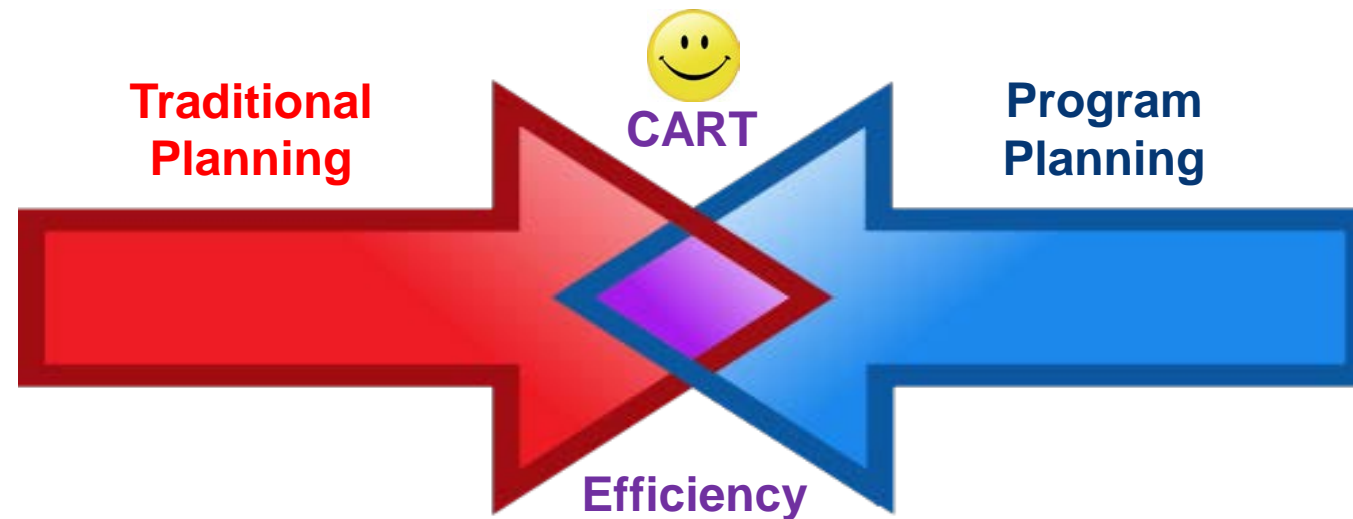




Conservation Application Ranking Tool (CART):

CART will **merge** Traditional Conservation Planning with Current Program Delivery Creating a **Streamlined Approach** and more **Customer Friendly** Experience



Streamlined TA and FA Delivery



What this is supposed to do:

- Efficiently provide more data and information to planners and clients
- Simplify the application process for both TA and FA
- Simplify the planning process (TA) – especially for less “intensive” practices
- Streamline the contracting process (FA)

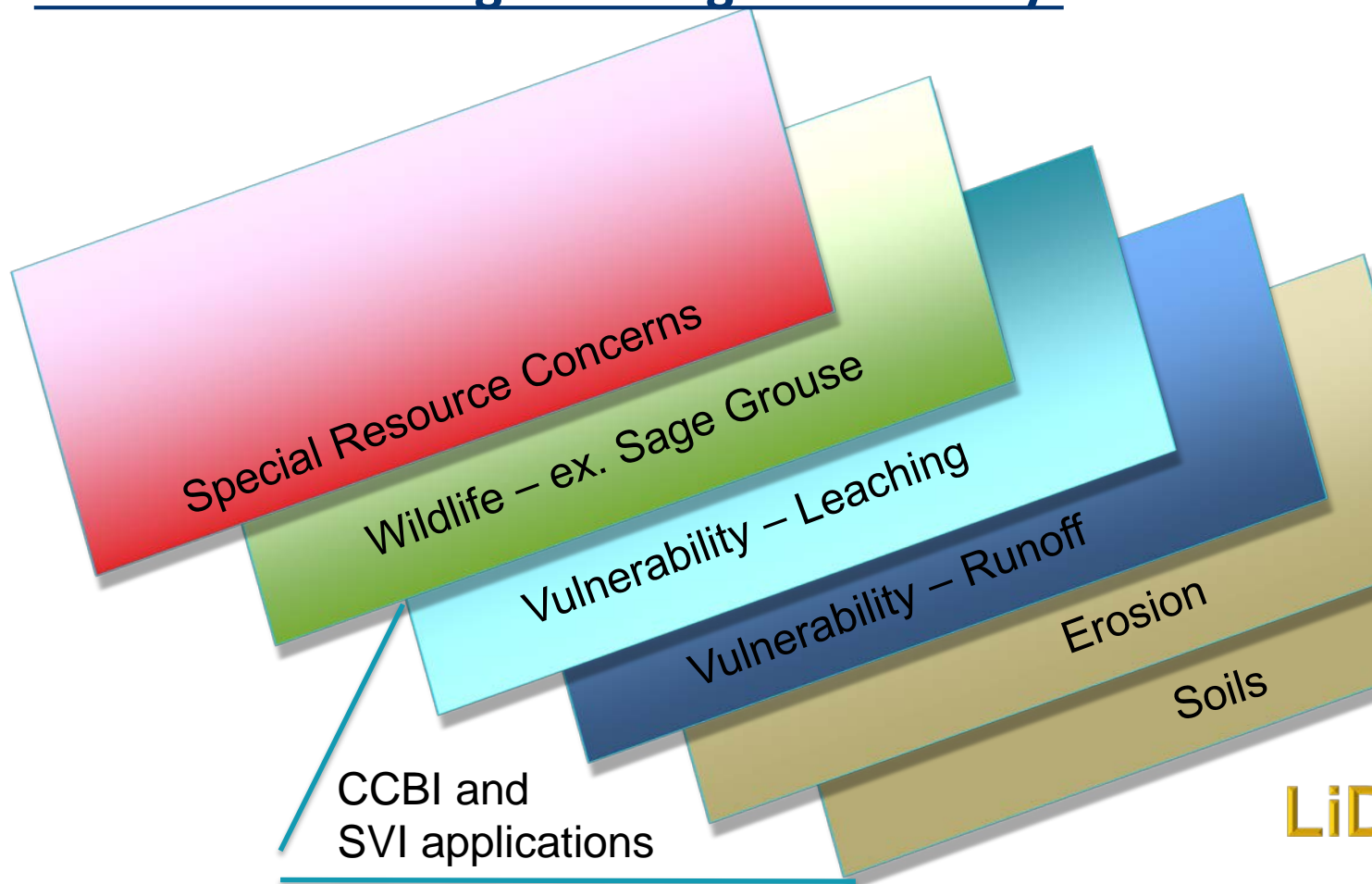
What this is NOT supposed to do:

- Eliminate the need for expertise and best professional judgement (decision SUPPORT not decision MAKING)
- Eliminate the need for field visits and face-to-face conversations
- Eliminate the need for site-specific assessments especially for high risk and high cost activities



Alternative – Streamlined TA and FA Delivery

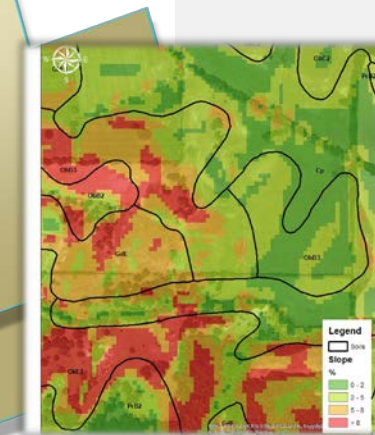
GIS Based Planning and Program Delivery:



Use Shapefiles

Streamline Planning

- Inventory and Analyze Resources with GIS Layers
- Allows the use of SVI and CCBI tools as planning resources



LIDAR

Natural
Resources
Conservation
Service

nrcs.usda.gov/

Alternative – Streamlined TA and FA Delivery



Step-3 - Resource Inventory:

The screenshot displays the 'CONSERVATION DESKTOP' application. The top navigation bar includes the USDA logo and user information for 'JOEL LEMIEUX'. The main area is a map with several colored overlays: a red hatched area, a green hatched area, and a cyan hatched area. A blue arrow points to a 'CART' button on the left side of the map. The bottom of the interface shows a footer with various links and the version number 'Conservation Desktop Version 1 Release 2'.

Pressing button passes client & shapefile. Any attribution data which is helpful



Alternative – Streamlined TA and FA Delivery

Step-4 – Analyze Resources:

ART

Client
Name: Aaron
Fields Considered: 1,2,3

Field Descriptions
Which Fields are Irrigated? none
Which Fields are Drained? 1
Which field have active Gullies? 2
Which best describes the bank condition?
Moderately Unstable: 1
Moderately Stable: 3

Management Questions
Describe the Rotations Used in this Operation?
Corn Soybeans No Till: 1
Corn Soybeans Reduce Till S: 2
Cool Season Grasses: 3
What Level of Nutrient Management fits this Operation?
Basic: 1,2
No App: 3

Could be additional Land Use Specific Questions

+ Program Questions
ex. Are all contracts in Compliance? Yes

+ State or Local Questions
ex. Which feilds have Multiflora Rose? 3

Planner Thunderbook
Create New Rotation
Supporting Info
Map
Import

Field 1
Crop
100 ac

Field 2
Crop
50 ac

Field 3
Pasture
70 ac

Field 4
Farmstead

Basic Questions

Streamline Planning

- GIS Layers Provide Most Data Input
- Established Benchmark Condition
- Improves Consistency as resource data is static
- **Represents a Change in how Resource Concerns are defined**
 - Model Based
 - GIS and Risk Based

Natural Resources Conservation Service

nrcs.usda.gov/



Alternative – Streamlined TA and FA Delivery



Step-4 – Analyze Resources:

Priorities	Assessment
Soil Erosion – Sheet, Rill, Wind	Low
Soil Organic Matter	Medium
Water Quality - Nutrients	High Leaching Low Runoff
Water Quality - Sediment	Low
Soil Erosion - Bank	High
Irrigation	Low
Priority Wildlife	Jumping Turtle
Special Concerns	None

Alternative – Streamlined TA and FA Delivery



Step-5 – Formulate Alternatives

Practices that improve Water Quality

Nutrient Application Rate - Precision Application

Nutrient Management (590)



Residue and Tillage Management, No-Till (329)

Residue and Tillage Management, Reduced Tillage (345) ✓

Riparian Forest Buffer (391)

Riparian Herbaceous Cover (390)

Sediment Basin (350)

Alternative – Streamlined TA and FA Delivery

How will CART Work? - Step-6 – Evaluate Alternatives

The screenshot displays the CART software interface for evaluating alternatives. It features a risk assessment chart, a list of conservation practices, and a list of funding alternatives.

Priorities

- Water Quality
- Water Conservation
- Air Quality
- Soil Quality (Health)
- Wildlife Habitat
- Plant and Animal Communities
- Energy Conservation
- Special Concerns

Risk Legend

- High (Red)
- Low (Green)
- Moderate (Yellow)

Chart Data

Priority	Risk Level	Activity	Fields
Water Quality	High	Residue and Tillage Management, No-Till (329)	2
Water Conservation	Low	Windbreak/ Shelterbelt Establishment (380)	3
Air Quality	Moderate	Filter Strip (393) 20 ft min width	1
Soil Quality (Health)	Moderate	Nutrient Application Form - Slow or Time Release Nitrogen Fertilizers	1,2
Wildlife Habitat	High		
Plant and Animal Communities	Low		
Energy Conservation	Low		
Special Concerns	Low		

Funding Alternatives

- 534 Indiana General Funding Pool
- 658 National Water Quality Initiative
- 477 Hamilton Co. CD
- 1005 Little Brown Bat SWLFW

Conservation Practices

Activity	Fields
Residue and Tillage Management, No-Till (329)	2
Windbreak/ Shelterbelt Establishment (380)	3
Filter Strip (393) 20 ft min width	1
Nutrient Application Form - Slow or Time Release Nitrogen Fertilizers	1,2

Benchmark Conservation Practices

Activity	Fields
Residue and Tillage Management, No-Till (329)	1

Buttons: + CSP, Lock Ranking

Note: Changing practices immediately updates effects bars to compare various alternatives

Alternative – Streamlined TA and FA Delivery

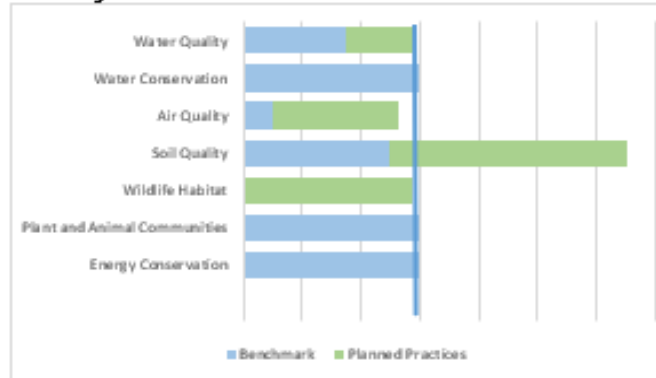
Step-7 – Make Decision:

- ⇒ User Friendly Plan
- ⇒ Future to include economics
- ⇒ Conservation Plans from:
 1. State, local govt
 2. SWCD
 3. Federal Agency
 4. Third-Party (TSP)
 - assesses rangeland or cropland
 - can be incorporated into a comprehensive planning document (conservation plan) for program enrollment

CART Ranking Sheet

Client Name Aaron
Application ID Con Plan 1
Land Units 1,2,3
Planner Name Aaron
Date: 5/8/118

Priority Evaluation



Eligible Funding Pools and Programs	Score
Indiana General Funding Pool	534
National Water Quality Initiative	658
Hamilton Co. CD	477
Little Brown Bat SWLFW	1005

Resource Concerns Met	Benchmark	Planned
Soil Quality	Yes	Yes
Plant and Animal Communities	Yes	Yes
Energy Conservation	Yes	Yes

Conservation Practices

Residue and Tillage Management, No-Till (329)
 Windbreak/ Shelterbelt Establishment (380)
 Filter Strip (393) 20 ft min width
 Nutrient Application Form - Slow or Time Release Nitrogen Fertilizers



Alternative – Streamlined TA and FA Delivery



Step-8 – Ranking:

Multiple Funding Pools Ranked Simultaneously

Priorities

- Water Quality
- Water Conservation
- Air Quality
- Soil Quality (Health)
- Wildlife Habitat
- Plant and Animal Communities
- Energy Conservation
- Special Concerns

Risk

High
Low
Moderate
Moderate
High
Low
Low
Low

Ranking

+ EQIP

- 534 Indiana General Funding Pool
- 658 National Water Quality Initiative
- 477 Hamilton Co. CD
- 1005 Little Brown Bat SWLFW

+ CSP

Lock Ranking

New Conservation Practices	Activity	Fields
Residue and Tillage Management, No-Till (329)		2
Windbreak/ Shelterbelt Establishment (380)		3
Filter Strip (393) 20 ft min width		1
Nutrient Application Form - Slow or Time Release Nitrogen Fertilizers		1,2

Benchmark Conservation Practices	Activity	Fields
Residue and Tillage Management, No-Till (329)		1

Note: Changing practices immediately updates ranking and effects bars to compare various alternatives
 This can be done for multiple applications (one application) and fund pools at one time



Alternative – Streamlined TA and FA Delivery



Step-8 – Ranking (Locally-Led Conservation):

Ranking Sheet	303d Watershed	All Funding Pools that apply						
		New Practices	Special Considerations	Final				
Priorities	Risk			Indiana General Funding Pool	National Water Quality Initiative	Little Brown Hamilton Co. CD	Bat SWLFW	
Water Quality	10	60	20	113	0	90	0	
Water Conservaion	50	0	0	0	0	0	0	
Air Quality	10	7.5	0	22	0	53	0	
Soil Quality (Health)	0	55	0	69	220	55	0	
Wildlife Habitat	25	17.75	0	53	257	128	0	
Plant and Animal Communit	40	0	0	0	0	0	0	
Energy Conservatin	0	0	0	0	0	0	0	
Special Concerns	60	30	0	113	0	0	900	
				Total	449	565	399	950
				Efficiency Score	80	88	73	50
				Program & Preference Question	5	5	5	5
				Final Score	534	658	477	1005

Locally Weighted Pool

Weighted Resource Score

Efficiency Score Varies by Practices Eligible in the Ranking Pool

Veteran Preference



Streamlined Planning and Program Delivery

Step-8 – Ranking:

- **Straightforward Conservation Practices**
 - Conservation practices that are priority for Local Work Group, State Technical Committee, and are green-lighted for SHPO and T&E purposes. Can be planned from the office.
- **Mid-Complex Conservation Practices**
 - Conservation practices requiring a field visit. Nutrient Management for soil sample, Grassed Waterway to verify elevations, Irrigation Sprinkler System for coefficient of uniformity, Range Management for plant identification, etc.
- **Complex Conservation Practices**
 - These require in-field survey, detailed hydrology and hydraulic analysis, geological investigations, additional on-site investigations (e.g. Waste Storage, etc.)

Efficient Planning and Program Delivery

Cropland

- Soil Erosion – Residue Mgt,
- Soil Quality - Cover Crop
- Plant Degradation – Seasonal High Tunnel

Pasture

- Water Quality – Fencing Cattle out of Stream and Providing Alternative Water Source
- Plant Degradation – Incorporating Legumes, NWSG, or cover crops on 30% of grazing acres

Forest

Plant Degradation – recent Forest Management Plan

Natural
Resources
Conservation
Service

nrcs.usda.gov/



Alternative – Streamlined TA and FA Delivery



Refocus Science Investments

Step 8 – Practice Standards and Step-9 – Evaluation:



Evaluation

Technical-Science Based Conservation

- NRCS continue to lead in Practice Standards and Payment Schedule
- Additional resources to evaluate the impact of conservation practices
- Helps the agency better define **“outcomes”** of conservation practice installation
- Precedent set with Edge of Field Monitoring, Habitat Monitoring, Pollinator Monitoring, etc.

Natural
Resources
Conservation
Service

nrcs.usda.gov/





United States Department of Agriculture

Summary

Mandate to Streamline

Focus on Customer Service

Program Neutral

Improving Science-Based Approach

Implementation Strategy



Natural
Resources
Conservation
Service

nrcs.usda.gov/