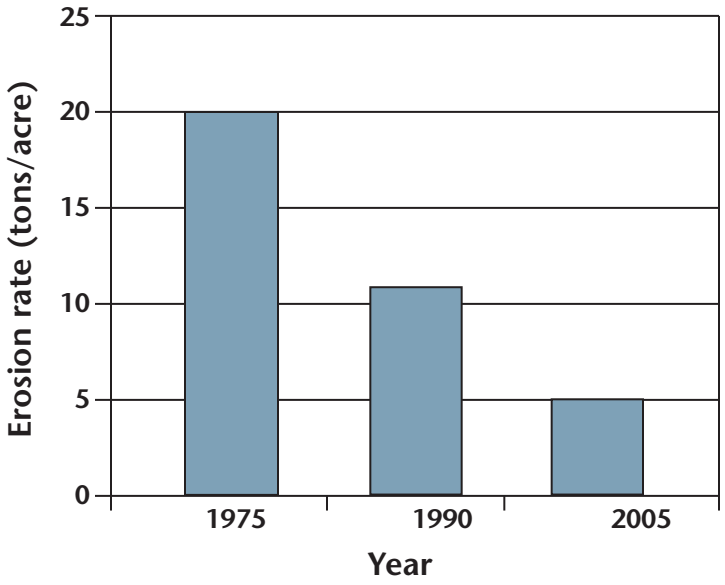
EB2035Eb

STEEP impact executive summary

WASHINGTON STATE UNIVERSITY EXTENSION

IMPACT

STEEP (Solutions to Environmental and Economic Problems), a USDA Special Research Grant, improves Pacific Northwest farming and the environment for less than 20¢ per acre per year[1].



STEEP IMPACT

A reduction in soil erosion.

This graph shows soil erosion rates from farmland in the Pacific Northwest prior to the STEEP program, illustrating the drastic reduction in erosion as farmers adopted conservation tillage methods developed through STEEP research. STEEP (Solutions to Environmental and Economic Problems), a USDA Special Research Grant, improves Pacific Northwest farming and the environment for less than 20¢ per acre per year[1].

Pacific Northwest
STEEP
Solutions to Environmental and Economic Problems

STEEP is a grower-oriented program. Grower involvement in all aspects is key in implementing new conservation technologies on farms for efficient and profitable crop production while protecting soil and water resources.

[1]Kok, Papendick, and Saxton, 2007.
EB2035Ea—Steep Impact Assessment, p. 19.

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Examples of Major STEEP Accomplishments

1. **Demonstrated the advantage of subsurface banding fertilizer over broadcast application.**

   Impact: Less fertilizer used, together with better crop growth, results in environmental and economic benefits.

2. **Development of the two-pass fertilizer and seed system.**

   Impact: Less tillage is required, leaving more crop residue on the soil surface and resulting in less erosion, less fuel consumption, and lower labor requirements.

3. **Improved weed control in conservation tillage systems.**

   Impact: Easier adoption of direct seed systems, improved economics, lower risk to farmers.

4. **Identified the "green bridge" of weeds as a host to soil borne diseases.**

   Impact: Improved disease control, easier adoption of conservation tillage, healthier crops.

5. **Developed wheat varieties with greater disease resistance.**

   Impact: Improved disease control, facilitated adoption of early fall planting for erosion control.

6. **Adaptation of the RUSLE2 erosion estimation computer model to the Pacific Northwest.**

   Impact: Guided NRCS farm bill implementation for the Pacific Northwest.

7. **Identified absentee landlords as not a conservation tillage deterrent.**

   Impact: Broke down social taboos associated with conservation tillage, resulted in increased conservation tillage adoption.

8. **Education about conservation technology through expanded extension efforts.**

   Impact: Conservation technology education through award-winning technology transfer programs in the region, bringing research results directly to the farmers.

9. **Development of a minimum tillage fallow system for low precipitation areas.**

   Impact: Accelerated conservation tillage adoption in the low rainfall area.

10. **Formation of the non-profit, farmer-driven Pacific Northwest Direct Seed Association (PNDSA).**

    Impact: Additional conservation tillage education and promotion by practicing farmers, on-farm demonstrations and field days, and also providing a policy voice for farmers.

Palouse Farming Systems—1970s

Severe soil erosion in the Palouse region, prior to the STEEP program.

Palouse Farming Systems—1980s

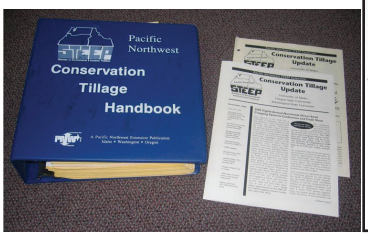
Drastic reduction of erosion due to adoption of farming methods developed through STEEP research.

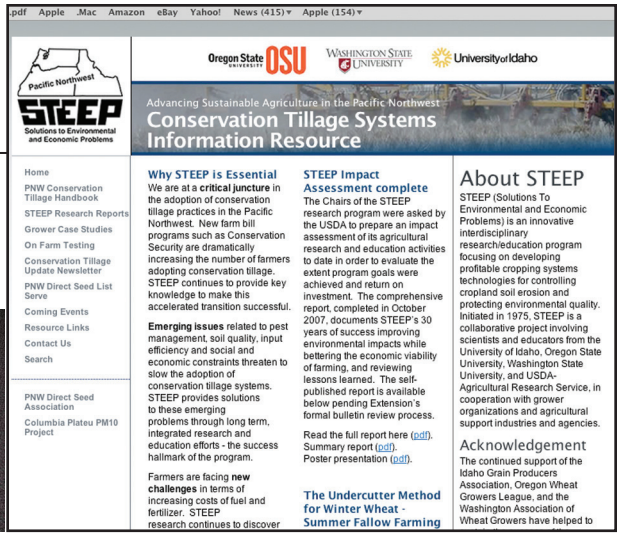
Palouse Farming Systems— Now

Farmers are now using conservation practices developed through the STEEP program to control soil erosion and improving farm profitability.

Outreach programs, both traditional and electronic, have been a critical component of the STEEP effort, resulting in farmers' rapid adoption of new practices based on research results.

http://pnwsteep.wsu.edu





Continued funding of STEEP is essential

- We are at a **critical juncture** in the adoption of conservation tillage practices in the Pacific Northwest. New farm bill programs such as Conservation Security are dramatically increasing the number of farmers adopting conservation tillage. STEEP continues to provide key knowledge to make this accelerated transition successful.
- **Emerging issues** related to pest management, soil quality, input efficiency, and social and economic constraints threaten to slow the adoption of conservation tillage systems. STEEP provides solutions to these emerging problems through long-term, integrated research and education efforts—hallmarks of success for this program.
- Farmers are facing **new challenges** in terms of increasing costs of fuel and fertilizer. STEEP research continues to discover new ways to improve the efficiency of fuel and other farm inputs with conservation tillage.
- STEEP is poised to play an **expanded role** in facilitating the production of biofuels, sequestering carbon, and reducing greenhouse gas emissions. Many of these areas are integral to successful conservation tillage adoption and are already in the realm of STEEP research.

STEEP goals for the future

The short-term goals of the STEEP program are to continue **to identify and remove barriers** to the adoption of conservation tillage practices in the Pacific Northwest.

The long-term goals are **to increase no-tillage acreage** to 50% by the year 2025 and to **reduce sediment loading** into Pacific Northwest streams and rivers by 75% from 1990 levels.

CONTACT INFORMATION

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