Verifying Conservation Practices for Environmental Services

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Goal for Practice Verification

Ensure the deliverables are as contracted
Conservation Practices vs. Environmental Services

Not a One to One Relationship

Conservation Practice
- The application of specific technology:
  - at an acceptable level
  - achieve a desired purpose.
- May require more than one practice to address an environmental service e.g., water quality.

Environmental Service
- Result of one or more conservation practices applied to achieve a desired result.
Conservation Practices vs. Environmental Services

**Conservation Practice Examples**
- 328 Conservation Cropping System
- 340 Cover Crop
- 329 Residue Management, No Till
- 590 Nutrient Management
- 412 Grassed Waterway

**Environmental Service Example**
- Water Quality Service
  - Nutrients
  - Pesticides
  - Sediment
## Conservation Practices vs. Environmental Services

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Practice Verification

Will Need a Conservation Plan

What do you need to know?

- The planned practices
- Need the practice plan that contains the “unique” specifications for the site/field
- Producer records
- In some cases will need measurements

Example Practice: Cover Crop

- Cereal Rye seeded @ 75 lbs/ac between Oct 1 and Nov 1.
- Terminated with herbicide @ 2-3 foot height between April 15 and May 1.
Practice Types

- Structural
- Vegetative
- Management

• Each type needs a different type of “verification”
Structural Type Practices

Structural / Durable Practices

Once installed you can see (observe to verify)

There may be some Operation & Maintenance

Some structural practices require a review of the producer records (e.g. Drainage Water Management)

Photos – Purdue University
Vegetative Type Practices

Once established you can see (observe to verify)

There may be some Operation & Maintenance

May also need to verify producer records (e.g. Filter Strip)
Management Type Practices

- Management – annually applied
- Verify visually if at the right time of year.
- Verify via producer records
- Examples: Cover Crops, Rotations, Nutrient Management

Cover Crop or Rotation

Nutrient Management
Practice Verification

Based on the specifications in the practice plan.

- Some specifications can be observed
- Some specifications require reviewing producer records
Example – Cover Crop Plan

- Field number and acres
- Species of plants to be established.
- Seeding rates.
- Recommended seeding dates.
- Establishment procedure.
- Planned rates and timing of nutrient application.
- Planned dates and method to terminate the cover crop.
Example – Nutrient Management

- Fields/location maps
- Application restrictions and setbacks
- Soil, water, compost, manure, organic by-product, and plant tissue sample analyses applicable to the plan
- Realistic yield goals for the crops
- Complete nutrient budget for nitrogen, phosphorus, and potassium
- Time of application(s) & weather conditions, method(s) of application, nutrient sources, nutrient rates, crop yields
Example – Residue Management, Mulch Till

Field number(s) and acres
Purpose(s) for this practice
Crops(s) where this practice will be used
Type and timing of soil disturbing operations
Estimated surface residue following each operation

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How Can We Verify – Large Scale for Environmental Services

- Start with a Conservation Plan listing planned practices
- The Environmental Service (WQ, Carbon, Air Quality, etc.) Determines Verification Data Needed
- Producer Submits Records per Contract
- Verifiers field check a “Percentage”
Practice Verification - Summary

Must have a Plan of Required Practices & Treatment

Practices Specifications

Records based on Specifications

Some Field Verification

United States Department of Agriculture
Natural Resources Conservation Service

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