

Evaluating Conservation Programs as Public Policy Investments

“As a taxpayer, I think conservation of the resources that produce our long term food supply is the best use of my taxes. The land is both our love and our livelihood, and it’s our job to take care of it. But we as farmers can’t do it entirely on our own”.
—Craig McNamara, Walnut trees grower in Winters, California



A review of available research¹ finds that public investment in USDA conservation programs yields high returns on investment (ROI) in terms of protection of vital resources, costs savings, jobs creation, and revitalization of rural economies. Furthermore, given that conservation funding accounts for only 1.26% of the current federal budget, it is self-evident that “cutting conservation cannot fix the deficit.”² **Therefore, Farm Bill-financed conservation programs are wise investments and good public policy.**

Conservation programs protect vital resources and deliver substantial costs savings

Conservation programs help protect water resources, soil and wildlife habitats leading to substantial cost savings through water purification, enhanced soil fertility, flood mitigation, pollination and ultimately, improved public health.

Water resources

Conservation programs **improve water quality** through a reduction in pollution from erosion and runoff. This directly leads to significant cost savings. For example in New York city, federally funded protection of source water saved more than \$6 billion dollars for the would-be construction and maintenance of a water treatment facility.³

Protecting and building soil

Conservation programs (CRP, EQIP and CSP) cut invisible costs by **reducing soil erosion**. From 1982 to 2001 soil erosion rates on all cropland declined from 3.1 billion tons per year to 1.8 billion tons per year⁴ through the application of conservation tillage under EQIP and CSP.⁵ The total cost of eroded soil is estimated to be between \$6.10 and \$6.40 per ton; this implies a saving of approximately \$8 billion.⁶ Conservation practices also decrease risk of crop loss due to floods and drought.⁷

Wetlands

Acting as natural buffers, wetlands store flood waters, thus **reducing the damage caused by floods** and storms. Maintaining only 15% of the land area of a watershed in wetlands can reduce flooding peaks by as much as 60%.⁸ Also, watershed maintenance reduces the need for road culverts: in a suburban Chicago watershed, infrastructure savings are estimated at \$3.3 million to \$4.5 million.⁹ The effect from WRP resulted in a net wetland gain on agricultural lands of 131,400 acres from 1997 to 2002 and another gain of 66,000

acres per year from 2001–2003, representing a major reversal of patterns observed prior to the program.¹⁰

Wildlife and Pollinators

Significant habitat alterations combined with pesticide use have reduced wild bee populations, forcing farmers to rely on rented honeybee colonies for pollination. Conservation programs that reduce pesticide use and restore been habitat have been demonstrate to save up to 30.1 million dollars per year from reductions in honeybee rentals by 15–50%.¹¹

Conservation programs support rural economies

Conservation programs can increase on-farm income, lead to jobs creation, and generate indirect business. Also, sustainably produced food (i.e. organic) represents an important source of revenue for rural communities.

Under CRP, the estimated **increase in net income** for farmers would be between \$9.2 billion and \$20.3 billion due to lower production costs and increased market price.¹²

Conservation practices have led to a **reduction of energy costs**. Examples include:

- The GLCI program allows farmers to save on feeding costs through managed grazing, resulting in annual net profits of \$80 to \$300 per cow.¹³
- Implementation of conservation tillage under the EQIP program in lieu of conventional tillage systems results in a savings of 2.99 gallons per acre of diesel fuel.¹⁴

Conservation programs also create **jobs and indirect business**. For example:

- EQIP expenditures of \$2.6 million (2002–2007) in Maine created 85 jobs and generated over \$4 million in economic activity, including wages, profits and indirect business taxes.

- EQIP expenditures of \$3.3 million in New York State generated \$5.6 million in economic activity and dozens more jobs statewide¹⁵.

Recreational revenues

Environmental benefits from conservation programs can substantially increase the recreational economy in rural counties.¹⁶ Nationally, the market value of recreational use of CRP lands is estimated to be at least \$72.3 million and landowners receive \$21.3 million more from recreational activities on their lands than they would have without enrolling in CRP.¹⁷ In New York State, WHIP led to \$640,000 in local sales in 2009.

Organic revenues

Support for organic could increase the capacity to generate substantial revenue and create employment opportunities.

Organic farmers have an average profit of \$558/acre/year compared to \$190/acre/year for conventional farmers and organic farms provide 30% more jobs per hectare than non-organic farms.¹⁸

Conclusion

These documented benefits, as well as the countless millions saved as a direct result of conservation program investments, demonstrate the need for continued support of these programs in the 2012 Farm Bill. Resource allocations in the Farm Bill should be based upon regular evaluations of program efficacy including open dialogue with program subscribers and other key stakeholders.

Endnotes

- ¹ This document focuses on the following conservation programs: Environmental Quality Incentives Program (EQIP), Conservation Reserve Program (CRP), Wetlands Reserve Program (WRP), and Wildlife Habitat Incentives Program (WHIP). We also provide some supporting evidence of the benefits of the Grazing Land Conservation Initiative (GLCI) and Conservation Security Program (CSP).
- ² Tercek, M. 2011. Message to Congress: Healthy Lands and Waters Support a Healthy Economy. Huffington Post. http://www.huffingtonpost.com/mark-tercek/message-to-congress-health_b_1085058.html
- ³ Stanton, T., et al. 2010. State of Watershed Payments: An Emerging Marketplace. Ecosystem Marketplace. http://www.foresttrends.org/documents/files/doc_2438.pdf
- ⁴ Brady, S.J. 2005. Highly Erodible Land and Swampbuster Provisions of the 2002 Farm Act, in: Fish and Wildlife Benefits of Farm Bill Conservation Programs: 2000-2005 Update. Edited by Jonathan B. Hauffer Ecosystem Management Research Institute, Technical Review 05-2 October 2005, The Wildlife Society. <http://hdl.handle.net/10113/47877>
- ⁵ Berkland, M.W. and Rewa C.A. 2005. Environmental Quality Incentives Program Contributions to Fish and Wildlife Conservation in: Fish and Wildlife Benefits of Farm Bill Conservation Programs: 2000-2005 Update. Edited by Jonathan B. Hauffer Ecosystem Management Research Institute, Technical Review 05-2 October 2005, The Wildlife Society. <http://hdl.handle.net/10113/47874>

- ⁶ Hansen, L. and Ribaud M. 2008. Economic Measures of Soil Conservation Benefits: Regional Values for Policy Assessment, TB-1922. U.S. Dept. of Agriculture, Econ. Res. Serv. <http://hdl.handle.net/10113/24169>
- ⁷ Lotter, D.W., et al. 2003. The performance of organic and conventional cropping systems in an extreme climate year. *American Journal of Alternative Agriculture* 18(3):146–154. http://newfarm.rodaleinstitute.org/depts/NFfield_trials/1103/droughtresearch.shtml
- ⁸ U.S. Environmental Protection Agency. 2006. Economic Benefits of Wetlands. <http://www.epa.gov/owow/wetlands/pdf/EconomicBenefits.pdf>
- ⁹ National Association of Conservation Districts. 2010. Conservation Benefits: Putting Value Where It Belongs. http://www.nacdnet.org/resources/reports/Conservation_Benefits_Report.pdf
- ¹⁰ Brady, S. J. 2007. Effects of Cropland Conservation Practices on Fish and Wildlife Habitat. Publications from USDA-ARS / UNL Faculty. Paper 485. http://digitalcommons.unl.edu/usdaarsfa_cpub/485
- ¹¹ Kremen, C., et al. 2002. Crop pollination from native bees at risk from agricultural intensification *PNAS* vol. 99no. 26 16812-16816. www.pnas.org/content/99/26/16812.long
- ¹² Dunn, C. P., et al. 1993. Ecological Benefits of the Conservation Reserve Program. *Conservation Biology*, 7: 132–139. doi: 10.1046/j.1523-1739.1993.07010132.x onlinelibrary.wiley.com
- ¹³ Impacts of NRCS Conservation Programs in New York State | NRCS

- Economics: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/alphabetical/econ/?&cid=nrcs143_009733
- ¹⁴ NRCS. 2010 (May 24) Final Benefit-Cost Analysis for the Environmental Quality Incentives Program Food, Conservation, and Energy Act of 2008 Title II – Conservation Subtitle F – Environmental Quality Incentives Program. www.nrcs.usda.gov/Internet/FSE.../nrcs143_006910.pdf
- ¹⁵ Impacts of NRCS Conservation Programs in New York State | NRCS Economics: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/alphabetical/econ/?&cid=nrcs143_009733
- ¹⁶ Sullivan, P., et al. 2004. The Conservation Reserve Program: Economic Implications for Rural America, by AER-834, USDA, Economic Research Service. <http://www.ers.usda.gov/Publications/AER834/>
- ¹⁷ Allen, A.W., and Vandever M.W. 2003. A national survey of Conservation Reserve Program (CRP) participants on environmental effects, wildlife issues, and vegetation management on program lands, U.S. Geological Survey Biological Science, Report 2003-0001. www.fort.usgs.gov/Products/Publications/21075/21075.pdf
- ¹⁸ Rodale Institute. 2011. The farming systems trial. Celebrating 30 years. <http://www.rodaleinstitute.org/files/FSTbookletFINAL.pdf>