



Comments Regarding the National Resources Inventory (NRI)

- Purpose of the NRI
- Structure and Features of NRI
- Reactions; Comments



The National Resources Inventory (NRI)

- ❑ Developed by USDA in the 1970's to assess status, condition, and trend of soil, water, and related resources
[1972, 1977 legislative mandates]
- ❑ Many features make it suitable to evaluate and assist in development of U.S. agri-environmental policy



Information from NRI has been used to assist development of agri-environmental policy since 1980's:

- Provisions of 1985 Farm Bill based on NRI
- All subsequent Farm Bills
 - Identify areas where conservation initiatives and resources should be focused
 - Evaluate effectiveness of past legislation and conservation programs

National Resources Inventory [NRI]

- Captures data on land cover and use, soils, soil erosion, wetlands, habitat diversity, selected conservation practices, & related resource attributes -- **at 800,000 scientifically selected sample sites**
- Purpose: To provide support for
 - *Agricultural and Environmental Policy Development and Program Implementation*

Evolution of the NRI



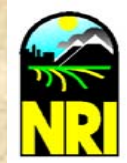
Conservation Needs Inventory	<ul style="list-style-type: none">• 1934, 1945• 1958, 1967
National Resources Inventory	<ul style="list-style-type: none">• 1977, 1982• 1987, 1992
Foundation NRI	<ul style="list-style-type: none">• 1997
Special Studies	<ul style="list-style-type: none">• 1975• 1991, 1995, 1996, 1997, 1998, 1999
Continuous/Annual NRI	<ul style="list-style-type: none">• PI: 2000, 2001, 2002, 2003• Range: 2003, 2004, 2005, 2006, 2007• CEAP: 2003, 2004, 2005, 2006
Annual NRI [PI and on-site]	<ul style="list-style-type: none">• 2005 - 2010



Why Consider these 30 Different Surveys

- Much has been learned over these several decades [and 30 surveys]
 - ❑ Statistical/survey methodologies
 - ❑ Data collection methodology
 - ❑ Needs of data users; analytical methods
- These studies must fit together and give consistent data/results; if not:
 - ❑ Waste taxpayers money
 - ❑ Waste efforts of conservationists/scientists
 - ❑ Future efforts will be discredited
 - By scientists, special interest groups, policy analysts, policy makers

NRI is "Soil-Based"



- ❑ Interpretations made from a "soils perspective", for example: land condition, or wetland determinations
- ❑ Use of soil attributes very important in analysis and assessment [NRI and NRCS soils data bases are "linked"]

Modeling with NRI Data



- Estimate changes in C-stock for current land use & mgmt.
- Use physical process models to simulate effects of Conservation Practices/Systems
 - ❑ Example: NRI/CEAP Cropland Assessment
 - ❑ Supports numerous of “What if?” scenarios
- Issues dealing with Rural Land conversions
- Loss of Crop Productivity due to Soil Erosion
- Forestry Programs: Converting erodible cropland to trees
- Wetlands Programs
 - ❑ Potential restoration programs and locations
 - ❑ Economic effect of relaxing restrictions [to Agriculture]
- Development of Rules/Reg’s for Farm Bill Programs
 - ❑ Development of HEL and CRP concepts in 1980’s
 - ❑ Development of 25% rule for CRP eligible land, by county

NRI Modeling



NRI survey structure  simulation framework

- Sample sites = “representative fields”
- Linked data used to impute values
- Predict outcomes
- NRI weights - estimates of distribution, extent of predicted conditions

Comments



- “Longitudinal Survey” approach is necessary
 - “Panel Survey” where sampling units are revisited periodically
 - Much more powerful
 - Provides information on *Dynamics* of change
- NRI utilizes Area Sampling approach
 - Cannot use farms, fields, & ownership units because they can change dramatically over time [also difficult to define]
- NRI collects data in manner that allows “What if?”
- NRI moved from 5-year cycle after 1997 to the annual inventory approach

Monitoring

- Much more powerful to use Longitudinal Survey" techniques
 - i.e., do "Panel Survey" where same sample units are revisited periodically
- Power of paired observations
 - Acreage of wetlands, 1997
 - 111.2 mil Acres [+/- 1.2 mil. Acres]
 - Change in wetland acres, 1992 - 1997
 - - 163,000 [+/- 63,000 acres]
- Also have more information on dynamics, etc. of the changes [e.g., what are the characteristics of the **lost wetlands** vs. **newly created wetlands**]

Discussion



- Use of site-specific data vs. aggregated – for models**
- NRI is soil-based**
- Use of Models is necessary**
- NRI is land/resource based – not enterprise based**
- Issues not discussed**
 - **Economics**
 - **Alignment between field and models**
 - **Emerging issue – ethanol production**

Annual NRI

- NRI 5-Year Cycles
 - 1977/1982/1987/1992/1997
- In 2000 - NRCS converted NRI from 5-year inventory cycle to a continuous/annual inventory process
- Annual NRI design - each year
 - Photo-Interpretation: 73,000 sample segments
 - Field/On-site Methods: 5,000 - 8,000 samples.

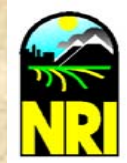
Scientific Responsibility



- Rigorous scientific sample survey
- Strict quality assurance protocols
- Scientifically sound reporting
 - USDA/OMB Quality of Information Guidelines
 - NRI data release standards

NRI Policy

OMB/USDA Guidelines



- Addresses statistical information
- Affects all NRCS
- Agency stands behind data and information
- Process to retract, fix flawed information