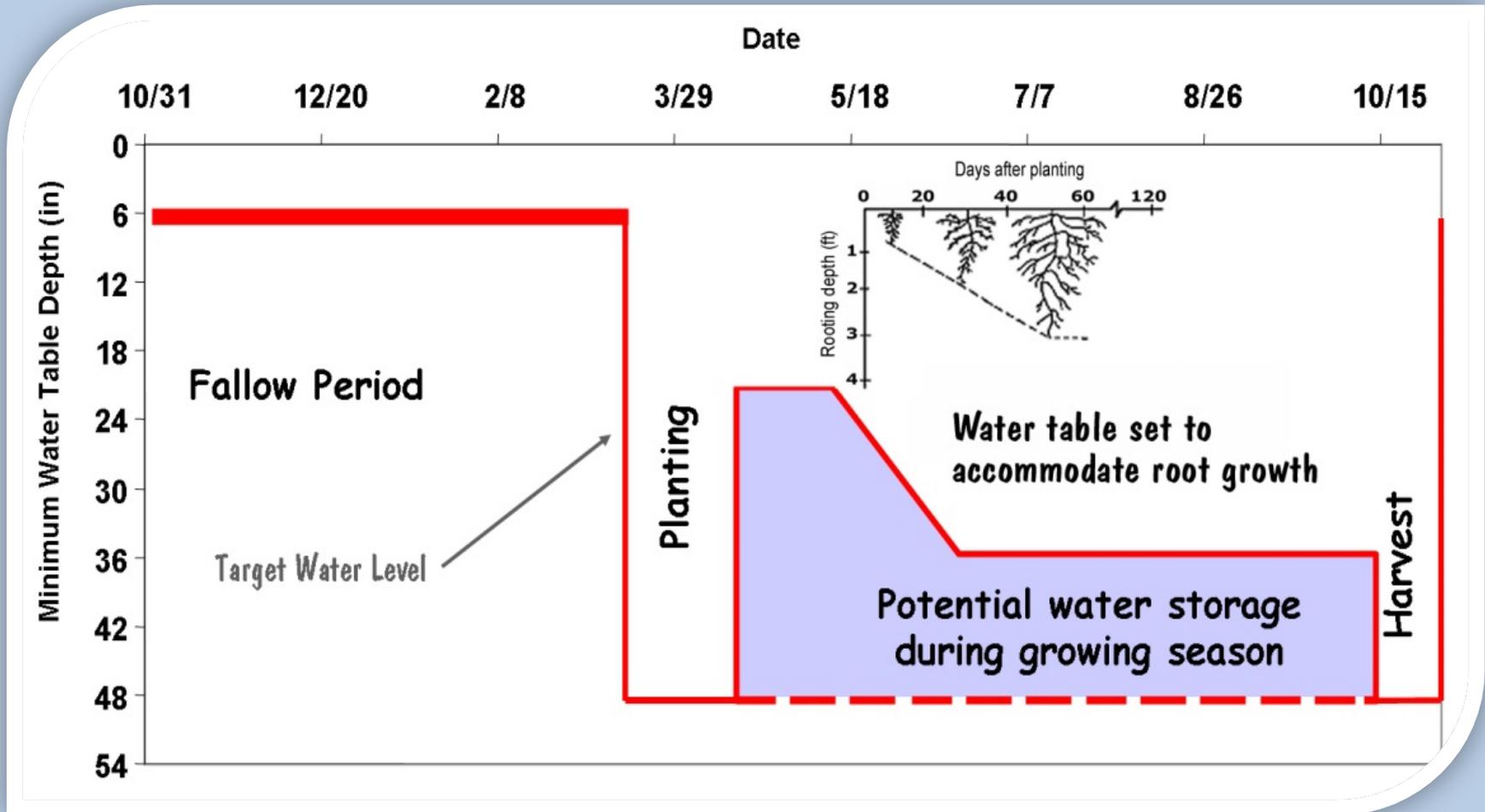


System Operation On The Land



Lines labeled 600, 602, and 604 represent ground surface elevation levels.

Target Water Level Settings—Example Plan



DWM is the process of managing timing and amount of water discharges from agricultural drainage systems. The DWM plan provides the target water table level settings needed at specific dates or seasons.

The Golden Rule of Drainage:

Only release the amount of water necessary to ensure trafficable conditions for field operations and to provide an aerated crop root zone.

Any drainage in excess of this rule likely carries away nitrates and water that is no longer available for crop uptake.



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“The best part of this practice? It puts you in charge of the water for a change!”

--Christian County, IL Landowners



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“Changing the levels is easy enough and it made a world of difference during the drought.”

--Missouri Operator



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“It’s a small practice that makes a BIG difference— for crops and for water quality.”

--Iowa Landowner



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**Consider what
Drainage Water
Management
might do for
your operation
and your
watershed.**



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**Is YOUR land suitable for a DWM System?
Visit your county NRCS office and
start the conservation conversation today!**

**Visit our website at:
www.nrcs.usda.gov**

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Cleaner Water



Insert Title Here

Insert text here.



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Insert Title Here

Insert text here.



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Insert Title Here

Insert text here.



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