# National Nutrient Management Policy and CPS-590 Revision

Natural Resources Conservation Service

January, 2011

# Why Revise the Standard?
## Challenges Facing American Agriculture

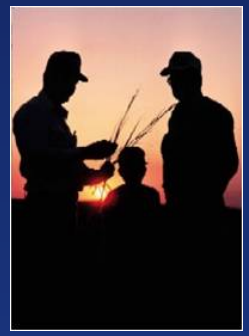
↑ World population

↑ Demand for food and fiber

↑ Demand for clean water

↑ Demand for productive farmland

↑ Demand for skilled farmers



↑ Regulatory pressure, and

# National Water Quality Challenges

- ✓ Major and smaller watersheds and estuaries face increased water quality impairment

  - Agriculture is a major contributor of nutrients to local water.
  - Erosion from farm fields is a major source of sediments
  - Nutrient restrictions have been imposed by regulators in some areas (e.g., nutrient load limits)

# USDA-NRCS Nutrient Management
## Goals

- Nutrient plans that are understandable and helpful
- Fair balance of production and environmental interests
- More effective nutrient planning
- Nutrient plans that are defensible
- Latest science and technology
- Better nutrient management guidance to states

# Better Nutrient Management Guidance

## 3 Important Documents


- Nutrient Management Policy (GM-190-402)
- Nutrient Management Policy Implementation (NI-190-302)
- Nutrient Management Standard (CPS-590)

# Better Nutrient Management Planning

## More Effective Nutrient Plans

Avoid nitrogen, phosphorus and sediment losses by controlling runoff, erosion, leaching, and atmospheric nutrient losses.

Avoid nutrient applications when the risk for nutrient loss is high

# Better Nutrient Management Planning
## Fertilizer Industry's 4Rs Concept

CPS 590 Definition:
Managing the amount (rate), source, placement (method of application) and timing of plant nutrients and soil amendments.

The 4 Rs Concept:
Apply nutrients in the Right amount, from the Right source, with the Right placement and the Right timing

# What has Changed?

## More Emphasis on Risk Assessments

Nutrients should be applied considering both crop need and the relative risk that the applied nutrient will be transported off-site.

Risk Assessment Tools

- Erosion Loss (RUSLE 2)
- Nitrogen Leaching tool
- Phosphorus Risk Assessment (P-Index)

# What has changed?

## Erosion-Flexibility on “T” (GM-190-402)

The 2011 policy and standard documents:

- Require that wind and water erosion be controlled to “T”
- However, when erosion is >”T”, exceptions can be made if the site is evaluated for nutrient and soil loss and additional practices are installed, as needed, to protect water quality.

# Nitrogen Leaching Index Criteria
(NI-190-302)

- The NRCS-approved nutrient risk assessment for nitrogen must be completed on all sites unless the State NRCS, with the concurrence of State water quality control authorities, has determined specific conditions where nitrogen leaching is not a risk to water quality, including drinking water.
- Always required where N leaching is a resource or public health concern.

# Leaching Index Tools

- Must use NRCS Approved LI Tool
- Can use a state developed tool if its approved by NRCS and state partners OR
- RUSLE 2 calculates LI values for a selected soil and climate

# Required to do a LI on all fields?

- No!
  - When sufficient field scenarios have been run to establish geographic regions and map units within the state where N leaching is not a potential risk to water quality, AND
  - With concurrence of the state water quality control authorities.
  - However, if N- leaching is a resource concern the LI is required on all fields/CMU.

# Future LI Tools?

- ARS has developed some “next generation” prototypes (e.g., Jorge Delgado)
- Likely regional or watershed LI tools
- CDSI delivery
  - Seamless connection to common climate, soils, etc. data bases
  - Available to internal and external customers

# Phosphorus Risk Assessment Criteria
(NI-190-302-NM Policy Implementation)

## When is a P-Index Required?

A phosphorus risk assessment is required:

- When P applications exceed LGU recommendations
- When area of application falls within a designated water quality impaired area, or
- Per state code

# Phosphorus Risk Assessment Criteria (NI-190-302 NM Implementation)

- When is a phosphorus index not required?

When NRCS, with concurrence of the state water quality authority, has determined specific conditions where the risk of P loss to local water is low. Such locations must:

  – Have a documented agronomic need for P based on STP and land grant university recommendations.

(Prescreening tools can be used to expedite the PI requirement decision)

# Improving Current P-Index Tools,
## A Strategy

- NRCS is working with ARS and SERA-17 to develop a process that can be used improve states' P-index tools.
  - Evaluate the tool for effectiveness,
  - Recommend improvements (if needed)
  - Validate the improved tool for local use.
  - 5 CIG studies have been awarded initiate regional evaluations

United States Department of Agriculture
Natural Resources Conservation Service

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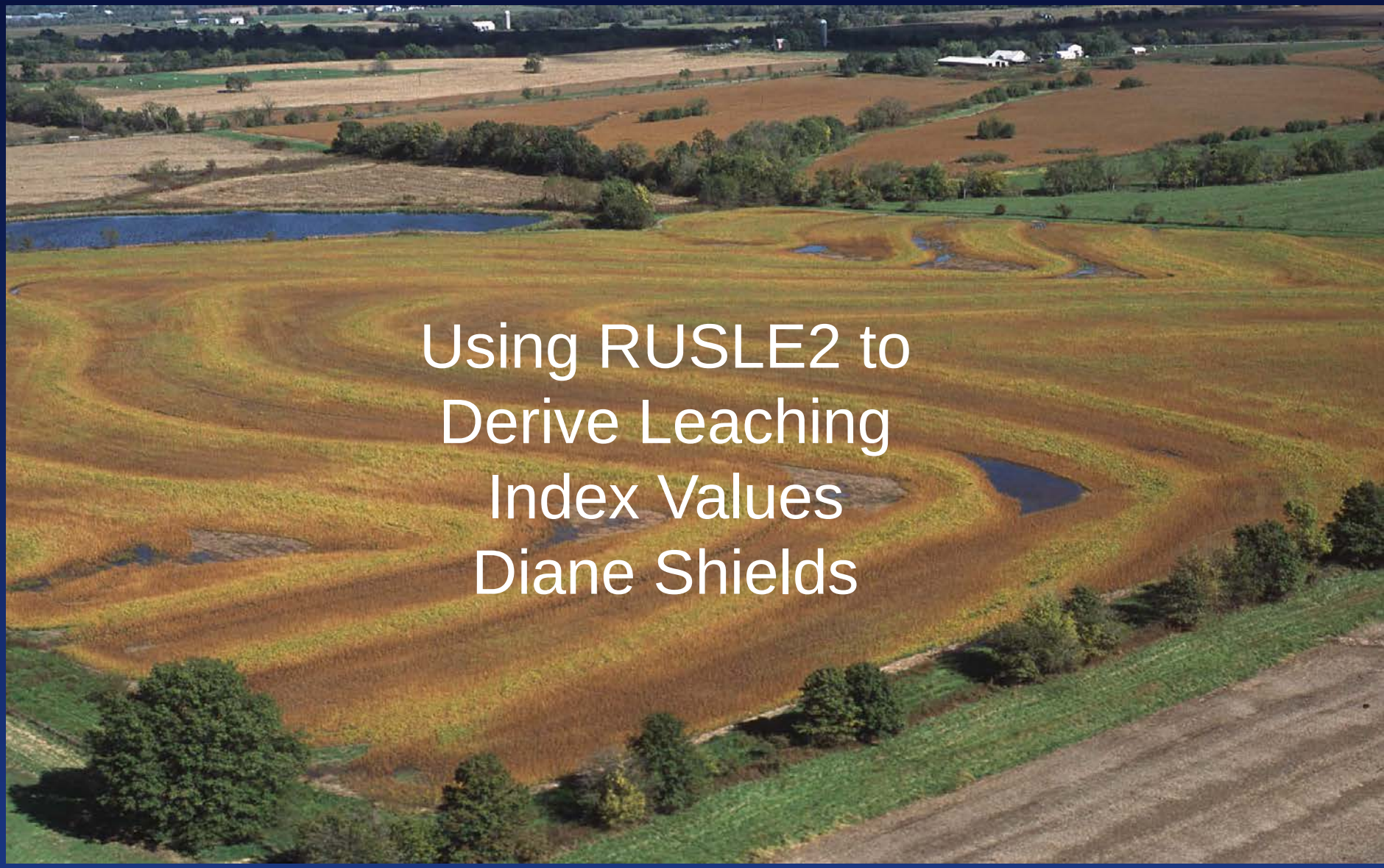

# Using RUSLE2 to Derive Leaching Index Values

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