Data Needs for Agri-Environmental Policy Modeling and Analysis Workshop
Stacy Wills, National Agricultural Statistics Service (NASS)
October 15, 2007
Goal

To provide an overview of NASS surveys and Datasets that address conservation programs and practices.
Objectives

- Identify NASS data collection programs;
- Identify surveys collecting data on conservation programs and practices;
- Identify datasets produced from surveys.
Government Program Land

Land in Federal Conservation Programs are included in the farm definition

- Conservation Reserve Program (CRP)
- Wetlands Reserve Program (WRP)
- Farmable Wetlands Program (FWP)
- Conservation Reserve Enhancement Program (CREP)
NASS Data Collection Program

- Environmental & Economic Surveys
  - ARMS
  - Agricultural Labor
- Commodity Surveys
  - Crops/Stocks
  - Livestock
- Other
  - Reimbursable
ARMS

- **Coverage**
  - 48 contiguous States
  - **Population** – all establishments which sold or normally would sell $1,000 of Agricultural products or receive government payments during the previous year
ARMS

- Methods
  - Multiple Frame Survey
    - List
    - Area
  - Samples selected to assure adequate coverage by State and Region
    - Value of Sales
    - Farm Type
ARMS

Frequency

Conducted annually usually in three phases:

- **Phase I** – (May – July) collects general farm data; used to screen or qualify farms of follow-on phases.
- **Phase II** – (October - December) collects data on agricultural production practices, resource use, and variable cost of inputs for selected crops.
- **Phase III** – (February – April) collects whole farm finance (expenses and income), operator characteristics, and farm household information.
ARMS Structure

ARMS Phase II

✓ Field Characteristics
✓ Fertilizer and Nutrient Applications
✓ Pesticide Applications
✓ Pest Management Practices
✓ Field Operations
✓ Irrigation
✓ Drying
✓ Field Level Expenditures

ARMS Phase III

✓ Crop and Livestock Production
✓ Acreage Owned and Operated
✓ Farm and Off-farm Income
✓ Farm Expenses
✓ Value of Farm Assets and Debt
✓ Household Information
✓ Research Questions concerning “Management”
What are the Common Conservation Practices?

This question is addressed in the Phase II Field Characteristics Section:

- Terraces
- Grassed Waterways
- Filter Strips
- Strip Cropping
- Rotation
## Phase II - Questionnaire Items

### Questionnaire Items

22. In 2007 did your land-use practices for this field include...

<table>
<thead>
<tr>
<th>Code</th>
<th>Item Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1421</td>
<td>a. Structures for soil erosion control?</td>
<td></td>
</tr>
<tr>
<td>1360</td>
<td>(i) terraces</td>
<td></td>
</tr>
<tr>
<td>1369</td>
<td>(ii) grade stabilization structures</td>
<td></td>
</tr>
<tr>
<td>1422</td>
<td>(iii) critical planting acres</td>
<td></td>
</tr>
<tr>
<td>1423</td>
<td>b. Structures for storm water runoff control/handling?</td>
<td></td>
</tr>
<tr>
<td>1360</td>
<td>(iv) grassed waterways</td>
<td></td>
</tr>
<tr>
<td>1424</td>
<td>(v) structures for water control</td>
<td></td>
</tr>
<tr>
<td>1425</td>
<td>c. Filter strips or other conservation buffers?</td>
<td></td>
</tr>
<tr>
<td>1426</td>
<td>(i) Filter strips</td>
<td></td>
</tr>
<tr>
<td>1427</td>
<td>(ii) Field borders</td>
<td></td>
</tr>
<tr>
<td>1425</td>
<td>(iii) Riparian buffers</td>
<td></td>
</tr>
</tbody>
</table>
Phase II - Questionnaire Items

Has the Natural Resource Conservation Service (NRCS) classified any part of this field as “Highly Erodible”? YES = 1

Have you been notified by NRCS that this field contains any wetlands? YES = 1

In 2007, did you receive technical assistance for planning, installing, maintaining, or using conservation practices or systems on this field? (Include grassed waterways and filter strips or riparian buffers, or drainage area, on or adjoining this field. Include assistance from any source whether paid for or free.) YES = 1
Is this field included in an existing conservation program contract for which you or the landlord have received (or expect to receive) cost sharing payments, stewardship payments, or incentive payments? [Be sure to consider grassed waterways and filter strips or riparian buffers, or drainage area, on or adjoining this field. Also, be sure to consider payments that are part of this contract but were made before or payments that are anticipated for future years.] \[\text{YES} = 1\]

[If item 26 is YES, ask—, else go to item 26b.]

a. Have (or will) you receive cost sharing or incentive payments from—

(i) Environmental Quality Incentives Program (EQIP)? \[\text{YES} = 1\]

(ii) Conservation Security Program (CSP)? \[\text{YES} = 1\]

(iii) Conservation Reserve Program (CRP)? \[\text{YES} = 1\]

(iv) Other programs? (Specify:______________) \[\text{YES} = 1\]

b. Was this field included in an application that was rejected from an existing conservation program and if so, was it rejected from—

(i) Environmental Quality Incentives Program (EQIP)? \[\text{YES} = 1\]

(ii) Conservation Security Program (CSP)? \[\text{YES} = 1\]

(iii) Conservation Reserve Program (CRP)? \[\text{YES} = 1\]

(iv) Other programs? (Specify:______________) \[\text{YES} = 1\]
## Phase II - Questionnaire Items

<table>
<thead>
<tr>
<th>27. During 2007, did any written plan of the following types cover this field and if so, in what year was the plan implemented? (A “written plan” is a plan prepared in accordance with Federal, State, or district standards.)</th>
<th>CODE</th>
<th>YEAR IMPLEMENTED</th>
</tr>
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<tbody>
<tr>
<td>a. Conservation plan specifying practices to reduce soil erosion? YES = 1</td>
<td>1372</td>
<td>1373</td>
</tr>
<tr>
<td>b. Comprehensive nutrient management plan specifying practices for applying both fertilizer and manure? YES = 1</td>
<td>1374</td>
<td>1375</td>
</tr>
<tr>
<td>c. Nutrient management plan specifying practices for land application of manure only? YES = 1</td>
<td>1376</td>
<td>1377</td>
</tr>
<tr>
<td>d. Pest management plan specifying pesticide use and/or other practices controlling weeds, insects, or plant disease? YES = 1</td>
<td>1378</td>
<td>1379</td>
</tr>
<tr>
<td>e. Irrigation water management plan specifying practices for applying or conserving irrigation water? YES = 1</td>
<td>1380</td>
<td>1381</td>
</tr>
</tbody>
</table>

[If items 27a, b, c, d, or e = YES, ask—–]

<table>
<thead>
<tr>
<th>28. Have you ever paid any technical service provider or consultant to develop or write any of these plans for which you or the landowner were reimbursed by the Natural Resource Conservation Service? YES = 1</th>
<th>CODE</th>
<th>DOLLARS &amp; CENTS PER ACRE</th>
<th>TOTAL DOLLARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [If YES, ask—–] What was the reimbursement amount for developing these plans for this field? (Include landlord’s/contractor’s share. Exclude cost of construction or materials.)</td>
<td>1383</td>
<td>1384</td>
<td></td>
</tr>
</tbody>
</table>
Phase III - Questionnaire Items

Of the Total Acres in this operation ( ), how many were---

a. rented from family members? .................................................................

b. considered cropland? (Include land in government programs, and land planted to hay. 
Exclude wild hay and CRP acres planted to trees). ........................................

c. covered under a Federal crop insurance policy? ........................................

d. enrolled in the Conservation Reserve Program (CRP), Conservation Reserve 
Enhancement Program (CREP) or Wetland Reserve Program (WRP)? .................
### Phase III - Questionnaire Items

#### SECTION E  OTHER FARM INCOME

- Conservation Reserve Program (CRP) payments? *(Excluding CREP payments.)*  
  (Verify CRP acres are reported in Section A, Item 8.)

- Conservation Reserve Enhancement Program (CREP) payments?  
  (Verify CREP acres are reported in Section A, Item 8.)

- Wetlands Reserve Program (WRP) payments?  
  (Verify WRP acres are reported in Section A, Item 8.)

- Environmental Quality Incentive Program (EQIP) payments?

- Conservation Security Payments (CSP)?

- Any other Federal agricultural program payments?

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<table>
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<tr>
<th>Item Description</th>
<th>Code</th>
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<tr>
<td>CRP payments</td>
<td>0.538</td>
</tr>
<tr>
<td>CREP payments</td>
<td>0.479</td>
</tr>
<tr>
<td>WRP payments</td>
<td>0.539</td>
</tr>
<tr>
<td>EQIP payments</td>
<td>0.590</td>
</tr>
<tr>
<td>CSP</td>
<td>0.696</td>
</tr>
<tr>
<td>Other Payments</td>
<td>0.541</td>
</tr>
</tbody>
</table>
2. **Since June 1, have you or will you** (name on label)--
   a. **grow any crops or cut hay?**
      [Include grains, row crops, oilseeds, fruits, nuts, vegetables (including strawberries and melon crops), nursery and greenhouse, Christmas trees, and other specialty crops.]
      □ YES – [Go to item 3.] □ NO – [Continue]
   b. **own or raise any livestock or poultry?**
      [Include livestock and poultry owned, and any being raised under contract for someone else.]
      □ YES – [Go to item 3.] □ NO – [Continue]
   c. **sell any agricultural products?**
      □ YES – [Go to item 3.] □ NO – [Continue]
   d. **receive government agricultural payments?**
      [Exclude government payments received as a landlord.]
      □ YES – [Go to item 3.] □ NO – [Continue]
   e. **have more than 19 acres of idle cropland or more than 99 acres of pastureland?**
      □ YES – [Go to item 3.] □ NO – [Go to page 3, item 6.]
Agricultural Labor Survey

Of the farm or ranch income reported, which of these categories represents the largest portion of the gross income from the operation?

1. Grains, Oilseeds, Dry Beans, and Dry Peas
   (corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

2. Tobacco

3. Cotton and Cottonseed

4. Vegetables, Melons, Potatoes and Sweet Potatoes
   (beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

5. Fruit, Tree Nuts and Berries
   (almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

6. Nursery, Greenhouse, Floriculture and Sod
   (bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

7. Cut Christmas Trees and Short Rotation Woody Crops

8. Other Crops and Hay, CRP and Pasture
   (grass seed, hay and grass silage, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, CRP, etc.)
Environmental & Economic Surveys

Datasets:
number of farms
land in farms
land values
cash rents
agricultural labor
  - number of workers
  - hours worked
  - wages paid
cash receipts
production expenditures
Commodity Surveys

- **List Frame**
  - Total Cropland
  - Areas of Specific Crops
  - Grain Storage Capacity

- **Area Frame**
  - Segments of land are surveyed to account for the incompleteness in list sample
SECTION M – LAND VALUES

Tract Acres – Value Per Acre
Now I would like to ask about the market value of the land inside the blue tract boundary.
By "market value," I mean the value at which the land could be sold under current market conditions.

[Show photo and refer to fields recorded in Section D.]
1. For the (Section D) acres reported within this blue boundary, I need your best estimate of the market value of these acres by type of land. This value should exclude the value of all dwellings and buildings.

[✓ if reported in Section D.]

□ a. Cropland (include fruit, nut, berry, vineyard and nursery land) .............................................. I .................

□ d. Permanent pasture, grazing or grassland? .......................................................................................

2. What is the most likely use of this land if it were sold under current market conditions for the value reported above? [Enter code.]

□ Agricultural Use Only .......................................................... [Enter Code 1.]

□ Immediate Development (Residential or Commercial) ............................................................. [Enter Code 2.]

□ Expected Future Development (Residential or Commercial) ........................................... [Enter Code 3.]

□ Other (Specify: ____________________) ........................................... [Enter Code 4.]
Entire Farm – Total Value of Land and Buildings

The following questions relate to the total acres that you own or operate. Include all land both inside and outside the blue tract boundary. Include all land, dwellings, barns and other buildings for the (Section E) total acres operated reported earlier.

3. What is your best estimate of the total market value of all the land and buildings owned? .......................................................... 

4. What is your best estimate of the total market value of all the land and buildings rented or leased from others? .......................................................... 

5. What is your best estimate of the total market value of all the land and buildings rented or leased to others? ..........................................................

6. Which of the following best describes the change in the total market value of all the land and buildings in your operation since June 1, 2006?

- Increase = 1 - [Enter Code 1 and Go to item a.]
- Decrease = 2 - [Enter Code 2 and Go to item a.]
- No Change = 3 - [Enter Code 3 and Go to Section N.]

a. What percent change best describes the increase or decrease in the total market value of all the land and buildings in your operation since June 1, 2006? ........................................... %
# Commodity Surveys

## Datasets:

### Crops/Stocks
- **Grains**
  - Hay
  - Oilseeds
  - Cotton
  - Tobacco
  - Potatoes
  - Sugar
  - Other field crops
  - Citrus fruit
  - Non-citrus fruit
  - Nuts
  - Vegetables
  - Floriculture

- **Crop Progress**
  - Acreage
    - Prospective plantings
    - Planted
    - Harvested
  - Yield & production
    - Forecasts
    - Final
    - By utilization

- **Stocks**
  - Disposition

- **Processing**
  - Prices received by farmers

### Livestock
- **Inventory**
  - Total
  - By class
  - Births
  - Deaths
  - Predator losses

- **Marketings**
  - Slaughter

- **Production/disposition**
  - Meat
  - Other products
  - (Milk, dairy products, wool, mohair, eggs, honey, etc.)

- **Prices received by farmers**

- **Inventory/production values**

- **Cattle**
- **Hogs**
- **Sheep**
- **Goats**
- **Equine**
- **Poultry**
- **Aquaculture**
- **Bees & honey**
- **Mink**
Other Data Sources

- Census of Agriculture (5 years)
  - Showcasing demographic and specialty agriculture data
### Other Data Sources

**Census of Agriculture (cont.)**

#### SECTION 24  FEDERAL AND STATE AGRICULTURAL PROGRAM PAYMENTS

1. Did this operation receive any Federal, State, or local agricultural program payments in 2007? Exclude CCC loan payments. Also exclude CRP, WRP, FWP, and CREP payments reported in SECTION 4.

   1036
   1. Yes - Complete this section
   3. No - Go to SECTION 25 below

2. Amount received from -

   a. Direct payments as defined under the 2002 Farm Bill. ............... 1420
   b. Counter-cyclical payments, loan deficiency payments (LDPs), marketing loan gains, and net value of commodity certificates. Include payments received through cooperatives. ............... 1421
   c. Other Federal agricultural program payments. Include disaster payments and market loss payments, national dairy market loss payments, non-insured assistance program, EQIP (Environmental Quality Incentives Program), CSP (Conservation Security Program), livestock programs, and any other Federal programs. Exclude any type of insurance payments received. ............... 1422
   d. State and local government agricultural program payments. ............... 1423

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>None</td>
<td>$0.00</td>
</tr>
<tr>
<td>a</td>
<td>$0.00</td>
</tr>
<tr>
<td>b</td>
<td>$0.00</td>
</tr>
<tr>
<td>c</td>
<td>$0.00</td>
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<tr>
<td>d</td>
<td>$0.00</td>
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## NASS Contacts

<table>
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<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
</tr>
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<tbody>
<tr>
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<td></td>
<td>Environmental, Economics, and</td>
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<td>Demographics Branch</td>
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<tr>
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<tr>
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<tr>
<td><strong>Dania Ferguson</strong></td>
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<td>(202) 720-5921</td>
<td><a href="mailto:dania_ferguson@nass.usda.gov">dania_ferguson@nass.usda.gov</a></td>
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<td>Section</td>
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NASS Mission

To provide timely, accurate, and useful statistics in service to U.S. Agriculture