U.S. Soil Policy
Global Soil Security Symposium
Texas A&M University
May 19-21, 2015
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What are we doing to secure the soil of the United States?

- Policy and how applied?
- Historical Context
- Policy
- Means to Accomplish
- Outcomes
World population development

Billions

10
8
6
4
2
0
1750 1800 1850 1900 1950 2000 2050

Developing countries
Industrialized countries
Soil Erosion: A National Menace
The country had “been living in a fool’s paradise, with respect to the security of [its] most basic asset,” said Rep. John Conover Nichols (D-Okla.)
The Soil Conservation and Domestic Allotment Act of 1936

Conduct soil erosion surveys and prevention measures

“The history of every Nation is eventually written in the way in which it cares for its soil. The United States… is beginning to realize the supreme importance of treating the soil well.”
Notable Legislation Moving Forward

1937 – added financial assistance contingent on soil restoration and measures to prevent erosion

1962 – agreements with farmers for changes in cropping patterns/land use to conserve soil, water, forest, wildlife and recreation resources

1972 – prevent and abate agricultural pollution and include soil restoration and conservation practices

1977 – added financial assistance for conservation measures to improve water quality
Notable Legislation Moving Forward

1985 – Highly Erodible Lands Provision and increased technical assistance – no erosion beyond “T”

1990 – HEL restrictions expanded coverage

1996 – new financial assistance programs, increased funding, disqualification for violation of HEL requirements

2008 – Further increased financial assistance funding
2014 Farm Bill New Opportunities
U.S. soil policy - contained in legislation - implemented through programs

- The origins of modern conservation programs are found in legislation enacted during the Great Depression era.

- As one scholar has noted, “[s]ince the 1930’s, the stated government [soil] policy has been to encourage agricultural conservation programs.”

¹Dr. Neil E. Harl, AGRICULTURAL LAW, Volume 12, § 108.02[1] (hereinafter Harl).
National Cooperative Soil Survey Program
NRCS Soil Survey Standards Documents
National Cooperative Soil Survey Program

- Data from more than 22,000 soil sample sites to NCSS database
- Info from 57,000 locations across the country and internationally
Opportunities for Working Lands

**EQIP** – *Environmental Quality Incentives Program*

- Authorized $1.3 B 2014 to $1.75 B 2018

**CSP** – *Conservation Stewardship Program*

- Authorized 10 M acres / yr
Opportunities for Working Lands

**CRP – Conservation Reserve Program**
- 26 M acres in 2015

**HFRP – Healthy Forest Reserve Program**
- 10-year restoration agreements and 30-year or permanent easements
Opportunities for Working Lands

ACEP – Agricultural Conservation Easement Program

• Consolidates:
  – *FRPP-Farm and Ranch Lands Protection Program
  – *GRP-Grasslands Reserve Program,
  – WRP-Wetland Reserve Program

• Authorized $400 M 2014; $425 M 2015

*Agriculture Land Easements (protect ag. lands)
Regional Conservation Partnership Program

Funding: $220 – 250 M / yr
State, National, Critical Conservation Area Funding Pools
SOIL HEALTH:

The capacity of a soil to function as a vital, living ecosystem that sustains plants, animals, and humans.
Improving Soil Health Can:

- Increase water infiltration
- Increase available water holding capacity
- Improve water quality
- Increase nutrient availability
- Save energy
- Improve plant health

*All while maintaining or increasing production!!!*
The Elegant Universe Below…

More microorganisms in a teaspoonful of soil than there are people on earth

Soil microorganisms help:

- Make nutrients available to crops

- Bind soil particles together to increase water infiltration, reduce erosion, and reduce runoff
Soil is a Living Factory

“Anything can have ‘quality’, but only living things can have health”
The Global Alliance for Climate Smart Agriculture

An approach to developing technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change

Launched at UN Climate Summit, Sept 2014, New York
The Global Alliance for Climate Smart Agriculture

• three goals:
  o Sustainable and equitable increases in agricultural productivity and incomes;
  o Greater resilience (adaptation) of food systems and farming livelihoods; and
  o Reduction and/or removal of greenhouse gas emissions associated with agriculture (including the relationship between agriculture and ecosystems), where possible
The Global Alliance for Climate Smart Agriculture

• Opportunities for Action at Scale:
  o coalitions of diverse stakeholders
  o application of science and technology in decision making
  o improving collaboration from international level to the farmer
  o building on synergies between agriculture, environment and climate change communities
  o linking policy makers with practitioners
ALABAMA CHAMPION OF soil health

Ricky and Russell Wiggins
Covington County
2,650 acres
Crops: cotton and peanuts
Cover: rye

Using “big” cover crops to build and maintain soil health

“I like using conservation tillage. In the spring we can keep the tractors in the shed, except for putting out litter, and rolling and spraying crops,” Russell said. “In the past, we had to fix terraces and clean out waterways constantly. Regular terrace maintenance is not required much anymore.”
GlobalSoilMap

properties and standard depth presentations
Pakistan – Punjab & Sindh

Improving Soil Health and Fertility through Demonstration and Dissemination of Best Management Practices for Farmers
Haiti Soil Survey and Resource Conservation Initiative

Following 2010 Earthquake:

Build capacity within the Haiti Ministry of Agriculture to provide leadership and create partnerships to conduct soil survey and develop soil information delivery tools to improve food security and livelihoods of rural farmers
Over the past four years...

- Enrolled more than 115 million acres into conservation
- Applied more than 4 million conservation practices
- Committed more than $9.7 billion in assistance

Helping producers across the country protect our natural resources for the future.
soil erosion rates on cropland from 1985 onward
Cropland soil erosion – HEL soils

Source: Natural Resources Conservation Service, U. S. Department of Agriculture
2007 National Resources Inventory

Natural Resources Conservation Service
Cropland soil erosion – non HEL soils

![Bar chart showing cropland soil erosion from 1982 to 2007](chart.png)

Source: Natural Resources Conservation Service, U.S. Department of Agriculture

2007 National Resources Inventory

Natural Resources Conservation Service
The 2002 Farm Bill

- OMB requests for outcome-based reporting
- Farm Bill significantly increased conservation funding
- Call from both inside and outside government for better accountability
Conservation Effects Assessment Project
CEAP Cropland National Survey

Source: 2003 Annual National Resources Inventory
Map ID: m10355p

Legend
- Completed Reports
- One dot = 10,000 acres of cultivated cropland, including CRP
- State boundaries
- Water bodies
- CEAP-Cropland water resource regions
- Original USGS water resource regions
Impact of CEAP’s Strategic Approach

• Provides the ability to regionally identify major resource concerns and *effectively* target with initiatives, programs and future funding efforts.

• Inform field level decisions to *efficiently* achieve conservation goals by applying the right amount of the right conservation practices to the right places at the right time and the best price.
CEAP Outcomes

- First time ever scientifically-based quantification of *federally funded and non-federally funded* agricultural Conservation Practices on *private lands*.

- **Voluntary Conservation Works**: significant progress and adoption has occurred but treatment needs still remain.

- **Comprehensive Conservation Planning** is needed utilizes suites of practices, not just single practices.
Summary

• Policy → Legislation → Programs

• combat soil erosion and preserve natural resources... to protect public health, public lands and relieve unemployment

• conserve soil, water, forest, wildlife and recreation resources

• prevent and abate agricultural pollution

• restore water quality

• no erosion beyond “T”

• improve soil health

• Sustainable and equitable increases in agricultural productivity and incomes

• Greater resilience (adaptation) of food systems and farming livelihoods
Thank You!

International Year of Soils, Healthy Soils for a Healthy Life